

BEE INFORMED

BAYSIDE BEEKEEPERS ASSOCIATION INC.
REDLANDS RESEARCH FACILITY, DELANCEY STREET, CLEVELAND

FEBRUARY 2023 • ISSUE 95



MONTHLY DATES

FIELD DAY:

Gates open from **8:00am**
for a **8:30am** start.



SUN 12 FEB 2023



CLUB MEETING:

Main gates open **7:00pm**
for a **7:30pm** start.



THU 16 FEB 2023

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Shout Aloud:

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PRESIDENT'S REPORT

FROM SHONA

Welcome to 2023!

I wish all members a healthy, safe and bee productive year.

The first field day for 2023 was held on the second Sunday in January signalling the start of the varroa mite project. Those members who attended the field day received their varroa mite detection kit following the demonstration on its use by bee security officer Dave Schipalius. I really hope all members who currently have hives get on board with this initiative and start testing for the mite and very importantly reporting the results on the bee123 site. It is great to check your hives but it is vital that the findings both negative and positive are reported to adding evidence to support the case that there is no varroa mite in Queensland.

Dave will be returning for the February field day so take the opportunity to come and learn about the checking process and pick up a kit.

The theme for our first club meeting for 2023 was honey recipes and tasting. The response from members was fantastic and there was a huge number of samples for tasting. Everything was so delicious (yes I may have overindulged) but Raewyn took out the prize with her fantastic layered honey cake sooo yummy!!! Thank you to everyone who took the time to bake/ make something for the night. I am trying to talk Kim into organising a baking competition to coincide with the honey competition night.

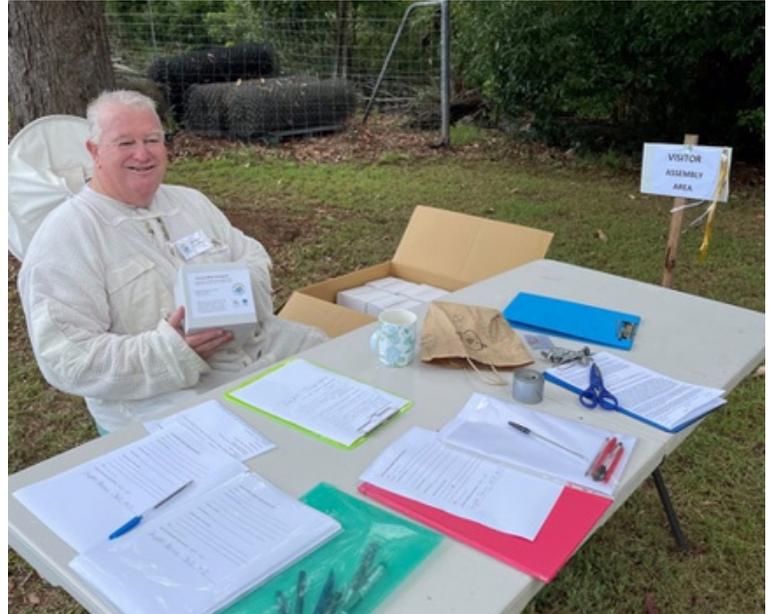
The 2023 calendar has been distributed to members. As you can see we have only partially filled in the calendar so if you have any ideas for guest speakers, please let me know. Please note that a club honey competition is scheduled in June so please consider submitting an entry and support the club.

Our next meeting is scheduled for February 16, Ray and hopefully Penny will take us through how a honey competition operates and hopefully encourage members to join the club competition.

Shona

VARROA MITE DETECTION TRAINING

Last year Michael Cavanagh successfully applied, on behalf of our bee club, the Redland City Council for a grant to assist in "the prevention of bee colony loss in Redland City from Varroa Mite incursion". That's resulted in a \$3000 dollar grant to purchase Varroa mite detection kits and organise training for both members of our club but also non member fellow beekeepers! Kits were purchased and training was advertised via club meetings, email, minutes of the meetings, newsletter, and also via facebook pages. On the Field day in January we had 33 members and 12 visitor beekeepers that attended.



Michael doing the registration and induction of visitors, and handing out of Varroa mite detection Kits

Queensland's Bee Biosecurity Officer (BBO) Dr. Dave Schipalius was invited to do the training. Dave has been a few times out at our club, and his expertise was welcomed again. He did 2 sessions that morning!



CLUB MEETING'S CULINARY ARTS

At the last club meeting, after the usual club meeting agenda items and instead of us having tea at the end, we had a sampling of home made honey products and recipes. We all enjoyed the variety, and even some nice mead from Trace Argo. Think we all agree with Raewyn's effort producing a stellar 8 layered honey cake, Absolutely delicious. Think we can do even better at the next time - I am sure there will be a next time.



AMERICAN FOULBROOD BEE VACCINE

FROM MARCEL

Recently, there was a large amount of information in the media on an American Foulbrood oral Vaccine development for Honeybees. Many a beekeeper must have had a sigh of relieve, only to learn it is not available yet to amateur beekeepers. So what is it all about really? Please refer to the links below for further information including the main research paper which dates from almost a year ago.

I have summarised in short form the vaccine and trial details below. Hopefully this will make sense, and can help us better understand it all

What do we know?



- It is a conditional authorisation for the vaccine in the USA. The United States Department of Agriculture (USDA) can grant conditional authorisation for vaccines, granted for emergency situations.
- There only needs to be a 'reasonable expectation of efficacy' for USDA conditional licensed vaccines. No complete or validated results are required.
- Conditional licensing usually is effective for 1 year only. After that revision can take place. Note that these conditions also exempt the companies from being directly accountable under USA laws, and the makers cannot be sued normally.
- At this stage, the vaccine is released for commercial beekeepers only.
- The vaccine is not available outside USA.
- Dalan Animal Health, the makers, suggest it is like a classical vaccine, using inactivated / dead bacteria cell lines. There is no live culture, no GMO, no mRNA.
- The trials were randomized placebo-controlled double-blinded trials. That's a gold standard.
- As part of the trials, Queens were collected and kept in the lab. Some of the queens were fed queen candy with AFB Bacterin for 8 days. This was the oral vaccination process.
- The hives involved in the trials were all 5 frame nucleus hives.
- At least 18 days after the queens were placed in the hives again, testing and challenging was performed.
- Trails were conducted at two sites, one in Spain and one in Austria. "Two separate trials were carried out in two different locations. Study site A was in Graz Austria, with 20 AFB- bacterin vaccinated colonies and 10 Placebo hives established in the university beeyard. Study site B was in Marchamalo Spain, with 15 AFB-bacterin and 15 Placebo hives established in the IRIAF beeyard. In Austria, honey bee subspecies *Apis mellifera carnica* was used and in Spain *Apis mellifera iberiensis*."
- The actual trial results were based using a smaller subset of the hives. Mainly if there were no larvae at a young stage to be found in good numbers, the hive was omitted from the trial.
- For Safety, testing was done in a controlled way in the lab: Larvea (up to 36 hours) were sampled from the hives (where possible) and exposed to the Gram+ bacterium *Paenibacillus larvae* (which can infect honeybee larvae during the first 3 days of their lives after hatching).

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- The larvae were grafted onto petri dishes, fed with larvae food, kept in dark, humid conditions for 8 days.
- These (petri dish based) Larval samplings were used to estimate the laboratory efficacy of the vaccine to prevent infection, in essence counting dead or alive larvae.
- Around 7 Control and 16 AFB Bacterin hives in Austria resulted in about 27% and 30% reduction in mortality of larvae for those that had been exposed and came from AFB vaccine queens.
- Similarly, in Spain, the trial results were based upon only 3 Control and 2 AFB Bacterin hives and resulted in 50% reduction.
- The results seem statistically significant.
- Results were collated and analysed using r-studio (a statistical computer application available for various platforms). I do note that, upon checking the packages used in the study, some were removed from the CRAN repositories, archived in 2015 as package checks presented problems that were not corrected despite reminders. However, archives of packages are still available and can be used within R Studio, but it is not best practise.
- The overall laboratory efficacy as rated by Dalan Animal Health is between 30 and 50%.
- Oral vaccination of queen bees does not stop AFB from developing in larvae when exposed to AFB; it does not kill all AFB in the larvae. It reduces spores.
- A reduction in spores to below a threshold is what removes clinical signs of AFB. Most hives and bees exhibit AFB spores. Above a certain threshold, clinical AFB will eventually kill the hive.
- It is not known how this vaccine actually works. Honeybees do not have antibodies, but somehow can transfer immunity via what's called trans-generational immune priming (TGIP). The thinking is that the egg yolk protein Vitellogenin allows for carrying of immune elicitors.
- As this was a study done in vitro, we don't know how well it works in real full season situations, we don't know anything long term wise either, e.g. increasing resistance, longer term side effects etcetera.
- It must be noted that the main researchers are also the Dalan Animal Health company owners.
- The trial data is not published but could be available upon request.

So, is it good news for the bees in the long term?

We see that we know very little still, that the trials were done in labs, and we know that this conditional vaccine with low efficacies will be applied on a very wide scale within the commercial industry in the USA. All this without knowing real results and side effects, increased resistance etcetera. The approval of this conditional vaccine may even open doors for other conditional approvals addressing other bee deceases. It's a difficult era. We all strive for healthy hives, and when AFB strikes, we loose hives so we are eager to look for answers, but to call something safe (see Dalan Animal Health) after only lab results does not seem good science.

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The actual method of Oral Vaccination of Queen Bees, based upon dead AFB cell lines, counter-acting AFB ratios may prove to be good. The beekeeping industry would be very happy with this approach when proven, and they are now part of the larger plan to get real data, and we all need to see much longer trials spanning multiple seasons and real life scenarios, on real productive hives, We may need to see the efficacy much increased too. As we have been living with AFP for many years, it is hardly an emergency, and so it should be data and evidence-based decisions in the first place that lead the way and surely that's what should be collated before we get this and other conditionally authorised vaccines for our dear bees rolled out.

It will be hard to stop more conditional vaccines, as momentum is driven by both the Beekeeping and Vaccine commerce sectors. It is anticipated that the vaccine for livestock market grows rapidly to US\$ 26 billion this year! Evidence from this is close to us here in Australia already, as the New South Wales (NSW) government super fast tracked the world's first mRNA cattle vaccines for foot-and-mouth disease and lumpy-skin disease in 2022!

References:

<https://www.dalan.com>

<https://www.dalan.com/package-insert>

https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/veterinary-biologics/ct_vb_licensed_products/

<https://www.abc.net.au/news/rural/2023-01-11/american-foulbrood-bee-vaccine-promising-australian-beekeepers/101839784>

<https://www.theguardian.com/environment/2023/jan/04/honeybee-vaccine-first-approved>

<https://www.frontiersin.org/articles/10.3389/fvets.2022.946237/full>

https://www.aphis.usda.gov/animal_health/vet_biologics/publications/pel_3_2.pdf

<https://childrenshealthdefense.org/defender/mrna-vaccines-livestock-big-pharma>



The innate immune system in honey bees is composed of pattern recognition receptors (PRRs) that interact with pathogen-associated molecular patterns (PAMPs), stimulating different pathways as a function of each type of pathogen

MEMBER FEEDBACK

Heather Batten visited Vienna Austria in December, and at the Vienna Christmas markets with temperatures of -1 Celsius, enjoyed a Hot Honey Cider!

Heather did email another picture of some hives that she did see when visiting Winston Churchill's country retreat in England.

Nice trip Heather!

It is good to see other Countries approaching Hives, and I think in the next Newsletter(s) we may address the various hives available to us.



FIELD DAY REPORT

DECEMBER 11, 2022

The field day was attended by 16 members and 5 visitors. No honey was extracted, We varroa tested 3 hives using drone uncapping, and a fourth hive was tested doing a sugar shake. No mites were detected.

In hive 1 we found 2 queens; Jeff marked the old queen white and the younger looking one pink. Both queens were placed back in the hive again, as we figured this was an actual supersedure in the making.

We also had a special morning tea (lots of food) to mark the last field day of the year.



Barry showed us an interesting way we can check Queen Excluders for gaps that could possibly allow a queen to go through:

With the sun over your shoulder, hold the queen excluder at an angle parallel to the sun's rays, looking at the shadow, Tilt it a bit and where the shadow breaks with light, it is likely were the queen excluder is somehow misinformed. This IS a great trick. THANK YOU BARRY!!

FIELD DAY REPORT

JANUARY 8, 2023

The field day was attended by 33 members and 12 visitors. This was definitely a busy field day, as Varroa mite training was organised. Although not reflecting this particular field day, a google maps picture shows parking was difficult too on a previous event!



63 Kg honey was extracted.

Varroa mite detection train was provided, as well as hand outs of Varroa mite detection kits, to those that registered and attended the event (see pictures in this newsletter)

In hive 1, were we in December found 2 queens, we now only found the pink queen (the younger looking queen). The hive was doing good in numbers and brood, so our assumption of supercedure was probably correct. We always learn at field days -Thank you Jeff.



antimicrobial applications of propolis include formulations for cold syndrome (upper respiratory tract infections, common cold, and flu-like infections), wound healing, treatment of burns, acne, herpes simplex and genitalis, and neurodermatitis.

BEE NEWS



Australian manuka honey producers score legal win over New Zealand producers in Europe, UK

ABC Rural, by Clint Jasper

The New Zealand Manuka Honey Appellation Society recently backed out of an appeal before the United Kingdom's High Court, as well as similar legal action in the European Union, meaning Australian producers were free to call their product "manuka honey" in those valuable markets.

Read the full article here:

<https://www.abc.net.au/news/rural/2023-01-23/manuka-honey-legal-win-over-new-zealand-in-europe-uk/101876528>

Women beekeepers 'astonished' by global response to world record attempt

ABC Rural, By Jennifer Nichols and Fiona Breen

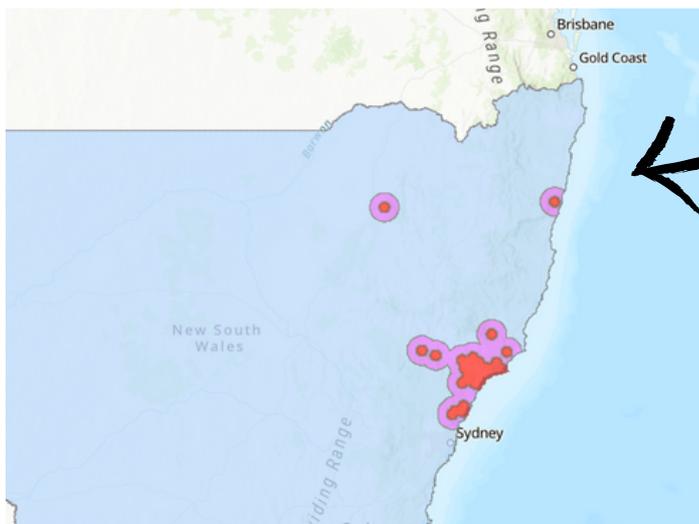
1,300 participants answered the call – to make women feel more connected, confident, and proud of their beekeeping journey.

Read the full article here:

<https://www.abc.net.au/news/rural/2023-01-17/women-beekeepers-world-record-set-sister-hives-australia/101858778>

Varroa mite emergency zone map

<https://www.dpi.nsw.gov.au/emergencies/biosecurity/current-situation/varroa-mite-emergency-response>

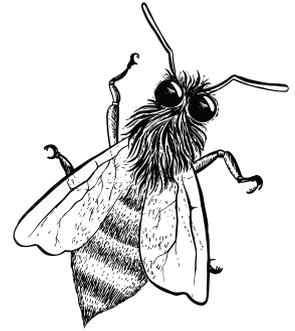


(Map from 2023-01-29)
Not as far as we like!



Australia has over 1,600 different species of bees and only eleven of these different types of bees are stingless bees

NOTICES



Varroa Mite

For any questions or concerns please refer to:

- The Australian Honey Bee Industry Council (ARBIC) website <https://honeybee.org.au/news-landing/>
- Bee Aware <https://beeaware.org.au/>
- QBA online portal <https://members.qbabees.org.au/QBA-Varroa-Mite-Portal>.

Effective Varroa surveillance involves three steps:

1. Being registered as a biosecurity entity and marking hives with the Hive Identification Number (HIN). The ability of authorities to adequately respond and directly communicate with beekeepers would be seriously limited by those not registered as a biosecurity entity.

2. Testing for the presence of mites using one of the following methods

- drone uncapping
- alcohol wash
- sugar shake,

The Biosecurity Code of Practice requires beekeepers to conduct a least 2 inspections per year.

3. Report the results using Bee 123 online form. Beekeepers are strongly encouraged to report any results even if no suspect mites are found as this helps Authorities monitor the number and health of beehives in the state.

CLUB EQUIPMENT AVAILABLE FOR HIRE:

- 2 Frame Honey Extractor
- Wax Melter
- Frame Display Unit hire
- Electric DeCapping Knife
- Ten Frame Jig
 - (holds frames in place for faster nailing)



ALSO FOR SALE:

- Honey containers