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Award winners, NBA Conference 2009

Captions on page 4

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Table of Contents

President's Report 3
New administrative services 4
The mechanics of honey bee viruses .. 6
Conference address:
The future of bees 8
Roy Paterson Trophy 2009 11
Conference organisers' report 12
Meeting to resolve manuka issues 13
Conference sponsors and photos 14
From the colonies 17
Understanding hive quality 19
Thoughts on wintering hives 22
About the Apiary 24
Changes to the NBA Executive..... 25
Taming your techno-fear 26
Conference photo 28

Deadline for articles and advertising

September issue: 23 July
October issue: 23 August

All articles/letters/photos to be with the Editor via fax, email or post:

Nancy Fithian
email: editor@nba.org.nz
(See page 2 for full details)

President's Report

Resignation of the Chief Executive Officer and Executive Secretary

As most of you will be aware by now, our CEO and Executive Secretary are moving on. The Management Committee are now in the process of finding and selecting replacements for them. For the effective management of the NBA, we need to employ competent people and we need to be prepared to pay for this. Jim and Pam have worked effectively over their term, and their efforts have certainly improved the profile of the organisation to the benefit of the membership and the industry as a whole. This has come at some cost to them, as they have provided a significant amount of work for the NBA at no cost to the members who have benefited from these extra voluntary hours.

With the requirement to run a balanced budget for this financial year, the Management Committee may be required to change the way that administration services are provided. This will be somewhat of an unknown quantity until such time as we are able to see what the new administration service provider/s are able to offer the NBA. The current costs of the administration service provided by World Veterinary Consultants Limited also included all the usual overheads such as office space, IT services, communications, storage of NBA archives, etc. There will most likely be a requirement to reduce the level of service that we have been able to offer our members. It is envisaged that Jim will be available for some consultancy work to use his specialist skills. This, of course, will not be without some cost.

The Executive Council thank Jim and Pam for their excellent service to the NBA and wish them well in their future endeavours.

Executive Council

Since the Conference there have been some changes to the Executive Council and Management Committee.

Mary-Ann Lindsay has been elected as the new representative for the Southern North Island Ward. She is replacing Neil Farrer, who is retiring after many years of service to the NBA. Barry Foster is now Vice President and Glenn Kelly has taken over the role of Treasurer.

Neil Farrer has been appointed to the Management Committee until at least the new administrative service personnel are appointed. Jane Lorimer as an appointed member has retired, but will continue to be involved with other NBA activities such as chairing the Research Committee and as a member of the BPSC. Maureen Maxwell has been appointed to the Management Committee to replace Neil Mossop, who has done two years' service.

Monofloral honey standards

By now all the submissions for the monofloral standards consultation will have been received by the independent facilitators acting for the BPSC. After the analysis of submissions, the BPSC will effectively draw a line in the sand as far defining these standards.

How these standards are enforced will be another matter. Will they be enforced by the government regulators or by an industry body? Having a government agency enforce these standards using legislative power will ensure international credibility for these standards. What mechanisms will the beekeeping industry be able to use to enforce these standards? We have a precedent in the AFB NPMS, which gives beekeepers the legal powers to deal with matters involving the management of AFB. However, do we want an industry body to enforce the monofloral standards anyway?

New National Life Members

During the AGM national life memberships were awarded to Pauline Bassett, Dr Mark Goodwin and Neil Farrer for meritorious services to the NBA. Pauline Bassett was unable to be at Conference, so her award will be presented at a Waikato Branch meeting. Pam Edwards had designed and manufactured Life Membership badges and these were duly presented to all the National Life Members present in Rotorua. They were all rather pleased with their badges. *[Editor's note: more information on the new National Life Members and life membership will appear in the August issue.]*

NBA Life Members receiving their Life Membership badges, a new initiative by Executive Secretary Pam Edwards. Left to right: Frank Lindsay, Ian Berry, Trevor Cullen, Jane Lorimer, Tony Lorimer, Dudley Lorimer, Murray Reid and Allen McCaw with NBA President Frans Laas. Photo: Jim Edwards.

AFB NPMS Management Agency

Over the last 10 years the NBA has been acting as the Management Agency (MA) for the AFB NPMS. While the actual make-up of the MA Board of Directors and the Agency itself has never been specified in the regulations, it has in the past comprised the members of the Executive. There has always been some controversy regarding the representation of the MA board since the changes to the state of the industry since 2002. Recently the NBA has advertised to the levy payers for people outside the organisation to be appointed to the MA. As a result of this action, John Hartnell was appointed to the MA. As I have mentioned before, no one from the unaligned segment of the levy payer group even made an attempt to put their name forward. This has been noted by Government.

Over the last few months the MA have had some discussion about the size of the MA Board of Directors. Clearly the traditional size of the board (eight members) was too large for the size of the organisation. The Bovine Tb PMS has only five members on their board and they oversee an $84 million per annum budget. The Pork Industry Board also has a five-person board and a considerably larger budget than the AFB NPMS. Clearly we needed to reduce the size of the Board of Directors. The operation of the Strategy has become a lot more efficient over the last few years, and with the Government also sending us some strong signals about the composition of the MA, so it was decided to reduce the size of the MA Board. At the last Executive Council meeting directly after the conference it was decided to reduce the MA to five members as per the previous discussions: i.e. four from the NBA and one member from BIG. This gives adequate representation to those individuals who choose to belong to some formal industry body, but absolute control still remains with the NBA as the Government-appointed body to undertake the provisions of the Strategy.

- Frans Laas

New administrative services

It was with much regret that we advised the Executive and Members of the Association during the annual conference in Rotorua that we will not be renewing our contract to provide administrative services to the National Beekeepers' Association of New Zealand Incorporated.

This was a very difficult decision for us to make, but in the end, it was a clear business decision. The roles have grown to the extent that we had to provide about twice as many hours as those specified and paid for under our contract with the NBA.

We intend to part company on good terms and wish the Association well for the future. We will be assisting the Executive Council in the process to find the new administration service it requires and with the transition to the new service when our contract expires on 31 August.

We have made some strong and lasting relationships with industry members. We also take considerable pride in the work and progress in profile that we have achieved for the NBA. We trust that the NBA will continue to build its growth and profile from its current level.

- Jim and Pam Edwards

Front cover photos:

Top left: New NBA Vice-President Barry Foster, winner of the Roy Paterson Trophy for 2009. Photo supplied by Neil Foster.
Top right: Fiona O'Brien of the Waikato Branch won the professional photographer's award in the photo competition. Photo: Jeremy O'Brien.
Bottom left: Carol Downer of the Auckland Beekeepers' Club won the honey competition for new and small beekeepers. Photo: Mary-Ann Lindsay.
Bottom right: Jody and Ralph Mitchell of the Bay of Plenty Branch won two categories in the photo competition, as well as the honey competition. Photo: Barbara Pimm.

The mechanics of honey bee viruses

Byron Taylor
Apicultural Officer
AsureQuality Limited

In April 2000, the beekeeping industry in New Zealand, to coin a popular phrase, "changed forever". The parasitic mite, varroa, had been found in honey bee colonies in the Auckland area and beekeepers were left pondering their future in the industry. A little over nine years later the beekeeping scene certainly looks different; the industry boasts scarcely more than 50% of the beekeeper numbers that were registered in 2000 and the cost of keeping bees has risen sharply. On the plus side, manuka honey and other niche products have taken some of the sting (no pun intended) out of the increased costs. Additionally, the upward trend of the national honey crop figures over the past few years suggests that there are some benefits to the more intensive hive management strategy that hives with varroa demand.

Prior to the arrival of varroa, honeybee viruses, with the exception of sacbrood, were given little consideration in hive management practices. Varroa has provided previously unnoticed viruses with an effective means of spreading between individual adult bees and into the brood.

Honey bees, like most other organisms, are susceptible to viruses and there are 19 viruses currently known to infect honey bees. Viruses detected in New Zealand include: sacbrood virus, deformed wing virus, Kashmir bee virus (KBV), acute paralysis virus, chronic paralysis virus (and its associate, cloudy wing virus), bee virus X, bee virus Y and filamentous virus.

The virus of concern to beekeeping at present is the recently identified Israeli acute paralysis virus (IAPV). IAPV has been linked with colony collapse disorder in the United States and is present in Australia. The status of IAPV in New Zealand is currently unknown as there have been no comprehensive surveys done in recent times. The question of whether New Zealand is likely to have IAPV is further confused by the fact that we do have Kashmir bee virus. Kashmir bee virus is very closely related to IAPV with some scientists asserting that IAPV is simply a strain variation of KBV.

However, rather than debating the presence or absence of the viruses in New Zealand, this article will focus on the mechanics of virus transmission, infection and management, rather than the individual viruses.

Entomologist Yanping (Judy) Chen collects bee samples from colonies affected by colony collapse disorder. In the lab, she will analyze the samples for Israeli acute paralysis virus (IAPV) and other viruses.

Photo by Jay Evans. Accessed 16 June 2009 from the US Department of Agriculture (USDA), Agricultural Research Service (ARS) website at http://www.ars.usda.gov/is/graphics/photos/may08/d1123-1.htm

Generally speaking, a 'successful' virus should be:

- highly contagious (i.e., transmit easily) and
- infect in such a way that the host remains relatively healthy to allow the maximum opportunity for the virus to spread between infected and uninfected individuals.

Transmission

Honey bee viruses are the same as other viruses in that they can only replicate inside host cells. As a result, viruses persist by invading hosts and spreading between hosts.

The spread occurs both within generations (horizontal transmission) and between generations (vertical transmission), and pathogenesis is dependent on the quality of the host/parasite relationship.

The hive is an ideal environment for the transmission of viruses as it is crowded, warm and the contact rate between individuals is high due to the co-operative nature of the honey bee colony as a whole.

Horizontal transmission pathways include:

- foodborne transmission—where the virus is spread through contaminated food. This is the most common transmission pathway in honey bee colonies
- faecal-oral transmission—where infected faeces is ingested by uninfected honey bees. This occurs when house bees clean cells in preparation for egg-laying or food storage
- venereal transmission—where the virus is spread between the drone and queen during mating

- transmission via eggs—where the queen lays infected eggs which are tended by uninfected workers
- airborne transmission—where viruses are spread by aerosol. The honey bee colony is an ideal environment for airborne transmission of viruses due to the fact that airflow is a major component of the thermoregulation process in the hive. However, it has not yet been established whether or not honey bee viruses can be spread in this manner
- vector-borne transmission—where the virus is spread via an intermediate host. The role of varroa in virus transmission is well documented and is an example of vector-borne transmission.

Vertical transmission pathways include:

- queen to egg transmission
- venereal transmission—where infected drone semen fertilises the egg and consequently infects the developing bee
- vector-borne transmission—where the virus is spread via an intermediate host. As mentioned above, varroa can transmit the virus between infected and uninfected adult bees but can also transmit the virus into developing brood.

It is evident from the preceding lists that viruses have several means by which to spread both within and between generations, with some transmission methods capable of both inter- and intra-generational transmission.

Pathogenesis

Once a virus has successfully transferred to a host, the virus begins replicating and an infection results. Infection can range from inapparent (subclinical) through to severe or even acutely lethal.

In most cases viruses exist in the host in a latent or balanced state. This is where the virus replication is limited by the host's defence mechanisms, resulting in long-term infection with no significant symptoms.

This balanced state can be disturbed if the host is subjected to irregular situations such as challenging environmental conditions. This was clearly demonstrated in honey bee colonies in New Zealand with the introduction of the varroa mite. Viruses that had previously existed in the host in a latent state became severe infections as a result of the bees having to cope with the varroa mite. This is often seen in the colony as parasitic mite syndrome (PMS), which is a collection of symptoms relating to a number of factors including viruses.

Bees infected with either varroa or *Nosema* generally have higher rates of viral infection than bees that are not infected. Work is currently underway to establish whether exposure to imidacloprid pesticides affects the rate of viral infection (Chen J. pers. comm. 2008).

Honey bee defence mechanisms

Honey bees, as hosts of viruses, do have several defences that are capable of either excluding the virus or maintaining it in a latent state. These defences are observed at both the colony level and the individual level.

Colony defences include:

- hygienic behaviour—where disease is quickly detected and removed from the hive
- healthy individuals showing aggression towards infected individuals
- temperature regulation—where the colony will increase the brood nest temperature in response to a heat-sensitive pathogen
- the production of antimicrobial substances such as propolis.

Some of these colony level defences target the viruses directly, while others reduce the chance of bees being challenged by other pathogens that could result in a latent viral infection progressing to a more severe infection.

Individual defences include:

- physical barriers such as the bee's exoskeleton
- chemical barriers such as the environment in the gut that can limit replication and spread of ingested viral material
- immune response where the honey bee immune system can detect and destroy foreign material.

Managing viral infections in the hive

Chemical control methods for viruses are not possible and therefore the best way of minimising the effect of viruses in the colony is to manage the environment in such a way that the bees are as healthy as possible. This includes but is not limited to:

- keeping varroa under control by applying treatments in a timely manner
- controlling *Nosema* via considered hive placements and a moderately aggressive comb replacement policy
- limiting exposure to harmful chemicals
- ensuring that the bees are adequately nourished both in protein (pollen or supplement) and carbohydrate (nectar, honey or sugar), and
- replacing the queen if necessary.

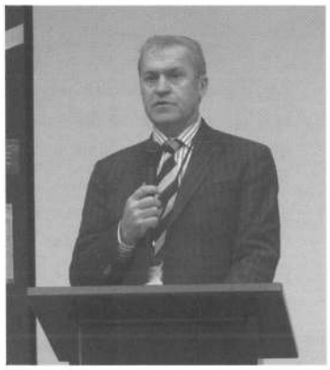
While hive management techniques will not guarantee that your hives are able to manage viruses, they will reduce the impact of viral infections on the productivity of the colony.

Suggestions for further research

This article has drawn material from a variety of papers written by Yan Ping (Judy) Chen of the United States Department of Agriculture, Agricultural Research Service (USDA ARS) Bee Research Laboratory in Beltsville, Maryland, USA and from communication with Dr Diana Cox-Foster at Pennsylvania State University. Closer to home, the team at the Plant and Food Research, Mt Albert site continue to produce good quality research on honey bee viruses.

Conference address: The future of bees

Following is the text of the speech presented by The Hon. David Carter, Minister of Agriculture to the NBA Conference on 9 June, 2009. This speech has been posted to the New Zealand Government's official website, http://www.beehive.govt.nz/speech/future+bees



Introduction

Good morning ladies and gentlemen. Thank you, Jim Edwards, for the introduction.

I would also like to thank President, Frans Laas, for this invitation to speak here today and the organising committee of the Waikato *[sic: Bay of Plenty]* Branch of the National Beekeepers' Association, who are hosting this conference here in Rotorua.

Last month I was delighted to help the bee industry in launching New Zealand's first ever Bee Week.

You did a great job to raise the profile of an essential but sometimes overlooked component of our agricultural and horticultural sectors.

As a former student of agriculture, and a farmer, I was aware of the importance of bees as pollinators. What surprised me and many of those attending the Bee Week launch was the range of other products derived from honey bees.

The industry has moved a long way from shipping out honey in 44-gallon drums, and paying beekeepers solely on colour.

When any industry group gathers, there is a strong temptation to focus on the difficulties the industry encounters. I believe it is a mistake to focus only on the negatives.

On a positive note, demand for pollination hives is growing every year, from an increasing range of crops.

This is providing a source of income for beekeepers far removed from 'traditional' pollination users like kiwifruit and apples.

Our honey continues to fetch premium prices on world markets, due to outstanding quality, presentation and marketing.

Manuka honey has become an international sensation, envied by beekeepers around the world. It has also provided an example to other New Zealand industries considering research to understand the properties of their unique products.

Manuka honey

This brings me to an issue that I understand is causing division in the industry. I am referring here to the branding of manuka honey, and the different ways that its antibacterial properties can be measured.

Only last week this debate was back in the limelight with news Cornish beekeepers have started producing manuka honey (albeit in tiny amounts, 3kg in a year) and selling it for more than $150 a pot.

This just shows the huge potential for New Zealand—if we can sort out the debate.

The industry currently appears divided, with each group firmly convinced that they are in the right.

It isn't my job to judge the competing claims that are made. However, as Minister of Agriculture, and with a lifetime spent in the primary sector, I strongly urge you not to fall victim to the infighting that has handicapped other industries.

One sector that you might like to reflect on is the wine industry. This industry has been delivering astonishing growth, year after year, for almost two decades.

Like you, they are marketing a premium product for consumers who are very sensitive to flavour and image.

There are now over 500 wineries in New Zealand, all competing fiercely for shelf space and the consumer dollar.

Despite this competition, you rarely hear one winemaker publicly attacking another's products.

The wine industry knows that in this wired-up world, customers anywhere in the world can stumble across press releases and newspaper articles written for a local industry audience.

Attacks on a rival brand will cause collateral damage to the good name of New Zealand wine.

This is an issue the industry needs to sort out, and no outside party can do it for you. However, bodies like Standards New Zealand, the Food Safety Authority and Food Standards Australia New Zealand may be in a position to help the industry come up with a solution.

That is the end of my sermon on the dangers of infighting but I hope you give this matter some thought; now, on to American foulbrood.

American foulbrood (AFB)

As you all know, American foulbrood has been managed by the beekeeping industry, under a national pest management strategy, for the past ten years.

What you may not realise is that American foulbrood first came under regulatory control in 1905. The government was responsible for early foulbrood control.

The past ten years have seen industry in control. There have been plusses and minuses. On the positive side, AFB has been kept at very low levels by international standards. Encouragingly, spore levels in packed honey appear to have fallen substantially over the past ten years.

Less positively, the strategy has failed to meet its targets for disease reduction, by a large margin.

Early this year, the Ministry of Agriculture and Forestry gathered submissions on the strategy. My officials have asked me to thank those who made submissions—many of the 26 submissions went into great detail on some of the key issues.

By a large margin, submissions supported continuation of the strategy in some shape or form. There was less agreement over what changes were needed to make the strategy more effective.

In the next few weeks, the Ministry of Agriculture and Forestry will release a summary of these submissions, and make some recommendations based on them. Given the diversity of views in the submissions, I can be confident everyone will find something to disagree with!

MAF will be seeking feedback on its recommendations. So I would urge those of you with a keen interest in the strategy to comment once again on the direction the strategy should take.

Once MAF has that feedback, the Director-General will make a recommendation to me about the future of the strategy.

If I am satisfied that the revised strategy will provide effective control of American foulbrood, and meets the requirements of the Biosecurity Act, I will recommend to Cabinet that the strategy is re-imposed.

This will set the legal machinery in motion, and should result in the new strategy taking effect towards the end of the year.

Possibility of honey imports

I am aware that the bee industry has been opposing the import of Australian honey for several years. I should therefore make my own position clear.

Any decision on any import must be based on science. We demand this of other nations as we battle for entry of New Zealand products. We must therefore be extremely even-handed and open in the way we deal with imports, but at the same time be very mindful of security risks.

I was chairman of the Select Committee that reviewed the conditions for importing honey. Our recommendation resulted in the establishment of an independent panel to review MAF's decisions on these matters to ensure it was not both judge and jury. I am confident this process provides the right level of balance in assessing new import health standards.

The independent review panel on honey imports was originally scheduled to report back in May. I understand it has sought an extension to this time, and its review is now due any day. I have no more idea than you as to what it will say.

Current economic situation

Before I conclude I would like to talk about one more topical issue.

We all know the world economy is in recession.

Fortunately, people will keep eating, and our primary production sector is the engine that will pull New Zealand through this rough patch.

Many of you will be carefully going through the books in your own businesses, looking for places to trim costs.

As you saw in the Budget, the government has done precisely the same thing.

Primary Growth Partnership

On Budget Day I made an announcement which will benefit you as essential contributors to the primary sector. That is, the Primary Growth Partnership.

For 20 years we, as a nation, haven't invested enough in primary sector research and development. Many of the recent productivity increases we have achieved on-farm are as a result of research done almost 30 years ago.

The former Agriculture Minister, Jim Anderton should be acknowledged for his vision for pastoral and food sector R&D with his promotion of the Fast Forward Fund.

National assessed Fast Forward and decided we could do better. Fast Forward was funded through a nebulous capital fund that was to be drawn down over a period of 15 years. The Primary Growth Partnership is funded through an ongoing, annual government appropriation that will be matched by industry.

PGP is a bigger commitment than Fast Forward. It incorporates a transparent and accountable funding structure that is focused on results.

So how it will work?

Budget 2009 provides $190 million of Government funding over four years for PGP. It will start at $30 million this year; go to $40 million next year; $50 million the year after that; rising to $70 million per year ongoing from 2012/13.

Funding will be increased as industry shows capacity and the need to spend even more.

With a matching commitment, dollar-for-dollar, by industry, up to $140 million will be invested annually.

It is an enduring commitment from central Government.

Funding will start this year at $30 million. We have started with a smaller amount because we believe projects will need time to be developed and assessed.

There will be five sections of funding with each proportioned a dedicated amount. This year it will be $2 million. The sections are divided up into:

1. pastoral (including wool) and arable production;
2. horticulture;
3. seafood (including aquaculture);
4. forestry and wood products; and
5. food processing (including nutriceuticals).

In addition to the five sections, $5 million will be proportioned for Greenhouse Gas research and development. I'll talk more on that shortly.

The remaining $15 million in year one will form a contestable fund open to any sector to bid for. If the dedicated $2 million for any of the sectors is not used, it will transfer to

the contestable fund. Those industries that propose bigger and more ambitious projects can apply for more from the contestable fund.

In my mind the $2 million works like a teaser—every sector has a fair chance.

Government does not see PGP as 'business as usual'. It is an ambitious project and has an ambitious scope.

PGP has been closely developed with industry. It is unashamedly industry-led and simple in its structure. PGP will focus on results, and bureaucracy will be minimised.

The priorities and strategic direction of PGP will be led by those industries that choose to be involved. As I said at Bee Week there is opportunity for the bee industry to collaborate with other sectors.

My advice to you is to unite with other industry bodies and state your case for well-reasoned research projects to assist your industry.

Conclusion

In summary I am confident that the dynamic nature of our primary sector will ensure that breakthroughs are substantial and will underpin our future economic growth.

The next few years promise to be exciting times for primary sector research.

Budget 2009 will be a turning point for New Zealand. Ten years of economic growth and expansive appetites for debt and Government spending have ended.

Budget 2009 outlines the challenges to rebalance the economy from debt and consumption to investment and exports. Primary production will lead that rebalance.

Thank you again for inviting me to address your conference. I wish you all the best for your discussions.

Proofreaders wanted!

We are looking for a couple of people to assist with proofreading the journal.

Experience not essential. Must have broadband and 3-way calling ability.

Give me a ring if you are interested.

Frank Lindsay
Chairman, Publications Committee
(04) 478 3367

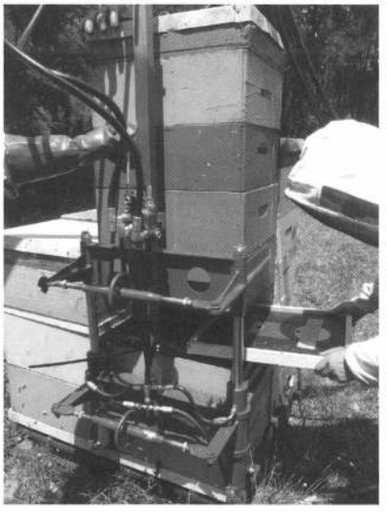
Roy Paterson Trophy 2009

Newly elected NBA Vice President Barry Foster was judged as the winner of the competition for the Roy Paterson Trophy for 2009.

The trophy, which honours the late Waikato beekeeper and inventor, Mr Roy Paterson, is awarded annually at Conference to the most innovative ideas or inventions for beekeeping put forward by industry members.

Barry describes his invention below.

The crop lifter is used to hydraulically lift supers of honey up off the hive in order that a bee escape can be inserted between the brood chamber and the honey supers. The crop lifter saves a huge amount of time and manual lifting of honey supers, as well as keeping most of the bee sealing intact between honey supers so that the potential for robbing is greatly reduced. The crop lifter is a new innovation that can fit on to a boom mounted on a tractor or on to a Hiab or similar hydraulic lifter.



Hive lifter and bee escape being inserted; Inserting bee escape under four-high crop. Photos: Barry Foster.

Conference organisers' report

What a fabulous team effort this was. The organising committee, the sponsors, the 275 registered participants and the Millennium Hotel all made this a really good conference.

The conference booklet took an enormous amount of time and effort from both Wendy Mossop and Jody Mitchell, but for those of you who went to conference you would have to agree this booklet is fantastic! It's a treasure trove of information and a keepsake of Conference 2009. Well done, Wendy and Jody.

Following in the footsteps of the 2008 conference, we decided to have a new and small beekeepers forum on Sunday, 7 June. With 60 registrations prior to the day we made our preparations and expected a few more. Well, that number doubled almost to 115 on the day. It was a bit chaotic on Sunday morning getting everyone registered and catering for twice the number of people expected for lunch. From comments on the day, everyone enjoyed the programme and the opportunity to learn more about bees and the industry around them.

The hotel did a marvellous job throughout conference, coping with our ever-changing requirements and managing to put great food on the table for up to 255 at any one time.

On Sunday afternoon there was an outdoor forum of equipment and a few hardy souls braved the weather. Monday afternoon's forum had more displays and with afternoon tea amongst the display, it made for a very successful way of achieving profile for the people with equipment too big to fit inside the hotel foyer. It is always good to test out equipment applications in a real situation. Thanks to the boys of the Bay of Plenty Branch (Leon, Ralph, Allan, Lee and Jason) who made the 'Big Boys Toys' forum happen. Sponsors were very pleased with the two days, as were the many people who showed an interest in the equipment.

On Sunday night the 185 people who came to the conference opening and the mix and mingle set the tone for conference. The Deputy Mayor of Rotorua was very welcoming and friendly and the conference continued in this vein throughout.

The seminars on both days were thought-provoking and informative, with quality speakers and great questions from the floor. We were very fortunate to have such quality speakers from both overseas and New Zealand. With over 200 people registered for each of the main seminar days (210 and 209, respectively) several sessions had full houses:

- neonicotinoids with the team of speakers discussing both the European and American situations
- Dr Christian Pirk's mandible clipping of queens
- the address by the Minister of Agriculture, the Hon. David Carter
- Professor Peter Molan giving us the latest news on antioxidant and anti-inflammatory honey
- Jerry Hayes and Byron Taylor talking about CCD.

All the other sessions were well attended, with speakers delivering really interesting and thought-provoking seminars. The chairmen (Dennis Crowley, Neil Mossop and Jim Edwards) did a great job of keeping everyone on time whilst allowing a flow of questions.

Another new initiative to NBA conferences was the decision to have some elective workshops on Monday afternoon. All three of these were very well attended with the room being full each session. Having a diverse programme provided options for everyone.

Monday's sponsors' night was a very memorable event with over 250 people poolside. This year, plaques were given out to sponsors, which were well received. Kudos for that idea must go to NBA Executive Secretary Pam Edwards. Thank you, Pam, for a wonderful initiative.

Tuesday dinner was also poolside with fewer people, but just as much fun with a great band and dancing. We skipped the interbranch contest in favour of auctioning Reuben Stanley, who was desperate to go for a swim. The auction, which also included a wine magnum and some of Stuart Ecroyd's great gear, raised $1,130 for leukaemia research. Well done, everyone: a very worthwhile cause and a lot of fun.

A raffle, which ran throughout conference for a trip to White Island, was won by Kim Garrett. The proceeds of $520 will go to the Rescue Helicopter based in Tauranga. Again, a really worthwhile cause and it was great to see the support. Thank you to everyone who gave money to these two great causes.

Around the main auditorium there were a number of posters from various research teams informing us of their current work. It is great to catch up on research that we otherwise don't see. Thank you to Dr Mark Goodwin for suggesting this. It was very successful, judging by the number of people who were constantly studying the posters.

Another really interesting display at the back of the hall was the flora display by Tony and Jane Lorimer. It takes time to put together such a comprehensive display as this which enabled newcomers to the industry to check out different plants, and the more experienced to brush up on the less familiar plants which you sometimes don't see in your area. Thank you, Jane and Tony, for your effort—it was an excellent display which added interest to the conference. I am sure you all noticed the small tutu bush up the front of the hall as well. Quite an appropriate piece of decoration for a beekeepers' conference, especially when talking about tutin. Thanks, Allan for bringing this from 'Tutsville'.

As for competitions!

What interesting honey tasting there was in the Quintessential Honey Competitions. There were two competitions, with the first being on Sunday for the new and small beekeepers, the winner of which also entered the main competition. Carol Downer of Auckland was the winner in this category.

Wrapping our senses around a wide variety of honey to determine the best was no easy task, but one that many of us enjoyed doing. In the end there could be only one winner. Well done to Jody and Ralph Mitchell of Kaimai Range Honey with a very nice line of Tawari honey. I am sure next year there will be challengers for the crown as this competition grows and becomes an integral part of the NBA conference.

I did not know there were so many great photographers out there until I checked out the entries to the photo competition. What a variety of photos—they set a very high standard. I might have to buy a new camera or learn how to use the current one. The three categories gave plenty of scope and voting was close. Jody Mitchell won the categories of 'Bees at Work' and 'Working with Bees'. The 'Production/Produce' winner was Jane Lorimer. Oh the girls have it, I see. Come on boys: next year there must be a bit of a challenge there for you. The professional photographer's award went to Fiona O'Brien. Well done to you all, and I look forward to next year's competition.

The last event was the bus trip. When we first discussed having this trip we had no idea how many people would be interested given that it clashed with the AGM. We filled the bus and also had a number of people travelling in their own vehicles to one or other of the venues. With 70 people visiting Comvita and Arataki it proved to be a very worthwhile day that attracted a lot of interest. These two plants were both diverse in their operation and very different. Thank you to Colin Baskin from Comvita and Annette and Russell Berry of Arataki Rotorua for making it possible for us to visit, and for giving such an open tour of your facilities. It was a wonderful end to a very successful conference. Sorry to have missed the AGM, but someone had to be the guide on behalf of the BOP Branch.

Well that's it for Conference 2009. Thank you to everyone:

- the sponsors whose support is essential to conferences such as ours
- the hotel for doing such a great job
- all those who came along over the four days
- and the committee for organising everything.

Take care over the next 12 months and we look forward to seeing you at the Nelson 2010 conference.

- The BOP Team

Meeting to resolve manuka issues

Following on from presentations during NBA Conference week, Paul Hutchison MP facilitated an industry meeting with Minister of Agriculture David Carter and Minister of Food Safety Kate Wilkinson in Parliament on 23 June.

The aim of the meeting was to bring the participants together to build a successful high-value manuka industry. This meeting was not to resolve all the issues, but to agree to develop a process to enable the goal to be achieved.

The meeting was attended by about 30 people including representatives from NBA, Federated Farmers Bees, Bee Products Standards Council, Honey Packers Association, honey producers, the University of Waikato, and the Active Manuka Honey Association (AMHA). There were officials present from MAF, NZFSA, Trade & Enterprise and Standards New Zealand.

Wira Gardiner repeated his presentation on the challenges and the need to sort the problems within the industry.

David Carter said that after the success of National Bee Week, he was very disappointed to see that the problems in the manuka industry needed to be resolved. He said that this was not the first industry that has had to address such problems and that we must work positively, as other industries had done, to find solutions. The organics industry was cited as a success story.

Kate Wilkinson wanted the focus to be on facilitating resolution to maintain the integrity of the whole honey industry. She recognised that regulation would result in compliance costs and if that was necessary, those costs should be minimised.

There was extensive discussion amongst the meeting participants and this continued after the Ministers had to leave for other business.

The meeting agreed to form a working party with a wide representation to establish and work through a process that would bring the industry back into harmony. It was agreed that a facilitator be employed to help all the parties to work together.

- Dr Jim Edwards, Chairman of the Bee Products Standards Council and CEO of the NBA

BOP NBA CONFERENCE 2009

The Bay of Plenty Branch would like to thank all our sponsors, speakers and all those who attended the conference in Rotorua. You all contributed to a memorable conference which had a friendly and positive atmosphere.

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Photos: Jody Mitchell, Barbara Pimm, Fiona O'Brien and Pam Edwards.

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From the colonies

Northland Branch

New officers elected at our June AGM:
President: Sarah Peacey
Secretary: Simon Peacey

- Jo Scott

Waikato Branch

This is my first colonies report since taking over from Pauline, who found she was too busy and I drew the short straw.

I thought winter was a quiet period for the beekeeper but after a busy season doing the beekeeping work I hope to finish extracting next week, and before you know it I'm starting to think about spring and wondering when my time off will start. Perhaps some of the time was used up attending the conference and preparing for Fieldays.

Conference was well attended but it was a big disappointment to see so few members attend the AGM where important decisions are made that affect all of us. The tutin talk gave us all some very good food for thought on how we should be managing this risk and highlighted that more research is needed.

I'm probably the most southerly member of the Waikato Branch so input from other branch members would be appreciated to ensure an overall picture. Contact me on bees@beesrus.co.nz or phone 06 752 6860.

- Stephen Black

Bay of Plenty Branch

During the past month not a lot of beekeeping work has been done by any of the conference committee as we wound ourselves up for conference, held conference and then spent a few days recovering. Anyway, the weather has been too cold to do much around the apiary. On Queen's Birthday weekend we had snow visible from our bedroom window so snuggled back down.

The weekend after conference was wet as well as cold but the road was open, so we had a wonderful time at Simon and Garfunkel in Auckland.

Now it's back to reality. The maintenance jobs, a bit of winter fishing and relaxation seem to be the order of the day.

- Barbara Pimm, Branch Secretary

Hawke's Bay Branch

I hope to run an AFB Recognition and Competency course sometime in late July. No date has been fixed yet but you may contact me if you are interested.

We have finally had some rain (and snow) but it is too late for much grass growth.

As you can see, I've been fishing. The snapper pictured was 19 pounds (8.6 kilograms), caught on Slipper Island off the Coromandel Peninsula.

- John Berry, Branch President

Southern North Island Branch

The May meeting of the Southern North Island Branch was largely devoted to considering the Notices of Motion and discussing the Branch's response. In the furtherance of NBA matters we need to seriously look at the expertise available from all sources, and draw on the strengths of the people with the required expertise—sometimes this will be at an extra cost.

Our representative on the Australian study tour was Gary Sinkinson. We were fortunate to have Gary at the meeting so soon after returning from the Australian trip to tell us about the places that they had visited and the knowledge and experience that they had gained. He certainly gave us a lot of things to think about and discuss. The advent of small hive beetle (SHB) into New Zealand would be a far, far greater disaster than the arrival of varroa and SHB is, based on the Australian experience, almost impossible to control. All beekeeping management techniques would have to change to try to adapt to the new situation. All the Australian hives the group examined were one brood box, queen excluder and one super. Australian beekeepers never load supers on a hive as we do because SHB takes over. The beekeepers also visit their hives more regularly. Problems with supers and honey house management means that our methods also will have to change.

The weather has turned to winter: most members are in the middle, or towards the end, of feeding and wintering

down hives. Access to apiaries is difficult with wet, muddy paddocks: several reported problems in the paddocks, even with 4 x 4 trucks. I have only a light truck, normal drive through the rear wheels and I have to be doubly careful—so far, so good during this wet spell.

We also turned our minds to NZFSA and the harvest declaration proposal. We foresee difficulties for us all and urge beekeepers to record their opinion by making a submission to NZFSA: this should have been done by 30 June. Not all beekeepers have their own honey extraction equipment, and transferring honey after extraction, between extraction house to store, to sale, to a New Zealand packer, or to export by a small beekeeper is fraught with difficulties. In some instances the extraction facility or subsequent handler has been asked to certify regarding PDB, or now tutin, when this declaration is solely the responsibility of the initiating beekeeper. If you, the reader, have experienced something of this, then make your opinion known to the Branch and NZFSA. Otherwise bureaucrats will demand what has to happen, regardless of time or cost.

- Neil Farrer, NBA Life Member

South Island

(Our scribes appear to be in the deep freeze, in bed with lurgy or holidaying… rest and recover well, folks, and watch this space next month!)

From the 'West Island'

Editor's note: the following information has been drawn from the May–June issue of Honeybee News, the publication of the NSWAA (New South Wales Apiarists' Association).

Exports of queens and packages to Canada have ceased from the East Coast because of Small Hive Beetle.

USA beekeepers are also lobbying to have imports of queens and packages ceased due to the Apis ceranae incursion into the Far North Queensland. Since its incursion two years ago, 28 hives and swarms have been killed. The recent six- and seven-metre floods have reduced the number of bees seen at the feeding stations.

[Commentary: At the NBA conference in Rotorua, Jerry Hayes was surprised that we still didn't have hive beetle seeing as how close it was to us. USA got the beetle from an import of melons. Such an incursion into New Zealand will see the majority of our live bee exports to Canada stopped, so be extra careful when you visit Australia.]

During the last year, Australia has seen 1000 tonnes of Chinese honey and 1600 tonnes of Argentine honey imported. Cheap imports could erode beekeepers' profitability, which could affect the country's agriculture if honey prices are lowered. Their beekeepers believe Chinese honey could contain residues. They do not have the same quality assurance practices that require honey to be traced back to the apiary and is a disease risk.

The financial crunch has caused a number of large companies into receivership, one being Timbercorp Australia, the biggest producer of almonds. The fear is that the receiver could sell off the water rights leaving the trees to fend for themselves (no crop), and therefore losing beekeepers pollination fees from 60,000–80,000 hives. In the meantime, beekeepers are registering an interest in providing hives for pollination, which they hope will continue this spring despite the receivership.

The NSW DPI (Department of Primary Industries) Regulatory conducted an exercise in the Batemans Bay area. They visited 46 sites containing 1144 hives owned by 21 beekeepers. Four small beekeepers owning a total of 241 hives were inspected; 51 had AFB. One beekeeper had 32 hives infected (100%) and was also given a $550 infringement notice for failing to report AFB. One unregistered beekeeper was given a written caution. This is their third such operation and more are planned.

The NSW Apiarists' Association Inc. Conference and RIRDC are being held in conjunction this year in Sydney: it's not too late to register. The programme is:

8 July: RIRDC field day at Hawkesbury Campus: FREE
9–10 July: NSWAA conference at the Rydges Hotel, Parramatta ($140 AU per night)
11 July: field day at the Hawkesbury Showgrounds

For those interested in the political side of the Australian Honey Bee Industry Council, they are holding meetings on 12–13 July to discuss their constitution at the Rydges Hotel.

For more information and registration, contact Julie Lockhart, email: nswaa@bigpond.net.au

Understanding hive quality

Tim Woodward, ZESPRI and Neale Cameron, Beehive Auditor

Introduction

Shane Max spoke at the NBA conference on the quality of beehives going into kiwifruit pollination.

Green kiwifruit growers are now under financial strain. They must either increase their income by either increasing their holdings or increasing their production. Green kiwifruit is harder to pollinate than gold so it's important to have hives at a higher standard than was previously thought. Neale Cameron did a survey of some orchards that were not making the grade and this is what they found.

Not all beehives are equal but how would you know whether one hive was better or worse than another? An audit of hives supplied to the ZESPRI Focus Orchards has suggested that a wide range in hive quality exists within the industry. This potentially reflects the emphasis of the industry on hive cost and stocking rates rather than hive quality. This suggestion is supported by the declining level of hive auditing, with less thought being given to the makeup or strength of the hives themselves. The quality of hives used can be more important than the number of hives used. Just because a hive meets a minimum quality standard set for pollination does not necessarily mean that it will be the most effective hive for kiwifruit pollination.

Last season (2007/08) the pollination systems of the ZESPRI Focus Orchards were assessed and in all cases the pollination systems used could have been better. It was estimated that there was $3,000–6,000 per hectare of additional fruit value potentially available to the orchards through improving their pollination. All of the focus orchards made additional investments in their pollination for the 2008 season by pursuing a number of options, including increased hive stocking rates and supplementary pollination. The pollination assessment work enabled us to quantify the cost/benefit of the supplementary pollination; however, the cost/benefit of investing in hives was confounded by the aspect of unknown hive quality.

Hive audits were carried out on the ZESPRI Focus Orchards so that hive quality could be related to the subsequent pollination result achieved. The assessments carried out suggest that substandard hives may be more prevalent in the industry than expected.

The importance of hive quality

Honey bees collect pollen to feed their larvae. The more bees and brood a colony has the more pollen it will collect. Hence the greater its value for kiwifruit pollination. A single strong hive may collect 20 times as much pollen as a weak hive; therefore an orchard with eight strong hives per hectare may have the same potential for pollination as another orchard with 160 weak hives per hectare.

How did we access hive quality?

Hive quality within the kiwifruit industry historically has been based around meeting a minimum quality standard, often referred to as the Kiwifruit Pollination Association (KPA) Standard. However, the KPA standard is simply a pass/fail standard (Table 1) and does not provide the opportunity to rank individual hive quality. To measure the quality of the hives supplied to the focus orchards in the 2008 pollination season, a number of hive characteristics were measured and combined into a hive quality score. The hive characteristics measured are described below:

- **area of honeybee eggs, larvae and pupae (brood):** bees collect pollen and nectar to feed the brood, so the more brood within the hive, the greater the demand for collected pollen
- **number of bees:** young bees start their lives working inside the hive, and progress to foraging outside the hives for pollen and nectar. The greater the number of bees present, the greater the potential for the hive to collect pollen
- **laying queen:** the queen is a female bee that lays eggs. A hive without a queen will have less brood and less demand for pollen
- **room for hive to expand:** if the bees do not have enough room, the queen will lay fewer eggs, there will be less brood, and consequently less demand for pollen.

The hive rating system used on the focus orchards used the KPA hive standard as a baseline (Table 1).

The maximum achievable hive quality score was a score of five and was based on:

1. a full-depth hive with 8.5 frames of brood 60 percent full or six full frames of brood, that is at all stages of development (eggs, larvae and capped pupae)
2. a full-depth hive with 20 frames of bees
3. the other requirements were as per the KPA standard.

The rating system gave hives a score ranging up to five, with a score of less than one being below KPA standards, a score of one being the KPA standard and scores greater than one being improving increments above the KPA standard, up to a maximum score of five.

Requirements of the KPA standard for hive quality

A	On a full-depth hive system there should be seven frames 60 percent full of brood; that is, at all stages of development (eggs, larvae and capped pupae) or 7000 cm^3. On a three-quarter-depth hive system there should be nine frames of brood.
B	On a full-depth hive system there should be 12 frames of bees, and on a three-quarter-depth hive system there should be 15 frames of brood.
C	There has to be a laying queen.
D	The colony has to have room to expand with some available empty comb.
E	The colony has also to be free from disease.

Table 1. The Kiwifruit Pollination Association (KPA) standard for hive quality.

The KPA standard was used as a minimum standard and it was expected that average hive quality on the ZESPRI Focus Orchards would be well above this level. This reflects what's happening in the industry, with orchardists expecting beekeepers to supply hives to the KPA standard as a minimum, but on the expectation that hive quality will exceed the standard.

What did we find on the focus orchards?

In the 2008 pollination season the ZESPRI Focus Orchards were using hive stocking rates ranging from seven to 10 hives per hectare. A random sample of 10 hives was assessed on each of the orchards.

There was significant variation in the standard of hives audited (Figure 1). A common explanation by beekeepers for having an individual hive which does not meet the KPA standard is that if the hives that are above standard are accounted for, then on average all hives supplied to the orchard would be well above KPA standards: this is the information presented in Figure 1. The averaged hive quality scores for each orchard (Figure 1) indicate the overall standard of hives supplied to each orchard. Orchard 2 was supplied with hives whose quality was well above KPA standards; in contrast, the quality of hives supplied to orchards 4 and 6 were, on average, below minimum KPA standards (note: Orchard 2 was the only orchard supplied by a KPA member beekeeper).

The quality scores of the individual hives for the focus orchards supplied with the highest and lowest quality hives are presented in Table 2. All the hives assessed on Orchard 2 were well above minimum KPA standards; in comparison, 30 percent of assessed hives on Orchard 4 were well below minimum KPA standards.

The advantage of a hive quality scoring system that takes a holistic view of a number of characteristics is evident in the hives supplied to Orchard 2. Hive number three supplied to Orchard 2 is technically below KPA standards, as it contained less than seven frames of brood (Table 2). However, in the hive quality scoring system it ranked highly as the five frames

of brood it contained were mainly uncapped (therefore needing to be fed), and the large numbers of bees (19 frames) would have meant this hive was a good pollination unit.

Orchard 2	**A**	**B**	**C**	**D**	**E**	
1	8.5	19				4.47
2	8.5	20				5.00
3	5.0	19		X		4.47
4	8.5	20				5.00
5	8.5	19				4.47
6	8.5	20				5.00
7	8.5	19				4.47
8	8.5	19				4.47
9	8.5	20				5.00
10	8.5	20				5.00
Average *Orchard 2*	*8.15*	*19.5*	-	*1*	-	*4.73*
Orchard 4	**A**	**B**	**C**	**D**	**E**	
1	8.0	13				1.05
2	8.0	18				3.68
3	8.5	19				4.47
4	8.5	20				5.00
5	1.0	6	X	X		-6.31
6	3.0	8		X		-4.21
7	4.5	7	X	X		-3.84
8	7.5	12				1.02
9	8.5	16				2.89
10	7.0	15				1.57
Average *Orchard 4*	*6.45*	*13.4*	*2*	*3*	-	*0.53*

Table 2. Comparison of individual hive quality results between the Focus Orchard with the best hives (Orchard 2) and the Focus Orchard with the worst hives Orchard 4). Note: a hive quality score of one represents the KPA minimum quality standard.

How did we use the information on quality?

Pollination is a significant cost to orchardists and hive audits are a useful tool to determine whether the hives supplied are of sufficient quality to provide good pollination. The hive audits conducted on the ZESPRI Focus Orchards in the 2008 pollination season suggest that substandard hives may be more prevalent in the industry than expected.

The use of a pollination contract is recommended to clearly define the expectations around hive quality and how any disputes will be addressed. Any audit of hive quality will require the consent of the beekeeper, so a provision for auditing should be included in the contract with the beekeeper, along with steps that will be taken if any problems are identified. An example of such a pollination contract is available on the grower website (www.zespricanopy.com). A hive audit should take place as soon as possible after the hives are placed in the orchard so remedial action (if required) can be taken to minimise the effect on pollination.

Orchardists utilising a KPA member beekeeper are guaranteed hives to the KPA standard. KPA members have a sample of their hives audited as a condition of supply and any defective hives identified must be replaced within 24 hours of auditing.

Conclusion

Pollination is a critical part of maximising orchard production and grower profitability. The use of honeybees is a cost-effective means of pollinating kiwifruit. However, the quality of the hives used will influence the pollination result achieved. Hive audits are a useful tool to determine whether the hives supplied are of sufficient quality to provide good pollination. The hive audits conducted on the ZESPRI Focus Orchards in the 2008 pollination season suggest that substandard hives may be more prevalent in the industry than expected, and are likely to be contributing to the suboptimal pollination observed with the pollination assessments.

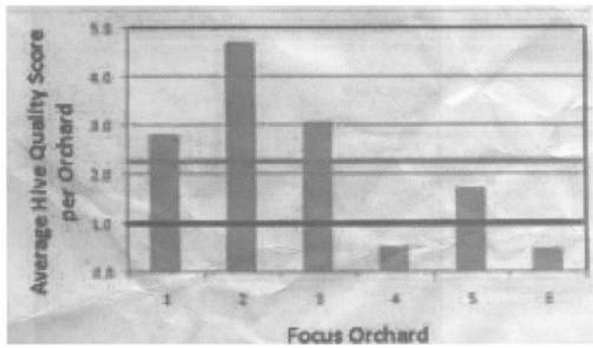


Figure 1. Average ratings for the 10 beehives assessed at pollination on each of the Zespri Focus Orchards. The horizontal black line represents the KPA minimum hives and the horizontal line represents the average hive quality score across focus orchards.

References

Kiwifruit Pollination Manual (2000) by Mark Goodwin. www.zespricanopy.com

KiwiTech Bulletin 52: Assessment of Pollination Systems. wwwzespricanopy.com

Measuring your pollination system: could things be better? *New Zealand Kiwifruit Journal,* Jul/Aug 2008, pp. 19–23.

ZESPRI Pollination Contract. wwwzespricanopy.com.

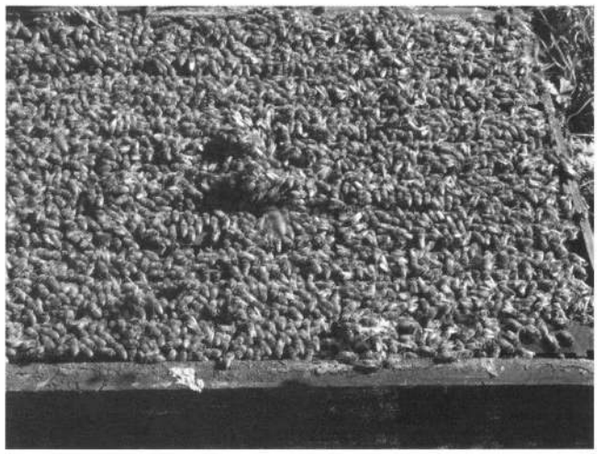
Thoughts on wintering hives

How your hives go into winter has a lot to do with how good a crop you get next season. One wintering problem is stock damage to your hives while they are semi-dormant. This is particularly troublesome when you have hives on farmland with one-year-old cattle. They love pushing each other closer until one gets stung and then they all race away, often tipping hives over in the process. It's particularly bad if the cattle get a taste for combs, as they will tip hives over and return to eat the combs not covered by bees.

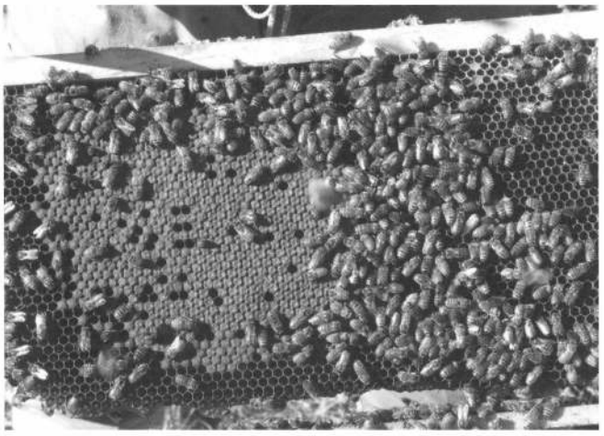
We have reduced cattle damage considerably by fencing. We have found that stringing electric tape from metal standards works well, particularly if the cattle are used to electric fences. If there is an electric fence nearby you can use insulators on the standards and connect onto the electric fence. However, we have found we get good control if we just use the standards with three strands of tape. If only two strands are used the cattle tend to push between and eventually get into the apiary.

Another idea we are looking at is using weed mat under the hives. Last season a farmer put an old carpet on the ground for us to put our hives on and it was really good with no grass problem around the entrances. Paul came up with the idea of using weed mat. As we are certified as organic producers we cannot use chemicals for weed control, so the grass has to be controlled by hand.

With weed mat costing $100 for 100 metres of six-foot-wide matting, it seems well worthwhile trying this coming season. As we are reducing our hives down to single brood boxes for winter, it is easy enough to lift the hives out of the way while putting the matting down. I expect some bark or sawdust in front of the hives might help the bees avoid being caught by water on the matting.



The photos above show a hive ready for winter. It is obvious the honey boxes were full of bees during the flow. At least a hive like this will come through the winter nice and strong. At the time the photos were taken (the end of May), brood rearing had virtually stopped and the brood nest was full of fresh honey. If there's not enough in the brood nest to safely get through winter, we put dry sugar in the feeder above. The bees prefer raw sugar but we use organic sugar because of our circumstances. Bees will not always work dry white sugar and could starve. In this case, use syrup.



This photo shows how the bees should be storing honey around the brood as the hive gets ready for winter. Even if you winter in two storeys, the hive will do better if the lower storey is nicely packed with honey rather than just relying on the honey in the second storey.

If you do winter in two storeys, don't forget to remove the excluder if it is between the two supers, as in cold weather the bees move up to the honey and the queen can be left to die below the excluder.

All photos supplied by Gary Jeffery.

- Gary Jeffery, Mountain Beech Apiaries Ltd.

UK hobbyist thanks NZ hosts

Roy Cropley, an amateur beekeeper from England, visited New Zealand for six weeks from 1 January to mid-February. He called on and stayed with beekeepers north of Auckland. Mr Cropley says, "I wish to thank all the beekeepers who made my stay in New Zealand such a pleasure and offer hospitality to those who wish to brave the long journey". His email is roy.cropley1@tiscali.co.uk

About the Apiary

Winter is really upon us: lots of rain and cold weather. However, the bees are flying on the odd warm day, gathering water and pollen, and if your hives are close to the city, maybe a little nectar from eucalyptus, and ornamental trees and shrubs like grevillea.

There's not a lot that needs doing in the apiary but it may pay to check monthly that hives are upright and haven't been knocked over by stock or blown around in a storm. Better still, ask the farmer to keep an eye on them and to ring you if he notices anything wrong. A pot of honey is a nice reward for a phone call.

When you arrive, check the weight of the hives by 'hefting' them. Stand behind a hive, and with a straight arm, lift up the back of the hive by the handhole to judge its weight. A hive full of honey is hard to lift. Those that come up easily will need feeding. Mark these hives.

Once this has been completed, observe all the hive entrances for deformed bees—a sign of varroa (you may have to re-treat). Check also that the hives have a slight slope forward so the rain runs off the landing board. If you find a number of dead bees in front of the hive with pollen on their legs, consider putting a board on an angle at the entrance so those bees landing short can crawl up into the hive.

As a final check, remove the roof and the crown board if you use them. Puff a little smoke over the frames to control the odd bee that will fly up at you, and look for moisture on the ends of the frames and on the underside surface of the roof or crown board (whatever was in contact with the bees). During the winter when bees are clustered, they vent moisture but store the solid waste in their rectum and void it on the first fine day (just when everybody around you has washing hung out).

In their natural condition within a tree, rotting timber in the middle of the tree draws away this moisture so the bees remain dry; however, in our man-made hives this doesn't happen. A little moisture goes into the wood but most of it condenses and builds up in the hive if there's no top ventilation. All it takes is a matchstick placed in each corner of the top super to lift the crown board sufficiently to allow the water vapour to get away. It's OK to see a little moisture around the tops of the outside frames but if there's more than a little, increase the ventilation a bit by adding a small twig to the cold side of the hive. It's a balancing act: too much ventilation and the bees consume more honey; too little and the bees get wet and consume more honey.

Those with open mesh bottom boards generally don't need to do this, as there is enough air circulation to keep the hive free of moisture. But it's best to check anyway.

While the roof is off, look down into the frames and make sure there are still frames of capped honey. Don't lift out frames or disturb the bees too much as this will cause them to break their cluster and use more honey to re-establish the cluster again.

Those hives that were light with the heft test should be fed. In the warmer areas where bees are flying and still rearing brood, you can risk feeding syrup but this will stimulate further brood rearing. Better to give them raw sugar in a top feeder. If you do not use top feeders, cut half the side out of a sugar bag and place two or three sheets of the paper over the cluster, on top of the hive. Make a small hole the size of a $2.00 coin in the centre, and pour about five kilograms of sugar around this hole. Then take a little water and dribble it on to the edge of the sugar, so some sugar and water runs down the hole on to the bees. This tells the bees there's some food here. You can either put on an empty super on top or press/weight down the roof so that it stays on. The bees will come up and gradually dissolve the sugar. This should be enough to feed the bees for a month.

Replace gear now!

Winter time is planning time. Order new or replacement gear now and make it up ready for next spring, but don't put wax in the frames yet as it will be too brittle and will stretch when it warms up. It's best to wax frames a few days before they go into the hives.

For years now most hobbyists have used copper naphthalate (Metalex) to protect the woodware from rot. There was some talk that the New Zealand Food Safety Authority was looking at this as it possibly could cause a residue, but copper is in honey and it's an important element in our diet. After a super has been on the hive for a few months, the bees will have polished the internal surfaces and removed any excess so it's hardly going to be a problem.

If you do want to use this method (timber treated this way lasts for 10 years, and longer if the supers are retreated every 10 years), it's best applied before the supers are put together. It's most effective to soak the wood in a solution of five parts mineral turpentine to one part Metalex for 24 hours, then put the wood into a plastic bag for another three or four weeks so that the preservative soaks in. Then remove the wood from the bag and fillet it (stack it with thin pieces of wood at each end so that the air can dry all surfaces). After three or four weeks of airing, the supers are ready to put together and paint.

On a recent trip to Australia, I noticed that beekeepers there are painting the internal parts of the hive. The paint stops the bees building brace comb, probably because the surfaces are too smooth. Painting the internals of the hives means that it's not easy to re-preserve the woodware again. They have to sand all the surfaces before re-dipping.

Commercial beekeepers preserve their woodware by dipping the assembled hive parts in paraffin wax at 130°C. Some use old beehive components to fuel the fire to heat the wax; others use gas to heat the wax. A gas-heated dipper requires a wide diameter chimney (80mm or more) so that the gas burns cleanly. Fires, on the other hand, draw in air so the chimney size is not so important. Temperature is controlled easily with gas, whereas a fire-controlled dipper needs a door to control the airflow or a damper in the chimney flue.

Spring maintenance

Apart from the spring preparations, you should also work on a basis that 10% of hives will lose their queens, or the queen becomes a drone layer during the winter if they were not replaced in the autumn. Expect some losses: it does happen. To make up losses you require queens, so order them early. Queens are easy to produce but it's harder to get them mated in the spring. They need at least a week of nice fine days with temperatures above 18°C to get queens mated. In my area, Wellington, it's not that easy in the spring. We only get two weeks of fine weather in early October before the equinoctial winds start. Unfortunately this two-week period varies from year to year so queen breeding in spring doesn't always go to plan. Likewise, queen breeders can't always produce mated queens when you want them and in some years, the queens are not available until late November. It might be one of those years again (cooler than normal) according to Ken Ring, who spoke at the NBA Conference in Rotorua.

Things to do this month

Sort out old combs and render them down. However, it is more prudent that these old combs are burnt as they contain pathogens and varroa treatment residues. Best to get them right out of the system. Purchase new frames. I'm gradually changing my honeycombs to plastic and using my own cappings wax to coat them. A great indoor winter activity! Make up new gear (bases, roofs, split boards, etc.) ahead of spring—it's just around the corner.

Check your hives after storms. Order spring queens. Winter is also a time to get a little education. Telford Rural Polytechnic has great correspondence and short courses.

- Frank Lindsay, NBA Life Member

PS: My camera was found while vacuuming the car, wedged under the front seat. I had a "man look" and didn't see it.

Changes to the NBA Executive

The NBA AGM was held on Wednesday, 10 June, as part of the annual conference in Rotorua. President Frans Laas was re-elected unopposed.

Barry Foster of the East Coast Ward was elected as the new Vice President, replacing Neil Farrer. Glenn Kelly of the Upper South Island Ward is the new Treasurer. Mary-Ann Lindsay is the Southern North Island Ward representative.

L to R: Barry Foster, Glenn Kelly and Mary-Ann Lindsay. Photos: Pam and Jim Edwards, Frank Lindsay.

Taming your techno-fear

Do you have a computer connected to the Internet via broadband? Do you make toll calls nationally or internationally? Why not do it for FREE?

I know that in these (or any) times that money can be tight, so why should we pay outrageous fees for toll calls, when with a bit of freely available technology we can call nearly anywhere in the world for free? If you haven't already guessed, I am talking about VoIP (Voice over Internet Protocol). Now some of you are shrieking and tearing your hair out with cries of "not more Internet jargon!!" But I assure you it really is easy.

Some of you out there are saying, "why not use Skype or MSN Messenger?" These programs have their place but there is a cost to dial landline phones from these programs, and you have to sit in front of your computer to do it. Believe it or not, not everyone sits in front of a computer day in and day out. Also, these sorts of programs don't provide an answerphone/fax machine and voicemail as standard features.

What I am describing is a home or business telephone exchange that runs on an older PC dedicated to controlling your phone system that you control and administer, which places its calls over your Internet connection. This allows you to create extensions around your home or business (kitchen, office, honey house, etc.) that you can dial, so your other half can find you or tell you that it's time for dinner, and ring every phone connected or a specific extension number when you receive a call. Simply put, it replaces the telephone exchange down the road controlled by the big boys.

How does it work?

How it works is that your phones or computers running a piece of free software connect to a dedicated phone system PC over your own network to place and receive phone calls locally, nationally or around the world. That PC connects to a server out there in the Internet somewhere and acts as a central exchange. This server then forwards your call to the country and area that you dialled, and connects into that country's telephone provider. I've just described any phone network in the world, but this is all done on the Internet to nearly everywhere for free, rather than through dedicated cables belonging to telephone network providers that charge you to use them.

What about quality?

If you are expecting the quality to be as good as your existing phone calls, you will be somewhat disappointed. But if you will be happy with a quality that is comparable to your mobile phone, nearly as good as your existing public switched telephone network (PSTN) calls—and you're prepared for the whining by your other half that the phone calls are not as good—while you are leaching off the Internet, you might be in luck. VoIP via the public Internet is very much dependent on a number of factors. Available bandwidth notwithstanding, your usage habit of the Internet and local network traffic and equipment quality, amongst others, also play very important roles. That is, when using 160 kbps (a low upload speed), I receive a quarter-second delay on voice conversations.

How much does it cost?

Many VoIP solutions used by big business or smaller businesses cost thousands of dollars with their ongoing support costs, licensing fees for every phone connected and strange wiring requirements. This is not one of them; in fact, with an old PC and a bit of software that is free, and for $10–40 US per year (or until the prepay amount runs out), you can make all the calls you want to a number of countries for free, including Australia, New Zealand, UK and USA landlines. Calls to mobile phones are not free and calls to most other countries are cheaper than you are paying now. Of course you must have a broadband connection to make these calls, but it really is a matter of putting a CD into a computer, plugging it in to your router's Ethernet port, doing a bit of configuration and plugging in a special phone or an adapter that you plug your existing phone into and connecting that to your network and start making calls around the world.

Introducing Trixbox

The telephone system I am going to tell you about is called Trixbox. It really is free and is perfectly legal, and calls you make to most countries are free. Other systems are available (many run on Windows), but this is another operating system, LINUX, which is free and runs perfectly well on older equipment.

To make your own telephone exchange you need a computer to control it, but a lot of ex-lease computers from a business or older computers that have been traded in are perfect for this task:

- 500Mhz Pentium III PC or better
- 256MB RAM—the more the better
- 4 GB hard disk space—minimum
- 10/100 NIC
- CD-ROM drive.

Enough technical jargon. Needless to say, you should be able to find one for about $200 from a computer reseller or $50–100 from a computer recycler/auction house or somewhere like Cash Converters. Always remember to spend as much as you can afford to get the best PC you can; it does make a difference but it doesn't have to be brand new and top of the line. You will need a phone to connect to this system but many are available on TradeMe or eBay. Look for Cisco, Aastra, Grandstream, Linksys, Polycom or Snom phones as these will configure with Trixbox easily. Alternatively, you can buy an adapter from Dick Smith Electronics or Harvey Norman that allows you to connect a standard phone (no old dial phones though) to the network, like a Linksys (SPA2102) or Linksys (PAP2T).

How to set up Trixbox

There are several step-by step setup guides available on the Internet, but I recommend one written by the New Zealand VoIP users group:
http://voipusers.org.nz/wiki/Trixbox_2.0_install_guide_for_dummies

This guide is written for New Zealand users and is a real help. Not all of the steps are essential to place phone calls or receive them, and most questions you will have about setting it up and getting it working will have already been asked and answered by people around the world. Help can be found at the Trixbox website: http://www.trixbox.com

Hardware

The last part of setting up your exchange if you have a landline from Telecom/Clear/Vodafone/Saturn (and realistically, who doesn't?), is the hardware to allow phone calls coming in to your landline to ring your VoIP phones. Many recommend Digium cards (phone line cards), but these are priced from $100 to $500 for one phone line (the price difference is all due to the voice quality). I recommend an older style card that is no longer made by Digium, available for $39 US from www.X100P.com. This card is only used for local calls, or if the Internet connection cannot connect to the VoIP network trunk provider (central exchange).

If you want to drop your landline completely (only for those on cable 'Saturn') or get a new phone number, say for a business connection, you can get a New Zealand phone number from World Exchange or one of the other VoIP providers. However, you will be charged for local calls, typically five cents per minute (more for international calls), plus a monthly access charge if you use their connection to dial out. Those costs can add up to more than the cost of phone line from one of the local providers. By making the PC only use the World Exchange service as an incoming trunk (that is, receive calls to your phone number provided by the VoIP provider, and never use their service to place calls), you only pay the monthly rental ($11.25) from World Exchange. After all, what do you think they are using to place the calls? One of the free providers that you set up as part of the installation. Why pay them, when you can get it all for free?

- Andrew Lindsay
(computer geek and all around IT support person)

P.S.: if you have any computer questions, please email me and I will reply in the next issue of the journal.
Email: Andrew_s_lindsay@hotmail.com

NBA Conference, Rotorua, 7–10 June 2009

Photo: Jody Mitchell.