

December 2011, Volume 19 No. 11

The NEW ZEALAND BeeKeeper

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change

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Front cover: 'UMF today MGO tomorrow': this was the winning photo in the Class A (Close-up print) category of the third annual NBA Photography Competition 2011, sponsored by Ecroyd Beekeeping Supplies Ltd.
Photo: Frank Lindsay.

Bringing about transformational change

By Barry Foster, NBA President

On Tuesday 1 November, NBA Executive members Kerry Gentleman, Stephen Black and I attended the first Bee Forum, facilitated by The Agricultural and Marketing Research and Development Trust.



AGMARDT's website (<http://www.agmardt.org.nz>) states that it invests \$2.5 million per year aimed at encouraging innovative ideas, research capability, and developing future leaders within the agribusiness sectors. The purpose of the Bee Forum was to provide AGMARDT with an understanding of the challenges and opportunities that exist within the bee industry, and whether there is a role for AGMARDT in providing funding assistance to help facilitate transformational change within the bee industry.

Twelve people attended, all recognised leaders in their industries ranging across NBA, BIG, MAF, Foundation for Arable Research, Plant & Food Research, NZ Queen Producers Association, NZ Honey Packers and Exporters Association and Zespri. Transformational change might at first raise the question, 'do we need transformational change in any case?' Individuals might well think, 'I don't need any kind of transformational change, as I'm quite happy as I am, thank you'. It's a perfectly valid thought.

Jack Welch, a tough reformist CEO of General Electric in the 1980s once said during his tenure, "change before you have to". I believe that this philosophy fits our time and where we are as an industry. Many of the participants found much the same is needed.

Google 'transformational change' and you will find it defined as, "A shift in the business culture of an organization resulting from a change in the underlying strategy and processes that the organization has used in the past. A transformational change is designed to be organization-wide and is enacted over a period of time".

Quite a mouthful to take in at first sight, but change can be driven by us or imposed on us from outside or by events as they unfold.

The preference is to be in the driving seat of change and have some control over where you are heading, particularly avoiding or mitigating the negative aspects of change.

"The preference is to be in the driving seat of change and have some control over where you are heading..."

The participants at the Bee Forum concluded with the following five key points for wider consultation with our executive before ranking them in preferred order. We ranked ours as follows.

1. Look for a coordinated industry approach to developing a long-term industry view and strategy, and be self-funded and be able to leverage funding arrangements.
2. Bee health issues—varroa and ongoing threats to bee health.
3. What does an added value product look like, and what does the bee industry need to do to deliver and sustain this?
4. Succession planning throughout industry (including leadership and governance).
5. What is the pollination industry going to look like in the future?

One participant representing honey packers, Allan McCaw, said, "We have major problems in presenting ourselves to any funder. Only one third of the industry is in any organisation with the great unwashed out there, there is no organisation ... we tend to respond to crises with a lack of coordination."

The consensus was that there may be unified thinking but not necessarily unity within the industry. Having said that, the apparent divisions within the industry may be, in some cases, no more a separation of roles than divisions; and with the right purpose the industry could collaborate effectively.

We ranked point one mentioned above first, with bee health issues second and economics third, because we think that any approach to address the following rankings would have to be linked by some sort of unity of purpose and therefore a coordinated approach, strategy and planning in order to succeed. What was presented to AGMARDT was an overall picture of the industry and our thoughts on where it should head. We hope that this may bring a positive outcome to our industry.

Unsung heroes

At this time of the year with everyone so busy, Christmas just around the corner and the New Year not so far away, I feel it worth reflecting on and giving thanks to the unsung heroes who have contributed time and effort over the past year to the National Beekeepers' Association and its aims, and to the wider beekeeping industry and hobbyists.

These are the people who have sat on committees and councils representing the NBA and industry. It's also those who run the branches, hobby clubs, field days, and diseaseathons. It's the volunteers who make our conferences a success, both in the past and those planned for the future.

I thank those of you who have written submissions on various issues to Government departments and conducted

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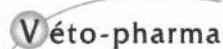


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research on issues affecting us. I thank all of our executive team for the voluntary work they have put in and to the secretariat who have provided support, advice, and many times worked beyond the hours they have charged us for. Last but not least, I thank our editor Nancy for editing my ramblings over the past six months and the Publications Committee and South City Print for their contributions to the journal. I wish you all a Merry Christmas, Happy New Year and full boxes of honey to those of you with bees. 🐝

Click those shutters!

Summer is now upon us, so it's time to start taking some photos to enter in the fourth annual Ecroyd/NBA photography competition, to be held as part of the NBA Conference, Napier, 24-28 June 2012.

Entries will be accepted in the following categories:

Class A. Close-up print. Subject must relate to beekeeping.

Class B. Scenic print. Apiary subject such as flowers, hives etc.

Class C. Portrait print. Person, beekeeping procedure, honey, hive by-product processing in appropriate setting, commercial frontage or beekeeping base.

Class D. Essay prints. A set of from 4 to 7 pictures depicting a beekeeping story.

The photo contest is open to all registered NBA members.

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

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

NATIONAL OFFICE UPDATE

End of another busy year

By the NBA Secretariat

We are very pleased to report that the NBA is growing.

Membership income is up 100% on the same time last year. Small commercial through to mega commercial numbers are up an overall average of 60% and hobbyist numbers are up 31% on the same time last year. Journal subscriptions are also up by 59%.

You will find a copy of the membership renewal form in this journal: please copy or tear it out and return to Jess. Alternatively, anyone who wants a membership renewal form should just give us a call or email us for a form, or you can print a copy from the NBA website. 2012 membership cards will be sent to all paid-up members in mid-January.

Member benefits

We're also happy to report that we have secured a new partner company providing special benefits to NBA members. Swannndri Clothing will be offering a 20% discount to all NBA members from 1 January 2012.

Swannndri is the latest company to join our benefits scheme which is growing, slowly but surely.

As part of this project we are also finalising a partnership with FCM Travel Solutions – Corporate Traveller to offer excellent business and leisure travel deals to all members.

Current member benefits include Resene and Shell Fuelcard.

Please do continue to support these companies by choosing them for your business and leisure needs because they are supporting us.

AFB prosecutions

Daniel, Pauline and Rex Baynes, Manager AFB NPMS, met with Paul Bolger, MAF to discuss the need for MAF to support prosecutions when there is a clear instance of illegal activity around AFB control.

Discussion was around the need to give the legislation more teeth and to amend the

act to impose fines. The NBA and NPMS Management Agency are working on a detailed analysis to include in a report to MAF. The aim is for recommendations outlined to be incorporated with the NPMS review due to be completed in 2012. The NBA will also be writing to the Minister outlining current concerns around enforcement issues with the act.

Media

It's been quite a busy month media-wise and we've been asked about a range of issues including top bar hives, the recent hive thefts up north, the adulteration of honey, the value of manuka honey exports to the USA, and AFB reporting.

GIA

The pan-industry GIA Working Group, of which the NBA is a part, has now met twice face to face and once by teleconference to progress the agreed action points from the meeting held on 20 September.

The work centres on the need to develop for industry a better value proposition to which various industry bodies can sign up. At the moment, most industries feel that a value proposition is missing.

This is all very high-level stuff, but the bottom line is that the pan-industry working relationship with Government on GIA should soon produce some results that can be shared with all beekeepers as part of helping us decide whether we want to sign up to GIA.

The NBA is happy at this point to see what this process produces.

Oritain Honey Vault

Barry, Kerry, Daniel and Pauline attended a presentation at the recent Go Trace Symposium. As a result of recent discussions by the Executive and Oritain, a proposal around origin work for New Zealand honey has been received. The Executive is considering the proposal and will report to members in the New Year.

Swarms and urban beekeeping courtesies

It's swarming season up North! We are receiving numerous calls for the collection

of swarms from the public, police and local councils. We now have a comprehensive list on the NBA website of beekeepers who are willing to collect swarms. Please refer to this list if anyone contacts you for assistance.

Another issue that has been coming up are the 'courtesies' of urban beekeeping. Some folk are nervous when they know a neighbour is about to put hives on their property and call us to know what their rights are and what the rules are. There has been an NBA Beekeeper's Code of Conduct in existence for some time and this has now been added to the website. We will be referring any callers to that code.

Australian honey imports

Our latest report from MAF is that the UK laboratory contracted to undertake the heat inactivation research had some early technical issues to overcome. The virus is difficult to grow and culture for injecting into bee larvae. These problems have been dealt with and they are now ready to proceed with heat inactivation testing. The timeframe for results possibly will be before Christmas.

EPA submissions

The NBA made a written submission to the Environmental Protection Agency opposing the application by Dulux Group for the registration of Yates Super Shield Advanced, a combination of two insecticides (one of which is Imidacloprid), plus a fungicide and sticker. A hearing for the presentation of information and evidence was held in Wellington on Thursday 24 November. Daniel and Pauline attended the hearing. Franklin Beekeepers' Club member Don MacLeod, who is on the NBA's Technical and Submissions Committee, made a presentation. Full details of this submission (and hopefully EPA's decision on it) will be included in the February issue of *The New Zealand BeeKeeper*.

A written submission has also been submitted against the application by Dow Agro-Sciences for the importation of a new insecticide GF-2032.

BERL

Daniel and Pauline met with representatives from BERL (Business and Economic Research

Limited) a few months ago to discuss a project to undertake a formal, nationwide bee losses survey and an economic analysis of the value of bees to the New Zealand economy.

A project plan has been received by the Executive and is currently being considered. The steps of the plan are as follows:

- conduct a census of the beekeeping industry and then a bee loss survey
- calculate the economic value of bee losses to New Zealand
- provide recommendations and actions for the next steps in regard to this issue; e.g., causes of bee losses in New Zealand.

Office closure

We wish you all a great break and a happy new year. Our office will be closed from Wednesday 21 December, reopening Monday 16 January.

We know most of you are flat out and we hope the season is an especially good one for beekeepers. We hope the New Year is equally rewarding for you all—and that you get a well-deserved break some time soon. 🐝

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Trapping of bees with pheromone lures

By the Ministry of Agriculture and Forestry

The purpose of this literature review is to present information on swarm trapping of honey bees, a useful method for surveillance.

The bee industry has identified two specific pathways for exotic bee species and also for *Apis mellifera* infested with diseases and pests not already present in New Zealand:

1. from Australia, where it has recently been announced that efforts to eradicate *Apis cerana* (common name Asian honey bee) are being discontinued. Greater numbers of *Apis cerana* present in Australia may increase the risk of incursion into New Zealand
2. as an incursion of exotic swarms of honey bees from other parts of the world associated with increasing container traffic.

Apis cerana is an invasive pest species in Australia and is also a vector of exotic parasites. *Apis cerana* does not swarm in large numbers, and it is reported by industry that it could be overlooked during the examination of shipping containers being imported to New Zealand from Australia.

An incursion of *Apis cerana* would present a risk of introduction of accompanying exotic bee pests and diseases, as well as the establishment of the Asian bee itself which competes with managed hives for resources and robs managed hives. Climate matching for *Apis cerana* has been performed in Australia and, according to Australian officials, the results indicated the pest would be able to survive in all coastal areas of Australia. This suggests it could also survive in New Zealand.

New Zealand history

In the past, MAF used swarm traps baited with queen pheromone for *Apis mellifera*

for early detection of swarms from ports, transitional facilities and airports. Traps used were sourced from MannLake Ltd, as were the pheromone lures. This programme was discontinued due to low numbers of swarms being captured and expense of the programme—both because of the high labour costs for trap checks, as well as the costs of the traps and the lures themselves. Furthermore, there were difficulties with gaining access to the areas where the hives were placed in transitional facilities, ports and airports.

During the varroa response between 2001 and 2004, feral swarm trapping was undertaken specifically to detect and assess the spread of varroa into the South Island. A minimum of six traps were strategically placed at each of five South Island seaports. *Apis mellifera* queen pheromone was used as a lure. Between 1 July 2001 and removal of the traps in April 2004, 17 swarms were collected in the traps. All were tested for exotic bees and exotic parasites and found to be negative.

“Early detection of swarms could reduce the risk of incursion of exotic bee species...”

Swarm traps

Standard bee hives, paper pulp flower pots, cardboard box hives or coconut logs are reported to have been reported used as swarm traps (Ausvet Plan 2009).

Of these, standard fibreboard nucleus boxes are the most favoured by Africanised honey bees (also called “killer bees” because of their aggressive nature, they are hybrids between the African honey bee and European honey bee) (Witherell & Lewis, 1986), and traps with larger volumes, that is, of around 31 litres, were found favoured over those traps with smaller volumes. Also, Africanised bees

preferred traps set higher off the ground—at a level of three metres—rather than those set at one metre above the ground (Schmidt & Thoenes, 1987).

The FAO Agricultural Bulletin states that *Apis cerana* prefers a cavity with a volume of 20–25 litres. *Apis cerana* also selects nest sites close to the ground, 2–3 metres above ground being preferred. *Apis cerana* is reported to favour hollowed-out coconut logs, called “Lewin logs”, as well as the small nesting cavities available in letterboxes and similar cavities in urban environments.

Apis mellifera (Akranakul, 1990) favours a minimum effective volume of 10 litres and a volume of up to 31 litres is attractive. Bait hives for *Apis mellifera* should be about 2.5 metres above the ground either on posts or hung from trees, according to the literature.

For all species, more swarm traps are needed where more alternative nesting sites are present. For example, areas of mature forest, cliffs and urban areas require high numbers of traps compared with areas of grass and small scrub. For those areas where high-density nest sites are available, traps should be set out every 250 metres.

In a trial performed with *Apis mellifera*, swarm traps were set up 100 metres, 250 metres, 500 metres and 1000 metres from a central apiary. Numbers of swarming events and numbers of swarms trapped were recorded. Results showed that a 250-metre grid pattern extending to 1000 metres captured 90% of swarms (Schmidt & Thoenes, 1990).

Hives should be set up on a grid pattern around sites of border transitional facilities where imported goods are held, awaiting clearance. The grid should be 250 metres from the site in urban (high nest site areas) and 400 metres in low-density nest site areas.

Strategic placement of traps in shaded areas or close by high points could improve the sensitivity of the trapping. Hive entrances should face away from prevailing winds. Traps placed in direct sunlight are unlikely to be regarded as desirable by swarming bees. →

Swarm lures

Lures are species-specific. Pherobase is an online resource that collates and updates pheromone use in all species. The following table from the website at <http://www.pherobase.com/database/genus/genus-Apis.php> clearly documents the pheromones secreted by each bee species and the supporting literature on the attractiveness of each chemical.

Lures for *Apis mellifera*

The most successful attractant of *Apis mellifera* is reported to be Nasonov hormone (Schmidt, 2001), the hormone released by worker bees to orient returning forager bees back to the colony. *Apis mellifera* may be lured by the use of citral-geranolenolonic acid—the synthetic components of Nasonov hormone (Schmidt, 1994). In the case of Africanised honeybees, the addition of queen pheromone may be useful for the short-range attraction of swarms by influencing the swarms to land. However, the use of Nasonov pheromone seems to be the most effective attractant for these swarms to date (Villa & Schmidt, 1992). In a trial in Kenya, Africanised honey bees found hives containing commercial Nasonov pheromone lures four times more attractive than those hives without lures (Kigatiira, Beament, Free, & Pickett, 1986).

Lures for *Apis cerana*

Species-specific synthetic blends of chemicals have been developed for use to lure specific species of *Apis cerana*. For example, a lure composed of a five-component synthetic blend of pheromones of *Apis cerana javana* has been formulated into a slow-release lure in Australia (Lacey, 2000). This species was identified as a high-risk species for incursion in Australia and the lure developed as a part of Biosecurity preparedness by Dr Michael Lacey. (Some experiences with the use of the lure in the Australian response to the incursion of *Apis cerana* are included under the "Australian programme" heading.)

Apis cerana is recorded as not being attracted to synthetic attractants available for *Apis mellifera*. The reason for this appears to be that geraniol, a component of European honey bee Nasonov pheromone, is not

present in the Nasonov pheromone of *Apis cerana* (Naik et al., 1988).

Australian programme

In Australia the control and prevention of spread programme for *Apis cerana* is being funded by the state of Queensland. According to Australian officials, the area around Cairns where *Apis cerana* is present is a small area of about 30 kilometres by 30 kilometres that is still being controlled by Biosecurity Queensland, despite the federal government having stopped the national cost-sharing agreement as of December 2011. Lobbying by beekeepers to continue the eradication effort persists.

Currently Asian honey bees are controlled within a zone of 30km x 30km around Cairns. If the eradication effort ultimately fails, Australian officials report the Asian bee would be able to establish over most of Australia.

"Pherobase is an online resource that collates and updates pheromone use in all species."

Public reports of unusual bees in the Cairns Asian honey bee zone are followed up. Furthermore, beekeepers perform visual inspections of foraging areas as a way of detecting unusual bees. A sniffer dog has been trained to work at the border to detect *Apis cerana* bees in containers.

The Australian officials were able to report very limited success with the delta traps (five synthetic pheromone-blend traps) developed for *Apis cerana javana* in Australia. At one stage 350 traps were deployed in an area known to contain *Apis cerana*, and not a single swarm was attracted into the traps. Better success was obtained with Lewin logs (hollowed-out coconut logs) that had been rubbed with the wax of *Apis cerana* comb. Bees continued to swarm to letterboxes and hollow trees in the presence of pheromone lures.

Baseline trapping

Another type of trap used for surveillance in Australia was mentioned during the discussion with Australian officials. This trap consists of gelatine and syrup as well as a scent of coconut, lavender or vanilla. This trap type is useful for collecting baseline surveillance data on species of bees, including native species, present in a particular area, so that in the event of an incursion it is possible to estimate the time of the introduction with accuracy.

Location of trap sites

Traps should be placed in areas of high risk, such as ports and containment facilities. The need for access to these facilities for the purposes of checking the traps is an added complication to the process. Australian researchers are developing high-tech remote surveillance systems for the sentinel beehives situated around Australia's ports to catch foreign bees and pests. This technology would overcome the access difficulties.

During discussion with Australian officials it became clear that the selection of trap sites for *Apis cerana* was challenging because in urban environments large numbers of possible nesting sites are available to these swarms and in the absence of an effective chemical lure, swarms may establish themselves in existing habitat rather than in the swarm traps.

Conclusion

This review of the literature has highlighted the different preferences of various bee species for types of nest sites or traps as well as the differences in the chemical make-up of the hormones secreted by the different bee species. Reports from Australian bee response experience highlighted the fact that in Australia pheromone lures have not performed as effectively as would be expected from a review of the literature. This presents a real risk that there would be no net benefit from a trapping programme for *Apis cerana*.

References

References are available from katie.owen@maf.govt.nz



Apimondia Congress report

By Maureen Maxwell, regional president, Oceania Commission, Apimondia Council

The new Oceania Commission representative to Apimondia reports on her attendance at the 2011 congress, Buenos Aires, Argentina, 21–25 September.

Apimondia is the International Federation of Beekeepers' Associations and other organisations working within the apiculture sector.

Apimondia exists to promote scientific, technical, ecological, social and economic apicultural development in all countries.

A major objective of the federation is to facilitate the exchange of information and discussions. This is done by organising congresses and symposia where beekeepers, scientists, honey traders, agents for development, technicians and legislators meet to listen, discuss and learn from one another. Today, more than ever before, there is a great need to meet the people with whom you communicate, face to face.

And communicate they did: 8,437 people registered for the Buenos Aires congress. Four lecture theatres were operating concurrently, with seating capacity of up to 1000 people. The majority of presentations were in English, with simultaneous translations into six different languages. There was also an impressive selection of trade displays from around the world and lots of yummy honey to taste.

The theme was 'Towards a Sustainable Apiculture that Fosters Development'.

The main areas that seminars covered included bee biology, bee health, beekeeping technology and quality,

beekeeping and rural development, pollination and flora, apitherapy and beekeeping economy. A further room was designated for panel discussions, roundtables and presentations on beekeeping around the world. I presented on 'The new challenges for quality management systems in the globalisation of markets' and presented an overview of New Zealand beekeeping, proudly presenting our quality approach.

There were two very well attended forums on GMOs and their impact on the apicultural industry. Considerable discussion ensued around the latest EU Court ruling making GM-contaminated honey illegal for sale as a food product.

But wait, there's more... Each evening, workshops and short courses were run on subjects such as apiary diversification, royal jelly, pollen harvesting, apiary sanitation management and good manufacturing practices in the production of honey.

"The only omission to the programme was sleep: there was just too much to do and too much fun to be had..."

Smaller rooms hosted industry organisations like IHEO (International Honey Exporters Organization), the International Pollinator Initiative of the FAO (Food and Agriculture Organization of the United Nations) and other company meetings and presentations. Billboards were constantly being updated.

The legendary Argentinian hospitality was very much in evidence with a great social agenda of parties, concerts, dancing and other festivities to compliment the scientific programme. Friendly local beekeeper hosts

were there at every turn. The only omission to the programme was sleep: there was just too much to do and too much fun to be had, so sleep was nearly bumped right off the schedule.

Technical tours

At the conclusion of the congress a number of technical tours were offered. I selected the two-day Sierra and Pampas Tour to get away from the city. The long-distance buses are like air travel business class: very spacious and comfortable. We covered a lot of ground, but then Argentina is a huge country with very distinct regions. We visited beekeepers, a large, very high-quality beekeeping equipment manufacturer, an excellent bee clothing factory and a totally awesome beeswax-processing factory. The management and standard of cleanliness of this huge-scale operation, from their stringent batch testing for residues and AFB through to their modern moulding plant amazed me.

We travelled through a lot of interesting countryside past cattle, sheep, wild horses, large crop fields and a national park. In the park we were able to hike with a ranger and learned about and tasted the natural flora and fauna. We were graciously hosted by beekeepers, waited on by the local volunteer fire brigade and serenaded by traditional musicians. Dinner the second night was scheduled for 11.30pm, then we slept on the bus as we raced our way back to Buenos Aires. Two excellent and full days during which there was plenty of time to make lasting friendships with beekeepers from around the world.

Apimondia is a wonderful experience and opportunity. So much to learn, so many people to meet, contacts to make, all rolled up with a whole lot of fun.

The major Apimondia Congress is held every two years with regional symposia held in between. Kiev, in the Ukraine, will be hosting in 2013 and Korea has won the bid to host in 2015. →



On tour in Argentina, Maureen (centre) is seen here with Jody and Steve Goldsworthy from Beechworth Honey NSW and Ross Christensen from SuperBee Australia. An employee of SuperBee Australia and her partner are at right. Photo provided by Maureen Maxwell.

My advice is to mark it in your diaries now and work towards these goals. The return far outweighs the financial commitment.

I am honoured to have been voted to the role of President for the new Oceania (Australia, New Zealand and the South Pacific) Commission on the Apimondia Council. This will enable me to keep you informed of the latest happenings in the apicultural world, and work towards increasing liaison and collaboration between our National Beekeepers' Association and other like entities worldwide. *[Editor's note: congratulations, Maureen, and best wishes for your exciting new role.]*



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New Zealander appointed to Apimondia

Media release, 1 November 2011

Maureen Maxwell has been appointed regional president for the Oceania Commission of Apimondia, the Rome-based international federation of beekeeping associations.

"We are highly regarded as a nation when it comes to beekeeping and punch well above our weight. It's my intention to be the voice of the Oceania region and specifically create more awareness about beekeeping because it has the potential to be New Zealand's next industry darling," says Ms Maxwell.

Reporting to the international president, Gilles Ratia, Ms Maxwell will play her part in assisting beekeepers in the region by facilitating the exchange of information via congresses and symposia where beekeepers, scientists, honey-traders, technicians and legislators meet to listen, discuss and learn.

Ms Maxwell has had a long association with the food and wine industry in New Zealand, being one of the founders of Matua Valley Wines, The Hunting Lodge Restaurant and more recently BeesOnline. A highly regarded chef and sommelier, she is an award-winning restaurateur. Ms Maxwell has been on the Executive of the National Beekeepers' Association for five years and a member of the Sustainable Business Network and the NZ Guild of Food Writers. By combining her culinary skills with beekeeping, she developed an award-winning range of organic honeys and honey products which are available throughout New Zealand and marketed internationally.

Drawing on her previous experience, Ms Maxwell will bring a valuable commercial perspective to the role.

"While other board members come from a science and technical background, I think I can bring a real difference from an entrepreneurial and marketing perspective," she says.

"It's a real honour to be a part of this group and it's even more special being the first Kiwi to do it."

A fervent advocate for beekeeping and the honey industry, Ms Maxwell sees honey as New Zealand's next big thing from an export point of view. She is passionate about the role of beekeeping in our primary sector and the need to safeguard its future.

"Beekeeping plays a crucial role in primary production in New Zealand—not just in the production of honey and propolis, but in pollination of our horticultural crops. Bees are under the global threat of rapidly declining numbers through Varroa, pesticides, disease, loss of habitat, forage and fodder," she warns.

Bee friendly planting is the focus of her efforts through her company, Wild Forage. In collaboration with Wildflowerworld.com, Ms Maxwell has developed a wildflower seed rescue remedy for bees which provides a lifesaving source of nectar and pollen. All proceeds from the sale of these seeds go to the National Beekeepers' Association of NZ to help New Zealand bees.

Ms Maxwell takes up her role with Apimondia effective immediately.

About Apimondia

Apimondia is the International Federation of Beekeepers' Associations and other organisations working within the apiculture sector. The Federation was founded by resolutions passed at the XIII International Apicultural Congress of 1949 in Amsterdam and is the successor to the International



Apiarist Congress Secretariat founded in 1895. Apimondia exists to promote scientific, technical, ecological, social and economic apicultural development in all countries.

Source

The Bees Knees: First New Zealander appointed to take Oceania Commission role at Apimondia. Media release from Desmond Nash, Porter Novelli, 1 Nov 2011. 

Propolis on the floor

A local beekeeper rang me and offered this advice. If you don't bring propolis into the honey house, you won't have to clean it up.

If you have the correct bee space there's very little propolis on the frames. Also, he harvests his honey frames immediately after they are capped and at that stage they don't have any propolis on them. He stores the honey frames for a month or so and then extracts the honey when he has enough for a run. Early season's honey doesn't seem to granulate, he said.

- Frank Lindsay, NBA Life Member



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IN THE NEWS

New tests help sweeten the global market

Media release from Hill Laboratories

New Zealand's leading honey testing laboratory, Hill Laboratories, announced this week it has developed new chemical tests for honey that will give producers a global marketing edge.

Hill Laboratories Client Services Manager, Colin Ogle, says, "We developed a new suite of oligosaccharide tests to assess these higher level sugars in honey which impart health benefits—specifically prebiotic and probiotic activity.

"All honey has some levels of oligosaccharides. Our tests are able to reveal

the types of oligosaccharides and the levels. Once honey producers understand which oligosaccharides their honey contains, it will help them to determine which specific health-enhancing properties their honey contains and, thus, how best to market their product," explains Colin.

Colin says the company currently offers a basic suite of oligosaccharide tests. However, it is rapidly working to develop a full range of tests for other specific oligosaccharides as well.

Hill Laboratories is the market leader in honey testing in Australasia. It has been working with honey producers in New Zealand and Australia for the past six months to test fructose and glucose levels in honey to assess storage behaviour of the product.


"The level of simple sugars in honey determines how it behaves in storage, for example, how liquid it remains or how fast it crystallises. Our customers are using our simple sugar tests to determine the best blending techniques that will enhance shelf life of their product.

"Previously, producers blended based on gut feel, but over the past six months we've been providing new data that allows our customers to create specific blends based on solid science," says Colin.

Colin says Hill Laboratories has a close relationship with the honey industry, which helps the company remain on the forefront of honey research.

"Hill Labs is committed to providing testing services that help the honey industry get financial benefit from new ways to market their honey. Our simple sugar tests, as well as our new oligosaccharide tests, are two ways we're adding value to this internationally recognised industry."

Source

New honey tests to help sweeten the global market for New Zealand products. Media release from Hill Laboratories, 4 Nov 2011. 

BEE INSPIRED

Christmas tree reviver


By Maureen Maxwell, Honey Ambassador for the NBA, www.wildforage.co.nz

This works a treat for keeping the tree fresh over the holiday season. Put the freshly cut tree in a solution that mimics the sap of the live tree.



Mix 250 ml (1 cup) honey
200 g sugar
10 litres water

Stir well and then put into a bucket or Christmas tree stand to help keep the tree perky and reduce the rate of needle drop. I also add a small amount of 'Aqua Crystals' to the solution so that it is not too sloppy.

NB: Aqua Crystals are the water-absorbing crystals used in planting mix, and available from garden supply outlets. 

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KeyStrepto™ spraying trial results

From KVH (Kiwifruit Vine Health), 11 November 2011

No detectable KeyStrepto™ residues have been found in beehives, or bee products, in the fifth and final trial to assess whether hives subjected to KeyStrepto™ spraying could be contaminated if Kiwifruit Vine Health Inc (KVH) best practice application protocols are followed.

The aim of the study was to evaluate whether bees in close proximity to sprayed blocks could carry back KeyStrepto™ and contaminate honey, pollen or propolis in the hives.

Under the trials, five Hort16A orchard blocks (up to two hectares in size) were mown to remove any flowering sward and within 24 hours were sprayed with KeyStrepto™ in accordance to KVH guidelines.

Four hives were then put in each area following application of KeyStrepto™ and, after one day, nectar, pollen and propolis were sampled and then tested for KeyStrepto™ residues by AsureQuality.

A sample from each hive in each maturity area was combined and tested as a composite sample giving twenty test samples. Control samples were also taken and stored in a freezer for later testing if required.

A second sample was taken after a further seven days and stored for later testing. The hives will be left in place until after

pollination and further samples can be taken if required.

AsureQuality collected the first round of samples on 9 September 2011 and they were analysed using aminoglycoside detection by ELISA (AAG-02). Since this initial collection a further four samples have been collected and analysed. The second was from the same sites as the first collection, while the third round of samples was taken from new apiary sites in the Te Puke region.

Under the conditions of this trial, which met KVH protocols, no detectable*contamination of honey, pollen or nectar occurred in any of the samples tested. (*Detection limits: honey – 0.01 mg/kg; propolis – 0.03mg/kg; pollen – 0.05 mg/kg.)

A final round of testing was undertaken in Tauranga and no residue was detected. More information will follow.



RESEARCH

Larval survival and pesticide exposure

By W. Zhu, D. Schmehl and J. Frazier, Department of Entomology & Center for Pollinator Research
The Pennsylvania State University, University Park, PA 16802

For years, the agricultural communities are working under the assumption that the pesticides are safe for bees if applied according to the manufacturer's label on the lethal values of pesticides based on adult bees.

However, there is compelling evidence that the assumption is simply not true. We used a modified in vitro larval rearing technique to

assess the survival of honey bee larvae under 6-day chronic exposure to sublethal doses of four pesticides (Fluvalinate, Coumaphos, Chlorothanil, and Chlorpyrifos), which are the most frequently found pesticides in bee pollen. Based on the proposed Probabilistic Toxicity Model, we demonstrated the significant difference in the sensitivity to pesticides between honey bee larvae and adult bees. The observed larval mortality caused by Chlorothanil, which is a common fungicide allowed to be freely applied during flower blooming, can be 6 times more than the predicted adult mortality. The algorithm of relative toxicity was proposed to compare the toxicity of each pesticide for honey bee larvae under the same-scaled toxic index. The relative toxicity of Chlorothanil is almost 40 times higher than that of Chlorpyrifos. Moreover, considering the pesticide formulation, we demonstrated the high toxicity of N-Methylpyrrolidone (NMP) to

honey bee larvae. A 1% dose of NMP can kill all the reared larvae during the first day.

Another concern for pesticides is complex interaction among different pesticides. It was shown that Fluvalinate and Chlorothanil have significant synergistic interaction at higher concentration, however, at a lower concentration, this interaction can be antagonistic. Our study suggests that fungicide, the inert ingredient and pesticide interaction should be of high concern to honey bee larvae and overall colony health. None of these factors can be neglected in the pesticide risk assessment for honey bees.

Reference

Zhu, W., Schmehl, D., & Frazier, J. (2011). Measuring and predicting honey bee larval survival after chronic pesticide exposure. [Abstract 35, 2011 American Bee Research Conference, January 6–7, Galveston, TX]. *American Bee Journal*, May 2011, 507–518.

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FROM THE COLONIES

Auckland Branch

Up until this week (first week of November), I would have agreed with the MetService/ NIWA forecast for less than normal rainfall and wind in the region, but now I'm not so sure as we've had good (and much needed) rainfall this week, accompanied by cold winds once again. However, it's early days yet. Spring seems to have come late this year but this afternoon, after a rainy morning, it seems as though summer is here already and despite our best efforts, some hives seem determined to swarm.

Opinions from those who know most about matters apicultural in the region indicate that there may have been quite a few losses over the winter for one reason or another, but now that spring is here the hives are strong and mite numbers seem to be down.

The bees are now working in gold kiwifruit, and there is mounting concern amongst commercial beekeepers about the probable incursion of Psa into the region's kiwifruit orchards. Our thoughts are with orchardists and beekeepers alike whose livelihood is affected by this wretched disease.

Congratulations from the Auckland Branch to Maureen Maxwell on her appointment as Regional Commissioner for the Oceania region for Apimondia. Maureen's enthusiasm for all things apicultural, and her many talents, will be valued assets in her new role.

By the time you read this report the election will be over, and we hope that the new Government will be very bee-friendly. There are many important issues relating to beekeeping where Government will have a significant impact, and what we need in the Beehive are enthusiastic workers with receptive antennae who are keen to support the industry, and who acknowledge its fundamental importance to the economy of the country.

As this is the last colony report for the year, we wish everyone a bountiful honey season, and a happy Christmas with those nearest and dearest to you.

- Helen Sinnock

Poverty Bay Branch

After the good weather during willow flowering, the hives built up quickly and

brood nests easily became congested even when a super was added. October came and so did swarming, swarming and more swarming. November has seen the start of a good honey flow and things are finally settling down.

Early September splits had good weather for mating and are now laying well. They are just getting a honey super and should produce a honey crop. Most pollination crops were a week or two later than last season.

I attended a public meeting with (now retired) Green Party MP Sue Kedgley and gave an address on local beekeeping issues. I concentrated on the unexplained colony losses that we have had on the Poverty Bay flats in autumn. Sue is very well informed on the problems being faced by New Zealand beekeepers and was a useful ally in Parliament.

Last year manuka crops were down at least 50 percent, so we are due for a good one.

Best wishes for a good honey crop while you are all on a well-earned Christmas break.

- Paul Badger, Branch President

Hawke's Bay Branch

Apple pollination was 16 days later than last year and green kiwifruit looks to be about normal or even early. The Bay is looking a real picture at the moment with ample moisture; I just hope the nor'westers stay away.

Those who tried to mate queens early met with little success and even now our on-again, off-again weather has led to indifferent results. Swarming has been quite bad this year: I have collected five swarms from my home apiary even though none of my hives here have swarmed.

On a high note, I have not had a hive poisoned during apple pollination for four years now and have not heard of any significant poisoning this year.

- John Berry, Branch President

Southern North Island Branch

The weather is very fickle and is causing swarming problems as I write this report. Published in the *Wanganui Chronicle* was a report of a swarm that hung down just over

a metre, leading to one very happy hobbyist who picked it up from a local secondary school. Other beekeepers have reported lots of queen cells in hives so we are all trying to keep on top of the problem.



This is the swarm that Wanganui beekeeper Leroy Johnston discovered outside Cullinane College in mid-October. After sending this photo to the Wanganui Chronicle, the paper interviewed him and ran a front-page story on 19 October about how he captured the swarm. Leroy urged people to contact a local beekeeper if they find a swarm.

We have had a very successful field day at Chris Valentine's place at Kai Iwi (just north of Wanganui). Some 75 beekeepers and families attended. Discussions were wide ranging—a full day's programme with something for everyone and time to get gear on to examine some of the Kai Iwi Honey hives. We worked in teams of six so that everyone, especially the hobbyists, got a chance to handle frames, find the queen, look for queen cells, and make up splits.

The day's programme covered pollen patty feeding with Neil Farrer making up Feedbee patties, and subsequently auctioning the patties off as a fundraiser for the Branch. Allan Richards demonstrated his new beeswax roller system—two people can put through 3000 frames in a day using this machine. The annual competition for the Farrington Cup was hotly contested by teams from Wellington, Wairarapa, Manawatu and Wanganui. Wanganui managed to win the trophy back from Manawatu this year.

Stu Ferguson demonstrated his 'Hive Doctor' bases and covers to use on top feeders. →



Allan Richards demonstrating waxing plastic frames.
Photo: Mary-Ann Lindsay.

Some of us have already started to use the covers that we obtained at Conference and they work very well: no syrup left and no dead drowned bees. Ray Duncan from Beetek showed off his products and spoke on the use of plastic frames.

General discussions led by Branch President Peter Ferris and Secretary Frank Lindsay covered developments within NBA and GIA, plus varroa treatments and resistant varroa mites. The assembled beekeepers and families were very well fed at morning tea and lunch time by the local Kai Iwi School committee—they put on a grand spread.

Hopefully the weather will improve and we will enjoy a good honey harvest.

- Neil Farrer, NBA Life Member

Nelson Branch

Will it ever stop raining? It feels like the wettest spring we've had in a very long time in the top of the South.

The willow has come and gone with not a lot of sunny weather for the bees to get out and bring in some early nectar and pollen. We are now waiting for the barberry to flower and have been for the past month; but with only a few flowers opening so far and with rain and cold, it looks like we might be waiting for a few more days yet.

The past few weeks have been busy with pollination hives having gone in and out of apples, hives still in currants, just gone into gold kiwifruit and a few in boysenberries. With the weather the way it's been it may not be a good year for pollination.

Many beekeepers have also been busy double-queening hives and requeening anything that's not up to par. Trying to keep queen nucs well stocked with stores has been a full-time job, as has keeping on top of hungry hives.

Hopefully with such terrible weather now it will fine up in time for the honey flow. With last season being a fabulous spring and a washout come honey time, we have our fingers crossed for a turnaround this year.

- Gareth Ayers

News from the Chatham Islands

In order to build and maintain a viable and disease-free bee population on Chatham Island, a sound knowledge of beekeeping and queen rearing is a must have. At the moment our queen rearing, queen development and hive-building programme is proceeding in a methodical way.

There are a wide variety of feral bee populations on Chatham Island left by British, American whalers, Spanish, Italian, German, Scandinavian, New Zealand and other settlers dating from 1820. As a result the DNA pool is diverse. In the interests of maintaining breeding separation amongst the populations, we have decided to operate five dispersed colony and breeding sites. The fifth site (close to home) is for developing and coordinating our mainstay Chatham Island hybrid programme.

The Chatham seasonal calendar runs four to six weeks behind the New Zealand one and therefore the spring build-up at site 4, where our Italian brood stock from New Zealand (acclimatised to New Zealand seasons) is located occurred too early, which is good for making up nucs. The Italian breeder queen situated there went nuts last year. The time is fast approaching when we will need to invest in artificial insemination (AI) technology and upskill so we can import drone sperm to add to the DNA pool.

In the two hives at site 3 we are observing and studying what appears to be a new kind of bee—perhaps a genetic cross, it resembles *Leioproctus pango* (copper bronze female), which is not recorded as being on the island (Donovan, 2007, p.203).

That bee will be sent for DNA identification and profiling. Our mainstay hybrid brood stock *Apis mellifera ligustica* (Italian bee)—*Apis mellifera mellifera* (the dark European honey bee) is performing well under Chatham conditions. This strong hybrid begins work early (7–10 am) and finishes late (7–9 pm). It continues to forage in wind and rain, is not easily fooled by the exigencies of climate change and is able to work native and introduced plants. We think this hybrid would be good on manuka.

So what is flowering in the honey pods at the moment?

November—The 'Olearia' group

Olearia chathamica: Chatham Island tree aster

Olearia semidentata: Swamp aster

Olearia traversii: Chatham Island akeake

Just emerging November/December

Astelia chathamica: Chatham Island astelia

Dracophyllum arboretum: Tarahinau, a swamp plant.

Geranium traversii: Chatham Island geranium

Phormium tenax: Chatham Island harakeke.

Pasture clover is just starting to emerge. However, most of the clover is not getting a chance to flower due to overgrazing, compounded by a lack of internal fencing and by overstocking due to a lack of space on the two small dinghies that service the island.

So what has just finished flowering?

September–November

Corokia macrocarpa: Hokotaka, a coastal shrub.

Cyathodes robusta: Pouteretere, a swamp and coastal plant.

Beekeepers visiting the islands are welcome to contact us on 03 305 0618 or email mandersen@extra.co.nz

Reference

Donovan, B. J. (2007). *Fauna of New Zealand, Number 57: Apoidea (Insecta: Hymenoptera)*. Lincoln, New Zealand: Manaaki Whenua Press.

- Michele Andersen



Investigation of a honey bee syndrome

By Thomas Rawdon, Incursion Investigator, Investigation and Diagnostic Centre, Ministry of Agriculture and Forestry, 66 Ward Street, Wallaceville, Upper Hutt. Email: Thomas.Rawdon@maf.govt.nz

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Maintaining New Zealand's freedom from serious diseases and pests that could threaten our agricultural sector requires reliable systems to investigate and respond to suspected incursions of exotic pests and diseases.

The Ministry of Agriculture and Forestry's (MAF) Investigation and Diagnostic Centre (IDC) at Wallaceville, Upper Hutt combines MAF's Animal Health Laboratory and the Animal and Marine Incursion Investigation Team. Together they manage the investigation and initial response to any suspected exotic animal and honey bee disease. The current remit is to investigate not only the major exotics of livestock and bees, but also cases where a new or emerging syndrome is suspected, including in wild and feral populations.

Past investigations include unusual mites on bottom boards or on bees, brood damage consistent with European or American foulbrood, nervous signs such as shivering, trembling or paralysis in adult bees, excessive die-outs or collapsed hives, large numbers of bees washed up on beaches, and bee swarms at ports.

The following recent investigation of unusual symptoms in a number of hives illustrates the team's role.

Case background

In late February 2011, a commercial beekeeper carrying out routine hive

inspections at sites in a bush area of Wellington's Hutt Valley came across a syndrome he had never seen before. He was mystified by a purple discolouration affecting larvae, pupae and emergent bees across many of his hives. The beekeeper contacted an AsureQuality Apiary Officer for advice, and the Officer immediately contacted MAF's Incursion Investigation Team.

All the beekeeper's hive sites in the Wellington bush were similarly affected, with approximately 75% of hives showing the presence of at least some discoloured brood. Some dead cells were noted, but this was not a predominant finding. In an affected hive, generally 10% of brood cells had visible changes, although in a few hives up to 50% of the cells were affected.



Figure 1: Purple-blue discoloured pupae (24 February 2011).

The capping on affected cells was dark brown-to-black with an oily appearance, compared to normal cells which were a matte tan-brown colour. This change gave the frame a spotted appearance; although in the worst hives affected cells coalesced to

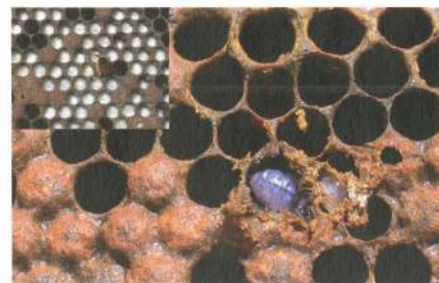


Figure 2: Discoloured (left, 24 February 2011) and normal (right, 8 March 2011) larvae in brood cells.



Figure 3: Purple-blue discoloured larva with distinct segmentation and dark mid-line (24 February 2011).

form larger areas. The larva or pupa in an affected cell was an opaque purple-blueish colour, and the vast majority were alive (Figures 1, 2). Affected larvae also had distinct body segmentation and a dark mid-dorsal line (Figure 3). The abdomen of emergent bees also showed remnants of grey-purple discolouration. All life stages from larvae to emergent bees appeared to be affected.

Occasional dead larvae (approximately one in 100 cells) were noted that were dark blue-to-black with a sour, fermented smell (Figure 4). It was assessed that a low level of varroa mites were present, given the small numbers found on the bottom-boards after Apistan® (Fluvalinate) treatment carried out at the time of the hive inspections.



Figure 4: Occasional dark blue-to-black dead larvae or pupae with a sour fermented smell (24 February 2011).

The syndrome resolved rapidly in two affected hives that the beekeeper brought back to his base in Wairarapa for observation. During a subsequent visit to the Wellington bush 10 days after the beekeeper raised the alert, no discolouration of larvae or pupae could be identified. →

The beekeeper bred his own queens and did not collect swarms. He also managed a large number of hives (approximately 500) in the Wairarapa area that were healthy.

Investigation

The beekeeper collected samples (larvae, pupae, adults) from two hives when he first noticed the condition.

A MAF Incursion Investigator visited the Wellington bush sites a few days later. Although the investigator found the dramatic colour change was no longer apparent, a selection of abnormal and apparently healthy larvae and pupae was collected from a variety of hives. Eleven hives were sampled: four that had all healthy brood and seven where some abnormal brood was present (Table 1).

Samples were delivered to MAF's Investigation and Diagnostic Centre at Wallaceville for a full range of microbiological testing. Molecular assays were carried out for *Paenibacillus larvae* (American foulbrood; Piccini et al., 2002) and *Melissococcus plutonius* (European foulbrood; Djordjevic et al., 1998), *Nosema* spp. (Chen et al., 2008), and a variety of viruses including Kashmir bee virus (Shen et al., 2005), sacbrood virus (Grabensteiner et al., 2001), deformed wing virus (Chantawannakul et al., 2006) and Israeli Acute Paralysis Virus (Palacios et al., 2008; Maori et al., 2009). Molecular testing for iridoviruses used modifications and additions to the protocol published by Webby and Kalmakoff (Webby & Kalmakoff, 1998). Five primer sets (TIV, IIV, WIV, CZIV and CIV) targeting the major capsid protein (MCP) gene of insect iridoviruses were designed and implemented. Plasmid DNA that contain the MCP gene sequences for TIV, IIV, WIV, CZIV and CIV were constructed based on the

Table 1: Summary of testing of abnormal and apparently healthy larvae and pupae from a variety of hives on 8 March 2011.

Sample type	Agent	<i>Nosema apis</i>	<i>Nosema ceranae</i>	Kashmir bee virus	Sacbrood virus	Deformed wing virus	IAPV	Iridovirus
Healthy larvae and pupae		0/4	1/4 ¹	2/4	2/4	2/4	0/4	0/4
Dead or unhealthy larvae and pupae		0/7	0/7	4/7	5/7	5/7	0/7	0/7
Total		0/11 (0%)	1/11 (9%)	6/11 (55%)	7/11 (64%)	7/11 (64%)	0/11 (0%)	0/11 (0%)

¹ = positive real-time PCR confirmed by PCR product sequencing as having 96–99% homology to *Nosema ceranae* sequences in GenBank.

GenBank database accession codes AF25775, M33542 and M32799, and synthesised commercially (Integrated DNA Technologies, Iowa, USA). These plasmid DNA constructs were used as positive controls for each of the respective iridovirus PCRs.

The lab's testing showed that iridoviruses and IAPV were not present in any sample tested. Testing of the discoloured larvae (1), pupae (1), emergent and adult bees collected by the beekeeper gave negative results for all organisms apart from Kashmir bee virus. Only the larval sample was positive for Kashmir bee virus.

In the subsequently collected samples, Kashmir bee virus, sacbrood virus and deformed wing virus were present in half (2/4, 50%) of the healthy brood samples tested. In the brood considered unhealthy at the time of sampling, the same viruses were present in approximately 60% of samples tested (Table 1).

Discussion

Colony collapse events in honey bees have been reported from the USA and Europe over the past five years. The outbreaks of what is called Colony Collapse Disorder (CCD) are characterised by a sudden loss of bees from hives with food reserves remaining, and few or no dead bees seen in or around the hives. MAF regularly investigates colony disorders as part of its mandate to exclude exotic diseases and assess potential new or emerging conditions in New Zealand.

The cause of CCD has remained elusive: findings initially pointed to infection with Israeli Acute Paralysis Virus, although this typically causes different signs and later findings have failed to confirm a link. Spanish researchers have blamed *Nosema ceranae*, but findings are not consistent with those from other countries. Pesticides have also come under the spotlight, and although a

survey of bee samples from across the USA identified traces of pesticide, there was no correlation with CCD-affected hives. Concern has especially arisen about a new family of insecticides, the neonicotinoids, which are used to coat seeds for pest control. These are neurotoxins and are believed to interfere with a bee's nervous system. More latterly USA researchers reported a significant co-occurrence of invertebrate iridoviruses. It remains unknown whether this finding points to iridoviruses as a cause or merely a marker or consequence of CCD (Bromenshenk, 2010).

Iridoviruses are large-DNA viruses that are divided into various strains, with the host range of a particular strain typically crossing a number of insect orders. Iridoviruses have been identified previously in New Zealand insects, including grass grubs and various moth species, but not previously found in bees in New Zealand (Webby & Kalmakoff, 1998). In heavily infected insects, the iridovirus packs tightly into uniform arrays to produce turquoise and blue iridescent colour changes in tissues. As part of this investigation, the IDC assessed the potential involvement of iridoviruses as this would be a new condition here.

Laboratory findings excluded the presence of iridoviruses in all samples tested, including larvae, pupae and adults. A range of endemic viruses were identified, although there was no apparent link with discoloration or ill health.

There have been previous anecdotal reports from the Hawke's Bay of purple larval discoloration occurring at a time when native koromiko bushes (*Hebe* spp.) were flowering (Berry, 2011) (Figure 5). Purple brood discoloration has been associated with plants in other countries including summer titi (*Cyrilla racemiflora*) in the USA (Graham, 1992, p.1197) and southern leatherwood (*Eucryphia lucida*) in Australia

(Tony Roper,ASUREQuality Limited Apiary Officer, personal communications, 2011). At the time of the larval discolouration seen at the Hutt apiary, the koromiko in the area was flowering abundantly.

The investigation found no evidence for the involvement of exotic agents in the presented syndrome, and the investigation was stood down.



Figure 5: Koromiko bush (*Hebe spp.*)

Contact MAF

MAF's Incursion Investigation Team is always interested in assessing reports of unusual hive syndromes or bee mortalities, especially those involving multiple hives or apiary sites. The Incursion Investigation Team would rather hear from beekeepers who find something unusual than not. In any cases where your sixth sense is telling you that something's just not right, please give us a call on 0800 80 99 66.

To report suspected exotic land, freshwater and marine pests, or exotic diseases in plants or animals, call:
0800 80 99 66

Acknowledgements

The authors would like to thank all others involved from MAF's Investigation and Diagnostic Centre at Wallaceville for their expert assistance with the laboratory testing associated with this investigation.

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Auckland Branch secretary Bob Russell (left) hands over a cheque on behalf of the Auckland Branch to Brian Barnett, National Office Manager, CanTeen. CanTeen (supporting young people living with cancer) was the charity organisation selected for 2011, and the cheque (for over \$11,000) represented the proceeds from the auction held at the NBA Conference, Auckland.

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Keeping your bees and neighbours happy

By Frank Lindsay, NBA Life Member

December is the time of the main honey flow, which generally starts in early December and can carry on until it gets dry in January. Some years it can carry on into February if we get rain once a week.

The bees will switch from swarming mode to nectar storage mode very quickly so once the flow has started, there's no need to continue checking for eggs laid in queen cell buds.

Pohutukawa nectar is available on the northern coastal fringes, while clover is the predominant crop in sheep country. Most commercial beekeepers concentrate their hives on manuka in the backblocks where the land is reverting to native forests—the only single crop that makes beekeeping viable.

South Island beekeepers used to concentrate on clover but this is now restricted to sheep country. The rise in the number of dairy farms has seen scrub clearance and the introduction of rotational grazing, which means no clover crop as it tends to be eaten off as soon as it starts to flower. Hay paddocks are no longer set aside and left to go to seed as new technology decrees that the paddocks should be cut when the grass has its highest protein, which is just before it starts to set flowers. Hay mowers today, apart from mowing the grass, also conditions it by bruising the grass so it can be dried, tedded and bailed in the same day. If your bees are working the clover flowers while the farmer is mowing the hay, unfortunately they won't be coming back to the hives as they will get crushed in the process.

Vipers bugloss flowers in the north of the South Island, but you also often see vipers flowering along the roadsides in the Hawke's Bay. It is just about the only crop available when everything dries out. The bees can also take advantage of a lot of minor sources that produce good nectar flows.

Supering

The old saying is not to put the next super on until you see white wax appearing. This comment pertains to comb honey producers. They want perfectly capped frames of honey, so the beekeeper forces the bees to fill every cell before placing another super on the hive.

"The main point to remember is to draw the bees up into the new supers."

For extracted honey the technique is quite different. The bees can draw out and store honey in a three-quarter super in a week and once they run out of room to store the nectar, they stop working. It doesn't matter if you give a hive two or three supers at a time because it's not necessary that they fill and cap every cell. In fact, the bees might not cap every cell: sometimes they cap only three quarters of the frame, leaving the other cells exposed at the end of the season even though the honey in the cells could be said to be dry (less than 18% moisture).

The main point to remember is to draw the bees up into the new supers. You can do this by taking a frame the bees have already started to fill with honey from a lower super and placing it up into the centre of the next super.

For those that use queen excluders, 'under super' by placing the new super directly above the queen excluder. This tells the bees there's room to store more honey but again, bait the super with a partly filled

honey frame or a frame of brood from the bottom super (shaking off the bees so there's no chance of the queen being moved up as well).

If you only have foundation or undrawn plastic frames, space them so there is a drawn frame between each undrawn frame, again to encourage the bees to draw them out. Bees tend to start drawing out the frames in the centre of the super (where it's warmest), and you can encourage them a little by moving undrawn frames into the centre of the super each time you do a quick inspection.

Provide water

Like all creatures, bees must have water. On farmland watercourses and streams generally are nearby, but not so in urban areas. The bees will visit a number of sources during the spring but these dry out as the temperature rises, leaving the bees to visit the permanent stands of water. This could cause a nuisance if it's your neighbour's swimming pool. Bees also learn that washing provides a source of water when it's first put out. The only problem is that they tend to deposit a drop of faeces to make room for the water, which tends to upset people. Set up a bucket filled with sand in your garden or leave it under a dripping tap—just enough to keep the sand damp. If you like, add a little salt to the sand as bees also need minerals.

Commercial beekeepers in protective clothing during hot weather also require a lot of water. It's easy to overheat, which causes the blood to thicken and can lead to cramps and even a stroke. You will need two or three litres a day when working bees full time. A nice dip in a creek at lunchtime is even better but then again, who stops for lunch when there's work to be done?

With hives expanding in size and height, neighbours might get a little concerned. Plant runner beans on one side of the hive and make a framework out of bamboo or netting to hide the hive a little. Remember that most people think of bees as stinging insects, so out of sight, out of mind. →

Taking off honey frames in urban areas

Hobby beekeepers have it all over commercial beekeepers when it comes to honey production as something is always flowering in the urban areas. If the hobbyist continues to take off the fully capped honey frames, extracts them and then puts them back on, the bees will continue collecting nectar right through to February. Each extraction brings a different flavoured honey.

Being in an urban area, it's important if you want to keep on beekeeping to not disturb your bees when the next-door neighbour is out cutting his lawn or working in the garden. Very early morning or reasonably late in the afternoon is the best time for the beekeeper but not necessarily for the bees. The foragers are mostly at home so the hives are full and therefore they could be more defensive if not worked correctly. Apply smoke to the entrance and allow it time to work before open the hive.

Rather than disturbing the bees by shaking or brushing them from the capped honey frames, use a clearer board. This is basically a crown board with one or two bee escapes in it. Select the fully capped frames you want to remove, place these in an empty super (fill in the spaces left with foundation or fully drawn frames or just leave them if you are going to extract the next day). Place a bee escape on top (the right way up; i.e., the bees move down, out of the top super with the capped honey frames). Then put on the roof, making sure there aren't any holes or gaps that a bee can enter or exit from so that the exposed honey frames won't be robbed.

Early the next morning, direct a few puffs of smoke into the entrance, as any vibration you cause taking off the honey frames will disturb the bees. Remove the super off the top of the hive, shake into the hive entrance any bees left on the frames and carry the super to where it can be extracted. If you find a full super of honey too heavy to carry, carry a few frames at a time.

Next, lift the escape board slightly in one corner and direct a puff of smoke across the top of the frames to dissuade any bees coming up to meet you. Then remove the escape board and replace the crown board and roof.

There are a few situations where escape boards don't work:

1. if the bees completely fill the hive, they won't leave the honey super overnight. Add another honey super under the escape board so there's room for the bees in the hive
2. bees won't leave brood. Not a problem if you use a queen excluder, but for those that don't it could be. The answer is to scratch out any drone brood with a hive tool or leave the worker brood until it has all emerged from the cells
3. bees won't completely leave the honey super if the super is not completely 'bee tight'. Plug any cracks or hole with newsprint of plastic foam
4. they won't leave the queen if she happens to be on a honey frame
5. they can't leave if the bee escapes are put on upside down.

Once the first lot of honey has been extracted, share some with your neighbours. They will often overlook those little yellow spots on their washing.

A word of warning about putting on freshly extracted honey frames. The bees will be stimulated by the sticky combs and will fly in great numbers looking for this honey flow if the frames are returned during the day. Wait until late evening before returning them, and by morning the bees will have cleaned the frames and will return to normal flight activities.

Tutu

As we're coming up to Christmas, start observing those tutu bushes if you can't extract before the New Year. It's going to be a dry summer for some so tutu could be a potential problem. If you are selling or bartering honey, it's the law to have your honey tested beforehand.

I've heard a report last year that traces of tutin were found in a beekeeper's honey where there's very little tutu. If your test comes back with a trace and there aren't any tutu bushes around to indicate a potential source, ask if your honey was composite tested with a batch of other honeys. This may be where the trace comes from.

Things to do this month

Check feed, undertake swarm control, check for failing queens, take varroa strips out. Keep weeds down around hives. Introduce nuclei, combine weak hives, super hives, fit foundation into comb honey frames and prepare the honey house equipment. Undertake the first honey extraction for some. Don't forget to check for AFB before removing any honey.

If all the supers are on, take time out and enjoy your family. I have worked through a few Christmas holiday periods only to find there's not a lot I can do, so why not take the time off and have a break? All the best for Christmas and hopefully, we'll have a bountiful New Year.



Thanks, and see you in February!

The Publications Committee (Frank and Mary-Ann Lindsay, Kushla Haenen and Trevor Cullen) and journal editor Nancy Fithian wish you all a happy Christmas and New Year, and a bumper honey season.

We hope you will be able to take some time to be with your families before resuming work.

Thanks very much to our advertisers, without whom the journal would not be published—please support them! We are also grateful to everyone who has

contributed articles and photos over the past year.

Many thanks to the members of the Executive Council for their unflagging efforts on behalf of all NBA members, and to South City Print for a job well done again this year.

NB: The deadline for the February journal is 6 January, with a cutoff date of 15 January for articles and advertising. Please mark the date in your 2012 diaries now.



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Field day on AFB and beehive registration	Mary Allen	1	Feb	8
Food Safety and RMP Awareness courses	AsureQuality Limited	6	Jul	16
Food Safety Course at Conference	Tony Roper, AsureQuality Limited	3	Apr	35
From the incoming President	Barry Foster, NBA President	6	Jul	6
GIA on the horizon	NBA Secretariat	8	Sep	7
GIA, governance and strategy development	NBA Secretariat	10	Nov	6
GIA: benefit or burden?	Russell Berry	9	Oct	45
Gilles Ratia in Auckland	Maureen Maxwell	1	Feb	23
Hive management	Carol Downer and Kim Kneijber, Auckland Beekeepers' Club	3	Apr	51
Hive tips and tricks	Frank Lindsay	9	Oct	51
Hobby day a resounding success	Frank Lindsay	8	Sep	12
Honey & fresh fruit ice block	Maureen Maxwell	2	Mar	29
Honey bee brains lead to big ideas	Dr Oksana Borowik	1	Feb	14
Honey Bee Exotic Disease Surveillance	Byron Taylor, AsureQuality Limited	9	Oct	15
Honey competition report	Maureen Maxwell	7	Aug	8
Honey: it's deadly stuff	Andrew Matheson	6	Jul	26
IHS Independent Panel report	Matthew Stone, Ministry of Agriculture and Forestry	3	Apr	10
In memoriam: David Kay	Ian Berry	5	Jun	19
Inspecting honey bee colonies for AFB	Dr Mark Goodwin, Plant and Food Research	9	Oct	8
Investigation of a honey bee syndrome	Thomas Rawdon et al.	11	Dec	21
Ivan James Dickinson, QSM, 8.9.33–27.3.11	Allen McCaw	4	May	11
Keep an eye on those apiaries!	Frank Lindsay	6	Jul	24
Keep beeswax in the honey house!	Maureen Maxwell	2	Mar	29
Keeping your bees and neighbours happy	Frank Lindsay	11	Dec	25
KeyStrepto™ spraying trial results	Kiwifruit Vine Health, 11 November 2011	11	Dec	17
Larval survival and pesticide exposure	W. Zhu, D. Schmechl and J. Frazier	11	Dec	17
Looking to the future	Barry Foster, NBA President	7	Aug	4
MAF programme update	Ministry of Agriculture and Forestry	7	Aug	22
MAF statement on top bar hives	Ministry of Agriculture and Forestry	7	Aug	22
Maintaining vigilance during the RWC	Barry Foster, NBA President	8	Sep	4
Managing Apis cerana risk from Australia	Grant Knight and Mark Mirkin, Ministry of Agriculture and Forestry	4	May	13
Manuka honey money spinner development	Manuka Health New Zealand news release, 23 March 2011	3	Apr	36
Memo to all NBA members	NBA Executive Council	8	Sep	10
Mesh screen hive floors	Paul Brown, Auckland Beekeepers' Club	1	Feb	20
Mite treatments: insight into how they work	Frank Lindsay	1	Feb	11
NBA fetes young problem solvers	Publications Committee	4	May	15
NBA presents to Growsafe Trainers	Roger Bray	4	May	8
New era for manuka honey industry body	Abridged media release from the Unique Manuka Factor Honey Association, 4 July 2011	7	Aug	12
New quad bike guidelines released	Frank Lindsay	3	Apr	55
New tests help sweeten the global market	Media release from Hill Laboratories	11	Dec	15
New Zealand beekeeper, apiary and hive statistics	AFB NPMS Management Agency/AsureQuality Limited	9	Oct	29
New Zealander appointed to Apimondia	Media release, Porter Novelli, 1 Nov 2011	11	Dec	13
News from ERMA	Environmental Risk Management Authority	2	Mar	15

News from ERMA	Environmental Risk Management Authority	5	Jun	12
No post-conference breather	NBA Secretariat	7	Aug	12
Nosema ceranae: where to from here?	Tony Roper, AsureQuality Limited	1	Feb	4
NSWAA 2011 Conference report	Frank Lindsay	6	Jul	20
NZ beekeeper, apiary and hive statistics	AFB NPMS Management Agency	3	Apr	18
Organic honey processing and storage	Dr Dinko Dinkov, Trakia University, Bulgaria	10	Nov	11
Otherwise fine	Frank Lindsay	7	Aug	21
Passive surveillance: bees	Ministry of Agriculture and Forestry	5	Jun	14
Pesticides-CCD-IIV-CCD-Bayer?	Compiled by NBA National Office	1	Feb	10
PGP funding positive sign for industry	Media Statement from Agriculture Minister David Carter, 10 May, 2011	5	Jun	12
Photo competition results	Publications Committee	7	Aug	6
Pollination security and value	Frans Laas, NBA President	5	Jun	4
Pollination security in New Zealand	Barry Foster, NBA Vice President	5	Jun	8
Preparing hives for spring	Frank Lindsay	8	Sep	17
Project teaches children about bees	Project Sunshine, Taita	9	Oct	67
Proposal to change new organism status	Environmental Risk Management Authority	3	Apr	13
Proposed AFB NPMS budget	AFB NPMS Management Agency	9	Oct	23
Protecting vines from Psa-V	Richard Pentreath, ZESPRI International Limited	9	Oct	11
Psa: where to this pollination season?	Dennis Crowley, NBA Pollination Committee	7	Aug	18
Reflecting on the season	Frank Lindsay	5	Jun	22
Rent for apiary sites	Mary Allen	2	Mar	13
Reports from a very buzzy week	Kushla Haenen, Barry Foster and Maggie James	6	Jul	8
Research for NZ bees	Kerry Gentleman, NBA Research Committee	9	Oct	47
Resistant varroa 10 years on in Canada	Dr Oksana Borowik	10	Nov	9
Response from Hon David Carter to Rex Baynes	Hon David Carter	9	Oct	31
Response from Hon Dr Nick Smith	Hon Dr Nick Smith	6	Jul	23
Safe quad bike use	Department of Labour	2	Mar	28
Safe spray practice sticker developed	Agcarm	9	Oct	36
Shifting hives	Gary Jeffery	4	May	18
Sick bees, healthy bees: do you know?	Tony Roper, AsureQuality Limited	9	Oct	12
Sticky business	Frank Lindsay	9	Oct	56
Trapping of bees with pheromone lures	Ministry of Agriculture and Forestry	11	Dec	16
Synthetic brood pheromone evaluation	Barry Foster, Neil Foster, Willie Kaa and John McLean	5	Jun	15
Synthetic pyrethroid-resistant varroa found	Jane Lorimer, Chair, NBA Research Committee	3	Apr	13
Thank you, bees (part 1)	Mary Allen	6	Jul	11
Thank you, bees (part 2)	Mary Allen	7	Aug	13
The art of saving your back	Olivia Sheehan, Auckland Beekeepers' Club, Inc.	4	May	21
The Roy Paterson Trophy	Jane and Tony Lorimer	4	May	26
Tools to assist employers	Department of Labour	9	Oct	35
Top bar hives: a position statement	AFB NPMS Management Agency	9	Oct	28
Top bar hives: what's the problem?	Frans Laas, AFB NPMS Chairman	5	Jun	11
Town hall the bee's knees	Karen Mangnall, Manukau Courier	4	May	19
Trapping of bees with pheromone lures	Ministry of Agriculture and Forestry	11	Dec	9
Treating with organic varroa treatments	Frank Lindsay	2	Mar	6
Trees and shrubs of New Zealand: <i>Pittosporum crassifolium</i> —Coastal Pittosporum	Tony Lorimer	9	Oct	56
Trees for Bees: a helping hand!	Tony Roper, Linda Newstrom-Lloyd, Marco Gonzalez, Ross Little	3	Apr	57
Tutin contamination in honey	Jim Sim, Ministry of Agriculture and Forestry	9	Oct	43
Tutin in honey amendment gazetted	Food Standards Australia New Zealand	2	Mar	14
Tutin Standard update	Jim Sim, Ministry of Agriculture and Forestry	3	Apr	31
Using a two-bucket extractor	Paul Walsh, Auckland Beekeepers' Club	2	Mar	22
Varroa resistance—a looming problem!	Barry Foster, NBA President	9	Oct	4
Warmer than normal conditions likely	National Climate Centre (NIWA)	1	Feb	15
Wax moth problems	Frank Lindsay	3	Apr	31
Wax rendering	Frank Lindsay	4	May	23
What to do with frames	Frank Lindsay (Burning questions column)	4	May	16
What's the NBA been doing for us?	NBA Secretariat	4	May	6
What's the NBA been doing for us?	NBA Secretariat	5	Jun	6
What's the NBA been doing for us?	NBA Secretariat	6	Jul	7
When bees go feral	Katie Owen, MAF Biosecurity New Zealand	1	Feb	7
Working hard on pollination issues	Neil Mossop, Chairman, NBA Pollination Committee	7	Aug	19
Working harmoniously	Frans Laas, NBA President	2	Mar	4
Working in a minefield	Neil Mossop, Chairman, NBA Pollination Committee	9	Oct	7
Young problem solvers teach community	Heather Greaves, Oturu School	2	Mar	17



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