The Waggle

Newsletter of the Gold Coast Regional Beekeepers Inc.

'Furthering knowledge in Beekeeping by assisted learning and practical experience'

www.gcrb.org.au

President:
Greg Foster
Mob: 0409 279 164

~~~~~~~~~~~~~~~~~

Secretary:
Steve "Windy" Hill
Mob: 0414 717 716

~~~~~~~~~~~~~~~~~

Treasurer:
Peter Handy
Mob: 0448 195 020

Gold Coast Regional Beekeepers Inc.
E: secretary@gcrb.org.au

E: president@gcrb.org.au

E: editor@gcrb.org.au

Membership Enquiries:
julie.hewetson@gmail.com
Mob: 0439 202 500

Welcome to the January 2021 edition of The Waggle

I

Next Meeting: AGM

Saturday, 20th February 2021
8:30 hive inspection
10:00 coffee & tea
Vietnam Veterans Complex
18 Leagues Club Drive, Nerang

Presidents Chat

Too little time, too much to do, something we all grapple with from time to time. I'm sure you are all busy at the moment tending to your hives and enjoying all that they offer. The club currently finds itself in this fortunate position too. I say fortunate because we have an active committee bringing new ideas and energy to the table each week, which is what we need to grow the club and to maintain our vision of "Furthering knowledge in Beekeeping by assisted learning and practical experience".

It was unfortunate that we had to postpone our planned Introduction to Beekeeping course due to the recent COVID lockdown in Brisbane. As the majority of course participants were coming from Brisbane postponing the course was the sensible thing to do. It's the world we continue to find ourselves in, where planning things too far ahead is difficult. The course will be rescheduled so keep an eye on your inbox.

I'm sure you are all aware by now of the club day requirements with regards to protective clothing. The general philosophy is that any uncovered areas of the body are a bee sting site, when the club hives are being worked on club days there is a lot of active bees in our vicinity. The minimum requirements are that a veil is to be worn, but the club recommends covering the whole body with appropriate clothing. Unfortunately, even with all necessary precautions bee stings are a part of the business. The person/s conducting the hive inspections on behalf of the club will advise members of this on club days. But ultimately members need to be responsible for the decisions they make with regards to the clothing they choose to wear whilst around the club hives.

Our AGM is fast approaching, Saturday 20th February has been set and I know Windy has been putting a few emails out already amongst the committee, please put some thought into how you could become involved in your club as we always welcome new input.

By now you should have received the communication from myself with regards to the club honey purchase offer made to members during the week. I think this is a great avenue for members to sell their honey at a fair price. I hope you feel the same and will be able to benefit from the offer.

If you have anything to contribute to any of the items that I have raised, please pop me an email.

I look forward to seeing you around the club soon.

Greg
"The Appy Apiarist"

Beehive Inspection Report 19th December 2020

Finally, the weather broke and we have been receiving some much needed rain. Unfortunately, it affected the work we were able to do on the hives during the December club meeting. The day was a little overcast which is not ideal for opening hives. Because we had a number of members present and needed to take honey off, we opened one of the hives and took 6 frames of honey from the top super. Unfortunately, some showers of rain started approaching so we had to close the hive and were unable to open the others. Members moved to the club house where Mike was helping some new members put together new frames.

With the amount of honey currently coming in members are encouraged to come along to the hive openings on club days and lend a hand. The experience you gain from having your hands in a hive far out ways anything you can read from a book. If you only have 1 or 2 hives this is a great opportunity to work on hives and gain more experience with more experienced members to answer any of your questions.

Welcome New Members

The President, committee and members extend a warm welcome to our new members who joined GCRB Inc since December 2020:

- Stuart M,
- Stephen B,
- John W,
- Julie H,
- Hannah L,
- John W,
- Pauline B,
- Mark D,
- Arthur S,
- Lance F,
- Shae B,
- Julia F
- Nadine M
- Linda B,
- Matthew H

We all hope to see you at the hive inspections in 2021.
Please see Windy to collect your club lanyard.

I'm happy to inform you that at the committees monthly meeting it was decided that members would be offered $8.00 (eight dollars) per kilogram for their honey.

This is subject to the terms of the club members honey purchase offer that has been emailed out to members.

The committee also agreed to initially purchase up to a maximum of 300kg of members honey under the offer.

Regards,

Greg Foster
President
GCRB Inc

Bee Watering Station

By Drew Maywald

I set up a bee watering station near my hives but found I had to check it every second or third day to ensure it hadn't run dry. So, I experimented with alternatives and settled on one where the water will last for more than 3 weeks. In fact, it is more likely to develop algae before it runs dry!

What I did was to get a 2 litre plastic bucket. I put 2 pieces of towel over the sides of the bucket so that they touched the bottom of the bucket and extended down the other side into a terracotta pot plant base. I put a paving brick in the pot plant base and put another piece of towel to cover the brick so that the edges of the towel touched the bottom of the pot plant base, as illustrated below left.

I then filled the bucket with water and upturned a full 12 litre disposable water bottle in the 2 litre bucket as illustrated above right. I also filled the pot plant base with water.

The towel over the brick provides a landing pad for the bees. The towel sucks up water via capillary action so that it is always wet, offering a safe and easily accessible watering station for the bees.

Because the paving brick is thicker than the height of the sides of the pot plant base, any excess water from rain flows away over the sides of the base without flooding the bee landing pad.

The 2 pieces of towel over the sides of the bucket act like a wick, sucking up water via capillary action and keep the pot plant base topped up with water. In my experiments I put the towel in a dry pot plant base and the next morning there was a small pool of water in the base.

On hot days I found that the water may be warm but the water on the towel landing pad was quite cool due to the effects of evaporation. After having it in place for 3 weeks without having to do anything to the watering station, there was still around 3 litres in the 12 litre water bottle. However, I topped it up and gave the base a clean and replaced the towels as they were developing algae on them. I found a neighbour who throws the 12 litre water bottles out, so if anyone wants a bottle to set up their own watering station let me know.
This has been a great success and means that I do not have to worry about my bees having access to water at any time, and since I have had it in place I have had no bees drown in the water.

Homemade Beeswax Ideas

- **Lip Balm Instructions**
- 2 tablespoons beeswax • 2 tablespoons shea butter • 2 tablespoons coconut oil • 30+ drops peppermint essential oil
- Melt beeswax, shea butter and coconut oil in a double boiler or small glass bowl over a small pot of boiling water, stirring constantly until melted.
- Remove pan from heat but keep over the still-hot water to keep the mixture melted.
- Add essential oils to your preference, then fill containers.

- **Glitter Lip Gloss**
- 2 TBSP grated beeswax
- 2 TBSP coconut oil
- 2 tsp. sweet almond oil
- chunk of red lipstick
- 1/2 tsp. of shimmery or glitter eye shadow powder
- 10 drops of essential oil (I used peppermint but you can use any kind)
- Melt beeswax and the rest of the ingredients in a double boiler or small glass bowl over a small pot of boiling water, stirring constantly until melted.
- Pour the gloss mixture back in lipstick case, or small 45ml jars (makes 2 jars)

Homemade Lavender Deodorant Tea tree oil is antimicrobial which means that using it in deodorant it will help to kill the bacteria that creates odour. Lavender of course will help mask anything that is left so that you smell clean and fresh.

- If you're not fond of the scent of lavender, you can use any essential oil you want. Geranium oil, orange oil or peppermint oil would all be great for women.
- For men, you could use something like Spearmint oil or Spruce oil.
- You will need: • 2 Tablespoons coconut oil • 2 Tablespoons Shea Butter • 2 heaping tablespoons beeswax pellets • 3 heaped tablespoons cornstarch • ½ teaspoon baking soda • ½ tsp Vitamin E Oil (or 4 capsules) • 7 drops Lavender essential oil • 3-5 drops Tea Tree Oil

To start, put all ingredients except the baking soda, cornstarch and oils in a medium saucepan.

- Melt slowly over low heat making sure that you stir often. The beeswax will take a bit longer than the other stuff so be sure that you keep an eye on it.
- Once the ingredients are melted, remove from the heat and stir in the baking soda and corn starch. Be sure you mix well. It will thicken as it cools, but you'll want to keep an eye on it.
- Once it begins to cool and thicken, add your essential oils. If you wait too long, you will have a harder time stirring the oils in because it will thicken too much, but on the other hand, you don't want it too hot since heat kills the properties of your essential oils quicker.
- Pour your homemade deodorant into a small jar if you want to be able to scoop it out or put it into an empty deodorant tube. Use just like you would any other deodorant. Makes 3 x 75ml Roll-ons.

How to Make Your Own Natural Vapour Rub

Hopefully cold and flu won't strike at your home this year, but in case it does, this natural vapour rub is a good remedy to have around. For babies and small children, treatment options are limited, even though coughing and congestion can really interfere with their ability to get a good nights sleep.

Vapour Rub Ingredients

- 1/2 cup olive oil, coconut oil, or almond oil ·
- 2 level tablespoons of beeswax pastilles ·
- 20 drops of Eucalyptus Oil (use only 4 drops for use on babies and young children) ·
- 20 drops Peppermint Oil (substitute 4 drops fir essential oil for use on babies and small children)
- 10 drops Rosemary Oil (omit for use on babies and small children)
- 10 drops cinnamon or clove oil (optional- omit for use on babies or small children.

Vapor Rub Instructions Melt beeswax with oil of choice in a double boiler until just melted. Add the essential oils (use half the amount for a baby version or dilute with coconut oil before using) Stir until well mixed and pour into some type of container with a lid to store. Small tins work well, as do little jars. I also always make a few in lip chap sticks to keep in my purse or to use on baby feet. Use as needed to help reduce coughing and congestion. (Makes 200ml jar)

Need jars? www.jarsandbottles.com.au Carton of 150 Jars, 45ml Hexagonal Glass, 43mm Twist finish, including caps. Gold/Black $146.30

NSW Bee Biosecurity Officer update December 2020

Rob Bourke

In this update, NSW Bee Biosecurity Officer (BBO) Rod Bourke provides an overview of his main activities since March 2020.
Rod Bourke, NSW Bee Biosecurity Officer

It's fair to say that I have found the last seven months to be about the weirdest time in my life, and there has been a lot of uncertainty that has made it tough for many people.
In general, most beekeepers appear to have fared okay. They are accustomed to tough times due to the drought, bushfires and floods that directly impact their livelihood and the health of their bees. But beekeeping can be a very tough profession and some beekeepers are feeling the strain, with COVID-19 adding a further complication. So, if you're doing it tough, don't hesitate to ask for help.
In March, all face-to-face training by NSW Department of Primary Industries Tocal College was cancelled and it was not until September that it resumed. At the end of October, I organised and ran a bee biosecurity course in Tamworth with 19 beekeepers (mainly commercial). Beekeepers were very busy this spring, and it was good that they put aside two days (plus travel) to do the training. It's a great way to develop professionally and improve the operation of your business. I encourage all beekeepers to do some bee biosecurity training to improve their general understanding of bee pests and diseases and how to manage them, to reduce the cost of their operation. You are never

too big or too small to benefit from doing further training, and it may help you solve problems that affect your operation.
April was Sugar Shake Month. It was a timely reminder for anyone that had not yet completed their autumn brood checks and mite surveillance to do them. However, if hives are in an area that is quite cold in April, mite surveillance and brood checks can (and should) be done earlier. For many, early March is a great time to schedule the final brood inspections of the season to ensure hives can survive a long, cold winter.
On 1 July, the Australian Honeybee Industry Biosecurity Code of Practice (the Code) became a condition of registration in NSW. This means ALL beekeepers in NSW (including visitors from interstate) need to follow the guidelines set out in the Code. Victoria and South Australia also have the Code in place. In the four months leading up to July there was a lot of communication with beekeepers to make them aware of and prepare them for the changes. This included an article in The Land and a letter sent to the 10,000 registered beekeepers in NSW. This communication generated an extremely large amount of additional interest and I talked with a great number of beekeepers and could assist many with their record keeping, bee biosecurity training and other concerns about meeting their Code obligations. Since July the number of registered beekeepers in NSW has increased to 11,500, so this has increased enquiries about the Code even further.
August was almond pollination time, and in the lead-up to this event I helped many commercial beekeepers to meet their Code requirements, some for the first time. This was needed for them to get approval to enter Victoria and pollinate almonds there. Honey culture tests and bee biosecurity training were the main areas where help was needed. The EMAI lab saw a noticeable increase in honey culture tests requested in 2020 over previous years, which is a good sign.

September and October were extremely busy for many commercial beekeepers, who were moving hives from almonds to canola, Patterson's curse and other regional honey flows such as Mugga ironbark. This coincided with NSW DPI's American foulbrood (AFB) awareness month and the majority of recreational beekeepers doing spring brood checks. Quite a lot of AFB was found, which was indicated in the newly launched "AFB near me" page on the NSW DPI website which listed six postcodes reporting AFB in July, 21 in both August and September, 24 in October and 27 in November.
The main enquiries from recreational beekeepers were about how to prepare a hive for euthanasia, the best ways to sterilise or destroy equipment, and how to implement a single hive barrier system. I also wrote articles for the NSW DPI Bee Biosecurity Newsletter on barrier systems (and related articles in the Honeybee News and Amateur Beekeepers Association newsletter) and one on the (mis)use of antibiotics to manage AFB (a practice which is illegal in NSW and much of Australia). Mark Page (BBO Surveillance) and I also did a video on inspecting a strong hive for AFB (they are often the first to get it if your bees have been robbing), another on chalkbrood and also our New Zealand varroa trip last year. All are currently being edited and will be published soon.
Along with other NSW DPI bee people, I did a Zoom presentation on barrier systems – a great way to reduce the spread of AFB – for the Tocal 2020 Virtual Beekeepers Field Day on 17 October. You can view the presentation here.
Even though a lot of people can't wait until 2020 is over, many NSW beekeepers had quite a good spring in terms of rebuilding bee numbers and honey production. It's hoped that hives will come through this period healthy and prepared for next year when opportunities may be less plentiful. To ensure this, all beekeepers should be following the

Code and taking particular care to inspect hives thoroughly for disease, manage weak hives, prevent the opportunity for robbing (especially dead-outs, equipment and extracting operation) and do their twice yearly mite surveillance of all apiaries. If we all do the right thing, there will be less AFB about, and we will all be better off.

Interesting insights from WIRED……..

PHOTOGRAPH: MARC ANDERSON/ALAMY

INSECTS DON'T COME much cuter than the humble honeybee. Those fetching stripes, the "waggle" dance they do to tell each other where they've found nom-noms, that thing where they smear buffalo crap all over their hives.

Excuse me—the more scientific term is *dung*. But whatever you call it, the fact remains that the Asian honeybee species *Apis cerana* flies around collecting bird and water buffalo poo not with its hind legs, like it does with pollen, but with its mouth. Back at the colony, it applies the dung as "spots" around the entrance to the hive. That might seem like bad housekeeping, but scientists just showed that there's a brilliant method to this scatological madness: Heavily spotted colonies repel the bees' archenemy, the giant hornet *Vespa soror*, a close cousin of the infamous *Vespa mandarina* or Asian giant hornet (colloquially dubbed the "murder hornet") that's invaded the US.

If you knew what *Vespa soror* was capable of, you might not be so quick to judge these bees. At nearly an inch and a half long, the hornet wields massive mandibles that quickly guillotine Asian honeybees, which are about a quarter of its size. When one of them finds a nest, it slices up any workers that mount a defense and releases pheromones that tag the colony for its compatriots to find. Soon, reinforcements swoop in, the formidable air force gnawing at the small opening of the nest to fit their outsized bodies through.

Once they're in, it's like a human army breaching a castle's walls: Things are going to go downhill quick. The hornets snag the honeybee larvae and carry them off to their own nest to feed to their young. "They're hunters, so this is like a bonanza for them," says Wellesley College biologist Heather Mattila, lead author on a new paper in *PLOS One* describing the insect war. The bees that survive end up retreating, knowing they're now powerless to stop the looting. "The poor Asian honeybees, they are just plagued by a suite of really relentless hornets," says Mattila.

The, uh, collection of material

Joining *Vespa soror* in the torturing of these bees is *Vespa velutina*. Instead of infiltrating the nest, this smaller hornet just hovers around the colony "hawking," picking off victims on the wing. The bees, though, aren't entirely defenseless. They'll actually hiss at the hornets. More famously, they perform "heat balling," in which the diminutive bees form a swarming mass of bodies around a hornet, raising their temperatures until the invader literally cooks to death.

Honeybees will also perform a hypnotic behavior called shimmering, in which large groups of the insects coordinate their movements to send dazzling waves across their massed bodies. This could serve to confuse hornets. Alternatively, it could be something called an "I see you" signal. "When an animal's looking to defend itself against a predator, sometimes it's valuable to the animal to let the predator know that it's been spotted," says University of Colorado Boulder social insect biologist Michael Breed, who wasn't involved in this new research. "That actually subverts a predator's attempt to be stealthy."

Still, often that's not enough for the Asian honeybee. It's apparently been under such predatory pressure from vicious hornets that it's evolved to weaponize other animals' crap. And Mattila and her colleagues have now experimentally shown just how effective that unconventional tactic is.

Working with Asian honeybee hives in Vietnam, the team first of all had to collect dung from pigs, chickens, cows, and water buffalo. (Because: *science*.) They placed the material near an apiary and snagged the bees that came to collect it, painting the foragers so they could track them once they returned to their hives. Because the researchers were working with multiple hives with varying intensities of spotting around the entrances—they classified them as light, moderate, and heavy—they could actually quantify the effectiveness of the defense.

"The dung spotting around the entrances greatly reduces the time that the hornet spends landed at the entrance and really reduces the amount of time that they're chewing on those entrances," says Mattila. In fact, they found that the giant hornets spent a whopping 94 percent less time on highly spotted hives than on control hives. "They can still be outside, hunting individual bees and carrying them away, but they're not able to execute that next step, which is the really lethal step of getting into the colony," she says.

Furthermore, the team confirmed that the bees dung-spot the entrances to their hives in response to the presence of the giant hornets. When they exposed colonies to the pheromones that the giant hornet uses to mark hives for attack, the bees performed more spotting than at a control hive where the bees were not exposed to the hormone. In other words, it's not that the bees like decorating their homes with animal dung, which hornets just happen to hate—this appears to be a deliberate, reactive countermeasure, and it works very well to ward off a coordinated attack by the hornet menace.

The big question now is: How? "It could be that the poop itself is repellent," says Mattila. Since the hornets are so big they have to gnaw their way into the colony, they would end up getting a mouthful of dung if the entrance is heavily spotted. "And certainly a lot of animals use feces as a way of kind of grossing out predators and keeping them away," she continues.

Let us count the ways, shall we? The larvae of the tortoise beetle build shields of their own poo and smack their predators with them. Badgers dig rectangular pits to use as latrines, which signals other badgers to back off. Skipper caterpillars have a different problem: Ants are attracted to their dung. So they increase

the blood pressure in their bums in order to fire their turds 40 times the length of their bodies, thus keeping the ants at a distance.

In the case of the honeybees, there may be a specific chemical in the borrowed dung that repels the hornets. “It could be something that is plant-based, but is going through an herbivore first, essentially, and is then being foraged on by the bees,” says Mattila. Intriguingly, scientists have observed that Asian honeybees in Japan spread chewed-up plant material around the entrances of their hives, rather than poop. So it could be that the bees in Vietnam are getting the same benefit from some sort of plant compound, only in a rather roundabout way. But scientists still aren’t sure which plant or chemical compound it might be.

COURTESY OF HEATHER MATTILA

Still another theory is that there’s something in the poop that interferes with the pheromones at play between hunter and prey. “It could be masking the smell of either the colony itself, or masking the pheromone that [the hornets are] depositing as a marker for targeting that colony,” says Mattila. “All of these are kind of open hypotheses that we would need to figure out.”

Once scientists do figure out what’s going on here, it could well have implications for the welfare of western honeybees in the US. This species has not evolved alongside the giant, voracious hornets that menace Asian honeybees, so they’re not equipped to put up as strong of a defense. And in late 2019, the Asian giant hornet landed in North America. (The first nest found in the US was removed this October.)

It’s not like scientists can breed this poo-spreading behavior into western honeybees. But if they can isolate a particular compound, or variety of compounds, that make animal dung so repulsive to hornets, perhaps beekeepers in North America can apply it to hives, should the Asian giant hornet begin spreading here. “I think that's the most immediate, obvious application that could come out of this groundbreaking research,” says University of British Columbia biochemist Leonard Foster, who studies the giant Asian hornet but wasn’t involved in this research. “If that compound can be discovered or identified, then for sure, it could be used as a way to ward off the Asian giant hornet.”

Now for a more philosophical question: Is this dung spotting actually considered tool use for the bees, as the authors of the paper claim? That’s wading into fraught territory, as biologists fight constantly about what’s considered a “tool.” The authors say the dung spotting meets four criteria put forth by one definition of tool use: The bees *employ* an environmental object (the poo), they *alter* another object (their home) with the tool, the bees *manipulate* the tool (with their mouths, unfortunately), and finally the bees *orient* their tool by spreading it around the hive entrance. “Thus, collection of feces and other filth materials from the environment and their application to nest surfaces for the purpose of defense by *A. cerana* meets current conceptions of tool use,” the authors write.

Foster notes that the poo-spreading is actually similar to another already-documented behavior in honeybees, in which they collect plant resins to use as antibiotics for the colony. “Where you draw the line in what's a tool and what's not a tool seems like a little bit of a semantic argument to me,” says Foster. “For sure, this is extremely interesting behavior. Whether it's the equivalent of a human chipping a rock to make an arrowhead, or something like that, I think is not yet agreed upon by the whole community.”

Written By: Matt Simon, WIRED. SCIENCE 12.09.2020 02:00 PM https://www.wired.com/story/bees-paint-animal-poo-on-their-homes-to-repel-giant-hornets/

China could block Aussie honey, turning to NZ instead

IBISWorld says Australian honey is a popular commodity in the Chinese market, with honey consumption in China exceeding 300,000 tonnes per year.

Australian honey exports have grown at an annualised 4.1 per cent over the past five years, driven by the China-Australia Free Trade Agreement, which lowered trade barriers for honey exporters.

China could easily stop taking Australian honey due to readily available alternative suppliers.

While China accounts for over a quarter of Australian honey exports, China could easily block Australian honey due to readily available alternative suppliers.

Mr Harrison said the trade tiff could particularly hit premium manuka honey.

"For Chinese consumers, plentiful supply of cheaper honey would likely replace the lower availability of manuka products," Mr Harrison said.

Manuka honey is harvested from a type of tea tree only found in New Zealand and south-east Australia.

"The beekeeping industry in New Zealand will stand to benefit from reduced competition if China imposes tariffs on Australian honey," he said.

GOLD COAST REGIONAL BEEKEEPERS COMMITTEES

Position	Name	Phone	Email
President	Greg Foster	0409 279 164	president@gcrb.org.au
Secretary	Steve "Windy" Hill	0414 617 716	secretary@gcrb.org.au
Treasurer	Peter Handy	0448 195 020	
Editor	John Polley	0421 992 208	editor@gcrb.org.au
Membership	Julie Hewetson	0439 202 500	Julie.hewetson@gmail.com
Committee 1	Mike Hynes	0408 766 085	
Committee 2	Gray Carswell	0417 867 302	
Committee 3	Mitchell Pryce		
Management Committee	Drew Maywald	0400 959 043	drewmaywald@gmail.com

An affiliate of

Amateur Beekeepers Association NSW

The club would like to thank Rachael & Vern for their generous support