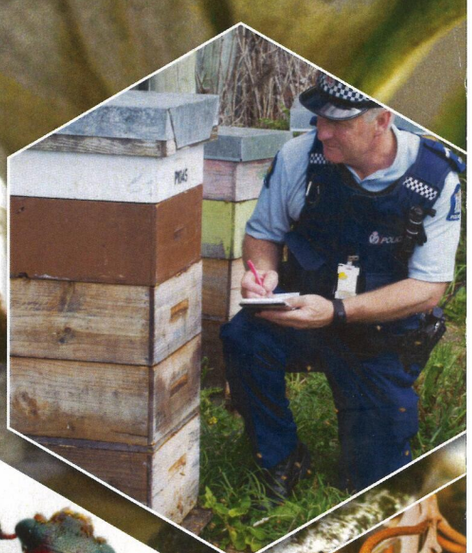
NOVEMBER 2016 | VOLUME 24 No. 10

# The NEW ZEALAND BeeKeeper

## New ApiNZ CEO appointed

ApiNZ Management Team



## Small hive beetle

Byron Taylor

## Trees for Bees Star Performers

Linda Newstrom-Lloyd and Angus McPherson

## Preparing for the flow

Frank Lindsay

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*Front cover: Foraging a* Teucrium fruticans *flower. The shrub offers a hedging option that is attractive to bees. See photo essay on page 21. Photo: Paul Burgess.*

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**MANAGEMENT TEAM:**
**Chief Executive Officer**
Karin Kos
Email: ceo@apinz.org.nz
**Secretary**
Email: info@apinz.org.nz
**Accounts and Subscriptions**
Pauline Downie
Email: memberships@apinz.org.nz
PO Box 10792, Wellington 6143
Ph: 04 471 6254

**APICULTURE NZ BOARD REPRESENTATIVES:**
Dennis Crowley
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**EDITORIAL/PUBLICATION (excluding advertising):**
Nancy Fithian
8A Awa Road, Miramar, Wellington 6022
Mobile: 027 238 2915
Fax: 04 380 7197
Email: editor@apinz.org.nz

**ADVERTISING INQUIRIES:**
Certa Solutions,
PO Box 2494, Dunedin 9044.
Phone: 0800 404 515
Email: beekeeper@certasolutions.nz

**PUBLICATIONS COMMITTEE:**
Frank Lindsay
26 Cunliffe Street, Johnsonville, Wellington 6037
Ph: 04 478 3367
Email: lindsays.apiaries@clear.net.nz

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**CONTACTS TO THE NEW ZEALAND BEEKEEPING INDUSTRY:**
Rex Baynes, AFB PMP Manager
PO Box 44282, Lower Hutt 5040
Email: rbaynes@ihug.co.nz
Ph: 04 566 0773
American Foulbrood Management Plan
www.afb.org.nz

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APICULTURE NEW ZEALAND

# APICULTURE NEW ZEALAND APPOINTS CHIEF EXECUTIVE

*Apiculture New Zealand Management Team*

The Board of Apiculture New Zealand has appointed Karin Kos as its chief executive, effective from late November 2016.

Karin has a strong background in business communications going back 20 years, covering a variety of roles including senior communications and marketing positions for corporate, government and primary sector organisations.

As a result, she brings significant primary sector experience to this role, having worked at Seafood New Zealand as its Communications Manager, and at the New Zealand Wool Board, earlier in her career. In both these roles Karin played a strong advocacy role, promoting these sectors on behalf of their members.

"These roles have given me great insight into the value of having a strong industry body, one that can demonstrate the benefits it brings to our economy and our communities, raise its profile in the process, and deliver real value to its members.

"As chief executive I look forward to getting to know the people that work in this industry, to understanding what matters to them and giving them a voice where it counts."

Karin said New Zealand's apiculture industry was a vital part of the country's primary production with significant growth potential.

"Apiculture New Zealand has a great opportunity to build its credibility and reputation as the peak body and voice for this exciting industry, and it will be both a challenge and a privilege to lead that."

*Jacqueline Rowarth. Photo supplied by EPA.*


IN THE NEWS

# EPA'S NEW VOICE

*Abridged EPA media release, 9 August 2016*

The Environmental Protection Authority (EPA) has announced the appointment of Dr Jacqueline Rowarth to the new role of Chief Scientist, helping New Zealanders understand the science behind EPA decisions. Dr Rowarth took up this position at the end of October.

The EPA's Chief Executive Dr Allan Freeth says Professor Rowarth has a depth and breadth of experience that covers agricultural science, environment and agribusiness.

"She has long been an advocate for using accurate science and data to make good decisions to manage New Zealand's natural resources.

"At the EPA we're really proud of the work that we do, and the robust scientific assessments that support our decisions.

"As Chief Scientist, Jacqueline Rowarth will be in a position to use her expertise to explain our science, so people can have trust and confidence in the decisions we make."

APICULTURE NEW ZEALAND

# APPOINTMENTS MADE TO THE STANDARDS, COMPLIANCE AND REGULATION FOCUS GROUP

*Apiculture New Zealand Management Team*

Appointments to the Apiculture New Zealand Standards, Compliance and Regulation Focus Group have been made. Chairman of the group will be Tony Wright. Tony was a member of the Bee Products Standards Council (BPSC) and is General Manager Technical at Comvita.

**The rest of the group is:**

| | |
|---|---|
| Peter Bray | Pam Flack |
| Ricki Leahy | John Rawcliffe |
| John Hartnell | Chris Bowman |
| Darren Clifford | Young Mee Yoon |

A representative from the Ministry for Primary Industries (MPI) will also sit on the focus group.

The Standards, Compliance and Regulation Focus Group will have a similar purpose to the BPSC as the representative that liaises with industry and government on standards relating to the apiculture industry.

It will provide leadership, analysis and advice that contributes to the development of cost-effective sustainable standards and risk-mitigating strategies that achieve best practice in risk management and consumer protection.

It will work with MPI to establish food safety and other technical standards, as well as protocols that are necessary for bee products.

It will ensure delivery of efficient and practical strategic direction, policy formulation and priority setting that meets the needs of the apiculture industry.

The focus group will report to the Apiculture NZ Board.

The new group's first meeting will be in November.

APICULTURE NEW ZEALAND

# POLICE NEED INDUSTRY'S HELP

*New Zealand Police and Stuart Fraser, ApiNZ Board Member*

Recent growth in the numbers of beekeepers and hives in New Zealand's apiculture industry, as well as the value created from the range of products from bees, has bought with it an unwanted increase in criminal activity. The obvious opportunity is hive theft.

While NZ Police are prepared and organised to work with a range of industry players to ensure this is dealt with efficiently and effectively, they need all of industry's help to get on top of this situation.

Nearly 200 reported occurrences of honey or beehive theft have occurred from July 2015 to June 2016. Combining reported honey and beehive thefts in the past 12 months, Auckland City, Central district and Northland have had the most issues. Beehive thefts alone in the central North Island have more than doubled this year, surpassing the number of reported thefts in Northland, which remains high.

NZ Police are working with a number of partner agencies, such as Apiculture NZ and the Ministry of Primary Industries, to reduce the occurrence of beehive and honey thefts. This includes improvement on the intelligence held on beehives, honey and those stealing them, as well as improving investigative methods used when such occurrences do happen.

A national database is being developed to improve information gathering. Similar databases exist now in specific areas.

Police are concerned that under-reporting of the issue is preventing a full understanding of the scale of the issue and gathering intelligence on it.

Reducing beehive thefts requires help from those within the industry and members of the public. Movement of small numbers of hives by unfamiliar or unmarked vehicles should be reported to *555 with a note of the type of vehicle, the registration number, location and direction of travel. A description of the beehives, including colour and numbers, is also helpful.

*Photo supplied by New Zealand Police.*

## SAFETY SUGGESTIONS

Police have a number of suggestions for apiarists to help ensure the safety of their hives:

- where possible, keep hives in paddocks away from public view
- consider using pressure pads, tracking devices, and outdoor surveillance cameras
- engrave or fire-brand registration numbers into the hive and top of frames
- report movement of hives to *555.

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OBITUARY

# STANLEY STEWART MCAUSLAN:

## 27 AUGUST 1926–7 SEPTEMBER 2016

*Jane McAuslan*

Following is an obituary for Stanley (Stan) McAuslan, written by his daughter. Stan was a well-known commercial beekeeper in the Central Otago area for many years and often worked as a highly regarded apiary inspector. Our condolences go to Stan's family, along with our thanks to Jane McAuslan for writing Stan's obituary and to Dr David Woodward, a family friend, for forwarding it for publication.

Born in Balclutha on 27 August 1926, Stan was the sixth of seven children and the last surviving sibling. Stan attended Balclutha primary school and South Otago High School, where he was a school prefect and excelled in athletics. Stan was the athletics champion for a number of years. When he broke the record for the 'hop, step and jump' (the triple jump) he jumped right over the end of the pit and damaged his knee, thus putting paid to his athletics career.

While at high school Stan owned a few beehives—his first interest in bees. Before full-time beekeeping, Stan was involved in many occupations including deer culling, fencing, shearing, working at Finegand freezing works and at Irvine's skin store in Dunedin, where he met Nancy. He also attended teachers' college and spent one year as a primary teacher in Nelson.

Stan and Nancy married in 1952 and lived at Finegand, Balclutha, where Stan worked as a freezing worker. During this period a friend, Del Jenkins, lived with them. Del kept some beehives down the back of the section. Seeing Del work the bees just in shorts and boots rekindled Stan's love of bees. Not long after, Nancy and Stan moved to Southland and spent 18 months working for a commercial apiarist.

In 1961 they moved to Ophir, after purchasing two small apiaries, and the family lived in the police house. Stan's honey house was the old Ophir courthouse (now a holiday home). Stan's beekeeping operation covered the Manuherikia Valley, Matakanui, Drybread, St Bathans, Hawkdun Ranges, Ida Valley and Ophir. There were 1300 hives spread over a number of apiaries, the hives at each apiary being dependent on the amount of clover available for the bees.

As the business expanded, a number of buildings were collected in Ophir—the old drapery, the old butcher's shop, an old bus for the express use of 'rearing queens' or going on holidays. Neither the queen rearing, nor the use of the bus for holidays, ever happened!

After seven years in Ophir, Nancy and Stan bought a house in Omakau and remained there for 25 years before moving to Alexandra. At this time Stan was not fully retired and commuted from Alexandra to his beekeeping stamping ground.

With change in legislation in a number of industries, beekeeping did not escape and soon enough Stan found himself between a rock and a hard place, as the Historic Places Trust would not allow any alterations to the courthouse and the Department of Health demanded that it be upgraded. In the end, a new honey house was built in Omakau and Stan operated from there until he retired in 1993.

*Photo supplied by Jane McAuslan.*

For many years Stan was employed as an apiary inspector—a worthy tribute to his skill and knowledge of bees and the industry. He attended many national beekeeper meetings throughout New Zealand and he and Nancy hosted numerous beekeeping field days.

Stan often said that 'beekeeping was made for him and he was made for beekeeping'. He loved the outdoors, being in all types of weather and the feeling of not being hemmed in.

Stan is survived by his wife Nancy, two sons, Lee (a hobbyist beekeeper), Martin and daughter Jane. At 90, Stan was laid to rest at the Drybread cemetery, Omakau, near an old apiary site.

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PEST AND DISEASE CONTROL

# SMALL HIVE BEETLE: AN OVERVIEW AND DIFFERENTIAL DIAGNOSIS

*Byron Taylor, Apicultural Officer, AsureQuality Limited, Hamilton*
*Byron.Taylor@asurequality.com*

The small hive beetle (SHB) is a small brown to black beetle approximately five to seven millimetres long and three millimetres wide. The larvae of the beetle look like lesser wax moth larvae; however, a trained eye will note spikes on the larvae. Additionally, the larvae are considerably hardier than wax moth larvae, with beekeepers commenting that they are hard to 'squish'.

## Life cycle

Small hive beetles are highly attracted to beehives. Researchers have suggested that they can detect some hives via chemical signals from more than 10 kilometres away. Once in the hive, females will begin laying eggs in cavities away from the bees. Egg incubation time varies but is usually between two to four days. The larval stage is the most destructive. Larvae consume brood, pollen and honey and produce a slimy substance on the comb which acts as a repellent to the bees and renders any affected honey crop worthless.

Pupation happens outside in the soil adjacent to the hive and is the stage during which the beetle is the most vulnerable. Larvae can sometimes be seen massing on the floorboard of the hive in preparation for pupation. Pupation takes anywhere from about eight to 60 days depending on temperature, soil moisture, soil structure, etc. On completion of this stage, adults emerge from the ground, ready to infest new colonies.

## Behaviour

The small hive beetle is a strong flyer and can easily travel with a swarm to a new nesting site. However, when a hive is disturbed, SHB will run from the light looking for somewhere to hide rather than taking flight.

Small hive beetles will also overwinter in the bee cluster, increasing the temperature range over which the beetle can survive. All parts of New Zealand have a suitable climate for SHB to become established. However, SHB will do better in the warmer areas.

Contrary to the adults, larvae will move towards the light. They are a similar size to the lesser wax moth larvae but unlike the wax moth, which leaves webbing which many will be familiar with, SHB larvae leave slime on the comb.

**In terms of hive management, a key consideration is that weak colonies are susceptible to invasion by small hive beetle.**

## Management

In the event of the small hive beetle becoming established in New Zealand, most beekeeping enterprises will need to reassess their management practices and make changes in order to minimise the impact of the pest. This includes both hive management and harvest/processing management.

In terms of hive management, a key consideration is that weak colonies are susceptible to invasion by small hive beetle. Weak colonies are not necessarily those that have been managed poorly and may include: overwintering nucs, queen-raising operations, hives with high varroa levels, and hives suffering pollination damage (spray poisoning, hives under nets, etc).

With harvest and processing management, one of the key considerations is that undefended combs are susceptible. This means that we may need to reconsider these factors: storage of harvested honey supers pre- and post-extraction, management of old combs, management of cappings wax, and general cleanliness around honey factories.

*Courtesy The Animal and Plant Health Agency (APHA), Crown Copyright*

Control measures will add expense in the form of additional visits to hives, pest traps, soil treatments, refrigeration for super storage and so on. For those involved with live bees, at the very least, this trade would be interrupted and depending on negotiations, possibly halted.

## Spread of small hive beetle and introduction potential

The small hive beetle is a native of Sub-Saharan Africa but in the last 20 years has spread to many other parts of the world. It has been discovered in Florida (1998), Egypt (2000), Australia (New South Wales and Queenland (2002), Canada (Manitoba 2002; Quebec 2008), Portugal (2004), Jamaica (2005), Mexico (2007), Hawaii (2010), Malaysia (2011), Cuba (2012), El Salvador (2013), Philippines (2014), Italy (2014) and Brazil (2015).

*continued...*

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**Australia is a major risk pathway for the introduction of this pest.**

As can be seen from the list on the previous page, small hive beetle is a very effective coloniser. There are several reasons for this success:

- they can travel with swarms
- they can survive for extended periods in a dead colony
- they can survive eight to nine days without food
- they could potentially be transported in soil (during pupation)
- they can also complete their life cycle on some fruits.

Because of this, passenger arrivals and freight are a risk. New Zealand is an island nation, which is a huge advantage from a biosecurity perspective. However, we are not cut off from the rest of the world:

- over 21 million tonnes of cargo was imported into New Zealand to June 2016 (Statistics New Zealand)
- there were almost six million passenger arrivals to June 2016 (Statistics New Zealand)
- more than 35% of containers arrived from countries in which SHB is endemic.

Of the cargo and passengers described above, a significant percentage comes from Australia. Given that small hive beetle is established along their eastern seaboard where much of the cargo originates, the relatively short distance between our two countries, as well as the volume of traffic, Australia is a major risk pathway for the introduction of this pest.

## Biosecurity system

The biosecurity system is in place to protect New Zealand from exotic pests and diseases including small hive beetle. The system can be divided into three broad categories: pre-border activities, border activities, and post-border activities.

Pre-border activities cover any requirements prior to freight arriving at the border. These requirements are often published as import health standards.

A number of activities occur at the border. Those most applicable to halting the introduction of small hive beetle include inspection and fumigation activities.

Post-border activities are those that occur after goods pass through the border and include activities such as the Apiculture Surveillance Programme. The remainder of this article will focus on post-border activities.

Many will be aware of the components of the Apiculture Surveillance Programme, which surveys 350 high-risk apiaries each autumn for a variety of exotic honey bee pests and diseases including the small hive beetle. Additionally, 300 apiaries supplying bees for export are also sampled. This amounts to an inspection rate of around 1.5% of apiaries. While this provides a certain level of sensitivity, a successful eradication of small hive beetle is heavily dependent on early detection due to the fact that it can survive independently of beehives. The chance of an early detection is greatly increased via 'passive' surveillance, where all beekeepers are checking their hives for anything unusual. There are already a number of cases where beekeepers have acted when identifying an unusual beetle in their hives. Some of these cases are described below.

## Differential diagnosis

New Zealand is home to a vast number of beetles, some of which have been found in beehives. These were found during beekeeper inspections and are good examples of our passive surveillance system. Two of the species submitted to the Ministry for Primary Industries (MPI) laboratory are from the genus *Epuraea (E. zealandica & E. antarctica)*, which are part of the Nitidulidae family. The small hive beetle *(Aethina tumida)* also belongs to this family.

## Case 1: Staphylinidae

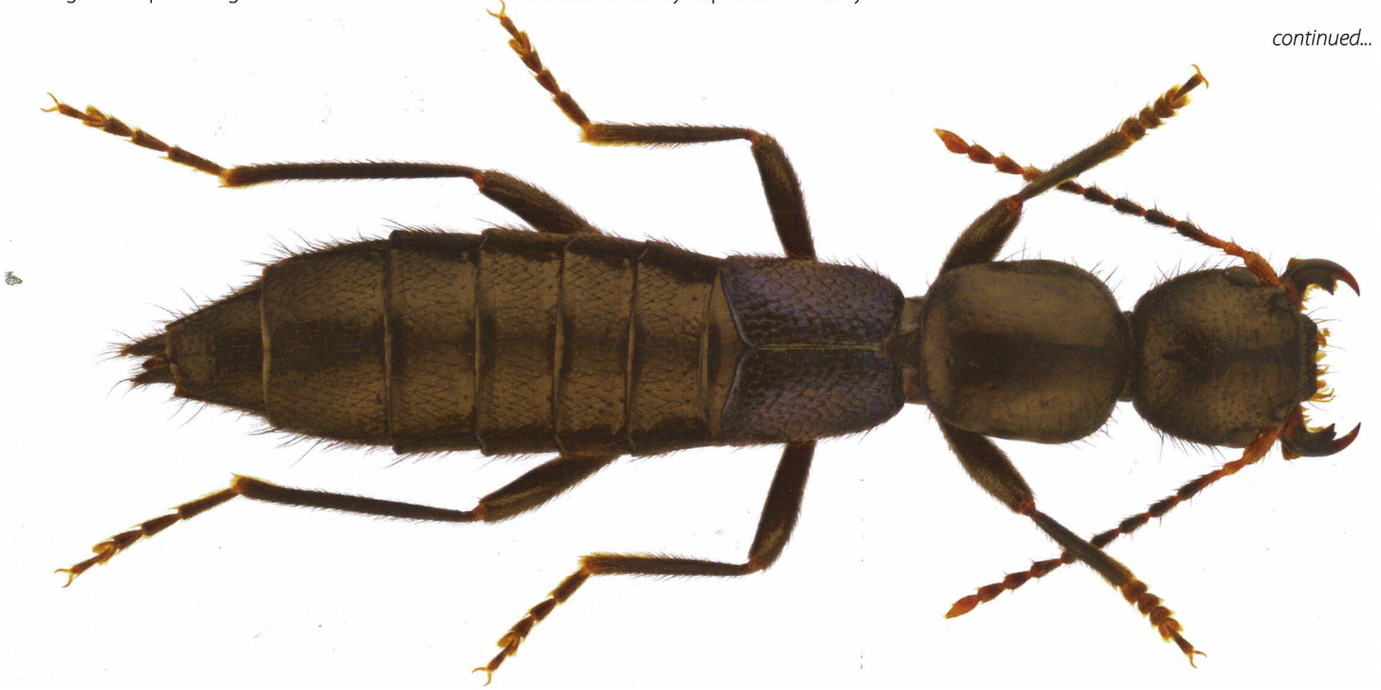
Staphylinidae is the largest beetle family. They are long with relatively short wing cases. While it is unlikely that this would be confused with a small hive beetle, in this case, it was submitted along with a *Saprinus detritus*.

The beetle pictured below was *Creophilus oculatus* but is commonly known as 'The Devils Coachhorse'. They are found in decaying animal material.

## Case 2: Histeridae

Histeridae occupy a wide range of niches including beehives. They have elbowed antennae with clubbed ends. This, along with

*continued...*

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the shape, caused the beekeeper to suspect small hive beetle. Although this photo does not show it clearly, Histeridae have shortened wing cases.

This particular beetle was *Saprinus detritus.*

### Case 3: Nitidulidae

Nitidulidae (pictured above) are two to six millimetres long and have clubbed antennae. The beetles submitted in these cases were *Epuraea spp.*, which are slightly more elongated than small hive beetles.

### Conclusion

A number of beetles are found in New Zealand beehives, some of which can look similar to small hive beetle. All beekeepers are encouraged to review the exotic disease pamphlet produced by MPI regularly and to report anything suspected as being an exotic pest or disease via the MPI exotic disease hotline on 0800 809 966.

### Acknowledgement

This article was funded by the Ministry for Primary Industries through the Apiculture Surveillance Programme.

### Further reading

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Ellis, J. D., and Ellis, A. (2013). Featured creatures: small hive beetle. Retrieved October 11, 2016, from http://entnemdept.ufl.edu/creatures/misc/bees/small_hive_beetle.htm

Ministry for Primary Industries. (2016). News & Resources: Publications. Retrieved October 11, 2016, from http://mpi.govt.nz/news-and-

MPI

# MPI REMINDS **BEEKEEPERS** OF **LISTING REQUIREMENTS**

*Ministry for Primary Industries*

The Ministry for Primary Industries (MPI) would like to remind beekeepers of the new requirement that took effect on 25 August 2016. This requires beekeepers to be listed with MPI if they supply honey to operators who have a Risk Management Programme (RMP) in-place and export to countries that require official assurances ('Certification').

**Ministry for Primary Industries**
Manatū Ahu Matua

RMP operators are now only able to accept honey from beekeepers listed with MPI. Beekeepers operating under their own RMPs do not need to be additionally listed with MPI.

MPI would like to thank the more than 351 beekeepers that have provided their completed Beekeeper Listing forms to MPI to date. These beekeepers have been listed to supply honey for export with official assurances in the upcoming season.

### Why did MPI make these changes?

New Zealand honey is in increasing demand around the world, and it's important New Zealand continues to be seen as a trusted supplier of high quality, safe products.

One of the ways MPI ensures this is through the official government-to-government assurances it provides to importing countries that New Zealand products meet their requirements in areas such as food safety.

Earlier this year MPI made improvements to its systems and processes that support 'official assurances'. In addition to requiring listing of non-RMP beekeepers, MPI also introduced requirements to strengthen traceability in its electronic certification system and labelling of unlabelled bulk honey and retail packs, and it increased the verification of bee product export premises. These requirements were introduced after consultation with industry in late 2015/early 2016.

### How to get listed with MPI

If you're a beekeeper and still require listing with MPI, you'll need to complete the AP14 Beekeeper Listing form and follow the instructions on MPI's website at www.mpi.govt.nz/exporting/food/honey-and-bee-products, under 'Forms & Templates'.

### What if I'm not listed with MPI?

If you're not currently listed with MPI or do not operate under a Risk Management Programme, you can only sell honey domestically or supply it for export to countries that do not require official assurances.

### Who can I contact if I have questions?

If you have questions regarding the listing process, please email approvals@mpi.govt.nz

TREES FOR BEES CORNER

# STAR PERFORMERS PART 1: INTRODUCTION TO THE SERIES AND PIPFRUITS

*Linda Newstrom-Lloyd (Trees for Bees Botanist) and Angus McPherson (Trees for Bees Farm Planting Adviser)*

Trees for Bees has produced a new series of fact sheets showcasing the 'best of the best' bee plants that will maximise nutrition benefits for your bees. In this issue of the journal, the team introduces the series and explains why pipfruit trees are a 'star performer'. For more information, see www.treesforbeesnz.org.

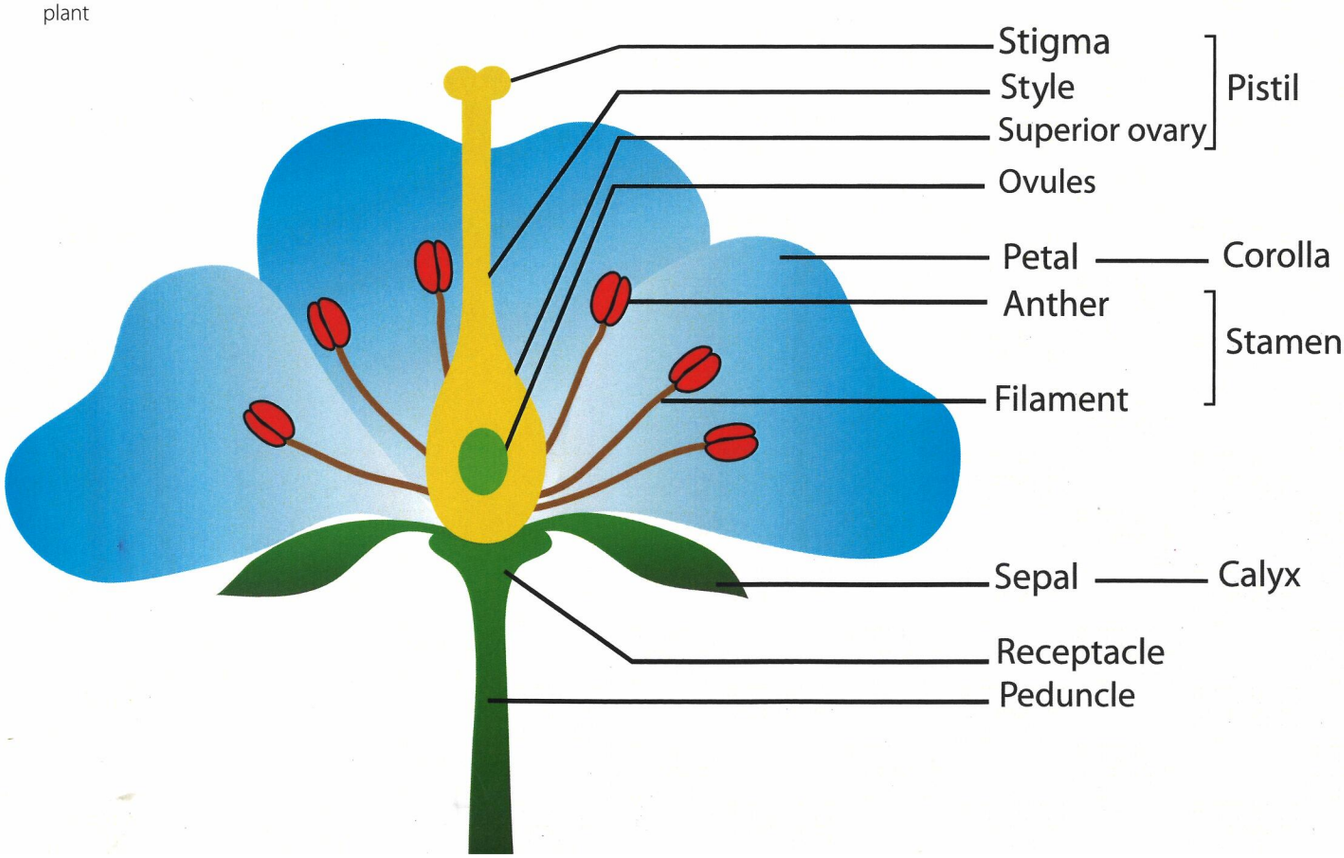
## Introduction to the Series

The 'Star Performers' series is designed to show the best of the best in bee plants. Each selected plant group has been investigated in the field by our team and used extensively in our Demo Farms.

These plants rank as star performers because they maximise bee nutrition by having any combination of one or more of these six great features:

1. the plant flowers at a time of pollen or nectar dearth (e.g., spring, autumn and even winter)
2. the plant flowers profusely with high density and large quantity of flowers per plant
3. each flower delivers large quantities of pollen or nectar; even though such plants may have few flowers
4. the flowers deliver high quality pollen nutrition (e.g., high crude protein content)
5. the flowers give bees easy access to pollen and nectar for better foraging efficiency
6. the flowers are highly attractive and preferred by bees.

We focus on the nature of the flower in relation to the bee's ease of access to the pollen and/or nectar, so it is helpful to understand flower structure to see how bees are able to 'work the flower'. A flower is arranged in concentric circles, with the pistil in the centre surrounded by one or more whorls of stamens bearing pollen, then whorls of petals and then sepals. Any of these parts may be modified or absent as in unisexual flowers. The nectary (where the nectar is produced) can be anywhere—at the base of the pistil or stamens, on the petals, or even outside the flower. The nectary may be an obvious structure or inconspicuous and subtle. It is absent in flowers that produce only pollen and no nectar. The names of the flower parts are illustrated in the figure below.



**Parts of a flower, starting from the centre and working to the outside of the flower:**

**Pistil** – the female reproductive organ located in the centre, made up of the stigma, style and ovary

**Stigma** – the receptive surface of the pistil where pollen lands and germinates to produce the pollen tube

**Style** – the narrow elongated part of the pistil between the ovary and the stigma; guides the pollen tube to the ovary

**Ovary** – the enlarged basal portion of the pistil where ovules are produced and protected

**Ovule** – the egg awaiting fertilisation from genetic material delivered in pollen tube; may be one or many ovules per ovary

**Stamens** – the male reproductive organs surrounding the pistil, made up of the anther and filament

**Anther** – the sac at the tip of the stamen; produces and protects pollen; on maturity it opens to expose the pollen

**Filament** – the stalk that holds up the anther to promote pollen dispersal by wind or pollinators

**Petals** – the parts surrounding the pistil and stamen to protect them and to attract pollinators; may be absent

**Corolla** – the whorl of all the petals together, petals can be separated individually or fused to form a tube

**Receptacle** –the axis (upper part of the stem) to which the floral parts are attached.

**Sepals** – the outermost whorl protects flower bud, usually green and leaf-like, sometimes coloured; may be absent

**Calyx** – the whorl of all the sepals taken together

**Peduncle** – stalk holding up one flower or a group of flowers; called a pedicel for one flower on a stalk of multiple flowers.

# PIPFRUIT TREES IN THE ROSE FAMILY

In the Rose family, the pipfruit trees, (e.g., pears, apples, crab apples, and quinces) are Star Performers because of their massive flower density on the tree and the high protein content in the pollen (22%–28%). The trees or shrubs are usually deciduous with flowers opening before the leaves. Most species flower in spring with different early and late varieties.

In each group there are both edible cultivars and ornamental inedible varieties. For example, the 'flowering quince' *(Chaenomeles japonica)* is grown ornamentally for the flowers, not for their fruits (although they are edible), while the closely related *Cydonia oblonga* and *Pseudocydonia sinensis* are the edible quinces. There are both edible and ornamental cultivars of apples, pears and crab apples too. Consult your local nursery. Avoid any that have double flowers or other modifications that reduce the quantity and presentation of pollen and nectar. If the spread of weeds by bird dispersal of fruits and seeds is an issue, then choose cultivars with large fruits that don't attract birds.

**PIPFRUIT TREES IN THE ROSE FAMILY**

| COMMON NAME | SPECIES |
|---|---|
| Domestic apple | *Malus domestica* cultivars |
| Crab apple | *Malus species* |
| European pear | *Pyrus communis* cultivars |
| Ornamental pear | e.g., *Pyrus calleryana, P. ussuriensis, P. nivalis, P. betulaefolia* |
| Edible quince | *Cydonia oblonga cultivars,* e.g., Smyrna |
| False quince | *Pseudocydonia sinensis* |
| Flowering quince | *Chaenomeles species,* e.g., *C. japonica* (Japanese flowering quince), *C. cathayensis* (Chinese quince) |

*continued...*

*This heritage pear tree in full bloom benefits bees hugely. Photo: Jean-Noël Galliot © Trees for Bees NZ.*

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**Before the honey flow hits, you need frames in boxes. Lots of frames!**

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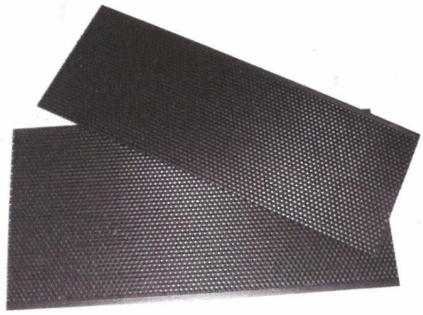
**Available in 1/2 depth, 3/4 depth and full depth standard Hoffman frames. Or 3/4 depth and full depth grooved bottom bar frames for Perma-Dent plastic foundation.**

*We coat plastic foundation and frames with beeswax too!*

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| 3/4 Depth | | Full Depth | |
|---|---|---|---|
| 1+ ea | $1.90 + GST | 1+ ea | $1.95 + GST |
| 500+ ea | $1.65+ GST | 500+ ea | $1.65+ GST |
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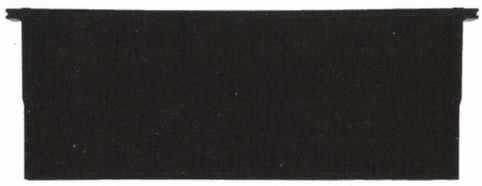
| 5000+ ea | $1.25 + GST | 5000+ ea | $1.30 + GST |

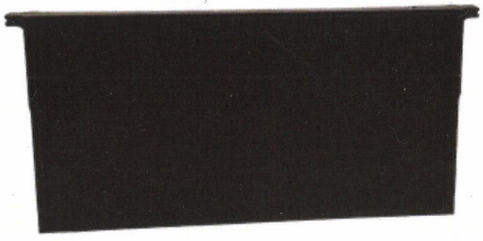
# Ceracell Plastic Frames from Ceracell Dies



## 3/4 Depth Plastic Frames

*(available in 33mm & 35mm end bar size, & 42mm manley end bar size)*

| | | |
|---|---|---|
| 2 pallets | (36 cartons = 1,728 frames) | $1.80 + GST ea |
| 8 pallets | (144 cartons = 6,912 frames) | $1.75 + GST ea |
| 16 pallets | (288 cartons = 13,824 frames) | $1.70 + GST ea |



## Full Depth Plastic Frames

*(available in 33mm or 35mm end bar size)*

| | | |
|---|---|---|
| 2 pallets | (36 cartons = 1,440 frames) | $1.85 + GST ea |
| 8 pallets | (144 cartons = 5,760 frames) | $1.80 + GST ea |
| 16 pallets | (288 cartons = 11,520 frames) | $1.75 + GST ea |

***Prices listed are for uncoated plastic foundation and frames. Prices are subject to change without prior notice.***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*Pear flower with bee collecting pollen. Anthers in all stages of opening deliver pollen throughout the day. Photo: Jean-Noël Galliot © Trees for Bees NZ.*

*Pear flower with bee taking nectar. The bee 'tongue' (proboscis) is extended into the centre of the flower for sipping nectar. Photo: Jean-Noël Galliot © Trees for Bees NZ.*

*continued...*

AgriSea NEW ZEALAND

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NO1 SELLING NZ SEAWEED BEE NUTRITION

No1

# BEE NUTRITION

The New Zealand native seaweed species (Ecklonia radiata) is batch-brewed with specially selected essential herbs for up to 90 days to make our Bee Nutrition tonic. The natural brewing process eliminates the use of processing with heat, chemicals, freezing or dehydration that might 'denature' the sensitive nutrient balance, allowing the micro-nutrients to be released in an active form to enhance bee survival over the crucial winter period. AgriSea's Bee Nutrition holds a wide variety of trace elements in a naturally chelated form that ensures easy and ready uptake by the Bee. The availability of amino acids also important for bees over winter are also readily available.

## FEATURE BENEFITS

- **Convenient and cost effective**
- **Organic source of minerals, vitamins & essential Amino acids for Bee health in a naturally balanced and available form**
- **Improved Hive Health**
- **Improved Population**
- **Improved Production**
- **Essential Trace elements**

## RECOMMENDED DOSE RATES

20mls per litre / 20L per 1000L added to syrup

## PRODUCT ANALYSIS

**Minerals and Trace Elements (mg/L - ppm)**

| | | |
|---|---|---|
| Nitrogen 50.35 | Phosphorus 10.07 | Potassium 2134.84 |
| Sulphur 271.89 | Calcium 90.63 | Magnesium 211.47 |
| Sodium 1701.83 | Iron 0.703 | Copper 0.064 |
| Manganese 0.041 | Iodine 454.50 | Molybdenum 0.01 |
| Selenium 0.01 | Zinc 0.360 | Boron 6.060 |
| Cobalt 0.010 | | |

**Vitamins** Vitamin A, Vitamin C, Vitamin E, Vitamins B1, B2, B3, B5, B12, Fucoxanthin, Choline, Folic Acid

**Amino Acid (mg/100gm)**

| | | |
|---|---|---|
| Aspartic Acid 7.17 | Threonine 1.72 | Serine 1.91 |
| Glutamic Acid 19.19 | Prolin 0.90 | Glycine 2.62 |
| Alanine 8.64 | Valine 1.90 | Isoleucine 0.87 |
| Leucine 1.71 | Tyrosine 1.41 | Phenylalanine 1.31 |
| Lysine 1.85 | Histidine 0.68 | |
| Arginine 1.50 | Cystine 2.05 | |
| Methionine 0.47 | Tryptophan 0.21 | |

### WE ADD AGRISEA TO EVERYTHING

"I have been trialling AgriSea for the past year and I am very impressed with the low losses I have achieved this year (1%), plus it just makes sense that the nutrients, amino acids and vitamins in AgriSea must be assisting the health of the hives when compared to using straight sugar syrup. When used in high concentrations 30ml per litre of syrup I have seen brood rearing mid winter and believe that the nutrients in AgriSea go a long way in assisting brood development."

Stu Ferguson

## NOVEMBER BEE NUTRITION SPECIAL

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AgriSea NEW ZEALAND

### Pollen

In the common edible pear *(Pyrus communis)* the anthers open sequentially to present pollen all day long, so you will see bees buzzing in the flowers gathering pollen at any time of day. The high density of flowers plus the numerous whorls of stamens in each flower add up to generous quantities of pollen per tree.

### Nectar

Pear flowers have the classic 'open dish' shape with nectar produced by the nectary, which is located in the centre of the flower in the space at the base of the pistil. The nectary is surrounded by whorls of numerous stamens—the epitome of easy access. The other pipfruit species (apples, crab apples, edible quinces and flowering quinces) have almost identical flowers with the open dish style allowing easy access to nectar.

### Planting advice

Pipfruit species are used in a variety of situations on Trees for Bees demonstration farms, from orchards to shelterbelts to paddock shade and shelter. They are flexible in that they can be managed for fruit production, or left to be more ornamental. Growers will need to be careful when planting near existing orchards that they don't introduce pest and disease problems, and to check that the species aren't included in any noxious plant lists. Pipfruit are most commonly used for on-farm orchards, where a mixture of fruit species provides not only a variety of fruit for consumption, but also pollen at flowering times from early to late spring.

Pipfruit species can also be incorporated into shelterbelts, where the windward species are evergreen bee feed (e.g., some *Michelia, Camellia* and Laurel species) to provide low shelter, with the pipfruit blossom species planted on the leeward side and ideally facing the sun. If you have enough space (i.e., more than five to six metres of shelterbelt width), you can also include tree species for high shelter. In this case, fastigiate form trees of *Quercus robur, Liriodendron tulipifera,* some *Fraxinus* species, and *Alnus cordata* are particularly useful.

In addition to shelterbelts, larger species of pipfruit trees can make suitable paddock shade specimens when protected with a tree guard. You can also turn this into a small copse of trees by enlarging the tree guard and including a mix of smaller shrub species (e.g., crab apples).

FOCUS GROUP REPORTS: RESEARCH

# VARROA CONTROL RESEARCH: BRIEF UPDATE

*Claire Hall, Mark Goodwin, David Pattemore, ApiNZ Research Focus Group*

Over the last couple of months, we have reported on your priorities and ideas for approaches to varroa control research. Based on these suggestions, we submitted a Ministry for Primary Industries (MPI) Sustainable Farming Fund (SFF) funding proposal to develop the priority components of a varroa IPM programme. We received pledges of support from over 60 individuals and organisations—thank you! If successful, the programme will start in July 2017 and we will update you early next year.

We have been seeking more information and ideas through a SurveyMonkey questionnaire. The response has been very low, so we are unable to provide a summary in this issue. We know that as busy beekeepers, it's not always easy finding time for questionnaires. So we have planned through ApiNZ a whole range of different co-innovation and extension activities as part of the SFF that we hope will work for you, including workshops, field days, articles, videos and podcasts.

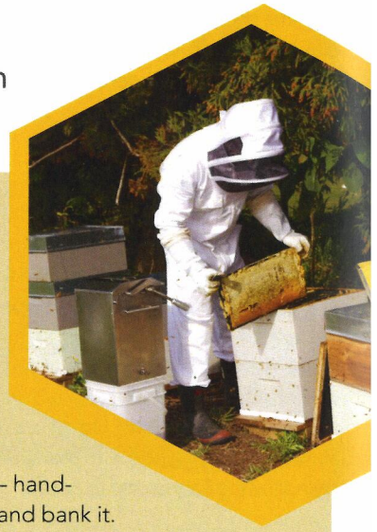
By now most of you will have started treating colonies for varroa or are about to treat. Many beekeepers in the north of the North Island, and possibly elsewhere, have found it important to check varroa levels in hives when the treatments are removed, as there have been increasing problems with varroa developing resistance to the chemicals we use to control them. The best way to test varroa levels is to use the sugar shake method. When carrying out a sugar shake, make sure the icing sugar has not absorbed moisture and become lumpy, and remember to shake very, very hard.

We don't have good post-treatment varroa thresholds that we can provide at this stage. It is hopeful that the SFF programme will provide these. However, as a best guess, if you find more than 10 varroa mites in a sugar shake after the spring treatment, you will need to either treat again in the spring or at least aim to treat early in the autumn.

REVOLUTIONARY Beekeeping

# Turning HONEY into MONEY ... without the hard work

This award-winning and patented mobile honey harvesting system makes beekeeping easy, enjoyable and profitable.



### Convenient, Clean, Cost-Effective System

The best innovations solve a painful problem. In Grant Engel's case, the hard physical lifting, hours spent carting honey boxes and waiting in line for his honey to be extracted were the catalyst for inventing his mobile honey harvester. Now all suppliers to RevBee use Grant's harvester and say that not only is their workload reduced but their honey is cleaner, and their hives healthier than before.

### So how does the honey harvester work?

The mobile honey harvester is a lightweight stainless steel box that allows you to harvest honey directly from the frames right next to the hives. As you push the frame through the harvester, the honey and wax is scraped off the frame and flows directly into a food-grade sealable pail that sits underneath. The harvester comes fully MPI certified with an RMP.

### That sounds too easy!

Well, it gets better. RevBee collects the honey from their suppliers at RevBee's expense. The suppliers get paid (then more than a few like to go fishing).

### The 4 Step RevBee Supplier System

1. Sign up as a RevBee supplier and start harvesting your honey with the mobile honey harvester.
2. Phone the RevBee team to arrange collection of your honey.
3. RevBee will collect your honey right from your doorstep *at their expense.*
4. Receive your payment – they do the rest!

### 8 Reasons the RevBee Honey Harvester is a Winner

- **Eliminates heavy lifting** – you carry only a lightweight honey harvester and pail. No need to remove and transport honey boxes.
- **Select frame harvesting** – hand-pick quality honey frames and bank it.
- **Healthier hives** – no honey boxes waiting to be processed and open to dirt and disease.
- **Remote locations are now accessible** – set up hives in places that were previously too hard to manage.
- **Cheaper outlay** – only one honey box is needed as it can be harvested multiple times. Run more hives at less cost.
- **Fast and convenient** – no more booking or waiting in line. Your honey is collected from your door at RevBee's expense.
- **Competitive honey prices and great cash flow** – you receive prompt payment for your honey.
- **MPI certified** – with RMP in place.

*I can handpick frames to harvest so I control the quality of the honey – especially when Manuka is flowering.. Stephen (Large Commercial)*

*Previously my boxes would sit for up to 2 weeks before getting spun out and that's time when dirt and disease gets in. There's none of that with this system – I harvest the honey directly into a food grade box, put the lid on and that's done. Luke (Commercial)*

*The machine is simple and lightweight. You can keep the hives to 2 boxes high so I'm working at an easy level. You're just taking honey, not transporting heavy boxes and frames. And by harvesting directly into a bucket, you can see exactly what volumes are being produced from that hive. Mark (Large Commercial)*

*This is my second year using it and I don't think you can beat it. It's quick, cost effective, and allows you to set up hives in locations that otherwise you wouldn't bother going. It's just too easy. Luke (Commercial)*

**Turn your honey into money! If you have 50 hives or more, please get in touch with Grant or Kim Engel to receive your free supplier information pack and join the RevBee revolution.**

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Find out more and watch a demonstration of the mobile honey harvester in action at **www.revolutionarybeekeeping.co.nz**

Fieldays INNOVATION WINNER 2013 LAUNCH NZ AWARD

PHOTO ESSAY

# *TEUCRIUM FRUTICANS:* A HEDGE PLANT **ATTRACTIVE TO BEES**

*Paul Burgess*

To a landscape gardener committed to a clipped, Italianate design, *Teucrium fruticans* offers a hedging option that complements a 'Melissa garden'. Commonly called Germander, the bush is classified in the family Lamiaceae, which includes many Mediterranean herbs and shrubs including mint. If left to 'grow out', the flowers that form are unusual in shape, could be seen as architectural in presentation and do attract foraging bees.

*The stamen and stigma have been negotiated and access to the nectary is sought. One of the anthers has undergone dehiscence (defined by Wikipedia as "the spontaneous opening at maturity of a plant structure, such as a fruit, anther, or sporangium, to release its contents").*

*The flower of the* Teucrium fruticans *is zygomorphic; i.e., it displays bilateral symmetry (the right and left sides of the flower are mirror images) like an orchid and not the usual radial symmetry seen in an orthodox flower (referred to as actinomorphic). The four arching cantilevered stamen and single terminating stigma are distinctive features.*

*José Gómez and colleagues at the University of Granada, Spain, studied flowers that produce simultaneous actinomorphic and zygomorphic flower configurations. They found that foraging beetles at least preferred the latter design, leading to the conclusion of possible evolutional pathways (Balter, 2006).*

*continued on bottom of page 23...*

FROM THE CHATHAMS

# CHATHAM ISLAND SKEPPING

*Mana Cracknell and Michele Andersen*

On the Chatham Islands, spring properly begins in October—a month and a half later than it does in Matangi-nui–Matangi-roa—ancient names for the South Island and North Island of mainland New Zealand. In the small number of house orchards, quince and pear trees are in blossom while apple trees are just beginning to display bud.

*Michele with a Chatham Island virgin queen. Photo: Mana Cracknell.*

In our vege garden (amongst the weeds), a trial crop of rapini planted back in June is flowering nicely. Italian, European and British bees are happily foraging its nectar and pollen, while its leaves are a welcome addition to supplement the larder. Rapini, a plant from Italy, is the vege-of-moment (2015–2016) for chefs working high-class restaurants in New York. On the island, however, basic survival is the pervasive reality and in this context rapini has a multiple value for bees, for stock and humans.

Out along the roadsides and in many paddocks, protein-rich gorse is in full flower. The known factor is that increased supplies of gorse pollen arriving in the hive trigger drone production. Drone comb has been placed in pre-selected hives to ensure a strong and diverse natural queen mate across the island and to provide semen for artificial insemination (AI) projects in 2016.

In 2013–2015 gorse was sprayed while in flower. As a result, about 20–30 hives were lost in each year. The decision to spray gorse in flower was an initiative partially funded by Environment Canterbury (ECAN) and the Chatham Island Council. When challenged in respect to timing, ECAN responded that apparently it was not possible for a helicopter pilot to identify a paddock full of gorse whilst at spraying height unless the gorse was flowering. Beekeepers were not a party to the decision, nor were they notified about where the helicopter was working so they could close off their hives in those areas.

In their apiaries, island beekeepers (six) are beginning to ready hives for the spring–summer onset of mostly clover honey. Last year two young Chatham Islanders came forward to front the challenges of island skepping along with existing involvements on family-owned farms. Is there an inkling here of an emergent national model where beekeeping and farming are inextricably linked in a series of land-based economic partnerships provenanced on meat, vegetables, milk and honey production?

There are still no signs of varroa, AFB or nosema in local hives. It is important to preserve this small but important advantage by keeping the island as a fallback sanctuary for clean bees within the wider sphere of New Zealand bee-onics. This year, legislation will be drafted to put to government to establish the island as a beehaven sanctuary. The draft will be based on Australian bee sanctuary legislation (dating from 1885–1931) enacted to preserve the mixed Ligurian (Italian) bee population on Kangaroo Island. A sturdy biosecurity interface is critical for maintaining a disease-free bee population on the Chatham Islands; however, the big picture is that a healthy Chatham island bee population is super-critical for the continuance of beekeeping in mainland New Zealand. The term in business is CSP—to ensure realisation of Critical Success Potential.

Is there an inkling here of an emergent national model where beekeeping and farming are inextricably linked in a series of land-based economic partnerships provenanced on meat, vegetables, milk and honey production?

## Hive health status

Back from the grave 10 years ago, the good news is that hive losses on Chatham Island have been steadily declining over the last seven years. Contributing factors include:

- increased beekeeping training, experience and vigilance
- a more diverse genetic bee pool by the addition of Carnican (Carniolan) to the existing Italian and Black British managed and feral populations
- a dedicated queen breeding and rearing programme aimed at producing better queens resulting in stronger beelines that are better at managing vitellogenin—"the currency within the hive banking system"—which is also the medium for the transfer of immune elicitors. Island hives in 2016 happen to be better at nurturing and raising brood. This extends to producing better queens, including a line that produce supersedure queens with a full set of alleles as a solution to minimising hive losses on the trot
- bee acclimatisation and adjustment to the challenging island conditions. This year it is great to see the number of hives that produced strong clusters of large specialist winter bees
- bee environmental growth impacts over time. On the island it takes about four to five years for bees to increase the number of viable seeds in a single clover flower/set from about 15–130+. The argument here is that with some small assistance, bees will of themselves eventually create a bee-friendly environment
- a committed in-house research programme allied to field trials.

Coming out of winter this year, therefore, hive losses are currently at their lowest—around one to five percent.

Seven years ago, a decision was made to add AI to the Island bee-kit. In 2013, AI equipment was imported from Germany. That equipment was trialled and tested in 2014. Earlier in 2016, a Chatham Island beekeeper went to Seattle to receive specialist training and skills and in November 2016, the Island will "plant the jandal" on its own capacity to grow and enhance the capabilities of its bee population by and through AI. This small operation will sit alongside and in support of the directed queen natural mating programme.

# A MILLION DOLLAR NOSE?

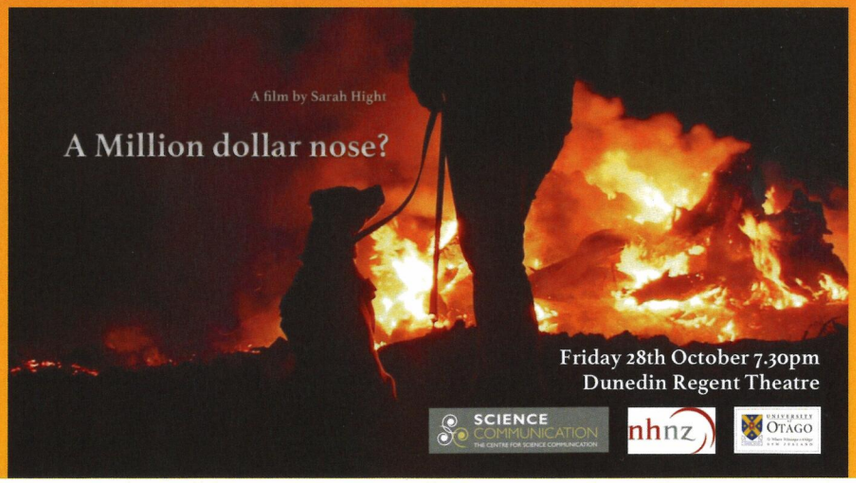
Readers might recall the notices placed in the February and April 'From the colonies' column from Sarah Hight, a film student at the Centre for Science Communication at the University of Otago.

Sarah sought input from Dunedin-area beekeepers for a film about a dog that was trained to detect American foulbrood. Sarah received assistance from some ApiNZ members including James Corson, Richelle Doerner-Corson (of Canterbury), Geoffrey Scott (of Southland), Frans Laas and Brice Horner (of Otago). Each of these beekeepers allowed her to film them searching their hives, detecting disease and eliminating infection. James, Richelle and Frans were central characters in the film.

Sarah advises that the film, *A Million Dollar Nose?*, has been completed and had its premiere at the Regent Theatre, Dunedin on Friday, 28 October. It was one of four films from the 2016 class at the Centre for Science Communication.

Although this journal had gone to press by the time of the film premiere, Sarah Hight wanted to express her gratitude to those who generously gave of their time and allowed their hives to be filmed. We congratulate Sarah on her hard work in bringing her film to fruition.

*A Million Dollar Nose?* will be posted online in 2017 on the Science Communication Vimeo channel: https://vimeo.com/user5639275. We will keep you updated.

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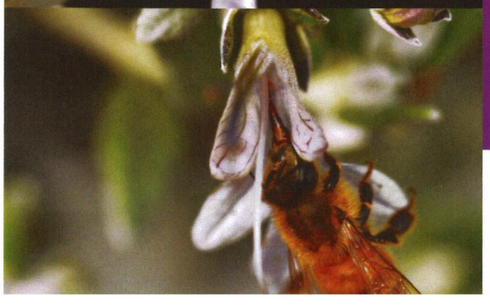
*The large inferior petal provides a stable landing for the foraging worker.*



*Proboscis fully extended to reach the depths of the flower with the mandibles employed as supports. In human proportions, the proboscis is as long as a fully stretched arm.*

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HOBBYISTS' CORNER

# NEWS FROM THE DEEP SOUTH

*Murray Christensen, President, Southland Bee Society (SBS)*

They say time waits for no one and the cold wintery months have flown by. We are now enjoying some lovely warm spring weather down here—not at all like our typical southern springs. No doubt we will pay for it sooner or later. Let us hope it's not in December or January.

## Southland Bee Society AGM

Hardy southern souls turned out on a cold wintery July night for our second AGM and now into our third year, we continue to grow our membership and our profile. As we form alliances and partnerships with like-minded organisations, we increase our ability to influence and educate the public on matters of bee welfare and the environment.

## SBS willow project

During the colder months the Southland Bee Society planted out our willow propagation beds with about 1000 cuttings of eight different willows that are all leafing up nicely now. We are hoping that the giant willow aphid research gets some traction and produces a control sooner rather than later. We have buddied up to Environment Southland's Land Sustainability team as a marketing avenue for the trees when they are ready to plant out, and prospects are looking very positive.

## Southland Environment Awards

SBS picked up an award at the Southland Community Environment Awards night, of which we are immensely proud. The awards dinner was quite an occasion and it was great to see all the wonderful environmental projects that are being carried out in our region.

## Bee Aware Month

Bee Aware Month has come and gone again. SBS was active throughout the month, starting with an outing at the Invercargill Eco Fest where we held our usual stall and ran our 'Introduction to beekeeping' workshop.

Next we turned out with our annual 'Planting for bees and looking after bees' workshop at Nichol's Garden Centre later in the month. This event targets gardeners and hobby farmers. Nichol's promotes the event each year and it is always well attended. Both parties benefit from the publicity as do the bees.

SBS then joined forces with the Southland Community Nursery to hold a workshop on 'How to bee-friendly in your backyard'. The theme targeted families and kids with some fun educational activities as a change from what we normally roll out. As with all of our public outings, the honey tasting and the display bee hive proved very popular.

## Taratahi training course

It is pleasing to have Taratahi Agricultural Training Centre providing the NZ Certificate in Apiculture Level 3 in Invercargill, as well as in other locations throughout the country. This certificate helps to turn out the beekeepers of the future, not to mention members for the SBS and ApiNZ. The Invercargill course has started for the season and the students will develop their skills as the season rolls along.

## Bee-friendly flowering plants guide

Our new SBS bee-friendly flowering plants guide and tips for bee-friendly gardening are available for download from our website, www.southlandbeesociety.nz

Best wishes for the season ahead.

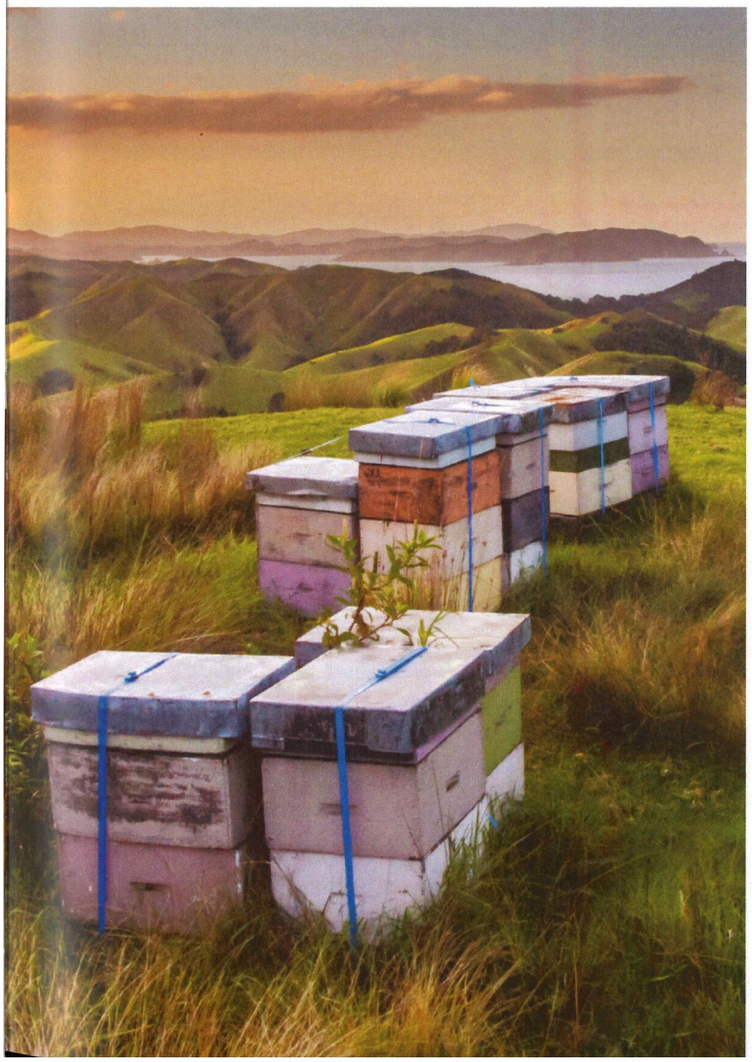
*[Editor's note: congratulations to the SBS for winning an award at the Southland Community Environment Awards and for their excellent work in educating the community.]*

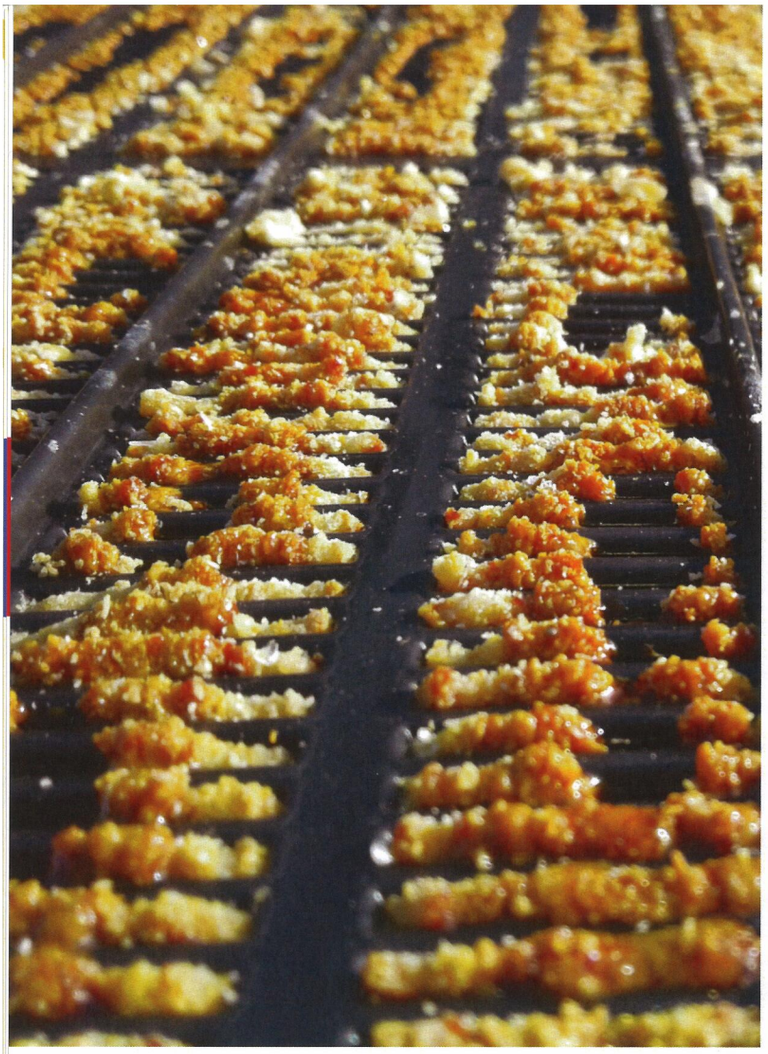
**We love hearing about what clubs are doing: e-mail editor@apinz.org.nz to share your experiences with our readers. Please provide photos in high-resolution.**


*Murray Christensen talks about threats to bees at the BAM event held at Nichol's Garden Centre. Photo: Sonya Crook.*

*Murray Buchanan explains about the Virtual Bee Hive display. Photo: Pat Hoffmann.*

*SBS secretary Sonya Crook explains about how bees collect nectar and pollen from plants. Photo: Pat Hoffmann.*





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HOBBYISTS' CORNER/BEE AWARE MONTH

# WANGANUI CLUB GOES **ALL OUT FOR BAM**

*Anne Hulme, Wanganui Beekeepers Club*

Wanganui Beekeepers Club was very active spreading the word during Bee Aware Month. Our activities culminated in a very successful informative beekeeping stall at the local Riverside Market, where we were lucky to have a sheltered outside site against a brick wall, in good view of the public.

We had been preparing for two months by potting up bee-loving plants and bagging seeds to give away and we had a large selection of free cuttings also that were popular. The Wanganui Garden Club was very good in donating more plants, which helped to attract the public to our display as well.

The children had a colouring-in competition that the schools and the library helped to distribute. We received a mountain of entries, and the noticeboard with their winning entries interested the children while their parents looked at the displays. The children did enjoy tasting the different types of honey and in talking to them, it was evident that they had a very good knowledge of the benefits of bees in their environment. Some of the schools had been studying the bees and had visited local apiaries as well.

The local Springvale Garden Centre supplied a very informative placard and a table full of organic sprays and pesticides that gardeners could use that do not harm bees, when used correctly according to the label. That table attracted a lot of attention and stimulated many a conversation about the need to protect our bees.

The glass hive of bees created a disturbance for a while at the beginning of the day when the local bees flew in to inspect the invaders. That problem was eventually solved by covering up the top vent and just leaving the screened floor open, for air. That has never happened before and we came to the conclusion that it was because the bees had been given some extra sugar syrup in the early morning for sustenance. We learnt from that and will just have the usual frame of honey next year.

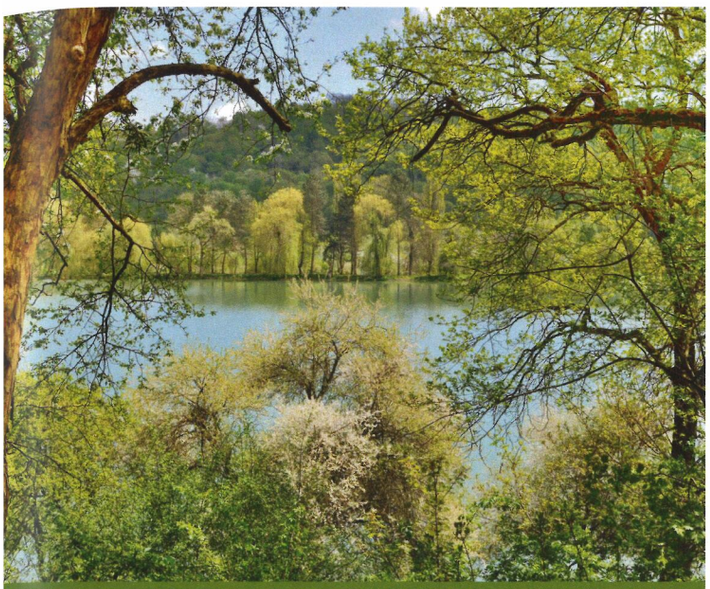
Our bee club took the opportunity to talk about the benefits that financial members can get. As a result, we were overwhelmed at our last meeting with 20 or so new beekeepers wanting to join. They are all asking for instruction or help with their beehives, or even needing to purchase bees for the coming season. Now the committee is wondering how we are going to cope with the influx of novices in the future.

The beekeepers on market duty enjoyed talking to the public and feel that it was well worth all the time and effort we spent preparing for our share of promoting BAM.

*The final shift of club members. Left to right: Michael Brandon, Pam Moore, Gaylene Reid, Margaret Tauri, and Liz Houlahan. Photo: Tim Benseman.*

REGIONAL REPORTS

# FROM THE COLONIES



## WAIKATO

We seem to be stuck in the mud both literally and figuratively. Probably that is the experience of many beekeepers. Certainly it is the situation in the greater Waikato and Coromandel areas, and as I write this there is no end in sight, just cheerful weather people telling us that this "is spring after all".

Perhaps a sign of extraordinary weather is the flowering pattern of certain bee plants. The wattles here are very variable, with some in full flower and others of the same species not yet showing colour. Likewise, I have heard of rewarewa in flower on the Waikato west coast and see that our 'monitor' rewarewa has flowers open, yet others are in tight bud. Rangiora has finished here, mingimingi and hangehange are just starting. In spite of the smell of hangehange (think pigsty), it is a significant plant for bees with access to cut-over bush areas and roadsides. Some beekeepers consider its flowering as the signal to stop feeding sugar.

The Waikato Hub Apicell groups have met in September at three different locations on three different occasions. The first on a Saturday morning in Turua, then in Rotorua on a Friday night, followed by a Friday night meeting in Ngahinapouri. The theme was springtime and each meeting revolved around the addresses given by conference speakers Gordon Wardell and Mark Goodwin.

The topics were very well received and it was a good chance for beekeepers not to have to travel far to a meeting and an opportunity for them to catch up with others. Having said that, the meetings were not well attended and we may yet need to go back to the drawing board to see what more we can do. I am reminded that we only get out of it what we put in, so hope that the November Apicell meetings will attract more attendees.

Meantime, fingers crossed for an improving bee and beekeeper-friendly weather pattern coming soon.

**- Pauline Bassett, Life Member**

## BAY OF PLENTY

We have had a very wet September. Regular feeds are keeping the bees in good condition and when the sun shines a lot of willow is flowering.

As I write this at the beginning of October, avocado pollination is starting and gold kiwifruit is only three weeks away. We are concentrating on keeping the hives growing well and controlling swarming, as the first queen cells have appeared.

We are hearing reports of varroa and AFB and with the increased number of beekeepers and bees in the area, we will need to be very vigilant. This threatens our industry, so it doesn't hurt to approach new beekeepers and offer them advice and help them to become aware of these problems.

Hopefully October brings some sunshine.

**- Bruce Lowe**

## HAWKE'S BAY

We had a warm, dry winter and are paying for it now. Pollination is later than normal and even in the warmer areas, bees are working for only a few hours a week due to low temperatures and incessant rain. Stonefruit growers may be in for a real hiding. Hives generally are holding up fairly well, but pollen shortage is getting severe in some of the higher colder country.

Some beekeepers are learning that it is not always a good idea to try raising spring queens in Hawke's Bay. High-country farmers are starting to lose lambs that are several weeks old. Hives are needing more feeding than normal and it is becoming increasingly difficult to access sites, but then there are areas of the country that are worse than us. On the bright side, bad springs are normally followed by good honey crops.

**- John Berry, Hub President**

*continued...*

## NELSON/UPPER SOUTH ISLAND

Spring is here, and for Nelson it has started with regular showers of rain, sunshine and generally very unsettled weather patterns. It makes opening hives for various tasks sometimes quite difficult; at least it has been relatively warm.

The weather aside, most beekeepers have indicated that hives are building up well with minimal varroa. This is great for those involved in pollination, with many hives now in orchards that currently have apples and pears in full bloom. There have been some reports of swarms already. Hopefully this can be minimised, as many of those not familiar with bees find them quite scary and disruptive for any people in the vicinity.

The recent Bee Aware Month appears to have been successful and definitely managed to get more publicity about bees and articles in the local print media. I conducted one fun school talk with enthusiastic primary children. However, reporters twice managed to get hold of me, something I try to avoid. At least they managed to get most of what I mentioned correct and in the right context.

The Nelson Beekeepers Club had a fantastic talk from Frank Lindsay at the September meeting. Our small venue was overflowing with people spilling out doors, standing and squeezed into any space available. About 100 people were present, with some commercial beekeepers also in attendance. Frank provided us with history of his time with beekeeping, a bit of bee biology, tips for those starting out and his opinion on some issues currently facing the industry. His talk was entertaining and the two hours disappeared very quickly. Thanks to the Nelson ApiNZ hub for providing Frank's airfares, and Amy and Adam for his accommodation.

That's about it: it's a busy time for most beekeepers. For all those doing long hours at the moment, keep safe.

- Jason Smith

## CANTERBURY

As of October 2016 our monthly meetings will be noted in this column. All bar a handful of members have e-mail addresses. If others read of our meetings, they are welcome to attend.

It is not possible for many of our members to attend meetings. Therefore, we are considering a number of ways to include distant members.

We have recently increased our colonies reporters from one to three, and are looking at the availability of a member in another area.

As secretary, I endeavour to phone one or two distant members per week. It would appear the most important issue for these members is informative minutes of the monthly meetings. Most times, General Business is just whatever those attending want to raise from the floor. We also have a rundown of what people perceive to be issues in their areas, or their hive observations. This gives our meetings an informality and the ability to information share. This enjoyable banter is often educational. We are considering other suggestions from our distant members for 2017.

**Next Meeting (End of Year):** Tuesday, 29 November

**Venue:** Hornby Working Mens Club, 17 Carmen Rd, Hornby (same carpark as mall)

**Time:** 6.00 pm onwards

**Restaurant Meal & Bar Facility:** Pay for what you eat. Bar adjoins restaurant.

**RSVP:** Not required. But Non-Working Club Members must sign the Club register at reception.

Meantime, back in mid Canterbury, we have had vast amounts of dandelion flowering. Ye olde beekeepers say, "lotsa spring dandelion, in for a summer drought". Hope not, because that will make it the third summer drought in a row.

- Maggie James, Hub Secretary

*continued...*

## CHRISTCHURCH

In Christchurch, the spring flow is under way with dandelions in the lawns, fruit trees flowering, the willows along the Avon in nearly full leaf and the kōwhai in flower.

The nor'westers have just started along with some colder days as well.

Swarming has also started, probably due to the mild and dry winter leaving the hives with plenty of stores and not much room.

Varroa seems to be not too much of an issue, as most beekeepers seem to have treated at the right time and have had some success getting it under control. I haven't heard of problems with resistance to date.

A beginner beekeeper course run by the Christchurch Hobbyist Beekeepers' Club was held recently for 'newbees'. They assembled woodware and were taught other basic things all newcomers need to know about managing their hives. Of course they all want to know where to get bees. Nucs are hard to come by as queen rearing has been affected by bad weather at the critical time.

The Club has in excess of 200 members, with about 70 turning up each field day. We have had to split the day into two sections: newbees in the morning and more experienced members in the afternoon.

At the last field day, a member bought a frame infected with AFB for a second opinion. A tongue was found, leaving no doubt. The frame was also tested with an out-of-date test kit that gave no result, showing that they are indeed date-sensitive.

The awareness in the general public about the plight of bees is very high. As soon as I mention I keep bees, everyone wants a hive in their backyard.

The season is shaping up to be pretty good so far.

- Lindsay Moir

## SOUTH CANTERBURY

During the last two weeks of September and the first week of October we have had dull, cloudy weather with some moisture. I have noticed an increase in grass growth in last week or two. We've had sunny afternoons on some days, with just enough warmth in the ground for some spring growth. There is a great flowing of prunus, kōwhai, cherry and weeping willow and other trees; the crack willows have been a bit slower this year.

Hives have emerged from the winter well and are quite strong, even some that haven't had a sugar feed. I am still treating for varroa in early October and whilst varroa is quite evident in some hives, it is not yet in many others. There's plenty of pollen coming in now, mainly yellow from the willow. Early October dandelions have suddenly appeared, promising a further nectar flow for spring build up.

Local papers have published various articles related to Bee Aware Month dealing with different aspects of beekeeping: educating the general public, planting bee-friendly plants and not feeding honey and water to bees, etc. It has probably been the best national Bee Aware Month presentation yet.

An ApiNZ Hub meeting was held on Tuesday, 19 September at the Federated Farmers office in Christchurch.

- Noel Trezise

## WEST COAST

Spring is here and with it we are finding all sorts of wonderful new challenges to conquer as we move through the apiaries attending to the multitude of spring tasks.

As a commercial beekeeper on the West Coast, it was lovely to enjoy mild winter conditions for a well-earned break. The queen bees, however, predominantly continued brooding throughout winter, and as a consequence we are seeing a slight increase in the population of mites residing in our hives than we would prefer.

Queen raising was unfortunately delayed by two weeks due to the late frosts, which hindered drone production. However, there is no shortage of them now so it's full steam ahead, and just in time too, as we are already starting to find fed swarm cells appearing in some of the stronger hives. Hopefully the unsettled weather we are experiencing doesn't result in another year of poor matings on the coast.

You may see some pollen bees sporting violet socks now that the fuchsia is coming into bloom. Kōwhai is also in flower, which is seeing small quantities of nectar coming in. Unfortunately the fickle weather is restricting the flow, so additional feeding is still hot on the agenda to prevent starvation, particularly in the stronger hives.

With spring well under way it is exciting to wonder what other surprises the bees have in store for us this season ... there is talk of a lovely hot summer ahead!

- Carla Glass

ABOUT THE APIARY

# PREPARING FOR THE FLOW AND EXTRACTING HONEY

*Frank Lindsay, Life Member*

Some of the spring sources around our house are a few days late in flowering this season. Although the weather hasn't been good for spring build-up, the bees are doing fine thanks to a little feeding. Cabbage tree and hawthorn are yet to flower down here but further north some are flowering, stimulating swarming.

My bees had only one good flying day during October to pollinate the peach trees in my garden, so hopefully they did the job on that day. Most other days they have only been out for an hour or so, closed in by southerly winds and low cloud, while up the coast 100 kilometres away, it's been fine and warm.

In cities and urban areas where reflected heat and sunlight from pavement and buildings stimulate early growth, some of the summer sources are already flowering. Pohutukawa *(Metrosideros excelsa)* is in flower in the southern suburbs of Wellington. Kōwhai *(Sophora tetraptera)* and tree lucerne *(Cytisus proliferus)* have had a long, sustained flowering and are still going in some coastal areas. A lot of kōwhai trees are being planted to provide food for native birds but our bees can also take advantage. However, the nectar from this tree can cause bee losses as it's a narcotic, and it takes the bees an hour or so before they can fly back to the hive. A sudden weather change can see these foraging bees chilled and lost to the hive.

Kohuhu *(Pittosporum tenuifolium)* has flowered and dropped its flowers without a bee visit due to cold, wet weather. Mānuka is starting to flower on odd bushes on north-facing slopes but it's too early to come to anything. Hangehange *(Geniostoma rupestre)* is budding up and ready to flower. This understory shrub is the first of the bush sources to produce an excess of nectar. You will know when it's flowering as it puts out a heavy perfume in the bush.

Many ornamentals are flowering that are attractive to bees, such as Mexican orange blossom *(Choisya ternata)*. Any citrus is good for bees. Look around your area and see what your bees are visiting. Squash any queen wasps gathering nectar. This act could save you lots of grief later in the season.

***Hangehange.***

Despite the weather, bees have been powering ahead and in too many hives I'm finding queen cell development starting. If hives are showing early swarming tendencies, I'm splitting them and moving the old queen and a good proportion of the brood to another position. The field bees will return to the old site, which greatly reduces the population in the queenright hive and increases the population of the hive on the original stand with a queen cell. Sometimes I just take capped brood and bees to make nucs. I'm not equalising hives by spreading brood as I'm still finding a few hives with AFB and don't want to spread it.

## Managing hives to peak on the flow

The honey flow in my area comes in two parts: early bush/kāmahi flow, followed by a dearth in November and then the main honey flow in December. By early to mid-January, it's all over. Unfortunately, not all flowers turn off during the summer drought, so the bees start eating their stored honey and turn it into brood. We have to time the peak bee population to be available to capitalise on when everything starts flowering in December.

With this in mind, the main honey flow starts in only four weeks from the time you receive this journal, so we must all keep an eye on hives to alleviate swarming while continuing to feed them during this changeable season. Supers should be going on early as hives expand in bee numbers. Don't wait until you see white wax appearing under the brace comb on the inner cover. Populations are expanding enormously so must have somewhere to hang out. Bees hanging out of the front of the hives during the day, or staying in the top feeders, are sure signs that a hive needs supering and is possibly making preparations to swarm.

For new beekeepers with only foundation or plastic frames without drawn comb, bring up a couple of outside frames from the super below to encourage the bees into

the new super. As more nectar comes in, spread the frames containing nectar among the foundation frames and put a couple of foundation frames on the outside of the brood nest in the second box to get them drawn out. Don't put foundation frames in the bottom super, as the bees won't draw it out all the way to the bottom because of the cold and will sometimes chew holes in wax foundation sheets.

In order for bees to draw frames out, conditions have to be warm, a nectar flow on and the hive must have surplus bees. Bees will also want to make drones, so give them a half frame without wax so they can produce drone brood. If the bees have enough drone brood, they will draw out all your foundation frames with worker brood, which is far more beneficial to your beekeeping and can make varroa control easier.

*Cabbage tree (cordyline australis)*

**Hives should be going into the flow with a minimum of six full-depth frames of capped brood with bees covering at least two full-depth boxes of frames**

Hives should be going into the flow with a minimum of six full-depth frames of capped brood with bees covering at least two full-depth boxes of frames (three if you use three-quarter-depth boxes). In some areas with shorter flows, it's best that hives are three full-depth boxes high and full of bees. Six frames of brood will produce about 25,000 bees that will emerge from the capped frames, which will take the place of the nurse bees so they can get out and start foraging. You want as many bees as possible into the air gathering nectar. Smaller colonies can be manipulated through Demareeing to release nurse bees into the air.

Varroa strips have to be out of the hives before the flow starts. Apivar® has to be out two weeks ahead of the flow. Check varroa levels two weeks later with a sugar shake or an alcohol wash. Fewer mites means more honey produced.

During this month, pastoral areas could suffer a dearth of nectar and pollen where nothing flowers between willow/dandelion flowering and clover flowering. Hives may need to be fed pollen supplement and sugar syrup if there is nothing available so there isn't a break in brood rearing. If nothing is coming into the hive, the bees will stop feeding the queen and she will stop laying eggs or the bees will start eating the eggs, then small larvae as the bees get hungry. If this happens, 21 days later there will be no new bees to collect nectar.

*White clover*
*Photos: Frank Lindsay.*

## Planning ahead

If you can, plan to get the first lot of capped frames off before the end of December so you don't have to test for tutin in the honey. If you take it off as it's capped you will taste the different honeys produced from different sources as they flower. If you take it all off late in the season, you will get a blend of what was produced through the season.

## Extracting equipment and tips about frames

All that the small beekeeper requires is a couple of deep plastic bins that fit into each other, leaving a 100-millimetre gap between the bottoms of each. Drill hundreds of five-millimetre holes in the bottom of one tub so that it holds the wax cappings but allows liquid honey to slowly pass through. I haven't seen anything in the catalogues produced by New Zealand beekeeping supply companies but you can see what I mean by looking on the Mann Lake website: www.mannlakeltd.com/beekeeping-supplies/product/HH-231.html

I have used two bins, one that is three quarters of the depth of the lower bin to good effect. These had plastic lids, making it easy to seal at the end of the day so the honey drained overnight. Cappings can be returned to the hives (do this after dark so the bees don't cause a nuisance) and put in a top feeder to clean out. Once dry, the wax can be melted into blocks and stored. Put it together with other beekeepers' wax and get it refined back into foundation again.

*continued...*

Speaking about wax, during my spring inspections I remove brace comb and comb on top of and under frames (created because the bee space is wrong) and place it into buckets for melting later. I clean off about a paint pail of wax in each apiary. Having clean frames makes it easier to inspect hives and you don't squash bees when replacing the supers. Squashed bees spread nosema and if the bee happens to be the queen, you set the hive back six weeks.

I have seen beekeepers just throw wax on the ground. One MAF Apicultural Officer used to put $10 notes on the ground in front of the hive. When asked why he was doing it he said, "Well, you are doing it by leaving all the wax on the ground. What's the difference?". Apart from being a waste of money, it's also dirty beekeeping. Wax with honey attracts robbers and with high concentrations of hives can quickly spread disease. Please keep your apiary sites clean and tidy.

A small beekeeper can separate honey from the frames using a household fork. Carefully scrape the new capped cells back to the foundation midrib into the bin while holding the frame on an up-ended nail, or screw in the middle of the board that goes across the centre of the bin described above. If you haven't got a honey gate in the bottom bin, lift off the top one and carefully take any floating wax particles off the honey in the bottom bin with a spatula. Very tiny flakes can be removed with a bit of plastic film (lunch wrap) laid carefully over the top. The top layer of honey and wax will stick to the film surface and lifts off when the film is removed. Then pour out the honey into your containers.

Note that in New Zealand, most of our honey granulates (crystallises) within a few weeks of extraction. This is a natural process but it can be improved by stirring in a tablespoon full of smooth purchased granulated honey so your honey takes on a smooth crystallised form. Stir until it is spread right through your honey, screw the lid on tightly to prevent moisture entering (honey is hygroscopic), then leave in a cool area (13°C). Honey can be restored to a liquid form by gradual heating. A common method is to leave a glass jar of honey in the oven while it's cooling after cooking a roast meal.

Place wets (sticky frames) on the hives after dark for the bees to clean out and remake. If you put them on earlier, the bees will get excited and fly around the neighbourhood looking for the source of nectar that is nearby, creating a disturbance. By constantly extracting frames as they are fully capped, hives will produce a greater amount of honey, in most cases stimulated by the empty

**Never mix plastic frames and wax foundation frames in the same honey supers**

frames. There is a drawback to cutting frames back to the midrib. When there isn't a honey flow, the bees will refuse to drawn them out unless stimulated by sugar feeding.

Never mix plastic frames and wax foundation frames in the same honey supers, as the bees will draw out the natural wax ones first and build them wider, leaving the plastic ones alone. They will sometimes build natural comb between the plastic frames, especially if Manley frames are used. R.O.B. Manley was an English beekeeper in the early- to mid-1900s and wrote several books; perhaps the best known is *Honey Farming*. (It's well worth reading as a lot of the plants and practices are applicable to New Zealand conditions. Read it just for the queen introduction description in chapter VIII).

Manley is credited with inventing wide 43-millimetre frames (eight to a ten-frame box) and his practice of sugar feeding in the autumn. Eight frames requires less work than 10 frames for the same amount of honey. This wooden frame design left no room at the end-bar sides and often the bees propolised them, making them hard to remove. I used six of the wide Manley frames and two normal Hoffman frames in the centre of the honey supers to make them easier to remove. Start with the Hoffman frames in the middle and gradually move them out as the Manley frames get built out. Nowadays with plastic frames, the bees don't wax/propolise them in, so this problem is overcome. Remember to air your plastic frames before they go on the hive. Bees don't like the smell of new plastic

*continued...*

***Kamahi***
***Photo: Frank Lindsay.***

frames. The more wax you roll on, the quicker the bees draw out the frames, but not so much that you lose the hexagon indentations.

As you get more experience and more hives, you will need to change your methods and purchase an extractor. Have a five- and 10-year plan and purchase an extractor to fit your future purpose; i.e., purchase one that will last you a lifetime. Many types are available. Tangential extractors throw the honey out sideways, while radial ones cause the honey to flow out the cells towards the top bar and on to the side of the extractor. An extractor is now produced in New Zealand that is a hybrid of each.

Both types have their uses. Radial extractors are used for normal honey while tangential extractors are suited toward thicker honeys, but with a honey loosener (pricker) there is very little difference. (When I had 150 hives, I used to have one of each.) If you intend going commercial, consider a horizontal radial extractor. It's easier to work, there's no extra lifting, it requires fewer people but these extractors are five or more metres long and require extra room to get around them. The beauty, apart from the labour savings, is that frames can go back into the same boxes they came out of. Any frames removed during/after extracting because of damage or frames that are too old should be replaced by foundation frames to keep everything in order.

Most hobbyists start with a serrated bread knife (put in hot water between uses) and graduate to an electric or steam knife. In Europe they use what we term an uncappings scratcher that is long-toothed like a wool-carding comb. Used horizontally, they slice off just the capping layer, leaving the frame cell wax intact. It's very clean with no wastage of wax, but relatively slow compared with a knife.

Drawn-out frames are a precious asset. It costs a lot of honey to get them drawn out, so look after them.

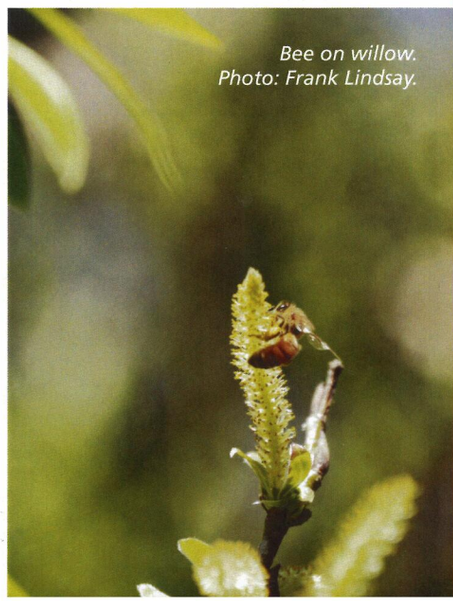
### Final thoughts

Once you get into a routine of nine-day inspections, or if you split all hives so they are unlikely to swarm, it's just a matter of seeing that hives have enough food and room to keep expanding. Any that aren't growing compared to the rest should be requeened or split to make nucs after checking for AFB.

Beekeeping is all about timing. If it's not raining much you are out there in the thick of it, working all hours until the honey flow starts. The drawback is that the bees can be grumpy when they are all home and stings go further into your hands when they are wet. Perhaps I should wear gloves.

It's just stopped raining—time to load the truck for tomorrow. It's parked on the street. I'm having to remove the batteries each night until I weld a grid over the battery box. In one week, I lost a five-litre two-stroke plastic container and two nights later, the batteries. Perhaps someone had a better use for them. I caught the first offender but let him go as I was in my nightshirt in the rain getting wet at 1.55 am. I won't be so soft next time.

**Beekeeping is all about timing**



*Bee on willow. Photo: Frank Lindsay.*

## Things to do this month

Check feed, check pollen. In some areas, November has a period of dearth of nectar and pollen. Unless hives are fed with sugar syrup and pollen supplement, they will go backwards. If there is a brood break at this time of the season, it can affect the number of bees in the field during the main honey flow, so watch hives closely and don't let them run out of reserves.

Check hives for AFB. Hobbyists should get their COIs (Certificate of Inspection signed by an approved beekeeper) in before the end of the month.

Raise queen cells and super hives. Put on another honey super as soon as the bees are covering three frames, as a strong hive can fill a super in a week.

Undertake swarm control: do a quick check by splitting the hive and tilting the supers back, looking along the bottom bars of the second super for queen cell buds with eggs or young larvae in them until the main flow starts. Once queen cells have started, remove all but one and split the hive—continually removing queen cells is not the answer!

Remove old dark frames or those with a lot of drone brood: move them to the outside if they contain sealed worker brood for removal on the next round. Replace with foundation frames in the second super interspaced with frames of brood. Fit foundation into comb honey supers.

Monitor varroa mite levels. Plan on getting your strips out just before the main honey flow starts next month.

## CLEANING WAX FROM A ROLLER

Are you waxing plastic frames with a roller? Dirt in the wax soon clogs the roller.

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**DENNIS CROWLEY (C)**
Ph: +64 7 579 2554
E: crowleys@slingshot.co.nz

**BARRY FOSTER (C)**
P: +64 6 867 4591
M: +64 27 449 7131
E: bjfoster@xtra.co.nz

**STUART FRASER (M)**
M: +64 21 868 343
E: stuart@naturalsugars.co.nz

**SEAN GOODWIN (M)**
M: +64 21 872 583
E: sean@purenewzealandhoney.com

**JOHN HARTNELL (M)**
M: +64 21 578 754
E: john@hartnellnz.com

**RICKI LEAHY (C)**
P: +64 3 523 9354
E: beechdew@farmside.co.nz

**PETER LUXTON (M)**
M: +64 21 447 944
E: varpluxton@xtra.co.nz

**RUSSELL MARSH (C)**
M: +64 21 730 004
E: marshshoney@xtra.co.nz

**PAUL MARTIN (N)**
M: +64 27 262 9566
E: perenphord@xtra.co.nz

**M (Market), C (Commercial), N (Non-commercial)**

## APINZ REGIONAL CONTACTS: First named is President/Chairperson. The second named is Secretary.

**NORTHLAND**
Interested parties wishing to start a regional hub, please contact the ApiNZ secretary:
E: info@apinz.org.nz or
P: +64 4 471 6254

**AUCKLAND**
*Kim Kneijber*
P: +64 9 418 1302
E: kimk_bees@hotmail.com

*Clare McCallum*
E: clarem_66@hotmail.com

**WAIKATO**
*Kim Poynter*
374 B Hamurana Rd
RD 7
Rotorua 3097
P: +64 21 926 937
E: birchwoodfarm@xtra.co.nz

*Pauline Bassett*
E: pjbee@actrix.co.nz

**BAY OF PLENTY**
*Dennis Crowley*
PO Box 16156, Bethlehem, Tauranga 3147
P: +64 7 579 2554
E: crowleys@slingshot.co.nz

**POVERTY BAY**
*Paul Badger*
19A Pine St, Gisborne 4010
P: +64 6 868 4785
E: paulbadger48@outlook.com

*Tim McAneney*
11 Oak St, Gisborne 4010
P: +64 6 868 9446
E: tim@mcaneney.gen.nz

**HAWKE'S BAY**
*John Berry*
46 Arataki Rd, Havelock North 4130
P: +64 6 877 6205
E: jrberry@ihug.co.nz

*Deanna Corbett*
P (Home): +64 6 876 8852
E: djcorbett@xtra.co.nz

**SOUTHERN NORTH ISLAND**
*Gary Sinkinson*
189 Reid Line East
Feilding
P: +64 6 323 0554
E: sinkybees@xtra.co.nz

*Kate Smith*
Waireka Honey Centre Ltd
2221 State Highway 1
RD3
Palmerston North 4473
P: +64 6 324 8224
E: info@wairekahoney.co.nz

**NELSON**
*Murray Elwood*
21 Whiting Drive
Wakefield
P: +64 3 5418929
E: info@mountainvalleyhoney.co.nz

*Nicky Elwood*
21 Whiting Drive
Wakefield
P: +64 3 5418929
E: info@mountainvalleyhoney.co.nz

**CANTERBURY**
*Barry Hantz*
E: barry@hantzhoney.co.nz

*Maggie James*
P: +64 3 324 4482
E: mjqueenb@xtra.co.nz

**OTAGO**
*Frans Laas*
Wildlife Solutions Ltd
102 Gladstone Road
Mosgiel 9007
P: +64 3 489 4597
E: f-laas@xtra.co.nz

**LIBRARIANS**
*Roger and Linda Bray*
Braesby Farm, RD 1, Ashburton 7771
P/Fax: +64 3 308 4964
E: birdsnbees@xtra.co.nz

**APIMONDIA OCEANIA COMMISSION**
*Jodie Goldsworthy, President*
PO Box 450
Corowa NSW 2646
AUSTRALIA
P: +61 2 6033 2322
M: +61 429 059 242
E: Jodie@beechworthhoney.com.au

*Maureen Conquer, Vice President/NZ representative*
P: +64 9 292 8282
M: +64 21 956 349
E: maureen@wildforage.co.nz

IF YOUR DETAILS **HAVE CHANGED...**

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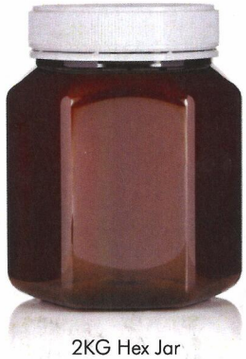
500g Tall Round Jar

500g Round Jar

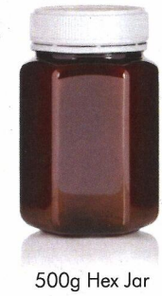
340g Round Jar

250g Round Jar



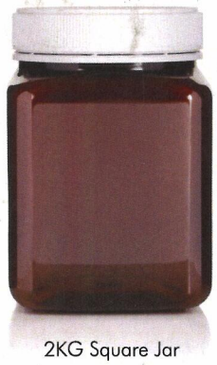
2KG Hex Jar

1KG Hex Jar



500g Hex Jar

250g Hex Jar



2KG Square Jar

1KG Square Jar

500g Square Jar

250g Square Jar

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We are continually developing new products & services based on the feedback and requests from our customers.

Our stock jar colours are amber & clear. Stock closure colours are white, blue, gold, green & black. Custom coloured closures are available (minimum orders of 5000 units will apply). No supply contracts are required.

For more information or product samples please contact us at:

**Pharma Pac Limited**
125 Sunnybrae Road,
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Auckland 0627
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