

The NEW ZEALAND BeeKeeper

NOVEMBER 2015 | VOLUME 23 No. 10



Unification updates

Ricki Leahy and Daniel Paul

Apimondia Congress reports

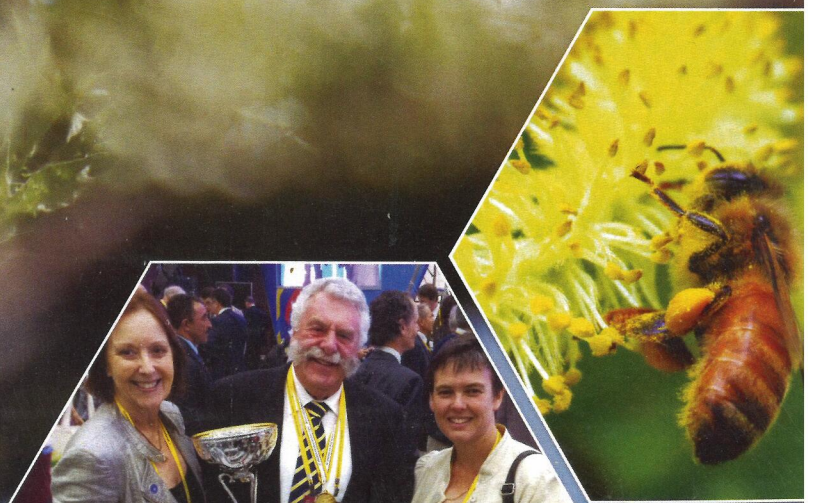
Maureen Conquer and Jodie Goldsworthy

Winning with willows

Dr Linda Newstrom-Lloyd

Coromandel losses update

Dr Oksana Borowik





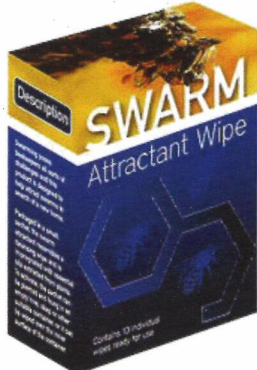
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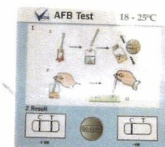
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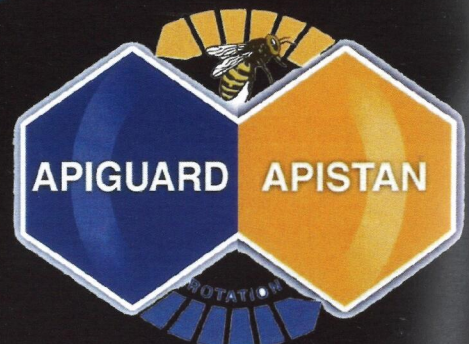


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TABLE OF CONTENTS

Unification in a nutshell	4	Winning with willows: diverse species flowering	19
Fake manuka honey detector launched	5	Wasp biocontrol update: Spring 2015	21
Draft constitution and rules for new entity almost ready for industry consultation	7	Letters to the editor	23
Another extraordinary event	9	Palmers School Photo Competition champions	25
New Apimondia Oceania Commission President: Jodie Goldsworthy	13	From the colonies	27
Seasonal changes in hive weights, Patutahi, Gisborne, 2014–2015	15	Queen candy recipes	28
Coromandel colony losses one year on: research and funding	16	Hive maintenance	29

Front cover: Bee foraging on plum blossoms, Wellington region. Photo: Frank Lindsay.

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PRESIDENT'S REPORT

UNIFICATION IN A NUTSHELL

Ricki Leahy, NBA President

Now that most of us are very busy with our bees, it's probably quite hard to piece together all that is happening on the unification front, especially with some of the rumours and misinterpretations that have been floating around.

In a nutshell, let me explain what is happening. The apiculture industry as directed by its stakeholders, you and me, is now steadily progressing towards its goal of a fully inclusive, single representative entity. The interim Apiculture Industry Governance Board (AIGB) has been formed. The AIGB is an independently appointed group of industry stakeholders who expressed interest to volunteer their time, energy and expertise to address the shortfalls we have within our industry. Their task is to design a more future-focused structure that will represent all sectors.

The AIGB has been meeting together at least once a month. It is very active between meetings via e-mails, working on developing and updating the rules and constitution, formulating funding models, subscription rates, budgets, and so forth.

The PR Company has been contracted to facilitate the secretarial and management duties for the AIGB. Daniel Paul and Pauline Downie are using their knowledge of the industry to our best advantage and are undertaking the 'heavy lifting' duties to coordinate progress on the detailed work plan.

This work plan has been developed to meet the goal of 1 April 2016 for the restructured entity to 'start business'. Incidentally, this work plan continues until 1 April 2017, incorporating the lead-up to conference and any timelines that will need to be heeded for members to elect the inaugural governance board.

A steering group meets every Monday morning to assess that we are on track. If any tasks are falling behind schedule, the steering group focuses on resolving any issues.

A lot of energy is going into this project. It is a very professional attempt to carry out the unification process and ensure the restructured entity is well set up to offer more value than ever to members.

The AIGB also needs some serious financial assistance

Special meeting

By the time you read this, we anticipate that the Association's solicitors will have checked the draft constitution and rules, and all required information has been e-mailed to all members.

It is possible that the NBA Executive Council, at its scheduled meeting in early December, will decide to call the 50-day notice required for a special meeting. This will be done via a postal vote, so that all members will have the opportunity to vote during February on whether to accept the new constitution and rules.

Financial support

Those who understand the advantages that these changes will bring, and who wish to provide support, can contribute by becoming founding members of the new entity. Please visit beeunified.org to find the Founding Membership Commitment Form and also read any updates to keep informed.

The AIGB also needs some serious financial assistance to finish the tasks necessary to complete the job. We encourage those who are operating their businesses successfully to consider making a generous contribution. Even with the board members meeting most of their own travel costs, volunteering their time, and taking the time out of their own businesses, we still need over \$150,000 to cover the projected costs. Please step up and do your bit to help us get over the line.

Joint executives meeting and focus groups

The joint NBA/Federated Farmers Bee Industry Group executives have had another constructive meeting, this time in Wellington. Since our first meeting in August, the focus groups have now developed their work plans, which were approved after being presented for discussion and comment.

The Health and Safety Focus Group reported they are working on a generic health and safety document that beekeepers could use for their own businesses. As health and safety is becoming an issue we will all need to face sometime soon, this document will undoubtedly be valuable to us all.

Thanks to Barry Foster, the Research Focus Group has been re-established. An important task for this group will be to ascertain and recommend which of the many proposed research projects are to be supported. Consideration will be given to relevant projects that deliver most benefit for any investments made. Barry commented that it would be nice for our New Zealand researchers to be given the opportunity to introduce themselves and present their skills to Conference.

Under the GIA/biosecurity umbrella, Russell Berry will continue his good work to keep imported honey and bee products out of New Zealand. A GIA presentation is also planned for Conference, with a recommendation that the apiculture industry seek a mandate to become a signatory to the GIA Deed. This is seen as a critical objective for industry.

With pollination a key factor across the agri-sector, the Pollination Focus Group has elected a broader, primary production sector approach. Barry Hantz and Mike Vercoe have joined the group to add representation for the small seed, vegetable, stonefruit and berryfruit pollination regions. Neil Mossop has also joined to support the work surrounding pipfruits and kiwifruit and the challenges of pollinating under mesh.

The focus groups' working plans have been approved

Manuka honey trade mark

It may be of concern to some that the UMF® Honey Association has applied for a Certification Trade Mark for the name 'Manuka Honey'. On the surface it seems a

continued...

very worthwhile and sensible action to take, and it may well be. However, the industry as a whole must be absolutely confident that such a trademark would deliver true value for all. It would be logical that the trademark would best be held by the new industry entity, rather than a private brand association, to ensure unequivocal benefit for all. The application is currently progressing through the regulatory process of the Intellectual Property Office of New Zealand (IPONZ).

I hope the bees are performing as they should. I love the way we can help nature and the weaker hives by giving them more substance. If they are an absolute cot case, we can simply unite them to a strong hive and the benefits are immediate. Fortunately for us all, our industry is following this lead. Happy beekeeping.

CONDOLENCES

We extend our heartfelt condolences to two NBA members, and their families, who have been bereaved recently.

Erica Singleton, wife of NBA Executive Council member Kim Singleton, passed away suddenly on Wednesday, 7 October.

Gerard Martin, father of NBA Waikato Branch president Cameron Martin, died suddenly on 31 August while on holiday. Gerard was involved with the NBA Executive Council in years past.

Our thoughts are with Kim, Cameron and their families at this sad time.

IN THE NEWS

ONIONS NZ JOINS GIA

Onions New Zealand Inc signed the Deed of the Government Industry Agreement (GIA) for Biosecurity Readiness and Response at Pukekohe on 9 October, becoming the first vegetable group and the sixth Signatory to sign the Deed.

Onions New Zealand joins organisations representing the kiwifruit, pipfruit, equine, and pork sectors, along with MPI representing the government as GIA partners.

IN THE NEWS

FAKE MANUKA HONEY DETECTOR LAUNCHED

Rob Stock, *Stuff Businessday*, 15 October 2015

The high price for New Zealand's premium manuka honey has led to some suspect products on the shelves aiming to cash in, but now a handheld scanning device can weed out the fakes.

Manuka honey has become a signature New Zealand export, worth several hundred million dollars a year, but there are fears that much fake or adulterated manuka honey is making it into key export markets.

In a bid to build confidence among honey buyers, the UMF Honey Association, has funded the development of a handheld "manuka indicator" device.

It lets the user test whether a sample of manuka honey is the real deal.

Developed in a partnership between the UMF Honey Association, Hamilton's Analytica Laboratories and Comvita, the plan is for the device to be distributed here and overseas to make it easy for the likes of retailers, wholesalers and food regulators to test honeys.

John Rawcliffe from the UMF Honey Association and Analytica Laboratories' executive director Terry Braggins demonstrated the manuka indicator before

Parliament's Primary Industries Select Committee on Thursday [15 October].

Rawcliffe said the device sent a fluorescent light into honey samples, and could detect the presence of unique substances in manuka honey.

He said the device would be used to detect suspect product.

"It's very similar to being breathalysed," he said.

"If it indicates there is an issue, the sample can be sent to a laboratory for a full test."

The aim was to sell the devices for a few hundred dollars rather than thousands to encourage widespread use, he said.

"Effectively, this device could be deployed anywhere," Rawcliffe said.

Because manuka honey fetches such a high price—a 250 gramme jar of high-quality manuka can fetch £30 to £40 in Britain—the incentive for unscrupulous traders to pass off inferior honey as manuka is high.

British newspapers frequently write articles claiming the amount of manuka honey

sold worldwide is greater than the amount produced in New Zealand.

"We all know what the problems are. This is about building the confidence of the consumer that what they are buying is genuine manuka honey," Rawcliffe said.

Rawcliffe said the invention of the device was an example of an industry working together to protect its unique product, and was the culmination of a four-year investment.

With fakes and adulterated honeys removed from the market, the UMF Honey Association hopes the price its members get for their honey will rise.

Source

Stock, R. (2015, October 15). *Detector to identify fake Manuka honey launched*. *Stuff Businessday*. Retrieved October 15, 2015, from <http://www.stuff.co.nz/business/industries/73006740/detector-to-identify-fake-manuka-honey-launched>

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AIGB UPDATE/INDUSTRY UNIFICATION

DRAFT CONSTITUTION AND RULES FOR NEW ENTITY ALMOST READY FOR INDUSTRY CONSULTATION

Neil Walker, Chair, interim Apiculture Industry Governance Board

The draft Constitution and Rules for the new apiculture industry association are almost complete and ready for distribution to industry for consultation.

The interim AIGB met for the third time on 19 October 2015. The Board spent much of the meeting working through the Constitution and Rules prior to these going to the NBA Executive Council and to the wider industry for feedback.

That consultation process should start in late October, and you will have the chance to consider:

- the draft Constitution and Rules
- the proposed subscriptions and membership categories
- member voting entitlements
- the new entity's name and strategic plan.

Your comments and feedback on all these proposals will be welcomed by the AIGB.

Once that process is complete, we will aim to hold the special vote of NBA members, probably early in the new year. The vote was initially timed for mid-December, but we felt it was wiser to push it back to make time for a robust and thorough consultation period with industry.

In addition, we realise that the beekeepers among you are flat out at that time of year. So anything we can do to make life easier for busy beekeepers will be appreciated, we are sure.

Among other topics considered at the meeting were:

- the subscription and membership categories and voting rights (part of the consultation material)
- branding for the new entity

- progress with the work plan for the new entity's establishment. (It's on schedule.)
- the consultation process itself
- arrangements for the NBA's special vote
- funding for the AIGB.

Suffice it to say, the AIGB is doing a lot of work as quickly as possible to bring this new entity into existence. It's a hugely important piece of work and we know we are fulfilling the wishes of by far the majority of attendees at the 2016 conference—and of the wider industry.

Having said that, we don't want to rush things. The AIGB's goal is to develop an industry association that will be fit for purpose for the dynamic and rapidly changing apiculture industry, and that will be appealing and attractive to thousands of industry participants.

We think we are well on the way to completing that task and we will look forward intensely to the consultation process and to hearing your views about what we propose.

In the meantime, for more information about the 19 October 2015 AIGB meeting, please see the abridged minutes, which are available on beeunified.org.

Communication from the Minister for Primary Industries, Nathan Guy

Together with Federated Farmers Bees, the NBA wrote to the Minister for Primary Industries, congratulating him on recent initiatives to strengthen New Zealand's border controls. We also mentioned progress on the unification project.

Nathan Guy responded, indicating his strong support for unification. In his letter to the NBA and BIG, he said:

"I was pleased to read that the apiculture industry is actively moving towards uniting its sector representation into one single body... I wish the interim board well in its work to design and establish the new industry structure.

As Minister, I want Government to work in partnership with all industries on biosecurity, which is my number one priority. The Government Industry Agreement for Biosecurity Readiness and Response is a new, improved way the Government can work in partnership with industries on this issue.

To do this, we need to partner with organisations that can effectively represent their sectors in biosecurity matters. I am hopeful that the changes you describe in your letter will enable government and the apiculture industry to work more closely together."

The NBA, Federated Farmers Bees and the interim Apiculture Industry Governance Board will continue to update the Minister and other relevant stakeholders on the industry unification progress.

MEMBERSHIP 2016

The IAIGB's intention is to have the new entity up and running by April 1, 2016. We anticipate that the NBA Special Vote, likely to be held early next year, will give the green light on the new organisation.

By joining the NBA now, for a 2016 membership beginning January 1, we are confident that you can secure your place as a member of the new organisation. Your NBA membership should transition into the new, unified organisation come April 1, granting you a founding membership. To join the NBA, visit <http://www.nba.org.nz/join-us/>.



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APIMONDIA

ANOTHER EXTRAORDINARY EVENT

Maureen Conquer, Apimondia Oceania Commission Vice President

Daejeon, Korea was the site of another exciting Apimondia Congress, where beekeepers, scientists, honey traders and equipment suppliers came together to share knowledge. With over 8,000 attendees between 15–20 September, there was so much to absorb.

Apimondia is the International Federation of Beekeepers' Associations, with over 120 member countries. It has a history of over a century of rich exchanges, and continues to unite the beekeeping world to ensure the survival of bees and the excellence of hive products.

Apimondia has seven scientific commissions: Bee Biology, Bee Health, Beekeeping Economy, Pollination and Bee Flora, Beekeeping Technology and Quality, Apitherapy, and Beekeeping for Rural Development.

Each commission worked hard with the local South Korean organising committee to present a varied, relevant and very pertinent scientific programme.

There were over 700 lectures, plenary sessions, symposia and round table discussions, not to mention the large number of important posters and the ApiEXPO of global displays. The congress also offers many cultural and social opportunities to network with experts from around the world.

One of the hardest decisions I find is which lectures to attend, as there are so many! Fortunately, all of the papers are downloadable for attendees before the end of the year on www.apimondia.org

During round table discussions, Kiwis made strong contributions to the topics "Artificial bee feeding and its effects on bee health and product quality" and "Adulteration of bee products and the impact on markets", as well as participating in discussions on "residues and adulteration".

A special new Apimondia Working Group, chaired by Norberto Garcia from Argentina, with representation from all regional presidents, has been established to study, evaluate and attempt to mitigate the effects of honey adulteration.

A special new Apimondia Working Group ... has been established to study, evaluate and attempt to mitigate the effects of honey adulteration.

'Apitourism' is an emerging new industry. I have been involved in discussions about putting New Zealand on the itinerary and providing many new economic benefits for our country ... but more about that in future journals.

World Honey Awards

Once again I had the privilege of adjudicating at the World Honey Awards with over 80 countries represented. There were some truly amazing products. Cliff van Eaton took a silver medal for his wonderful book *Manuka – the biography of an Extraordinary Honey* and Tasmanian Lindsay Bourke, with his Leatherwood honey, won the world 'Grand Prix' for the most outstanding honey 2015. Very exciting!

I also had the enviable task of judging some very fine meads and honey beers, which arguably are the best in the world. The Slovenians and Slovaks are experts; however, Lindsay Bourke also received some medals in this class. I challenge our beekeepers to prepare and present in Istanbul 2017.

World Bee Day proposed

With the support of Apimondia, the Slovenian Beekeeping Association has proposed to the United Nations that May 20 is declared World Bee Day. I believe this provides us with a tremendous opportunity to engage in a mass public relations and awareness campaign highlighting the importance of bees.

Dr Peter Molan

The only grey cloud over our week at Daejeon was the sad news of Dr Peter Molan's death.

In his honour and memory, I was able to make the announcement and deliver a brief obituary to the general assembly at the closing ceremony, which was received with sadness by the hundreds who attended. Peter's great work and enthusiasm for honey and its therapeutic properties has had global reach. So many take honey for granted, but scientists such as Peter have unveiled its extraordinary qualities. Peter will be sadly missed but never forgotten.

Technical tours

At the conclusion of each congress, a range of technical tours is offered that take you outside and around the host country, visiting factories or bee yards and places of interest. This year I headed north to the DMZ (demilitarised zone) between North and South Korea. We visited beehives and beekeepers within the neutral zone. In a richly vegetated area they produce good honey and bees but more importantly, these beekeepers have recently provided an opportunity for schools and communities from both sides to integrate over the hives.

New Oceania Commission President

It has been my pleasure to represent Oceania (Australia, New Zealand and the South Pacific) over the past four years. I have now handed the role over to Australian honey entrepreneur Jodie Goldsworthy; however, I have agreed to stay on as her vice and New Zealand representative. So if you have any enquiries, please do not hesitate to e-mail me: maureen@wildforage.co.nz [Editor's note: see related article on page 13.]

Next stop: Istanbul

The next congress, in September 2017, will be held in exciting Istanbul, Turkey. Turkey has a thriving beekeeping industry (third largest in the world) and a long history. I have previously visited Turkey and would be happy to lead a group of New Zealanders to visit this event, and perhaps take in Anzac Cove and some neighbouring areas for apitourism. Start planning now!

continued..



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APIMONDIA

SCENES FROM THE APIMONDIA CONGRESS 2015

Photos: Maureen Conquer, Dr Karyne Rogers and James Conquer.



Hives in the Korean Demilitarised Zone.



Honey from the Korean Demilitarised Zone.



Some honey competition entries.



New Apimondia President Philip McCabe (Ireland), Oceania Commission Vice President Maureen Conquer, Oceania Commission President Jodie Goldsworthy, Dr Karyne Rogers, Dr Young-Mee Yoon.



So much to see at the ApiEXPO.



Maureen Conquer and Robert Chlebo (Slovakia) judging some of the meads at the World Honey Expo.



Maureen Conquer, Lindsay Bourke (Tasmania) and Jodie Goldsworthy. Lindsay won the Grand Prix for the best honey overall for his Leatherwood Honey. A great win for Oceania.



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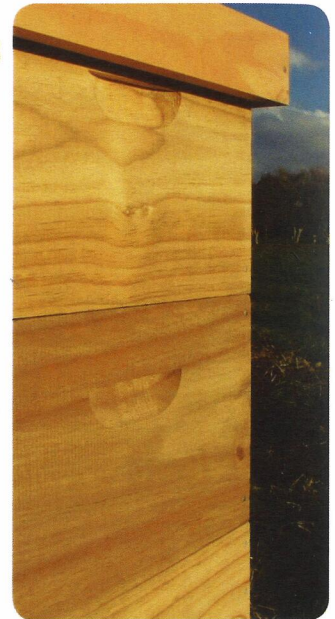
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APIMONDIA

NEW OCEANIA COMMISSION PRESIDENT: JODIE GOLDSWORTHY

New South Wales beekeeper Jodie Goldsworthy was elected as the new president of the Apimondia Oceania Commission at the Apimondia Congress in Daejeon, Korea, September 2015.

Jodie succeeds New Zealand's Maureen Conquer, who is staying on as vice president and New Zealand representative.

Jodie Goldsworthy represents the fourth generation of her family's tradition of beekeeping. Because of this unique background, she and her husband Steven created a remarkable legacy in 1992 with their first production of bulk honey. A year later they redeveloped the Beechworth Honey brand to market their product to a wider audience. Now, more than 20 years later, the brand is considered one of the 'majors' in the industry and Australia's largest independently owned specialist honey business.

Because of their passion for the Australian honey industry, in 2008 Jodie and Steven opened Beechworth Honey Experience in Beechworth, Victoria to demonstrate how honey is produced and to showcase the story of Beechworth Honey. According to Jodie:

"Our aim is to educate people on the diversity of uses for honey and the fact 65% of Australia's agricultural produce is pollinated by our honeybees. This reveals just how important they truly are to our food security."

Jodie has a Bachelor of Applied Science and a postgraduate degree in Strategic Marketing. Her interests are the environment, regional business development, and Australian agriculture and food production. She juggles her role as Director of the company with responsibilities for her three children, as well as executive positions in several industry associations.

In 2011, Jodie began an appointment as a member of the Australian Government's 'Food Processing Industry Strategy Group', under the care of the Minister for Innovation, Industry, Science and Research. This group was charged with developing a more competitive Australian food processing sector. She is the current



New Apimondia Oceania Commission President Jodie Goldsworthy at Apimondia 2015. Jodie is chatting to Australian bee pathologist and researcher Dr Denis Anderson, who is now based in the United Arab Emirates. Photo: Maureen Conquer.

President of the Honey Packers & Marketers Association of Australia. Jodie is a past Board member of North East Victoria Tourism. In 2014 Jodie commenced as a judge on the national Food Magazine Food awards where new and innovative food products are recognised.

Jodie was a member of the Deputy Prime Minister's 'Regional Women's Advisory Council' from 2002 to 2007. The Council was appointed to provide advice to the Australian Government about issues affecting rural and regional Australia. She was also selected in 2008 to attend Australia's 2020 Summit, which was formed to help shape a long-term strategy for the nation's future.

Jodie adores honey and its versatility in food. She released her first book in 2009 called *Cooking, Tasting, Living Honey*, as a snapshot into a tradition of living, breathing, eating and sleeping honey. Through this successful publication Jodie shares her love and pride for the industry and her wealth of knowledge about Australian honey and its uses in home kitchens.

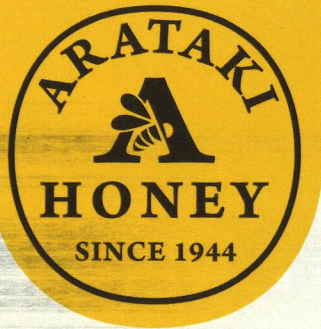
Jodie's passion is for furthering public awareness about the importance of bees. She is a keen advocate for research into the threats to nature's most efficient pollinators and is a

Board member of The Wheen Bee Foundation to support research, development and training for the benefit of bees, beekeepers and pollination dependent industries.

In December 2014 Jodie and Steven opened their second centre in Beechworth, called Beechworth Honey Discovery. This historic Bank of NSW building has been extended and renovated, and combined with Beechworth Honey Experience, establishes Australia's most comprehensive honeybee education and resource centres with the aim to highlight the important link between honeybees and our food supply.

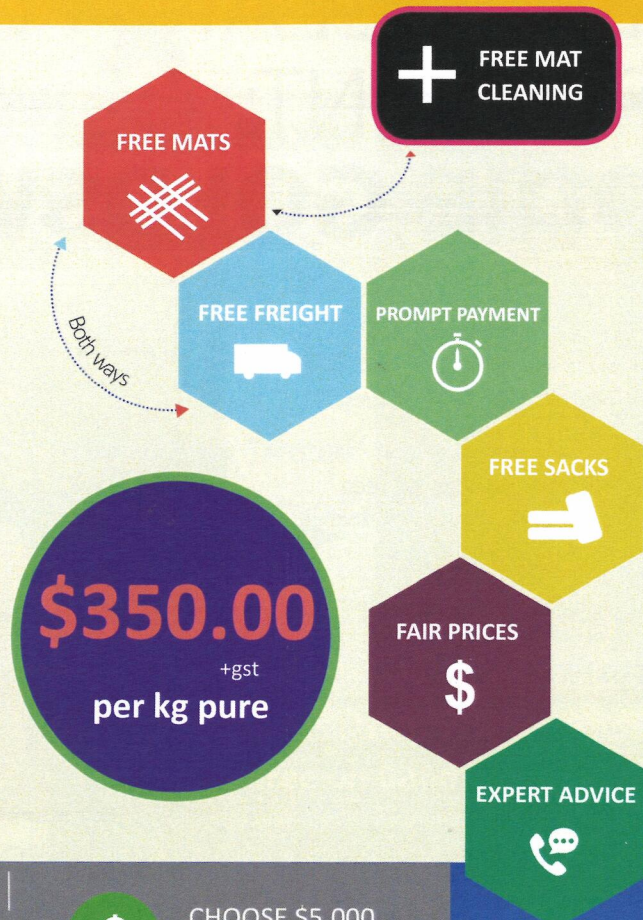
Beechworth Honey Discovery features an historic archive and museum of important beekeeping journals and equipment, general store, Food Bowl restaurant featuring Australia's first 'Bee Inspired Menu', historic cellar door showcasing Beechworth Honey Mead, bee garden with working honeybee colony, native bee hotels and kitchen garden, Blossom Bee play space for children to enjoy, and Waggle Walk to learn all about a year in the life of a beekeeper.

[Editor's note: congratulations, Jodie, on behalf of the NBA. Jodie's contact details are on page 31.]



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RESEARCH

SEASONAL CHANGES IN HIVE WEIGHTS: PATUTAHI, GISBORNE, 2014–2015

John McLean, Paul Badger and Peter Hair

Beekeepers seek to build up their hives in spring/early summer in order to have strong hives to undertake pollination and honey collection. A lack of bee forage in October had been observed in the Lake Repongaere area, and great effort has been made to add additional plants to provide early-season support for the beehives as part of a Trees for Bees project. The detailed description of this area and project was reported in the June 2014 edition of *The New Zealand BeeKeeper* [McLean, J. Badger, P, & and Hair, P. (2014, June)].

We have used Mark 1 Hivemind platform scales to monitor the weights of five individual hives on each of two raised platforms—one in the Lake Repongaere area and the second 2.5 kilometres away to the east over a ridge in the Waituhi area, where spring gorse flowering and citrus flowering provide early-season nectar and pollen sources. The scales are read every three hours and the data transmitted daily via satellite to a ground station that can be interrogated via the Internet. In this way, we are able to determine the weights of honey supers added to the hives and thus are able to calculate the approximate yield of honey at the end of the season.

The data records are reviewed at least weekly to ensure that all is in order. We have seen dramatic weight decreases caused by swarming and on another occasion by robbing. We were also able to watch one hive that gained five kilograms in each of two successive three-hour readings, followed by a three-kilogram gain around sunset. It turned out that this hive had robbed another hive in an apiary near its platform, in addition to any other foraging that may have occurred.

Our data allowed us to separate three aspects of the hive weights. The basic hive unit—floor, two brood boxes plus frames with drawn comb, queen excluder, feeder, top board and lid—was approximated at 41.8 kilograms and is represented in the graphs below as H/WARE (coloured blue).

We were able to determine the weights of honey supers (HW-Add, coloured red) from the three-hour reading; i.e., before and after we had added them to the hives. The remaining weight is assigned to Colony (coloured green), which includes the bees, honey, stored pollen, additional wax and propolis.

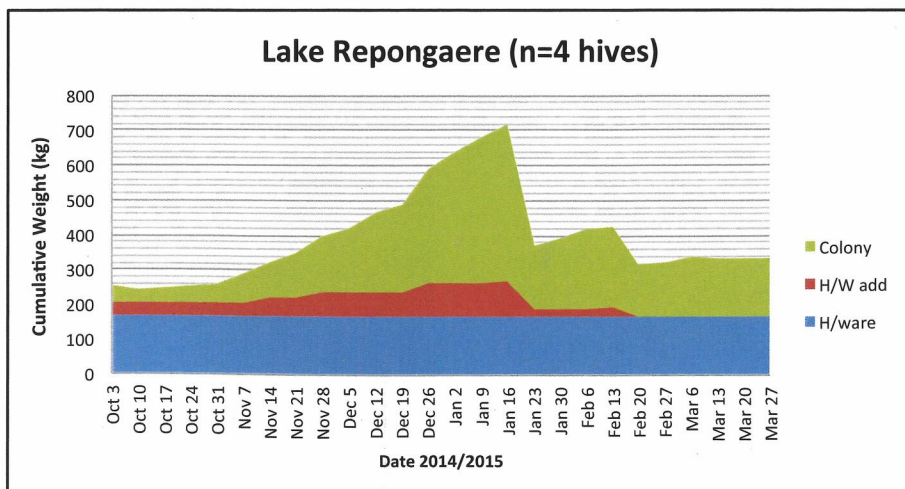
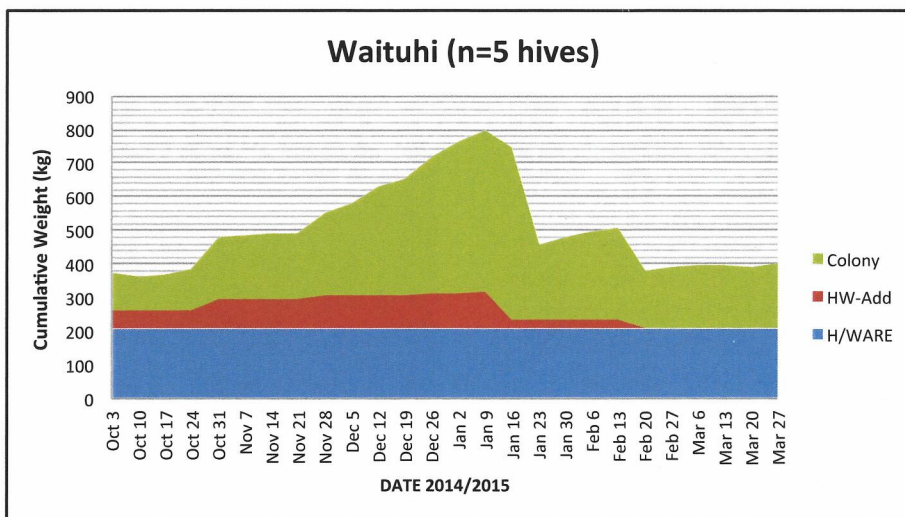
We note that the Waituhi hives are able to build up at a faster rate, which we attribute to the proximity to better forage sources. The October 3 and March 27 data gave us an indication of the health of the brood boxes. In each location, the average March 27 weight indicated that hives were well stocked for the winter ahead. (See graphs below.)

Acknowledgement

We thank New Zealand Beef and Lamb for their support of this research through a farmer-initiated technology transfer (FITT) programme grant to Peter Hair.

Reference

McLean, J. Badger, P, & and Hair, P. (2014, June). Trees for Bees Programme update. *The New Zealand BeeKeeper*, 22(5), 15–17.



RESEARCH

COROMANDEL COLONY LOSSES ONE YEAR ON: RESEARCH AND FUNDING

Dr Oksana Borowik, scientist and commercial beekeeper in the Coromandel

Last spring, many Coromandel beekeepers noticed dramatic honey bee disappearances with no obvious cause. Over a short period, colonies of over 10,000 were reduced to just a few hundred bees and a queen. The remaining bees were unable to tend to the brood, leaving the hives too weak to produce a honey crop, or even to survive. Similar disappearances were reported in other parts of the North Island. It is estimated that thousands of hives were affected.

Laboratory testing of the remaining bees showed extremely high levels of the honey bee gut parasites *Nosema apis* and *N. ceranae*, and the presence of a unicellular gut parasite called *Lotmaria passim*. This spring, Dr. Mark Goodwin and Dr. James Sainsbury from the New Zealand Institute for Plant and Food Research at Ruakura, are working with beekeepers to investigate the link between these pathogens and hive losses, and other possible causes.

Over the past six weeks, the Ruakura team has marked over 12,000 bees to track their ages, and placed them in 20 hives in the Coromandel. Based on data collected so far, Mark has already made some significant observations regarding premature foraging behavior, a sign of *N. ceranae* infection.

Any beekeepers interested in testing for the *Nosema* and *Lotmaria* pathogens can send honey bee samples to John Mackay at dnature ltd. in Gisborne. John can be contacted at john@dnature.co.nz.

As part of a coordinated effort to detect the combination of these pathogens, John is offering a special discounted rate of \$65 for the quantitative DNA detection of *N. ceranae*, *N. apis* and *L. passim*. Positive results for pathogen findings will be shared with the Plant and Food Research team.

Funding needed!

Although research into last spring's bee disappearance has started, funding is sorely needed.

It is safe to assume that events such as last spring's hive losses will occur again at some time in the future. How often, and how widespread they will be, cannot be predicted. However, it is vital that the beekeeping industry is prepared to respond to these events, and this includes having money available to fund any research.

The value of investing in research in our industry is well proven. In the past, beekeepers were charged a hive levy, some of which was used to fund a marketing consultant for two years to move the research done by Dr Peter Molan from the research community to the public. This started the journey that gave manuka honey the marketing profile and in turn the value it has today. The investment of \$200,000 soon returned abundantly more to the industry.



Dr Oksana Borowik.
Photo: Deborah Hyde-Bayne.



Plant and Food Ruakura team collecting data.
Photo: Greta Dromgool.



Mark and Oksana collecting data at the study site in Coromandel.
Photo: Greta Dromgool.



Sarah Cross (Plant and Food Research) counting coloured bees. Photo: Greta Dromgool.



One of 12,000 marked bees in a study hive.
Photo: Mark Goodwin.



Multi-coloured marked worker bees representing different age classes.
Photo: Greta Dromgool.



Dr James Sainsbury.
Photo: Bryan Cutting.

Q&A with Dr James Sainsbury

Dr James Sainsbury is currently analysing the samples collected by Dr Mark Goodwin. I have asked James some questions about their research.

What is your area of speciality?

Molecular genetics and ecology. Genetic techniques can be incredibly valuable in helping us understand the ecology and behaviour of animals, insects and pathogens! I have also previously worked at Plant and Food Research using genetics to distinguish between two species of bumblebee in New Zealand as part of the bumblebee pollinator assessment.

What can you tell us about the work you are doing with Plant and Food?

At the moment everything is focused on trying to understand the colony disappearances that occurred in Coromandel (and elsewhere) last spring. We aim to investigate factors correlated with hive failure and the abundance of these parasites. The research will validate, or develop, genetic tests to accurately and rapidly detect and measure infection levels of *N. ceranae* and *L. passim* pathogens in honeybees and determine infection dynamics in hives and apiaries and their effects on bees in New Zealand. With these tools we will determine the importance of the loss of winter bees in struggling colonies and how their production and lifespan is affected by pathogens and nutrition.

What can you tell us about the high levels of *Nosema ceranae* found in the depopulated hives?

The effect of *N. ceranae* on honey bee health is poorly understood, but some overseas studies have suggested a link between *N. ceranae* and Colony Collapse Disorder (CCD). Recent studies demonstrate that *N. ceranae* has the capacity to act synergistically with other pathogens, like *N. apis* and *L. passim*, to severely compromise honey bee and hive health. A recent study found a positive correlation with *N. ceranae* and *L. passim* co-infections, and CCD in Belgium.

What effects could these pathogens have on the New Zealand beekeeping industry, especially in overstocked areas?

The association between the Coromandel hive failures and these emerging pathogens is neither comprehensive nor conclusive. Their abundance may be the cause or just a consequence of another factor affecting hive health. The hive losses may be due to losses of winter bees due to poor nutrition, possibly because of *N. ceranae* and *L. passim* or as a response to the very high stocking rates of hives in manuka areas. It is important that this phenomenon is further investigated, as the high hive loss rates could seriously affect the beekeeping industry if this trend of hive dispersal continues.



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TREES FOR BEES CORNER

WINNING WITH WILLOWS: DIVERSE SPECIES FLOWERING



Dr Linda Newstrom-Lloyd

Willows are the backbone of spring bee colony build-up in most regions of New Zealand because they are so abundant and have prolific and nutritious pollen for bees.

A short willow flowering season can leave a pollen gap that can result in population declines, right when maximum-strength hives are needed for honey harvesting and pollination services in November.

Pollen deficits after willows stop flowering and before clover blooms can be due to a severe lack of on-farm diversity. Such a pollen deficit gap can be filled in with other species such as ash, maple and oaks but willows

themselves can also fill that gap. A diversity of willow species can be sequenced to extend the flowering season from end of July through to December.

Trees for Bees and the New Zealand Poplar and Willow Research Trust conducted a joint study of 30 willow species and 21 hybrids held in the living germ plasm collection in Aokautere by Rural Supplies Technologies (RST) Environmental Solutions, located in Palmerston North. From 28 July 2014 to 5 January 2015, we observed flowering times every three days (except during rain) and collected pollen for crude protein content and lipid analyses.

The flowering chart below presents selected male willow trees with prolific catkin production. For example, if you wanted to have late flowering willows at the end of October through November, you could plant *Salix alba* 'Lichtenvoorde' (PN 655), *S. cantabria* (PN 712) and especially *S. pentandra* 'Dark French' (PN670).

For more information on willows and a PDF of our new willow booklet, see the New Zealand Poplar and Willow Research Trust at (<http://www.poplarandwillow.org.nz/>). A collection of poplars at the same Aokautere site could provide valuable sources of propolis for bees as well.

Flowering Times for Selected Willows

Selected male trees and shrubs of <i>Salix</i>			Wk 0	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	Wk 11	Wk 12	Wk 13	Wk 14	Wk 15	Wk 16	Wk 17	Wk 18	Wk 19	Wk 20	Wk 21	Wk 22	Wk 23
Species name	Genotype Name	Register No.	Jul 28th	Aug 4th	Aug 11th	Aug 18th	Aug 25th	Sep 1st	Sep 8th	Sep 15th	Sep 22nd	Sep 29th	Oct 6th	Oct 13th	Oct 20th	Oct 27th	Nov 3rd	Nov 10th	Nov 17th	Nov 24th	Dec 1st	Dec 8th	Dec 15th	Dec 22nd	Dec 29th	Jan 5th
<i>aegyptiaca</i>		PN 229																								
<i>X reichardtii</i> (<i>caprea</i> X <i>cinerea</i>)	Pussy Galore	PN 215																								
<i>X reichardtii</i> (<i>caprea</i> X <i>cinerea</i>)	Muscina	PN 714										0.7														
<i>viminalis</i> (var. <i>aquatica</i> ?)	Korso	PN 669																								
<i>purpurea</i>	Rubra	PN 221					0.9				0.1															
<i>opaca</i>		PN 283					0.3					0.7														
<i>eriocephala</i>	Americana	PN 376					0.3														0.1					
<i>nigra</i>	Pryor 62-91	PN 735						0.3				0.7														
<i>appenina</i>		PN 710						0.3					0.3													
<i>candida</i> 'Furry Ness'	Furry Ness	PN 385						0.3													0.1					
<i>purpurea</i>	Links Dutch	PN 382							0.9							0.1										
<i>caprea</i>	N	PN 233							0.4					0.6												
<i>nigra</i>	AR 115	PN 733							0.4										0.7							
<i>alba</i>	I 2-59	PN 357								0.9				0.1												
<i>hookeriana</i> 'Furry Ness'	Furry Ness	PN 685								0.9																
<i>reinii</i>		PN 688										0.9		0.6												
<i>X dichroa</i> (<i>aurita</i> X <i>purpurea</i>)		PN 680										0.9			0.1											
<i>nigra</i>	Pryor 62-27	PN 734										0.9														
<i>alba</i>	I 8-59A	PN 361								0.3				0.6												
<i>triandra</i>	Black German	PN 374									0.3													0.1		
<i>X forbyana</i> (<i>purpurea</i> X <i>viminalis</i>)	Sessilifolia	PN 305											0.9						0.1							
<i>purpurea</i>	Leicestershire Dicks	PN 610											0.9											0.7		
<i>purpurea</i>	Lancashire Dicks	PN 611											0.4													
<i>alba</i>	Lichtenvoorde	PN 655											0.4										0.1			
<i>cantabria</i>		PN 712																								
<i>pentandra</i>	Dark French	PN 670																								

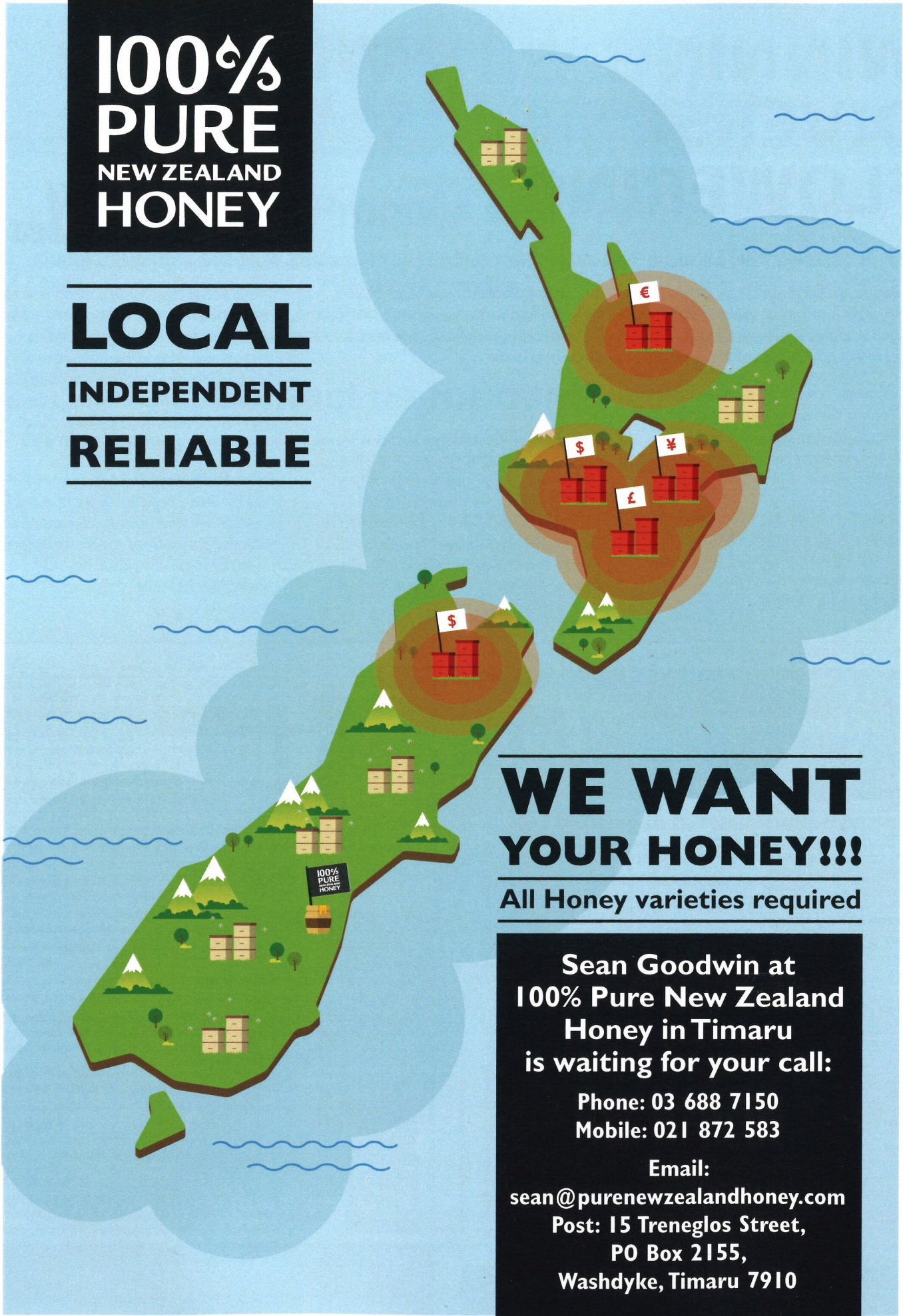
Flowering times of selected male willow trees and shrubs observed from July 28th, 2014 to January 5th, 2015 in the Aokautere living germ plasm collection in Palmerston North. ■ cells = anthers open and pollen available all 7 days of week, ■ = proportion of week with some anthers presenting pollen.

Source: Reprinted with permission from the *Trees for Bees* booklet 'Winning with Willows' by Linda Newstrom-Lloyd, Ian McIvor, Trevor Jones, Manon Gabarret and Blandine Polturat, June 2015, pages 6-7.

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Willow species near apiaries

For some time, beekeepers have been concerned about the continued removal of willow species by land managers in critical areas near apiaries. While *S. fragilis* (crack willow) and *S. cinerea* (grey willow) are recognised as weed species around water courses and wetlands, with careful siting and management the other willows listed in New Zealand should not pose an issue for weediness. It is recommended that you consult with your regional council, particularly around vulnerable sites such as rivers and wetlands, because some willow species are prone to breaking off and all of them root readily in water.

Trees for Bees is working with Environment Canterbury and other Regional Councils to evaluate the willow species that we have selected as great nutrition for bees. To this end, we have planted 19 willow genotypes from 14 species onto 10 Trees for Bees demonstration farms throughout New Zealand. We will test the behaviour and survival of these selected species and consult with regional councils on the value of each species. We hope that many alternative willow species can be added to the planting mixes for erosion control and riparian protection to diversify pollen nutrition and extend the duration of the willow flowering season to help bees thrive in the spring.

Acknowledgements

We thank the Ministry for Primary Industries (Sustainable Farming Fund) and industry co-funders for supporting this research.

[Editor's note: this is the first of a regular series of articles provided by the Trees for Bees team.]

Trees for Bees French intern students, Blandine Polturat (right) and Manon Gabarret (left), working in the Aokautere Willow Collection in Palmerston North.



PEST AND DISEASE CONTROL

WASP BIOCONTROL UPDATE: SPRING 2015

*Dr Ronny Groenteman, Biocontrol Scientist, Landcare Research
E-mail: groentemanr@landcareresearch.co.nz*

Recently our project went through a Stop/Go assessment, and I am pleased to report that the Ministry for Primary Industries (MPI) approved the Committee's recommendation that the project should continue.

The main issue we had to grapple with was that in the original application, we put down that mastering or failing to mass rear the mite in captivity will be a make-or-break point for the project, and so far we have not mastered this mass rearing aspect.

Why did we put this limitation in the first place, and how did we get around this problem?

Looking back to the time we applied for this piece of research to be funded, we knew almost nothing about the mite and the study we proposed was high risk. We only had records of the mite from the Canterbury region. We believed that in order to be able to conduct any studies on mite life cycle, the effect it may have on wasps, and aspects of safety to non-target organisms, that we would require high numbers of mites. To achieve those aims, we needed to learn how to generate such numbers ourselves.

In addition, we envisaged that surveys of wasp nests in the wild would be conducted such that nests will be dug up, frozen, and examined for mite presence once dead.

Fast forward a year and a bit, we now know that (a) the mite is present at any region that has been examined, and (b) we can bring live wasp nests to the rearing facility and extract live mites in good numbers directly from these nests.

The advantages are two-fold:

1. examination of mite presence in nests is much faster than it would have been for dead nests under microscope
2. we get high numbers of live mites quickly.

Consequently, while we have thus far failed to mass rear the mite, we were able to demonstrate that mass rearing was a means to an end and not an end in its own right. We thought we would need to mass rear in



Bob Brown inspecting a wasp nest inside the mite extraction mechanism. A wasp nest is inserted into the funnel and a light/heat source at the top drives the mites down to the bottom, where they fall into a collecting tube.

order to get the numbers, but we are able to get the numbers in other ways we could not have predicted at the outset.

The rearing failure should not affect our ability to deliver on the original main goals of the project. That's science for you!

Mite prevalence

A huge THANK YOU to all who sent wasp queens throughout winter! Bob has by now received around 400 queens from 14 regions, from as far north as Northland (5 wasps, 1 had mites) to as far south as Southland (10 wasps, 7 had mites). Both wasp species were represented in the samples and from the material examined to date every region represented in the samples had mites!

As far as the split between species, roughly 50% of German and about 30% of common wasp queens had at least one mite on them.

When it comes to checking live nests, it gets tricky: we now know that nests with mites are smaller than nests without mites (refer to the update published in the July 2015 edition of the journal). The differences are even more magnificent than what we reported previously. This size difference and reduced wasp aggressiveness associated with mite infestation reveals a sting in the tail: small, less aggressive nests are less likely to be detected, and could therefore be under-represented in the sample. So the effect may be still greater than what we are able to detect.

continued...



Normal day in the office: a delivery of wasps sent to Bob by members of the public. THANK YOU!
Photos supplied by Ronny Groenteman.

How can we overcome this sampling bias?

One obvious way would be to randomly 'draw' areas to survey, and sample each such region at a pre-determined grid. The cold fact is that we do not have the resources to perform such a survey.

Another way would require public assistance once more: at this time of year, as queens start new nests, it would be good to start locating such new nests and mark their location with a clear physical marker.

Later, in autumn, when Bob conducts the live nest digging survey, it would be extremely

useful for him to come back to such locations and discover if the nest survived and grew, or has collapsed, and whether mites are associated. Collapsed nests marked from earlier in the season would not likely be detected otherwise!

This year we are particularly interested in surveying nests around **Wellington, Canterbury and Otago**. If you can assist by finding and physically marking early nests in these regions, please let us know! Make sure these nests are nowhere near dwellings though...

Mite gut content analysis

We have collected some circumstantial evidence to suggest the relationship between the mite and wasps is damaging to wasps, but we have not yet been able to hit the nail on the head and demonstrate beyond doubt that this is indeed the case.

One new trick we are trying is the use of molecular tools to look for wasp DNA inside the guts of mites. DNA material from mite samples has now been extracted, and we are waiting for the molecular scientists to tell us what they are finding. More on this when we have the answers—watch this space!

This year we are particularly interested in surveying nests around Wellington, Canterbury and Otago.

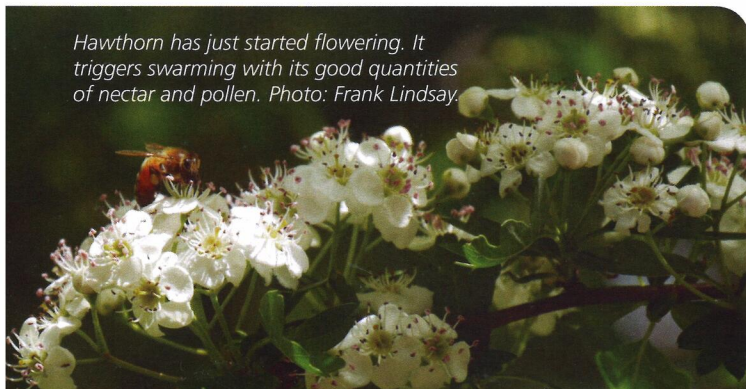
Finally, if you missed the wasp biocontrol item on Radio New Zealand National or want to listen again, go to the Country Life page <http://www.radionz.co.nz/national/programmes/countrylife/20150918#audio-201771255> (the programme aired on 18 September 2015).

Reference

Groenteman, R., & Brown, B. (2015, July) Wasp biocontrol update: Winter 2015. *The New Zealand BeeKeeper*, (23)6, 7. Retrieved from <http://www.landcareresearch.co.nz/about/news/snippets/wasp-biocontrol-update-3>, published 16 June 2015.



Most willows have now finished flowering; however, their nutritional legacy extends well into the next generation of bees. Photo: Frank Lindsay.



Hawthorn has just started flowering. It triggers swarming with its good quantities of nectar and pollen. Photo: Frank Lindsay.

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LETTERS TO THE EDITOR

VIEWS ON INDUSTRY UNIFICATION

Jason Prior

[Editor's note: the following letter was sent to the independent unification project consultant Catalyst Ltd, circulated to the Interim Governance Group, and was made available to the Interim Apiculture Industry Governance Board. It has been edited slightly.]

On the topic of industry bodies, I had a few thoughts that I think may be useful to the debate. We are a fairly new operation so I don't have any history with any particular body.

Regarding the question of industry unification and some of the issues raised in *The New Zealand BeeKeeper*, my observation is that there is nothing wrong with using a particular organisation as a vehicle to attain an end. But as to whether you retain any or some parts of that organisation (including its name) should be based on an assessment of what value—particularly goodwill and brand—that is left in the entity.

Our most important stakeholders are landowners, without whose goodwill we would have no business. If I ask farmers to name some beekeeping entities, they will likely mention Comvita, Arataki, etc, because that's largely who they see in the media or at the grocery store. They don't see the NBA, and I suspect if we did a nationwide survey we would find that the NBA and BIG have quite a low profile.

What I think the industry is looking for is a 'Zespri' or a 'Fonterra' brand that people know means the honey industry. That then begs the question as to whether there is any residual value in the current 'brands' and I don't believe either has any significant assets?

There has been some discussion as to what this new entity would do. My own view is it should do what it does today (e.g., biosecurity lobbying) plus a lot of R&D, a fair amount of self-promotion and the functions of the BPSC.

To do this effectively, it would need a set budget for administration and promotion and a variable budget for R&D. At the moment there are a number of commercial entities investing in R&D areas that have industry-wide benefits and should be being driven by the industry as a whole. An example is the development of manuka plantations on marginal land from cultivar to propagation to contract. That's on top of scientific work that is or is not been progressed on monofloral honeys unique to New Zealand. I am sure there are many more.

Farmers should be able to apply to the new organisation to create a manuka plantation (or other potential species) and be given a pack on how to do it and which beekeepers are available: I think this is one of the areas the new organisation should be focused on.

Similarly, we should all be confident that the regional councils are out planting bee-friendly plants where possible and that riparian plantings via other organisations are also doing it. We will all benefit from this; hence I do think the new industry needs to invest in an extension officer.

Another area I would like to see addressed is RMP insurance. We have quite a major issue with fires, etc and there is really some work needed with the Insurance Council on best practices, and possibly a fire service certification, to address rising premiums. Beehive theft detection could also do with a working group.

So in conclusion, if the majority of the new entity's budget were spent on R&D and extension, then there is a strong argument that this would be a compulsory levy, and I think the establishment of the new organisation should be tied to this. It would redirect funding that some of the larger beekeeping firms are currently spending on their own research, which on its own will help pull some of the larger operations towards what is good for the industry, not just their own businesses. The easy way to collect this would be as a honey levy via RMP premises and some sort of audit of those working through local councils.

SHOW ME THE MONEY

Colin McLean

Why would commercial beekeepers be concerned about the changes happening in the NBA? The NBA has always primarily represented the interests of commercial beekeepers (and hobbyists). Also, many beekeepers—out of the goodness of their hearts and the balance in their chequebooks—have continued to support the NBA when many others haven't. The need for change isn't something new and has been going on ever since the NBA was first created.

The reason for the current need for change seems to be mainly concerned with financial funding: if that were adequate, then everything would follow. I would point out that 96% of NBA's membership income comes from beekeepers. There seems to be the idea

(perhaps a myth) that the new organisation will have overwhelming financial support. How you convince people to pay money (voluntarily) that they haven't had to pay before is somewhat a puzzle to me. The NBA has been trying very hard to do this for the past 10 years, without a lot of success.

There is no support for a commodity levy. It would be fair to say that this topic has been avoided in industry discussion. So, the new industry organisation will be dependent on voluntary subscriptions. Hmm. Actually that's fine, all you have to do is show me a funding proposal that is fair, equitable and inclusive, that people will agree to and then, and only then, would I be prepared to vote for constitutional changes to the NBA.

The NBA Executive has a moral obligation, and perhaps a legal one too, to ensure these changes are clearly presented to their members so that they understand the changes that are being proposed. Actually, it's quite brave and generous for the NBA to offer its organisation as a vehicle to create a new industry organisation. One would hope that, unlike the M&Ms ad on TV, that the NBA is on the guest list and not the menu.

I also think most beekeepers are decisive enough to vote for something if they believe it is in the best interests of the industry; however, the concern is that the proponents of these changes will try to push them through regardless of the concerns being raised.

Happy beekeeping.



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Many thanks to all our Beekeepers new and old for their continuing support during 2015

BEE AWARE MONTH

PALMERS SCHOOL PHOTO COMPETITION CHAMPIONS

Schools around New Zealand were encouraged to celebrate Bee Aware Month in style and show what they were doing to help Kiwi bees prosper. Palmers generously donated the prizes for the top three entries. Thanks also to Fiona O'Brien, who judged the photos. Fiona says she was very impressed with the standard of entries.

"A lot of time has been committed to learning about bees and how that interacts with other learning in the schooling system, which is just fantastic to see!" she says.

Congratulations to the following schools, who were the Bee Aware Month Palmers School Photo Competition champions.



First: Geraldine Preschool, Geraldine
(\$300 Go Gardening gift card)

The children in Geraldine Preschool have been learning a lot about bees: their life cycle, differences in queen, workers and drones, importance of pollination, the bee's contribution to our food production, and threats to bee populations. The children had hands-on experience of making beeswax candles and beeswax skin cream.

On 18 September, we had "Big Bee Day" at preschool; all the children and teachers dressed up as bees (or a beekeeper!). A local beekeeper visited our preschool with his observation hive and the children had an opportunity to observe honeybees in action. The photo was taken when a child was listening to buzz of the honeybees from tiny listening holes made on the side of the observation hive. Now we are planning to produce a movie that will convey a message to the wider community about the importance of bees!



Second: Hilltop Primary School, Taupo
(\$150 Go Gardening gift card)

Welcome to Hilltop Primary School's bee-friendly, spray-free garden. We are an active Enviro school with a roll of 550 students and we want to share with you our love for Kiwi bees!

Our plan was to develop a vegetable/herb growing area that was sunny and sheltered from wind. We found the ideal spot bordered by a camellia hedge and a stand of mature trees. The nearby school 'fruit bank' is helping the bees with strawberries, raspberries, blackcurrants, crabapples, feijoas, plums, apples and Chilean guavas.

Hedges of rosemary shrubs and more feijoas were planted, followed by lemons, plums, apples, apricot and native trees. We built two large planter boxes—one for herbs and the other for vegetables. Our bees can now breakfast on coriander, parsley, dill, thyme, oregano, borage, strawberries; then perhaps lunch is spinach, silverbeet, and beetroot. The bees will have to wait a little longer for their tomatoes but the nasturtiums coming up underneath will make it worth the wait!

Our year 1–3 students grow sunflowers annually—we will be planting them soon, adding compost from our bins. We discovered how much bees love yellow when we looked at our "bee-friendly" sign. Most importantly, we are learning that we can help to save our bees.



Third: Woodend School, Waimakariri
(\$100 Go Gardening gift card)

We have been learning about honeybees in Room 4. We have learnt how important they are to us, and what we can do to protect them. We have sown some seeds to grow cornflowers and chives, and planted some lavender. We have also set aside a whole garden to plant with insect friendly plants next term. We have studied hexagons in maths, made bee art, and written about all the things we know about honeybees. Here is what we know, and how we feel about bees...

The bees see flowers differently than humans. The Queen bee lays two hundred eggs a day. The sisters do a lot of work. (Josh)

The bees help make food for us and there are berries and oranges and there are apples. The bees make honey for us so we can have honey on toast. (Tayla)

The bees don't live for long. (George)

A bee will collect the pollen and give it to a worker bee. (Riley)

On Friday we planted flowers for the honeybees. (Lauren)

If I was a bee I would suck nectar. (Shayne)

I want to be a bee because I would make honey. (Meg)

I want a pet bee. (Riley)



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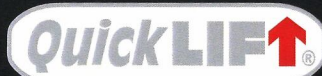
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BRANCH REPORTS

FROM THE COLONIES

Waikato Branch

Everyone is too busy even to talk to me! We're splitting, doing the last of the stripping, and the queen cells are in. We had crossed our fingers that the weather would get better and it is!

The bees are looking podgy and happy, and we've seen very few mites. So far, so good.

- Barbara Cahalane

Poverty Bay Branch**Weather**

This season had started out similar to last year: mild winter and a wet, cold spring and rain, even to flood levels.

Early October has finally seen a change to warmer weather. Willows are flowering much later into October than is normal for this area.

Queen mating

Spring queen mating conditions have not been good, with long periods when the bees have not been flying.

There are reports of very poor results, but many beekeepers are too keen to look into splits too early. If the bees are given a bit of time and left alone, the bees will often do the job. If you are looking but not planning to do anything with the non-layers, consider leaving them just a bit longer.

Trees for Bees

With the good work that Dr Linda Newstrom-Lloyd has done on willows, I have become aware that there are male and female willow trees. The males produce pollen and nectar and the females produce only nectar.

It is interesting to note which areas have which sex of trees. Many areas have vast numbers of female trees without a male in sight. In these areas, it will be worthwhile to plant a few male trees as well. [See also the *Trees for Bees* article on willows on page 19.]

- Paul Badger, Branch President

Hawke's Bay Branch

Spring is definitely here with wind, rain and hail, but we have also had some beautiful days. Recent rain was very welcome, except for some of the backcountry where they got

over half a metre with resulting lamb losses. I haven't heard of any hives lost to flooding but it wouldn't surprise me, as the rivers were higher than they have been for some time.

A lot of bees missed out on the main willow flow but early and later flows have been better than normal. I have been spending some time with Dr Linda Newstrom-Lloyd and Sebastian on the Trees for Bees project: it certainly makes you open your eyes and look at what the bees are doing. [Sebastian Mira is a student intern from France who is working with the Trees for Bees team for five months.]

- John Berry, Branch President

Southern North Island Branch

At the last meeting of the Southern North Island Branch, the 'Camp Rangī' weekend planning was finalised. This event will be held at Totara Reserve, Pohangina on the weekend of 26–28 February 2016.

The weekend will be aimed at those beekeepers who have more than two years' experience in beekeeping. We have arranged for Mike Palmer from Vermont, USA, to attend. Mike will be discussing queen-raising topics.

There will be a full programme, including opportunities to inspect hives, make up nucs for new queens, and work on queen-related matters including grafting and insemination problems. Other topics include hive health issues, prevention of hive thefts, and wintering down hives. Further details will be released in December. There is room for only 70 attendees to stay on site. Book early.

In general discussion, it was mentioned that at least one local authority now requires farm tracks to be six metres wide to accommodate larger vehicles and tractors. This change has major implications for beekeepers who travel over farms, often on sub-standard farm tracks. The new Health and Safety rules also will affect commercial beekeepers.

- Neil Farrer, NBA Life Member

Nelson Branch

Weather conditions have definitely warmed, and with the regular wind, things are drying out fast. How this will affect fruit crops later in the season I am unsure, but bees are booming with great build-up of numbers.

There has been good flowering of willow and now many fruit crops are following, so plenty of nectar sources. Strong flows and build-up of bees have contributed to swarming, which will be tricky to manage.

On a less happy note, there have been at least two reports of bee hives and nucs being stolen, so the hideous activities I hoped would remain in the north have arrived here also. Definitely time to review modern technologies of movement sensors, infrared cameras and such like, to try and catch those who feel this is low-life activity is acceptable.

On more positive note, the Nelson Beekeepers Club recent meeting was well attended with over 50 enthusiastic members. Some good presentations on honey extraction services, propolis and TechnosetBee® hives. This club is also getting organised for the annual A&P show on 21–22 November, where they will have a 'Bee Expo' with an exciting range of all things to do with bees and beekeeping. They will be next to a brewing and wine group, which I think is a great match.

That's about it, busy time for most beekeepers. For all those doing nocturnal moves for pollination, keep safe.

- Jason Smith

Canterbury Branch

It's official: the 2015 winter has been the coldest in more than 20 years. September has been warm and dry. Irrigators are on and pasture growth is slow.

The beehives have certainly caught up in strength with brood boxes full with dandelion nectar. Temperatures up to 29°C have made the dandelion produce; we have also had days with nor'westerly wind gusts up to 140 kilometres, which has dried out the countryside even more. I've had my first swarm call-out in early October (not mine, of course).

At our October branch meeting, Roger Bray gave a thought-provoking presentation on the effects of pesticide poisoning of bees and the difficulty of having these bee losses recognised.

Beehive losses without any apparent cause were discussed. We were reminded that when varroa treatments are used, timing should be taken into account. Autumn treatments need to be put in from mid-February onwards to

continued...

arrest any build-up of mites over the summer. Indications are that some treatments are going in too late. Time needs to be allowed for treatments to start working.

In Canterbury, many water races running through farms have been closed off completely, which is reducing water access for bees and livestock. We are left with stock troughs to provide water, but that is the only source close to many bee sites now. I have found that draping some wind cloth over the trough (still leaving an end open for stock access) gives the bees a safe entrance to the water's edge instead of mass drownings, which is what happens otherwise. The ends of windbreak cloth can be weighted down on both sides by stones or a wooden strip attached or such like.

Bee Aware Month

A visit to our apiary from the local Geraldine Preschool coincided with Bee Aware Month. It's good to see interest from this sector. These young children had been well briefed by their teacher beforehand. This is the time for the next generation to start to learn to appreciate our little friends. *[Editor's note: see more on page 25.]*

- Noel Trezise



Above: Noel Trezise speaking to Geraldine Preschool pupils about bees.

Below: Geraldine Preschool pupils and their teacher clearly were enthused about Bee Aware Month.

Photos: Valerie Trezise.



EDUCATION

QUEEN CANDY RECIPES

Pauline Bassett

[Editor's note: the following article was originally published in the October 2005 journal, written by former NBA executive secretary Pauline Bassett in her column 'Secretarial snippets'. It has been abridged slightly.]

We are now well into spring and therefore the time of year when I start the manufacture of queen candy. This takes place in my kitchen, following the recipe originally published by Murray Reid in Buzzwords many years ago. His recipe was for a vast quantity—I have adapted it to a more realistic level.

The ingredients are:

Sugar syrup made from 2 cups white sugar and 1 cup water

2 x 1 kg packs icing sugar

1/4 teaspoon tartaric acid

2 teaspoons glycerine

First I make the sugar syrup by bringing the white sugar and water to the boil and ensuring all the sugar has dissolved, then allow to cool for half an hour or so. Put the icing sugar (a well-known brand from the supermarket is best as not as 'dusty' as some) in a very large mixing bowl. Add tartaric acid (from supermarket, usually in baking/spices section) and glycerine (also from supermarket in medicines/toiletries). Make a well in the middle of the icing sugar and gradually add enough of the syrup (I always seem to have some left over) and mix with a spoon.

Then I roll my sleeves up and knead the guggy mess with my hands until it is the desired consistency. It is darned hard work: the icing sugar dust gets up my nose, and a full-scale wash of me and the kitchen bench

is required at the end. When the candy looks and feels right, store in a suitable, beekeeper-friendly container. The best we have come up with is an old lamb milk powder bucket, something that can be easily opened and the candy removed with a hive tool. We used to use preserving jars, then tried old 1kg honey pots, but the bucket surpasses these.

Queen candy can sometimes go hard and brittle. I think this is caused by insufficient glycerine. More often it absorbs moisture and goes too soft and wet, and it pays to supply the beekeeper with a packet of icing sugar; he can mix this in if needed.

I am told that a mix of candy is sufficient for 300–400 queen cages (the beekeeper was a bit vague about this!).

Another candy recipe

Gary Jeffery passed along this recipe, which was given to him by Frank White, a queen breeder from Kamo. This recipe originally was published in the September 2012 journal.

10 cups of white sugar

3 cups of water

One small teaspoon of tartaric acid

Stir and bring to the boil.

Once boiling, reduce heat to simmer for 35 minutes.

Use invert syrup. Heat and mix with icing sugar until firm and still slightly sticky.

Leave overnight in a plastic bag. Then add more icing sugar if needed to fill cages.

Keep cages once filled in a sealed container to stop the candy from absorbing moisture from the air.

Hives in the Waikato. Photo: Jo Telfar.



ABOUT THE APIARY

HIVE MAINTENANCE

Frank Lindsay, NBA Life Member

As I write this in early October, the bush is full of fragrant scents and the scrub near my apiaries is full of flowering natives. Rewarewa is budding up, something that only happens in our area every four years or so. Barberry has just started (a dark, strong honey), willow shelterbelts are in full flower (replacing the earlier flowering willows) and the bees are expanding rapidly.

I am interspacing foundation frames with part-frames of nectar in the third and fourth super to keep the bees building wax and to give the bees much-needed space.

I split any hive producing queen cells to produce two (perhaps three) four-frame nucs. These are moved to another apiary to prevent any field bees drifting back to the original hive. If the queen cell has not been capped, I generally leave the nucs sealed in the shade for a couple of days so the bees can complete the queen cell.

Another technique I use is to remove a full-depth super or more from a four-high hive. This drastically reduces bees and brood, puts a stop to swarming preparation and gets the queen back into full lay again. Hopefully the hive will be back up to strength by the main flow. If not, one of the now fully grown nucs (i.e., filling a full super with bees and brood) can be united back on top of the original hive. With luck, the field bees going down through the hive will dispatch the old queen. More bees in the hive means more bees into the air gathering nectar.

Controlling swarming

In the cities, hives are swarming, perhaps because some new beekeepers simply cut out queen cells, hoping that this will suffice. They often miss the odd queen cell that lies parallel against the bottom bar, so the hive swarms and there goes the honey crop.

While undertaking the nine to 10-day routine of inspecting hives to look for queen cells, keep in mind that not all queen cells are swarm cells. As the pressure goes on the queen to produce brood, some queens will begin to fail. The bees detect the lack of pheromones and produce about five queen cells around the edge of the brood area.

Always put aside the frame with the first queen cell you come across. Place this in a

... not all queen cells are swarm cells.

nuc box or just lean it against the side of the hive. Don't simply destroy any queen cells without first checking for eggs.

When you are in swarm control mode, it's easy to just cut out every cell you come across with the hive tool. I know, as I have done this again this season. The result on the next inspection is a queenless hive, which has no way to correct itself without your intervention. Don't just put a new queen cell or a mated queen in the hive that you think is queenless, as there may already be a virgin queen in the hive. The bees may roar when smoked (indicating it's queenless) but a look at the brood frames will tell you if there's a virgin in the hive.

A queenless hive will store nectar and pollen in the brood area in a disorganised way, just dumping it anywhere. But in a hive with a new virgin or just-mated queen, the bees will begin clearing and cleaning a saucer-sized, half-moon shaped area of cells.

If you still are not sure, add a frame of brood with eggs and check in five days. If there are no emergency queen cells, it indicates the hive already has a queen: it's just that she is not laying yet. *Before swapping frames between hives, check each hive for disease. AFB is a disease spread by beekeepers.*

Mark your queens

You may also be surprised how many hives have superseded queens (both mother and daughter) in a hive. It can be up to 30 percent. You can only tell the age of the queen if you mark your queens. Water-based paint (Uni POSCA pens) can be purchased from most poster/art supply shops or beekeeping supply companies. *[Editor's note: see page 45 of the October 2015 journal for the international code for marking queens.]*

Practice catching and marking drones before you attempt to catch, hold and mark a queen. You can also purchase queen holders if you are not happy with catching them with your fingers. Apply a minimum of pressure to hold her while painting her thorax. Less paint is

better than more. Don't paint the queen's head, as she will often be superseded. Two-queen hives build up very quickly and out-produce a normal single-queen hive.

Feeding

The plentiful supplies of pollen and nectar coming in will soon end in our rural pastoral areas. Early bush sources tail off towards the end of October and there is very little in the countryside to replace it. There is perhaps a two to three-week dearth of nectar and pollen before clover starts producing when the bees have to rely on what they have already gathered and stored in the hive. That box of willow honey is quickly turned into bees, leaving the hive short of reserves by the end of November.

Keep an eye on food resources and feed when necessary. Commercial beekeepers just keep feeding until the main nectar flow starts in early December. Some are now very careful as to how much sugar syrup they feed, as they don't want C4 sugars in their honey. A way around this is to feed dry raw sugar in strong hives. The bees will only use the raw sugar when no other sources are available, so the amount stored is minimal.

New beekeepers starting with a nuc will need to keep feeding them sugar syrup (one part sugar to one part water) until all the frames in the super are drawn out and they are mostly full of brood. When the hive has bees covering nine frames, put on another super and draw the bees up into it by lifting an already fully drawn frame into the new super.

Every couple of weeks, move the centre frames out one on each side and replace with a foundation frame from the outside of the super. *Don't assume that the nuc hive is free of varroa.* Put in a strip for every five frames covered in bees. This hive isn't going to produce spare honey so can be treated at any time. Use another form of varroa control chemical in the autumn to prevent resistance building to one chemical family.

Top-bar hives also swarm. Hives full of bees should also be split as once the hive is full, the bees have nowhere else to put the nectar. If there are no queen cells available, split it anyway but leave a bar with eggs as well in the

continued...

split. Check in five days and remove any queen cells that are already capped. These would have been produced from older larvae, whereas those not capped will have been produced from an egg, resulting in a better queen.

As an alternative, one could move a few bars apart and put a normal Langstroth super on top so the bees have more storage space. True traditionalists would reject this practice, but why not collect more honey rather than just having bars?

Drone brood removal

All chemicals used to control varroa have subtle effects on your bees. At times some will result in sterile drones, which affect your queen matings. Some chemicals affect the queens. Introduce IPM (integrated pest management) techniques that require you to treat only when a threshold is near.

Over the years the varroa threshold has reduced from 10 percent to one to three percent. This is because our bees are being affected by viruses when mite levels get high, which can persist long after the mites have been reduced in numbers. At mite levels less than one percent, hives produce more honey. In times when nectar is scarce, this could be a factor.

In all my production hives, I put in an empty (unwired) wooden frame in the second or third super. I place it in the third frame position in from the outside to get the bees building drone cells. (I put a paint mark on the top bar for easy identification.) Once the bees sense they have enough drone cells, they will then draw out all the foundation frames into worker cells.

If there are only few drone cells available, the bees will make more by changing your good worker foundation into drone cells in the corners. Once the drone cells in the unwired frame have been capped, I cut them out (an 18–20 day cycle works best for me). This will eliminate at least 50 percent of the varroa over two to three brood cycles, which means that your mite threshold and the need to treat early is put back a couple of months in the autumn. Treatment times depend on your wintering conditions. You want two generations of bees produced in the absence of mites for good wintering.

To successfully reduce varroa with drone brood removal, there must be less than four percent drone comb elsewhere in the hives. Move any frames with patches of drone comb to the outside of the hives (frame position one or 10). Remove it when any worker brood

has emerged, or simply remove it (cut out the patch of capped drone brood) and feed the frame to the chickens to clean up.

An alternative is to use a cappings scratcher and dig out all the drone pupae at the pink-eye stage. This method also gives you an indication of how many mites you have per 100 cells, as mites prefer drone brood to reproduce in. It's also nice to see brood frames that are completely filled with worker cells and drone cells only on your specially marked drone frames.

For further information, refer to <http://scientificbeekeeping.com/fighting-varroa-biotechnical-tactics-ii/>

I am also playing at using the flash method using formic acid to keep mite numbers low. This is a combined effort rather than relying on just one chemical control.

Changes in beekeeping practice

Travelling around the countryside, you now see lots of hives in places not normally inhabited by beehives. It used to be that the average size of an apiary was 16 hives. Some districts have fewer hives in their apiaries, as the number of hives per apiary is dependent on the amount of forage surrounding the apiary.

Now we are seeing apiaries with up to 60 hives, often placed well away from natural pollen sources. Perhaps these places are the only ones left to winter bees. All this has been made possible by higher returns from honey and the development of new and improved pollen supplements. Some bees are quick to take up the supplements, some aren't. One should remember that bees cannot live on supplements alone, as it will take perhaps only two generations before they collapse (shorter life cycle).

Proper nutrition is so important for healthy bees. Work in with your farmers and start planting pollen and nectar sources. At my age, I'm now planting for the next generation of beekeepers, as trees take years to mature. In years to come, I hope you will all look back on the Trees for Bees initiative as a game-changer for our industry. Support research whenever you can. The returns are often hundreds of times more than the initial monetary input.

The new factory farming of bees by bigger businesses means that food is now brought to the bees rather than them going out and collecting it. At a recent branch meeting, someone asked whether this type of feeding could produce a bee that becomes dependent upon supplementary feeding.

We look across the fence at dairy farming practices. At one time, supplements (molasses on the hay) were fed in the winter to boost the nutrition of the hay, but this gradually changed with the call for greater production from the same land mass. Cheap forms of supplements saw this practice increased to the point where grass became the supplement on some high-intensity farms.

The change in policy by Fonterra to limit the amount of supplements a cow can be fed each day has seen the cows on these intensive farms becoming thinner (starving), as they have to re-learn to use grass as their main source of food again. It takes time for the cows to adjust back to normal grass farming.

Could the same thing happen to our bees over time, seeing how we generally breed for our best wintering and honey-producing hives?

Things to do this month

Check feed, check pollen. In some areas, November has a period of dearth of nectar and pollen. Unless hives are fed with sugar syrup and pollen supplement, they will go backwards. If there is a brood break at this time of the season, it can affect the number of bees in the field during the main honey flow, so watch hives closely and don't let them run out of reserves.

Check hives for AFB. Hobbyists should get their COIs (Certificate of Inspection signed by an approved beekeeper) in before the end of the month.

Raise queen cells and super hives. Put on another honey super as soon as the bees are covering three frames, as a strong hive can fill a super in a week.

Undertake swarm control: do a quick check by splitting the hive and tilting the supers back, looking along the bottom bars of the second super for queen cell buds with eggs or young larvae in them until the main flow starts. Once queen cells have started, remove all but one and split the hive—continually removing queen cells is not the answer!

Remove old dark frames or those with a lot of drone brood: move them to the outside if they contain sealed worker brood for removal on the next round. Replace with foundation frames in the second super interspaced with frames of brood. Fit foundation into comb honey supers.

Monitor varroa mite levels. Plan on getting your strips out just before the main honey flow starts next month.

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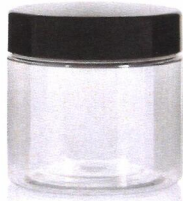
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360ml Round Pot



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340gm Round Jar
(coming soon)



250gm Round Jar



2kg Hex Jar



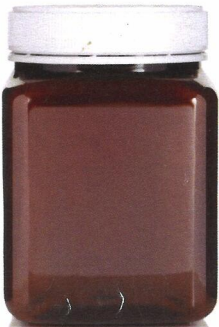
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