



Next meeting | Wednesday 5th August 2020

Where | Main Hall, Johnsonville Community Centre, Moorefield Rd

Topics for the August meeting

Beginners session 6.45pm in the upstairs meeting room

Topic: Preparing for a new season – John Randall

Main Meeting 7.30pm in the main hall

Topic: Guest speaker Gary Jeffries from the South Island. Gary rears queen bees and Varroa Resistance bees.

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A note from the president – James Withington

Firstly, thank you to all the members who braved the chilly winters night at the start of the month to attend the AGM. It is good to see members volunteering to be part of the club's committee and of course to those members who have chosen not to stand for re-election. Thank you for your time, energy and making the club what it is.

It has been a long time since our last meeting, so it was a good opportunity for everyone to discuss what has been going on in their beehives and apiaries. Hopefully, all your questions were answered by the experienced members and if not then from our club expert Frank. Next month's meeting will have the first of our special guests who is travelling exclusively for the meeting. Gary Jefferies is a queen breeder who is coming up from the West Coast to part with some of his knowledge.

From my own experience I have found that a number of my hives were on the light side because the weather has meant the bees have chomped their way through the winter stores. Luckily, I had a few frames that I had extracted so was able to supplement their feed. As we move into the spring the bees will require a good supply of food so don't get caught with a starving hive and check their food store on the next fine day. Also, because of the milder winter weather those pesky varroa mites have not diminished so if you are able to treat your hives, then now is a good time to really knock the mite numbers down. I have noted a reasonable supply of pollen being brought into the hives on the warmer afternoons, so clearly the bees are getting ready for spring themselves. By the end of July most queens will have recommenced laying in anticipation of the warmer weather.

I look forward to seeing you all next month and sharing stories over a cuppa of tea.

James



Preparing for a new season – Richard Braczek

Choosing a site for your bees

When choosing or evaluating a suitable site for a beehive, there are 2 key areas to consider:

1. The needs of the bees

You need a flat, solid piece of land to locate the hive and be able to dismantle it comfortably.

A sunny location, preferably east facing and out of the wind is ideal. If the site is windy, face the entrance out of the wind if possible. If a suitable location is in the shade of trees, they will do fine.



Water. Bees need access to water so best to provide a supply nearby. Otherwise they will help themselves to whatever they can find on your property or the neighbours'.

2. Your needs/and the neighbours'

Beekeeping involves carrying gear and removing honey etc. so easy access to the hives is helpful.

An average hive has around 30,000 to 50,000 bees so there is a lot of traffic in and out. Generally, bees will take a low flight path unless there is an obstacle of some sort. This low flight path may impinge on your usage (or your neighbours) of the surrounding area. So put a screen or fence around the hive or face it towards a fence to force the bees to fly higher.

Bees defecate on first leaving the hive in the morning. These excreta can be carried by the wind to unwanted places such as washing on the line, windows, cars etc. So, managing the flight path as mentioned above will help mitigate this.



Equipment

Hive ware and boxes

Depending on whether you buy your equipment in kitset form or made up, its best to get this sorted well before you get some bees.

I will write mainly about *Langstroff* hives as these are your common vertical hives.

Bee boxes come in either full depth or $\frac{3}{4}$ depth sizes. Make a decision as to your preference as its easier to have them all the same size. $\frac{3}{4}$ depth boxes are popular as they are 25% lighter to lift and carry and do the same job as full depth. You can now choose between wooden or plastic boxes.

If you go for wooden, you can buy them pre-dipped in wax preservative or untreated which you then have to wax dip or apply *Metallex* prior to painting.

Frames

You can get either wooden frames or plastic ones. Again, they do a similar job. Wooden ones need to be assembled, wired and wax foundation inserted or you can buy them made up. Plastic frames need a smear of wax. They are more convenient but do we need more plastic in our world? It's your choice.

Generally, you will want to order *Hoffman* type frames and choose the corresponding size to your boxes.

How many? You want at least 2 boxes for your brood and several for your honey supers. It's helpful to have some extra as spares as well.

Bases Again, there is a choice between wooden and plastic.

Inner covers or hive mats These sit on top of the top box and underneath the hive lid.

Hive lids Choice between plastic and galvanised.

Queen Excluder Plastic or steel.



Top Bar Hives

Top bar hives or chest hives offer an alternative to vertical hives. They are generally considered more challenging to manage than *Langstroff*. Talk to a club member who has one of these if you are considering going down this route.



<https://www.perfectbee.com/your-beehive/beehives-and-accessories/a-detailed-look-at-the-top-bar-beehive>

Hive suits

There are various options ranging from head veils to full suits. For beginners, best to get a full suit.

Be careful about choosing the right size. Recommended that you go one or two sizes above yours. You want a loose fitting suit which allows you to bend comfortably.

Gloves Again, fit is important. You want to retain feel so don't get them too big.

Smoker Pretty standard.

Hive Tool You can go for a *Kelly* or *Maxant* type. Both are good tools. Toss a coin or get one of each to see which one you like best.



Suppliers

There are quite a few on-line suppliers such as Ceracell, Ecrotek, Beequip, NZ Beeswax and others. They have searchable stock lists which usually have pictures to help you decide. Compare their prices.

Local: Capital Beekeeping Supplies is managed by John Burnet who will bring your orders along to club meetings. Hive World is located In Elsdon, Porirua.



In my apiary – Tricia Laing

We live in the beautiful Akatarawa Valley, north of Upper Hutt, close to the top of the road. We get quite a bit of rain in the valley and the weather is a bit cooler than near the coast, so shelter for our hives is important. Our bee shed allows us to keep the hives dry and work on them in the shelter.



We've got Golden Mean topbar hives and a couple of conventional Langstroth hives.





There's a lot of nectar in our valley and we had a great beginning to the year, but wasps were a big problem for us last summer. We've learnt to keep the old boxes and frames away from the hive shelter to reduce the attraction to wasps.

Since we've moved to the valley we've identified that the open area down by the Akatarawa River is a drone congregation area, where drones from different hives congregate to mate. Keeping bees in this area means we've got a really good gene pool of drones for our queens.

We're establishing a food forest here, and we have chickens, and a cat of course, to help keep the mouse and rat population under control.





What are winter bees and what do they do?



As beekeepers, we tend to underestimate the importance of winter bees. We are especially unconcerned late in summer, just when the colony is on the brink of producing these winter wonders. On a sultry summer afternoon when the cat is long and the air is too hot to move, the next brew may seem more important than the next bee. But that next bee may be the one to shepherd your colony into spring, long after the brew is forgotten.

So what about winter bees makes them so important? And what makes them different from any other bee? According to Remolina and Hughes, winter bees are workers that emerge near the end of the foraging season [1]. Rather than living six weeks like most of their summertime sisters, winter bees may live six months, or even longer. These are the bees that determine whether our colony will survive the winter. And because of that, we beekeepers need to pay them more attention [2].

What makes a winter bee special?

The main difference between a winter bee and any other bee is the presence of enlarged fat bodies in the abdomen. According to Rosanna Mattingly in *Honey-Maker*, “the fat body puts together, stores, and breaks down not only fats but also proteins, carbohydrates, and other molecules.” [3] Fat bodies also produce vitellogenin, an amazing substance that allows a nurse bee to secrete brood food even in the absence of fresh pollen. Vitellogenin also enhances the immune system and increases lifespan.



Winter bees spend their lives within the nest where they care for the queen, help the colony with temperature regulation, and raise the brood that will inherit the colony in spring. Biologists believe that winter bees evolved as honey bees began to migrate into colder climates. In areas where cool temperatures prevented year-round collection of pollen, honey bee colonies needed a system that could see them through the shortage.

Winter bees can be considered a caste

Just as any fertilized egg can become a queen, so can any fertilized egg become a winter bee. Their genetics are identical. In fact, some authors refer to winter bees as a separate caste. A caste in the traditional sense is defined as “a physically distinct individual or group of individuals specialized to perform certain functions in the colony.” The winter bee caste is physically distinct because of the enlarged fat bodies, and those fat bodies have a special function. They produce large amounts of vitellogenin which can supplement or replace a winter pollen supply.

Winter bees are produced when pollen becomes scarce. Just as a queen can be raised by feeding a larva a special diet, a winter bee can be raised by feeding a larva a special diet. But the diet that triggers a winter bee is not extra rich like a queen diet, instead it is extra lean. Larvae fed a diet deficient in protein can trigger the development of winter bee traits [4].

Because winter bees are produced when pollen is lacking, winter bee production is dependent on local conditions. If you live in an area with plenty of summer rainfall, your winter bees will develop later than someone who has a significant summer dry spell. The important point is that pollen, not temperature, regulates winter bee development [5].

Without pollen, a colony is nothing

As any good beekeeper knows, pollen is the currency of a beehive. While nectar provides energy, pollen provides everything else. You cannot raise bees or children on sugar alone; you also need protein, fat, lipids, vitamins, minerals, antioxidants, and trace elements. Pollen contains all of these and more.



Without a diverse source of high-quality pollen, a colony will collapse. Such a colony cannot produce healthy offspring and cannot perform the many functions necessary for day-to-day life, let alone prepare for lean times. However, everyday life in a bee colony is fraught with lean times. Pollen can become scarce during protracted wet weather, dry spells, and certainly over

winter. Yet a colony does not store pollen on the same scale as it stores nectar. Most pollen storage is used almost as quickly as it is collected, so how does a winter colony survive?

Enter the winter bee

The answer lies within the winter bee. Although we think of pollen storage as occurring in the combs surrounding the brood nest, winter storage of protein actually occurs inside the winter bee. The enlarged fat bodies, along with enlarged hypopharyngeal glands, provide a vast storehouse for vitellogenin and other materials needed to produce brood food.

This hidden treasure is the reason a healthy colony can produce a batch of spring bees long after the last pollen flow has ceased and long before the new one begins.

Even winter bees have their limits

But just as a pollen cell is limited in size, so is a winter bee. As winter bees begin to feed brood, their fat bodies shrink and the glands produce less. Eventually they can run dry. In many situations, they have enough to get them into spring. But if conditions are bad, if a dry spring follows a harsh winter, the protein may eventually run out.

The possibility of running out has a lot to do with the strength of the colony going into winter, the amount and quality of stored food, the mite load, and the winter weather. For those reasons, many beekeepers find that a supplemental pollen source can make a world of difference in the strength of overwintered colonies.



In an interesting twist, Mattila and Otis found that feeding supplementary pollen to colonies in late summer or early fall did not boost the quantity of winter bees but merely increased the length of the normal brood rearing season [6]. This

makes sense if you consider that that lack of high-quality brood food is what stimulates the production of winter bees. As long as good brood food remains available, normal “summer” bees will be produced.

Their findings suggest that supplemental feeding may be more beneficial *after* the winter bees have emerged. Many beekeepers follow this pattern, waiting until mid-winter before giving supplements. But even giving supplements early can have benefits because increasing the brood rearing season decreases the length of time winter bees need to survive.

Notes:

[1] Remolina SC and KA Hughes. 2008. *Evolution and mechanisms of long life and high fertility in queen honey bees*. PubMed.gov. doi: 10.1007/s11357-008-9061-4.

[2] Some authors refer to winter bees as “diutinus,” which is a pretentious word for “long-lived.” Use *diutinus* if you want to be pompous, but use “winter bees” if you want to be understood.

[3] Mattingly RL 2012. *Honey-Maker: How the Honey Bee Worker Does What She Does*. Beargrass Press.

[4] Mattila HR and GW Otis. 2007. *Dwindling pollen resources trigger the transition to broodless populations of long-lived honeybees each autumn*. *Ecological Entomology*. 32:496-505.

[5] Not everyone agrees on what triggers winter bee development. Other theories include the presence or lack of various pheromones in the brood nest.



[6] Mattila HR and GW Otis. 2007. Manipulating pollen supply in honey bee colonies during the fall does not affect the performance of winter bees. *Canadian Entomologist*. 139:554-563.

BAM – Bee Aware Month

The Wellington City Council is planning for the annual September Bee Aware Month. Over the past two or three years the WBA has taken part in several events. This year there are a couple of new campaigns, such as

- “Bee a Hero” encouraging children to care for bees by planting bee-friendly plants and finding out about chemicals that may endanger bees.
- a School honey jar design competition,
- opportunities for families to meet a beekeeper/s at the Botanical gardens and it local libraries during the month.



If you are interested in taking part in these events or can attend a library session to answer questions, please contact John Burnet who is the WBA co-ordinator.

Queen bee resources

With some down time recently we’ve had the opportunity to develop a New Zealand resource on our web site for those interested in all things queen bee related. There are well over 50 articles there now.

You are welcome to link to it from your own Club web site or Facebook page should you think that may be of benefit to your members.

Regards, Craig Beecroft, Beecroft Bees

The index page for all the articles is here:

<https://www.beecroft.co.nz/about-bees-and-manuka-honey/2020/7/8/queen-bee-new-zealand-resource>





Why honey bee is two words

Regardless of dictionaries, we have in entomology a rule for insect common names that can be followed.

It says: If the insect is what the name implies, write the two words separately; otherwise run them together. Thus, we have such names as house fly, blow fly, and robber fly contrasted with dragonfly, caddicefly, and butterfly, because the latter are not flies, just as an aphision* is not a lion and a silverfish is not a fish. The honey bee is an insect and is preeminently a bee; “honeybee” is equivalent to “Johnsmith.”

—From **Anatomy of the Honey Bee** by Robert E. Snodgrass

*Editor’s note: The definition of an **aphision** is an insect that has lacy wings and feeds on aphids. The following link is a research document from 1929.

http://w3.marietta.edu/~biol/378/snail_collecting_aphis_lion_larvae.pdf

Heads up

September

Beginners session- Handling a nuc

Main Meeting - Honey competition and a mead making demonstration

October

Beginners session- Swarm prevention and pest management

Main Meeting - Photo competition



Things to do this month

August checklist

- ✓ Prepare for new season's work
- ✓ Get queen-raising equipment if you are going to rear your own queens
- ✓ Assemble feeding equipment and supplies of sugar
- ✓ Assemble frames for new season and have wax or plastic foundation on hand
- ✓ Cut weeds and high grass around hives



Taken from Practical Beekeeping in New Zealand by Andrew Matheson & Murray Reid

Interesting websites

Murder hornets:

Race to protect North America's honeybees from giant hornet invader



<https://www.theguardian.com/environment/2020/jun/25/hornets-race-to-protect-north-americas-honeybees-from-giant-invader-aoe?fbclid=IwAR3epBnePOCQfnYKxiC8sKSZ-UgTyNyNZKBdNF41bB9wpHwNUhi0HQiSB7U>



APICULTURE NEW ZEALAND

from CE Karin Kos

ApiNZ Winter Webinar Series

The next webinar will be held this Monday 27 July at 4pm. RMP expert Betty Murie will present part two of her talk on Risk Management Programmes. The session will cover the more specialised topics of document control and record keeping, traceability and mock recall requirements, and personnel competencies and training, with examples to help you on your RMP journey. The session will end with a Q&A session. To register for this presentation, [go here](#). If you missed the first part of her presentation, it is available on the ApiNZ website in the Members Only section under Resources.

Our following webinar, to be held on Tuesday 11 August at 4pm, will feature **Bee Biosecurity advisors Hayley Pragert and Richard Hall** who will update us on their work to better understand bee health in New Zealand. The presentation will include details on results from both the Bee Pathogen Programme and the ApiWellbeing project. You can register for this webinar, [here](#).

NZ Honey Market Update July 2020

The July 2020 edition of the Apiculture New Zealand Honey Market Update is now available for members. Please click [here](#) to access it.



Who can I speak to?

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