



Next meeting | Wednesday 5th June 2024

Where | Johnsonville Community Centre

Editor | Jane Harding janeh@xtra.co.nz

Beginners session 6.45pm – Equipment Session with Frank Lindsay. Come along and get the real oil on what you need.

Main Meeting: 7.30pm

Update from Zoe Smeele and Tessa Pilkington on their Varroa Destructor research.

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President's Message

Winter is upon us and we will celebrate Matariki on June 28. This is when the seven bright stars that make up the Pleiades cluster rise in the winter sky, when Maori have traditionally celebrated the New Year. In Te Ao Maori, Matariki signals a time of remembrance, reflection, and renewal. Matariki is a special period that connects us to the land, the sky, and each other. It was a time for harvesting and preparing the land for the coming year. Meanwhile our bees have reduced their numbers by expelling the drones and the queen has been laying fewer eggs in the brood nest. The slowing down of activities in the hive supports varroa activity so I hope everyone has been vigilant with their varroa treatment.

No doubt the recent media releases about America Foul Brood have caught your attention. Almost every conversation I have had with friends and family who are not beekeepers since then has been about the burning of the hive boxes. The conversations go something like this:

How did you feel when you saw all those hives being burnt?

My initial reaction was deep sadness until I realised that they were stored hive boxes and not hives with bees in them.

Why would a beekeepers store so many boxes?

Because of the time of the year most hives have been reduced to two boxes and the supers stored until they are needed next season when the bee colonies expand and are making honey.

What would have happened to the bees if the American Foul Brood (AFB) spores were found in a hive that housed bees?

The bees would have to be killed by fumigating them - usually with petrol - and then everything would have had to be burnt.

How does AFB affect bees?

AFB forms a bacteria that kills bee brood and it doesn't matter whether the colony is strong or weak.

Where do bees pick it up?

They pick it up from robbing affected hives so if officers of AFB Management Agency find AFB in a colony then all the beekeepers within a two kilometre radius get a notification which reminds them to be extra vigilant. Recently some urban hives were affected and we think someone was putting out



affected honey for the birds, and the bees took a share back to their hives which then became affected.

What happens if we eat honey infected with AFB?

It has very little or no affect on us. The problem is that AFB spores last for more than 50 years so we need to be careful how we dispose of honey.

Are there really no treatments other than burning? In Aotearoa NZ burning is required by law. In other countries vaccines and antibiotics are used but they do not cure AFB. The only alternative to burning is to sterilise the hive boxes by submerging them for ten minutes in a bath of paraffin oil heated to 160 degrees centigrade. But the bees would still have to be killed before the boxes were sterilised. It's the killing of the bees that really upsets beekeepers.

NB: How responsible beekeepers should respond when they find AFB is set out in communication from ApicultureNZ included in this newsletter. As a registered beekeeper you should have received as email with a link: <https://afb.org.nz/wp-content/uploads/2024/05/May-2024-The-Management-Agency-Industry-Announcement.pdf>. Please make sure you are familiar with the contents.



AFB in brood showing typical "Roping out"



Honey Competition Results

There was an impressive number of entries into the honey competition this year, thanks to everyone who submitted an entry. It's been a while since we had that many.

Frank, assisted by PK and Liz, managed to judge all the entries and find a winner from them all.

Congratulations to Christine Gregory and her bees for producing the Best Honey. Christine gets to take home the Bodmin Cup for best honey.



Christine Gregory and the winning honey (and Frank)



What's Happening Science-Wise – with Phil Lester

Hungry Honey Bees rub Plants to Induce Flowering

In 2020, it was discovered that bumble bees will damage plant leaves and accelerate flower production when pollen is scarce. These hungry bees were observed jabbing holes in the leaves of four different plants. They were using their proboscises and mandibles to cut distinct holes, with each damaging bite taking only a few seconds.

Initially, there seemed not to be any purpose to this behaviour. Except the scientists then observed the damaged plants would then flower earlier than undamaged plants, producing food sooner for the bumble bees.

A publication in the journal *Scientia Horticulturae* now suggests honey bees exhibit similar behaviour. Khan et al. (2024) found that that pollen-stressed honeybee foragers appear to accelerate the flowering of tomato plants by rubbing the leaves' underside with their legs. The authors suggest that "the results were astonishing; the tomato plants interacting with the pollen-stressed honeybees produced more flowers and fruits than those under control settings". The results really were astounding. Plants caged with pollen-deprived honeybees started flowering earlier, at 24 days, compared to flowering after 106 days in cages with bees that had sufficient food. The plants caged with pollen-deprived honeybees also produced about four times as many flowers.



Figure 1A bee on the lower side of a tomato leaf



A bee with partially amputated legs, in an experiment to see if stopping the rubbing behaviour would stop early flowering. From Khan et al. (2024)

In order to show the changes in flowering were a result of the bees rubbing their legs on the plants, the authors amputated parts of the bee legs. And



when the bees could no longer rub the leaves of the plants, the tomatoes did not flower earlier or more. The change in plant physiology thus seems a result of altered hormonal profiles in response to manipulation by honey bees.

The authors suggest that farmers, “for better crop management, can utilize the behaviours exhibited by honeybees in response to pollen stress”.

References

Khan, Tanveer, Prendergast, Malik, Hussain, S. Kubik, et al. 2024. Pollen deprivation stimulates Honeybees *Apis mellifera* to induce early flowering in tomato plants. *Scientia Horticulturae* 333:113265.

DOI:10.1016/j.scienta.2024.113265

Pashalidou, Lambert, Peybernes, Mescher and De Moraes. 2020. Bumble bees damage plant leaves and accelerate flower production when pollen is scarce. *Science* 368: 881-884. DOI: 10.1126/science.aay0496

AGM and Photo Competition in July

Hard on the heels of the honey competition, we will be holding our photo competition in July along with the AGM and a winter social. So, start hunting out some good photos, or get outside and start clicking, and get ready to submit them online for the competition. We’ll send out an email with details of how to submit your photos shortly.

Note, there is no beginners session in July, we commence our main meeting at 7.30pm with the AGM and then continue with the results of the photo competition and finish up with some supper. So please bring something to share for the supper table to enjoy while you look at the photo entries.



Nominations for Committee Positions

We are always pleased to have new people involved with the committee and this year is no exception. If you'd like to be involved with running the club, we'd love to have you onboard. Please get in touch with the Secretary Jane Harding janeh@xtra.co.nz

2023 Colony Loss Survey Results

Those of you who responded to the 2023 Colony Loss Survey would already have seen the results. If you haven't seen them yet, click on the link for a graphical summary of the results.

https://www.landcareresearch.co.nz/assets/Discover-Our-Research/Environment/Sustainable-society-policy/NZ-Colony-Loss/2023-survey/nz-colony-loss-survey-summary-2023.pdf?utm_source=Colony+Loss&utm_campaign=3f732a90f4-EMAIL_CAMPAIGN_2024_05_02_10_58&utm_medium=email&utm_term=0_3f732a90f4-%5BLIST_EMAIL_ID%5D

Pike Stahlman-Brown, the Director of the survey, reports “..over-winter losses increased every year between 2015 and 2022. Loss rates fell slightly from 13.5% over winter 2022 to 12.7% over winter 2023. On a national scale, this amounts to about 75,200 colonies lost over winter. As in past years, the main driver of losses was suspected varroa, which was responsible for about half of all over-winter losses.



For the first time, the surveys also recorded autumn losses. The overall loss rate over autumn 2023 was 16.8%. The 2023 survey also included wellbeing measures and losses attributed to Cyclone Gabrielle.”

Beekeeping in the News

And, right on cue, there is a Radio New Zealand edition of The Detail, looking, in detail, at the state of the New Zealand honey industry. The podcast references the results of the Colony Loss Survey talks about the lack of funding for marketing and research. Have a listen:

https://newsroom.co.nz/2024/05/31/the-languishing-honey-industry/?utm_source=Newsroom&utm_campaign=ee66fb9ea4-Daily_Briefing+31.05.2024&utm_medium=email&utm_term=0_71de5c4b35-ee66fb9ea4-97879683&mc_cid=ee66fb9ea4&mc_eid=4ffd5c4f05

Including a photo of John and the club apiary at Chartwell:



Photo credit -William Ray/RNZ



Farmers Weekly has also had a couple of stories recently about beekeeping and the state of the honey industry:

Richard Rennie interviews a Horowhenua beekeeper – Jason Prior:

<https://www.farmersweekly.co.nz/markets/honey-sector-feels-sting-of-rock-bottom-returns/>

And Karin Kos from ApiNZ responds:

<https://www.farmersweekly.co.nz/opinion/honey-has-a-plan-and-is-sticking-to-it/>

AFB – Industry Announcement

Many of you will have heard or read the news story earlier in May about the Canterbury beekeeper who was required to burn his hives and hivesware to destroy AFB. ApiNZ has provided a comprehensive statement about the situation: <https://afb.org.nz/wp-content/uploads/2024/05/May-2024-The-Management-Agency-Industry-Announcement.pdf>

This statement goes into detail about the process used to decide that the hives and hivesware in question were to be destroyed. I was very interested to read that the Management Agency used the Foster method to test for SFB. The Foster method uses swabs taken at the hive entrance and the use of spore PCR tests to determine that AFB was present. The What's Happening Science-Wise piece from Phil Lester in our March newsletter talked about this new method of testing for low levels of AFB.

<https://www.beehive.org.nz/blog/post/125174/march-2024-newsletter/>



And last but not least – a photo of Frank with his Officer of the Order of New Zealand medal:



Photo Credit - James Withington



Hive for Sale

Marjan, in Northland, has a single hive for sale. 3 box hive with a queen about 18 months old. AFB inspection has been completed and autumn varroa treatment has been applied. Asking price \$300.

Contact Marjan on 0212427 174

What's Ahead in 2024

July- No beginners session
Main meeting – AGM and Photo competition. Winter Social

August – December – details TBC

Who can I speak to?

President - Patricia Laing president@beehive.org.nz

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