

# BEELINES

NEWSLETTER OF THE BEEKEEPERS CLUB INC. EST. 1998

Enhancing the learning and better practices of the art of beekeeping within our community

JUNE 2017



**Next Club Meeting: Thursday 15<sup>th</sup> June,**  
7 pm for 7.30 pm start

Venue: Performing Arts Centre (PAC)  
Doncaster Secondary College  
123 Church Rd Doncaster  
Melway 33 G 12

\*\*\*\*\* Guests and Visitors Welcome \*\*\*\*\*

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## President's Report

A number of important industry initiatives have come into being over the last few months. By now, (if you have registered with DEDJTR) you should all have received the recently released Biosecurity Manual for Beekeepers. I urge you all to read it and heed the information contained.

The **manual** is a guide to reduce the risk of exotic and established pests affecting honey bees and outlines Biosecurity best practices. The club has led the way with the recent release of our own field note book and hive record book but it is more important than ever to maintain good apiary practice. Generally the standards set in the code are activities that all beekeepers should be undertaking to minimise the impact of pests and diseases on your hives.

It is now a mandatory condition of your **registration** that you abide by the Australian Honey Bee Industry Biosecurity Code of Practice (Code) and be registered.

Although we are now heading very quickly into winter, the club is still very active. I remind all that we have a one day field trip to Maryborough on 22<sup>nd</sup> July and a winter workshop 29<sup>th</sup> July. Both **events** are filling quite fast and I urge you all to consider attending these functions to enhance your beekeeping knowledge over the winter period. And of course we have our June meeting with judging of the final baked products and photographs for the annual honey competition.

We are very pleased to say that our **membership** is still increasing with about 12 – 15 new members being approved at each committee meeting. We welcome Lyndon Joss to the committee, replacing Laura Paris who has had to step down for personal reasons; and we also warmly welcome Julie Wiltshire and Stuart Stone as ex officio members. Thank you all for offering your time and services.

We are still working on and indeed are getting very close to being able to confirm all details on our **club apiary** site. Once established, the apiary will be a valuable asset to us for teaching and hopefully for livestock supply. It is something that I think will reap great rewards for us.

Our **outreach program** is progressing and the first event may be the Living Science week 13<sup>th</sup> August. Andrew Wootton is coordinating this event through CSIRO and will be calling for volunteers to man a stand at Victoria markets.

Remember this year your **annual subscription** will include a premium for the public liability insurance scheme. A certificate of insurance cover will be emailed to you shortly after receipt of your annual fees. The premium is not an extra but is included within your pre-set annual subscription amount.

If you have any topics that you would like discussed at a meeting suggestions or feedback on how the club is going, please do not hesitate to let any of the committee know.

### Current committee and contacts.

President:	Don Muir	<a href="mailto:president@beekeepers.org.au">president@beekeepers.org.au</a>
Vice President:	Mat Lumalasi	<a href="mailto:vicepresident@beekeepers.org.au">vicepresident@beekeepers.org.au</a>
Secretary:	Andrew Wootton	<a href="mailto:secretary@beekeepers.org.au">secretary@beekeepers.org.au</a>
Treasurer:	Demi Lagos	<a href="mailto:treasurer@beekeepers.org.au">treasurer@beekeepers.org.au</a>
Committee:	Helmut Huber, Alan Walton, Ralph Lynch, Lyndon Joss, Julie Wiltshire, Stuart Stone	<a href="mailto:mail@beekeepers.org.au">mail@beekeepers.org.au</a>

## REMINDER

As we rapidly approach the new club financial year I ask you all to enter your DEDJTR registration number in your profile when you renew your subscription. If you do not yet have bees, you can enter "none" and adjust it later.

## TO DO LIST

1. Book seats for the Maryborough day trip (22 July)
2. Book a place in the Winter Workshop (29 July)
3. Register/renew my bee keeping registration on the DEDJTR web site
4. Take my baked slices or cakes to the June meeting for Honey Competition
5. Repair and clean beekeeping equipment
6. Heft hive boxes to check weight and watch entrance for activity

## UPCOMING EVENTS

<b>JUNE</b>	<b>Thursday 15<sup>th</sup></b>	<b>Monthly Meeting</b> 7.00 pm for 7.30 pm start Information Corner (new format) Honey judging results and discussion
<b>JULY</b>	<b>Thursday 20<sup>th</sup></b>	<b>Monthly Meeting</b> 7.00 pm for 7.30 pm start Information corner and Q&A Club meeting topic to be confirmed
<b>JULY</b>	<b>Saturday 22<sup>nd</sup></b>	<b>FIELD TRIP</b> <b>Whirrakee Woodware Maryborough</b> BBQ lunch and Visit to Ken Gell commercial beekeeper Depart Doncaster 8.00 am. Return 5.00 pm
<b>JULY</b>	<b>Saturday 29<sup>th</sup></b>	<b>WINTER WORKSHOP</b> <b>Improving your beekeeping</b> 9.30 am – 4.30 pm, Siteworks 33 Saxon St Brunswick
<b>SEP</b>	<b>Wednesday 6<sup>th</sup></b>	<b>BEGINNERS COURSE</b> <b>Fundamentals of Beekeeping (Session 1 of 4)</b> 7.30 pm, Senior Citizens Rooms, Doncaster Session 2: 13 <sup>th</sup> September 7:30 pm, Doncaster Session 3: 20 <sup>th</sup> September 7:30 pm, Doncaster Session 4: Date TBC, Hive opening, Brunswick

# SPLITS

Andrew Wootton

Winter is upon us, so it's time for equipment maintenance and planning for spring. Perhaps you are contemplating increasing your colony number(s) or alternatively splitting a hive to prevent it swarming? Here's a guide to help navigate the tricky terminology and myriad methods.

There are many reasons for carrying out a split and an almost infinite number of ways of performing it. Many of the split variations employ manoeuvres to vary the populations of bees in the daughter colonies. Foragers are site-oriented and will return to their original location. This behaviour can be exploited to increase and decrease bee numbers in the splits. Some methods move the queen and leave the brood, others take the opposite approach, so choosing a method can be overwhelming.

Although explanations providing instructions for splits such as move hive A to position B are confusing, understanding the principles involved makes grasping these moves much easier. Thus, I have focused on outlining the ideas rather than the moves.

If you are just interested in making an increase, perhaps the most straightforward way is with an additional caged queen and a couple of frames of brood and bees. This has the advantage of eliminating the month-long delay in egg laying that raising and mating a queen entails. Here though, I am discussing splitting your hive and getting it to raise a new queen. To simplify the explanation, let's categorise splits into 4 broad categories.

- **Simple splits** are often called **walkaway** or **even splits**. The aim is to divide a hive to produce two (or more) daughter colonies. Usually, no effort is made to find

the queen. As well as increasing colony number, sometimes these are done to pre-empt swarming.

- **Set off methods** are more involved, requiring additional manipulations and equipment. The aim is to deliver improved results by manoeuvring the bees around. Vertical splits using division boards are included in these methods.
- The **cut down split** is a special case that aims to control swarming whilst delivering an improved honey crop. The bees in the queenless half have no brood to care for while the new queen is being raised, so they concentrate on foraging.
- A **swarm control split** is also known as an **artificial swarm** (or named the Pagden method in Britain). It is performed when queen cells are detected during an inspection. The swarm is carried out for the bees in a controlled fashion, eliminating the risk of losing the swarm into the trees.

## Timing

It's easiest to raise queens when the bees want to do it, so spring is best. For the last two years I have split booming hives in the last week of August. This ensured I wasn't fighting the bees' swarming instinct throughout the next months. It was sufficiently early in the season so that I still got a honey crop. But timing depends on the strength of the hive, you really need brood in two or more boxes.

## Biology

A queenless colony will raise emergency queens if they have the resources to do so (24 h larvae or eggs). They will select worker larvae and convert the cells into queen cells. Raising good quality queens requires a lot of nurse bees to tend to the queen cells, so it is important to ensure an

abundance of these are present in the queenless split. However, there is some risk in providing a well-resourced queen-raising colony in that when the queens hatch, additional swarms may be cast. Reducing the bee population in this hive prior to hatching is desirable.

### The Walkaway Split

Simplicity itself and don't worry where the queen is. Take a new bottom board and place it beside the hive. Remove the top brood box and place on the new base. Now go through both boxes (on the old and



new sites) and look for eggs and very young larvae (these are hard to see, barely C shaped and floating on a pool of royal jelly). Swap the brood frames around to ensure there are eggs and young larvae present in both boxes. Into the new box shake additional bees from a couple of frames. This is because any foragers in the new box will return to the old site and you want to leave enough nurse bees to raise queen cells. Lid on and you are done. Don't expect

much visible action from the new site for a week or more until the nurse bees change to foraging. After 7-10 days it's worth inspecting the hives. Check there are queen cells (you now know this was the queenless half) and decide if you want to make more than one nucleus hive from these. It's not hard to cut individual queen cells from combs, but easier just to move complete frames with queen cells into nucs. Be sure to add a frame of stores and that there are enough bees to cover the brood. Check back after 3 weeks to see eggs from your new queen. Pat yourself on the back as a new parent.

### Set off splits

Here we are attempting to optimise the raising of our queen cells. If we move the queen with a few frames of capped brood and honey to a new hive to one side of the original site, the foragers return to the original location. Since the now queenless hive on the original site contains most of the brood and bees, it is very well resourced for queen cell raising. Once these queen cells have been capped, the hive positions are reversed. Foragers will now return to the queenright box, reducing the bee population in the other half with the queen cells, thereby forestalling cast swarms. At this point, if desired, this hive can be divided into several nucs, each with a single queen cell.

Vertical splits are similar, using a split board to separate the boxes. Their advantage is



that you can delay setting up another hive until a new queen is raised. The most rudimentary form of a split board is a hive-sized piece of plywood with wooden strips

forming an entrance. The split board is positioned to separate the boxes with its entrance to the rear. Foragers return to the front entrance in the lower half. Nurse bees stay above and raise emergency queen cells. After 7 days the whole hive is rotated 180 degrees so that bees leaving the bottom box now return to the front of the hive and find the top entrance.

The Snelgrove board is a more complex version of the split board with 6 entrances and a mesh cut out allowing colony scents to mingle. With a Snelgrove board, the entrances are opened in a sequence over successive days to move the bees between the boxes.

### On not finding the queen

We all struggle sometimes. Fortunately there are strategies we can employ. Place an empty brood box on the stand. Find frames with eggs and larvae. Shake all the bees from these and place in box. Fill the box with other combs (sealed brood, stores – your judgement). Position a queen excluder on top and then the brood box with all the sealed brood, the bees and the queen (she's in there somewhere). Replace the lid and wait. Nurse bees will move down to care for the brood. Later (an hour or more) you can remove the top box to its new stand.

### The Cut Down Split

This is done just before a nectar flow. You will need to find the queen. Set up a new hive a metre or so from the original location. Place the queen with all the open brood and any frames of honey in the new hive. Leave the nurse bees on the frames to care for the brood.

The capped brood together with one frame of eggs and one of honey and pollen goes in the old hive. Add an empty honey super with foundation. All of the foragers will return to this old hive. It won't swarm because it doesn't have a queen. The bees will build comb and forage because there are few larvae to care for. The sealed brood will hatch and join the workforce. Much honey will be stored. Eventually they will raise a new queen from the eggs you provided.

Meanwhile, back in the new hive with the old queen, once again there is no likelihood of swarming. There are no foragers and it will be weeks before these are replaced.

### The Artificial Swarm

When queen cells are found, the bees have decided to swarm. Simply cutting out these cells is ineffective. Rather, we perform the swarm for them and can always recombine the colonies later.

First, move the whole hive to an adjacent site approximately 1m to the left or right. Place an empty hive on the original site and fill it with frames of foundation. Find the queen and place her and the frame she is on in this hive. The flying bees will join the queen on this original site. The nurse bees will stay with the brood and queen cells in the old hive on the new site and a queen will hatch.

To avoid the chance of a secondary cast swarm, the old hive is switched to the other side of the original location one week later. Flying bees leaving this hive will return to the far side of the original site and finding this location empty will now join the artificial swarm on the original site as this is nearest.

# BIOSECURITY OVERVIEW

With the current emphasis on biosecurity, a review of the common and uncommon pests and diseases may be of benefit to us all.

**HIGH PRIORITY EXOTIC PESTS:** All notifiable on exotic plant pest hotline 1800 084 881



**VARROA MITES** Varroa destructor & Varroa jacobsoni The overall risk is **HIGH**



Photo: Jason Graham, University of Florida

External parasitic mites that feed on the haemolymph (blood) of both drone and worker bee larvae and pupae as well as adult bees.

Detection is possible by close examination of brood and tests such as the sugar shake test.



V. Jacobsoni

Symptoms include deformed pupae and adults. Stunting, damaged wings, legs abdomens, parasitic mite syndrome (PMS) and colony decline.

Varroa mites can also spread viruses further affecting the colony's health and disease susceptibility.

**TRACHEAL MITE** (Acarapis woodi) The overall risk is **HIGH**



Internal parasite of the honey bee respiratory system.

Affects the honey bee's capacity to breathe, resulting in weakened and sick bees which have a reduced lifespan.

Symptoms include population drop, bees crawling on the ground and bees holding their wings at odd angles (K wing).

Accurate identification requires dissection and microscopic examination of the bee's trachea.

**TROPILAEALAPS MITES** (*Tropilaelaps clareae* & *T. mercedesae*) The overall risk is **HIGH**



External parasitic mite that feeds on the haemolymph of both drone and worker bee larvae and pupae, and also adult bees.

Symptoms include deformed pupae and adults, stunting, damaged wings/legs/abdomens, (PMS) and colony decline.

*Tropilaelaps* mites can also spread viruses further affecting the overall colony health and disease susceptibility.

**PRIORITY ESTABLISHED PESTS:** Pests in this category are already established in Australia,



some are present in every state or territory and others may have localised distribution. Notifiable on a state by state basis.

These priority pests are established in Australia.

Refer to your biosecurity manual to learn which ones are notifiable in Victoria.

Diseases and symptoms:

**AMERICAN FOULBROOD** (*Paenibacillus larvae*)

Brood disease caused by a bacterium that is ingested by bee larvae (less than 3 days old) and results in the larvae dying of starvation after cell capping.

- Symptoms include sunken and discoloured, sometimes greasy, cell cappings with perforations and an irregular brood pattern.
- Decaying infected larvae may be roped to a distance of 25 mm or more.
- Infection weakens the hive making it susceptible to robbing, and thus spreading to other bee colonies which will be fatal in most cases.
- Bacterium is very infectious, remains dormant for over 50 years and can occur on components of infected hives.

**ASIAN HONEY BEE** (*Apis cerana* Java genotype)

Invasive and adaptive strain of Asian honey bee.

- Similar appearance to European honey bee, although it is slightly smaller has more pronounced stripes on its abdomen and a more erratic flying pattern.
- AHB cannot be managed for honey production or pollination due to its frequent swarming and tendency to abscond.
- Robs European honey bees of their stores and competes for floral resources.
- A host carrier of *Varroa jacobsoni*.

**BLACK QUEEN CELL VIRUS** (Black queen cell virus (Cripavirus))

Virus that causes mortality in queen bee larvae or pre-pupae.

- Queen bee larvae or pre-pupae die after capping. The dead larvae or pre-pupae and the queen cell wall turn brown-black.
- Symptoms reflect the appearance of worker bee larvae killed by sacbrood virus.
- Black queen cell virus may be transmitted by *Nosema apis*

### BRAULA FLY (*Braula coeca*)

The Braula fly lives in honey bee colonies and attaches itself to honey bee mouth parts where it feeds on nectar and pollen.

- Has a preference for attaching itself to queen bees which can decrease the efficiency and egg laying capability of the queen.
- Braula larvae tunnel under honey cappings which give the honey comb cappings a fractured appearance.

### CHALKBROOD DISEASE (*Ascosphaera apis*)

A fungus that is ingested by bee larvae causing death by starvation.

- Symptoms include scattered brood with perforated cappings.
- Larvae die after the cell is capped and become covered by the white/grey fungus, causing the diagnostic 'mummies'.
- Incidence is usually greater when the colony is under stress due to cool weather or poor nutrition.

### EUROPEAN FOULBROOD (*Melissococcus plutonius*)

A brood disease caused by a bacterium that is ingested by honey bee larvae and results in the larvae dying of starvation.

- Symptoms include spotted brood pattern intermingled with healthy brood, sunken and dark cappings and a foul smell.
- Infected larvae die before their cells are capped in a twisted position and become yellow-brown.
- Incidence is usually greater when the colony is under stress due to cool weather or poor nutrition.

### GREATER WAX MOTH (*Galleria mellonella*) and lesser wax moth (*Achroia grisella*)

Pests of weak and stressed colonies and combs in storage.

- Both moths are similar grey colour and tend to coexist in the same location.
- Both species prefer brood combs and eat wax, pollen and remains of larval honey bees, leaving behind silk webbing and silk lined tunnels.
- Larvae chew canoe-like cavities on wooden frames and hive boxes in which they spin their white silk cocoon.

### NOSEMOSIS (*Nosema apis* and *N. ceranae*)

A disease caused by two species of microsporidian parasites which can infect drones, workers and queen bees.

- Spores germinate in the adult bee gut causing a shortened life-span, a sometimes rapid reduction in the number of adult bees, poor honey production, reduced brood production and dysentery in and around the hive.
- Infected bees show no specific disease symptoms.
- Heavy losses of bees and colonies may occur in autumn, winter and spring.

### SACBROOD VIRUS (*Sacbrood virus (Iflavivirus)*)

A virus that affects bee larvae after consuming contaminated brood food, water, pollen or nectar.

- Symptoms include scattered dead brood with discoloured sunken or perforated capping's.
- The larvae die with their head characteristically raised in a banana shape towards the top of the cell.
- Infected larvae die shortly after capping and have a yellowish appearance as they become a fluid filled sac. The skin of dead larvae changes into a tough plastic like sac.

### SMALL HIVE BEETLE (Aethina tumida)

Larvae of this brown-black beetle consume honey bee eggs, brood, pollen and honey.

- The larvae chew through the combs causing the honey to ferment and the hive to become 'slimed out'.
- Larvae can also consume combs of honey removed from the hive for extraction.
- Large numbers of small hive beetle can result in the death of the colony or the colony absconding.

(Acknowledgment to Plant Health Aust, AHBIC, RIRDC. Biosecurity Manual for text.)

### QUICK QUIZ:

#### How much do I know about Pests and Disease?

- Which species of Varroa has been found in Australia? [ ] Destructor  
[ ] Jacobsoni
- Is Tracheal mite notifiable in Victoria? [ ] yes  
[ ] no
- Can Asian honey bee be kept for honey production? [ ] yes  
[ ] no
- Is small hive beetle (SHB) a notifiable pest in Victoria? [ ] yes  
[ ] no
- How many legs does a small hive beetle have? [ ] 6 legs  
[ ] 8 legs
- The Black Queen cell virus an [ ] established pest  
[ ] exotic pest
- What part of the bee does the Tracheal mite attack?  
[ ] blood  
[ ] nervous  
[ ] respiratory system
- What part of the bee does the Braula Fly attack?  
[ ] mouth  
[ ] brood  
[ ] honey
- Can I leave my frames in the open for the bees to clean?  
[ ] yes  
[ ] no

Answers in next month's edition

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