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The New Zealand BeeKeeper

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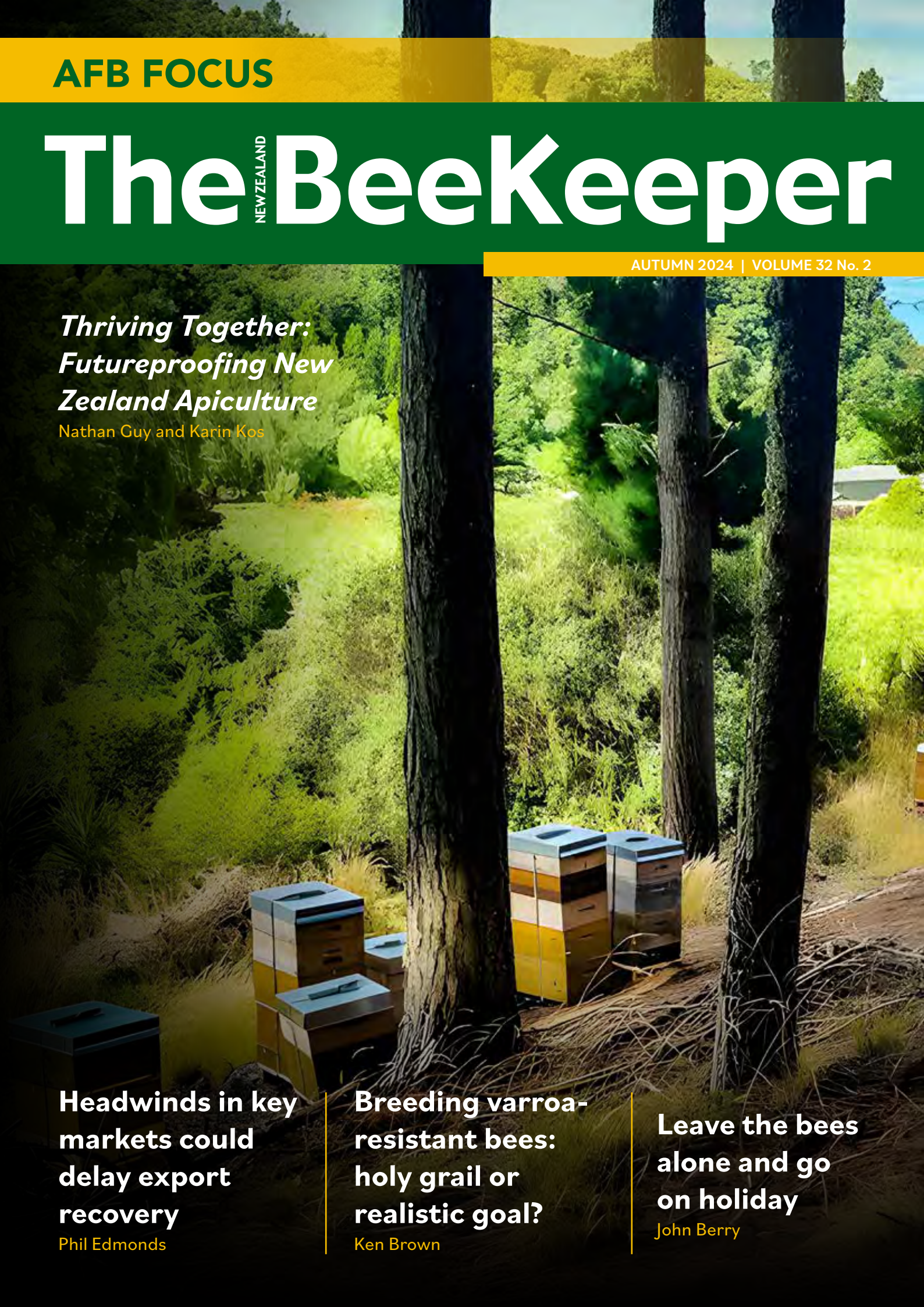

Thriving Together: Futureproofing New Zealand Apiculture

Nathan Guy and Karin Kos

Headwinds in key markets could delay export recovery

Phil Edmonds

Breeding varroa-resistant bees: holy grail or realistic goal?

Ken Brown

Leave the bees alone and go on holiday

John Berry

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NZ Honey Industry Charitable Trust:
see inside back cover for details

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Front cover photo: Hives amongst the trees. Ilona Hart.
https://www.instagram.com/ihartbeesandphotos/

ApiNZ Board Chair Nathan Guy and Minister for Agriculture Todd McClay enjoy sampling a range of New Zealand honeys at the NZ Honey Strategy launch. Photos: Karen Allan.

EDITORIAL

Thriving Together: Futureproofing New Zealand Apiculture

Apiculture New Zealand Chair Nathan Guy and CEO Karin Kos

Welcome to the April edition of *The New Zealand Beekeeper* journal. As you will see, the Journal has now moved online and will be published every quarter—January (Summer), April (Autumn), July (Winter) and October (Spring). It is free to all and if you would like to receive all four, please sign up here.

Mānuka Charitable Trust Chair Pita Tipene welcomes the strategy and its potential to strengthen the partnership that the Trust, as kaitiaki of mānuka, has with both industry and government.

We started the 2024 year with the launch of the New Zealand Honey Strategy *Thriving Together: Futureproofing New Zealand Apiculture* at Parliament with Hon Todd McClay, Minister of Agriculture.

The initial feedback from those who attended the launch was encouraging, acknowledging that if our sector has its sights on a more sustainable and profitable future, it needs this plan.

The strategy document has been a long time in the making. Some of you may have attended meetings a year or so ago when we travelled the country seeking feedback from all those participating in the sector. We then spent a considerable amount of time identifying the most appropriate and realistic actions to achieve the desired outcome. The industry's consolidation over the past 12 months with registered hive numbers falling sharply made this more challenging—with a falling number of participants, particularly at the beekeeper level, the ability of the industry to reinvest in itself became the key focus.

SAFEGUARDING OUR DISTINCTIVE ADVANTAGE AS A GLOBAL HONEY PRODUCER

The Strategy is driven by the need to safeguard New Zealand's distinctive advantage as a global honey producer, and make sure our production systems and quality assurance evolve to build on the success we've had to date.

For that reason there is a growth focus on mānuka honey and on getting the foundations in place to achieve that sustainably. Mānuka honey currently drives 84% of all industry revenue and 91% of all honey export revenue. We need to protect the gains we've made in this market.

This is not to undersell other New Zealand honeys but it does represent a realisation that when we consolidate mānuka honey's position, we will then be in a much better position to attract investment to understand, and respond to the demand for our other unique honeys.

There is nothing to stop exporters looking at new and emerging markets for other honeys. As you know, this requires Government engagement, marketing, establishing customers and connections with consumers.

The Strategy also considers what we need to do to secure our reputation for quality, protect bee health and support beekeepers.

STRONG INDUSTRY VOICE

Establishing Apiculture New Zealand to represent all parts of the supply chain, from beekeeper to exporter, has been an important evolutionary step creating effective sector governance. But as we have said for some time now, a voluntary industry body model is not sustainable. We need to look at an

alternative model to continue being an effective voice.

The Strategy identifies this as a key first step—a newly formed industry body that can deliver on those issues and priorities and communicate with the sector in a way that is informed, fact-and science-based and gives beekeepers the right tools to do their business better.

We will be seeking advice on an optimal organisational structure and that advice will help shape the recommendations we make to industry. This will be a priority for the remainder of this year.

We have had positive signals from Government regarding our current funding application to work with industry to help deliver on the strategy outcomes.

For further information on the Strategy, visit our Strategy Webpage and stay tuned for more updates in future editions of the journal. We welcome your engagement, so please get in touch with any queries or thoughts: info@apinz.org.nz.

Membership renewals are under way. We need your support and welcome new members. Purchase your 2024/25 membership here.

We look forward to seeing as many of you as possible at our One-day Industry Summit in Hamilton on Tuesday 18 June.

NEW ZEALAND **HONEY STRATEGY SUMMARY**

VISION	New Zealand recognised by consumers around the world as a global leader in highest quality honey and the only credible source of mānuka honey.			
GOAL	To double NZ honey export value, increase consumer engagement with mānuka honey, and New Zealand's honey reputation by 2030.			
PILLARS	**SUSTAINABILITY**	**QUALITY-LED**	**CUSTOMER FOCUS**	
ENABLERS	**STRONG INDUSTRY VOICE**	**SUSTAINABLE REINVESTMENT MODEL**	**MANDATORY REGULATORY FRAMEWORK**	**A UNIQUE AND DIFFERENTIATING NEW ZEALAND HONEY STORY**
Y1-2 PRIORITIES	• Establish an aligned and empowered industry body with clear KPIs and workstreams to deliver on the strategy. • Transparent industry data and information systems to enable the value chain to deliver on consumer needs and demands. • Take the lead on developing policy to tackle difficult sector challenges, including mitigating climate change, setting standards for standards for ethical social, environmental, employment practices, and fully implementing the Bee Welfare code.	• The industry peak body will establish a funding model to enable the development of an innovation and R&D investment framework with priorities to guide reinvestment into areas that grow the sector's profitability and resilience. • Seek government assistance backed by industry support for the implementation of a mandatory funding model. • The peak body invests in the work required to bring mānuka honey into a mandatory funding model. • Bulk export levy model to ensure quality and value is retained in New Zealand.	• Agree on export quality standards, and with the support of government, establish a mechanism to enforce these standards. • Seek guidance from government on the best legislative pathway to achieve protection and consistent regulatory standards for both export and domestic consumers. • Revise the current biosecurity framework and with government support, recommend any changes to improve risk management and emergency response. • Evolve the current PMP framework to consider the introduction of varroa reporting and mandatory management protocols.	• Deliver a compelling Mānuka origin story grounded in Mātauranga Māori. • Lobby the government to amend the Geographical Indications (Wines and Spirits) Registration Act 2006 to allow recognition of mānuka honey. • Measure baseline consumer sentiment (NPS), purchase drivers and other indications of consumer interest in mānuka honey, in key markets. • Develop Industry case studies highlighting the sustainability and best practice for bees and the environment of the NZ honey industry. • Sharing the exacting quality standards of the NZ honey Industry including traceability.

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MARKET

Realising market opportunities with a strong, connected industry

Tony Wright, Unique Mānuka Factor Honey Association Chief Executive

I write this on a market promotional road trip to USA, UK and China. We are promoting the New Zealand mānuka honey story and new science on radio, TV, podcasts, online and offline print. Being in market has enabled multiple conversations with brands and trade officials.

They have reiterated the importance of the entire New Zealand honey industry being aware of constantly evolving market dynamics and the need to have strong collective plans to adapt and keep pace with changes and challenges coming towards us.

The time could not be better for the industry to be developing its capacity to work together for sustained, long-term success. The UMFHA sees exporters as the forerunners of continuous development in our industry. They receive cues directly from the market that signal what we need to do as an industry to be a competitive, world-class proposition in the natural health category.

Exporters working in combination with the wider New Zealand apiculture industry can make changes that both ensure the industry is ready for regulatory challenges such as Europe's Green Deal and the cost-of-living challenges that will ask questions of the efficiency of the New Zealand honey industry.

I am about to attend the China Bee Products Industry Conference. I will be presenting an update on recent scientific advances for mānuka honey and I look forward to hearing from other local and international presenters covering topics on science, market access and changing regulations across the global industry and accompanying challenges. It is a timely reminder of our reliance on global trade and making sure the industry is fit to meet the constant change.

To respond to the challenges and opportunities in the market requires a strong, connected industry that can act together. While exporters will lead the continued growth of global markets, the partnership with producers in New Zealand will be critical to achieve this. The New Zealand Honey Strategy is the catalyst to achieve this aim.

CEO of Midland's Honey, Doug McIntyre provides a good summary of the situation in the following message.

"We see the benefit of a united industry body, and sector, in the need to adapt to the ever-changing requirements of the international market, whether that be regulatory or consumer driven.

Having a united industry body will provide stronger representation to leverage our unique global position with regards to market access and regulatory requirements through a common purpose and voice.

It will also provide more streamlined communication and knowledge through the sharing of insights, data, consumer trends and analysis so that the industry can continue to innovate in areas that are consumer driven. It will be the ability of the industry to meet these demands that will provide a competitive advantage for New Zealand and allow us to achieve the strategic plan set out by ApiNZ."

The UMFHA board is strongly supportive of the direction of the Honey Strategy, for the following reasons:

- *initial focus on a healthy mānuka honey category* is key to a thriving New Zealand apiculture sector
- *representation for all:* Industry body needs to include everyone and ensure clear communication to all
- *shift from voluntary to mandatory:* Enforce consistent standards to protect our reputation

Tony Wright podcasting with Mike Dilke (left) of UK Health Radio. Photo supplied.

- *fair funding:* Everyone who benefits should contribute to industry-wide investments
- *continuous improvement:* Adapt to meet evolving consumer and market demands
- *enhanced transparency:* Export regime should ensure compliance with all international requirements
- *united storytelling:* Share the story of mānuka honey and tikanga Māori authentically.

NEXT STEPS

- We are working with ApiNZ and experts to identify options for a strong statutory industry structure with sustainable funding to drive innovation and prosperity.
- We will be going out to industry members to engage on proposals as they evolve.
- Development of a business case with supporting insights to guide the plan to implement the strategy.
- Majority agreement on path for change with mechanisms for decision making.
- It is expected that this first step, including engagement with industry, will be completed during 2025.

pī·ā·ora
BEES GIVING LIFE

APICULTURE NEW ZEALAND

ONE DAY INDUSTRY SUMMIT

Tuesday 18 June 2024

The Pā
University of Waikato, Hamilton

ApiNZ is looking forward to bringing together key stakeholders to address future challenges and opportunities.

Programme and registration details to come
https://apinz.org.nz/summit-day-2024/

The 5th N.Z. Honey Bee Research Symposium

June 17th 2024, Plant & Food Research, Kirikiriroa-Hamilton

Join researchers from around the country as we explore what is happening across honey bee and bee product research in New Zealand

All welcome

Registration details to come

NEW ZEALAND COLONY LOSS SURVEY

Insights into colony losses over 2023

New information about autumn hive losses, the potential hit rate of Cyclone Gabrielle on hives, and the toll of the job on commercial beekeepers are just some of the insights to be gained from the 2023 New Zealand Colony Loss Survey (NZCLS). *Karen Allan* catches up with survey creator Pike Stahlmann-Brown about the latest findings.

WHY DOES THIS YEAR'S SURVEY INCLUDE AUTUMN LOSSES ALSO? WHAT DOES IT TELL US ABOUT THE DIFFERENCE IN THE CAUSES OF LOSSES FROM AUTUMN TO WINTER?

We asked about autumn losses for the first time in the most recent survey. We've been thinking about making this change for a few reasons: first and most importantly, beekeepers have been telling us that autumn losses have been high for many years; second, the Bee Informed Partnership has recently found that non-winter losses sometimes exceed winter losses in the United States. It seems clear enough that the health of colonies coming out of autumn has a strong influence on how they fare through winter, so we thought it was time to start asking about autumn as well.

For winter 2023, we estimate that the overall loss rate was 12.7%. That's down from 2020 and 2021, which is good news. But we also estimate that the overall loss rate for autumn 2023 was 16.8%. We only have one year of data on autumn losses, so it's hard to have a lot of perspective on that, except to note that autumn losses were higher than winter losses last year.

Autumn loss data has been collected for the first time in the latest NZ Colony Loss Survey. (Image from the 2023 NZCLS infographic.)

Cyclone Gabrielle is estimated to have caused the loss of more than 21,000 bee colonies in 2023. Photo: Yasuo Nozue.

WHAT DO THE SURVEY RESULTS TELL US ABOUT THE DIFFERENCE IN LOSSES BY REGION?

In European countries, overall loss rates jump up and down from one year to the next. For example, England recorded over-winter loss rates of 20.2% in 2018, 4.4% in 2019, and 9.0% in 2020.

Our national rates don't change that much from year to year, but losses within regions can. Over winter 2021, losses in the central North Island hit 18.7%. In 2022, they dropped to 12.5%, which was below the national average. This year, they're back up to 14.7%. Over-winter losses in the upper South Island were 19.1% this year compared to 14.5% last year. But every region is a bit different; for example, the middle South Island has had losses well below the national average since 2019.

WHAT DO YOU THINK CAN BE LEARNT FROM THE INFORMATION GATHERED ABOUT VARROA TREATMENT?

Once again, varroa is the single largest threat to colony health. In fact, varroa was the attributed cause of half of all losses over winter 2023. When we started the survey in 2015, queen problems were much more significant, but that's really no longer the case (22% of losses were attributed to queen problems over winter 2023). Varroa was also the main attributed cause of death in autumn, ahead of both queen problems and natural disasters.

continued...

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SPEAKING OF NATURAL DISASTERS, HOW DO YOU THINK EXTREME WEATHER EVENTS SUCH AS CYCLONE GABRIELLE AFFECTED THIS YEAR'S RESULTS?

In terms of financial impacts, Cyclone Gabrielle was the worst tropical cyclone ever recorded in the Southern Hemisphere. Damage was severe for primary producers, including beekeepers.

Based on the data available at the time, Apiculture New Zealand estimated that 5,000–6,000 colonies were lost or damaged. These numbers were expected to increase because damaged roads and washed-out bridges made accessing many hives impossible, and this was borne out in the survey data. We had 144 respondents from different parts of the North Island who reported that they lost 7,659 colonies as a result of Cyclone Gabrielle and its aftermath (five beekeepers reported that they lost at least 500 colonies each).

Beekeepers who answered the survey managed 35% of the national hive stock as of the start of winter. If responding beekeepers managed 35% of the hive stock in affected regions when Cyclone Gabrielle struck, a back-of-the envelope calculation suggests that we lost over 21,000 colonies to the cyclone. I don't know that we'll ever have an accurate count of losses, but 21,000+ strikes me as being a realistic figure.

WHAT WAS BEHIND THE DECISION TO INCLUDE BEEKEEPER WELLBEING IN THE 2023 SURVEY FOR THE FIRST TIME? WERE YOU SURPRISED BY THE RESULTS?

A lot of people in primary industry are feeling under the pump, but I think this is especially true of beekeepers. Between high colony losses, low honey prices, the cyclone, the paperwork, the physicality of beekeeping, and everything else beekeepers manage on a daily basis, I worry about my friends in the industry.

I've been looking at wellbeing in some of my work with farmers, so this isn't exactly a new area for me. But when Sam Whitelock gave a seminar on wellbeing targeted at our industry last July, I saw it was time to include these questions in the NZ Colony Loss Survey as well.

We used two different measures of wellbeing, both of which are common in the scientific literature (they're the WHO-5 inventory and the Cantril Ladder measure if any readers want to look them up). The results were basically the same for both measures. Hobbyist beekeepers look more or less like the wider New Zealand public—we're "thriving" in the words of the people behind one of the measures. But it's a different story for commercial beekeepers, who score lower, on average, than other sectors in primary industry, including dairy farmers and sheep and beef farmers. This score is classified as "struggling".

We hope these findings will spark some conversations about how we can support one another. And while we won't include the wellbeing questions in every survey going forward, we do plan to check in on this topic every now and again.

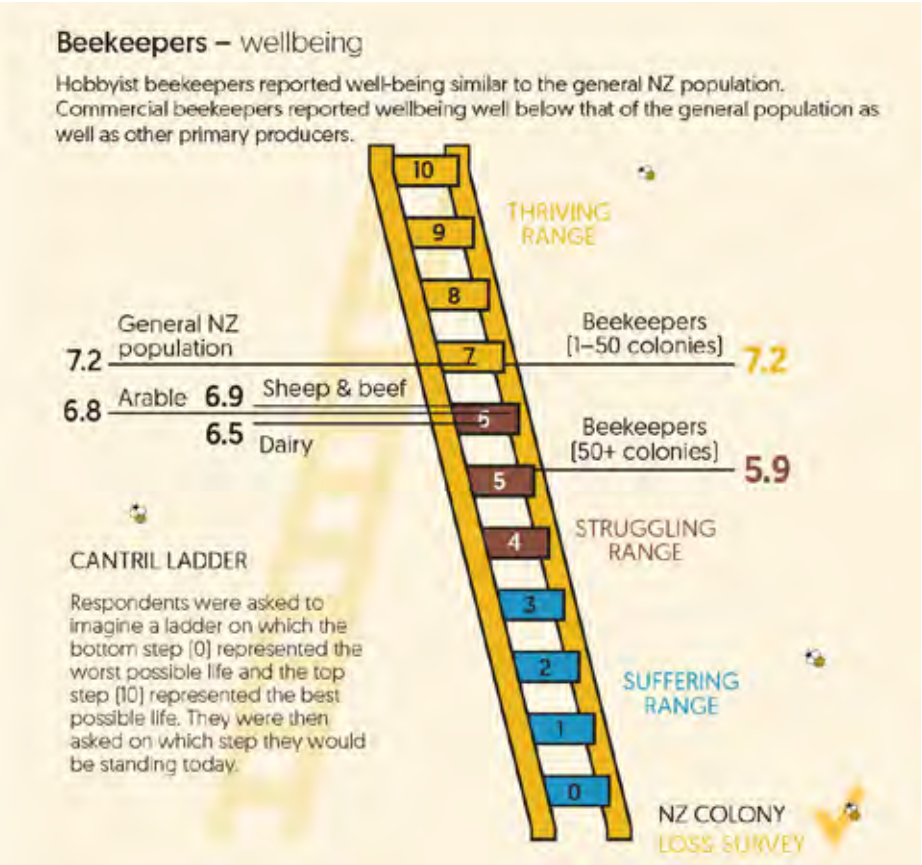
IS THERE ANYTHING ELSE YOU'RE THINKING OF INCLUDING IN NEXT YEAR'S SURVEY?

The first priority for the 2024 NZ Colony Loss Survey is to make it easier to fill out! Some of the questions we've asked in the past have been more suited to commercial beekeepers than hobbyists (and vice-versa), so we're introducing branching right from the beginning, with questions tailored to each group. I think this will speed up the survey as well, which is important given that we ask people to do the survey during the busy spring period.

WHAT DO YOU THINK IS GOING TO BE INTERESTING TO TRACK OVER THE NEXT FEW YEARS?

I'd like us to get back to the 'good old days' when queen problems were much more significant than varroa! I hope people will continue to treat varroa—for the sake of the hives they look after as well as the hives I look after—and I hope people will increasingly rely on testing to know when they'll get the most benefit from treatment. More people are experimenting with own-use oxalic acid, and I'll be curious to see results from that. I'll also be following whether better queens might be part of the solution for varroa in New Zealand.

The New Zealand Colony Loss Survey is conducted annually by Manaaki Whenua Landcare Research. An infographic with the full results of the 2023 survey can be found on the next two pages.



Commercial beekeepers are struggling to live well according to the Cantril Ladder measure. (Image from the 2023 NZCLS infographic.)

NZ COLONY LOSS SURVEY

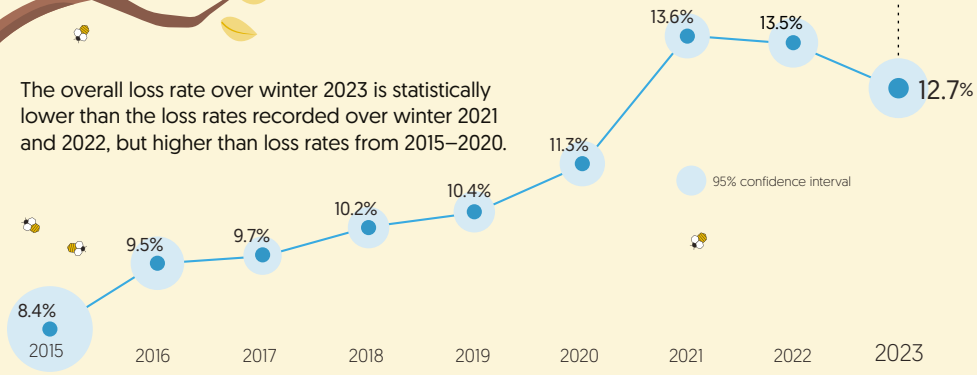
SUMMARY 2023

NZ COLONY LOSS SURVEY

This is an online survey of beekeepers that aims to quantify winter colony losses. The survey has been conducted annually since 2015. The questionnaire is based on the international COLOSS survey and has been adapted to include topics of specific interest to New Zealand beekeepers.

Overall winter loss rates attributed to all causes, 2015–2023

The overall loss rate over winter 2023 is statistically lower than the loss rates recorded over winter 2021 and 2022, but higher than loss rates from 2015–2020.



Notably, these winter losses followed autumn losses.

AUTUMN **16.8%** 2023

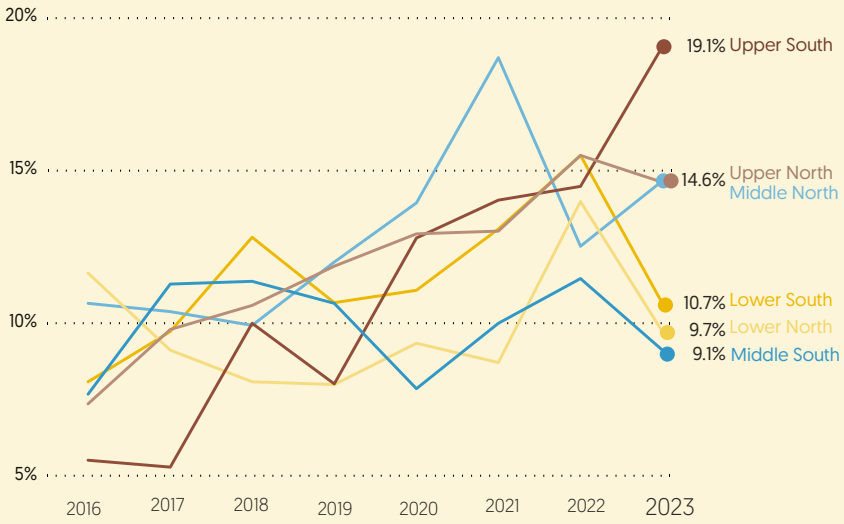
WINTER **12.7%** 2023

Autumn losses were recorded for the first time in 2023.

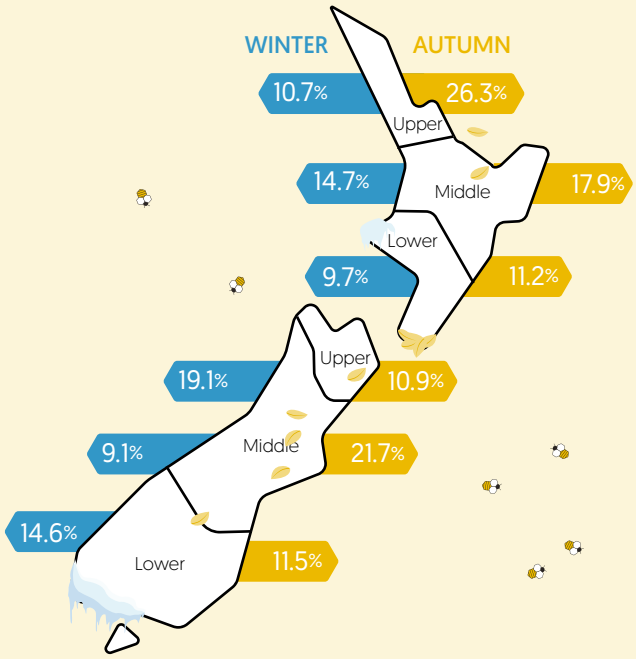
75,269 COLONIES LOST (WINTER)

Overall winter loss rates, by region, 2016–2023

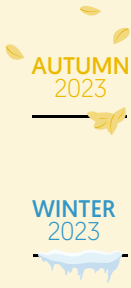
Overall winter loss rates varied more in 2023 than in previous years. Overall winter loss rates increased in the middle North Island and upper South Island and fell elsewhere.



Regional loss rates for winter and autumn 2023



Share of losses attributed to specific causes, autumn and winter 2023



50.8% **Varroa** was the cause of over half of all winter losses.

22.2% **Queen problems and natural disasters** were behind a higher share of losses in autumn than winter.

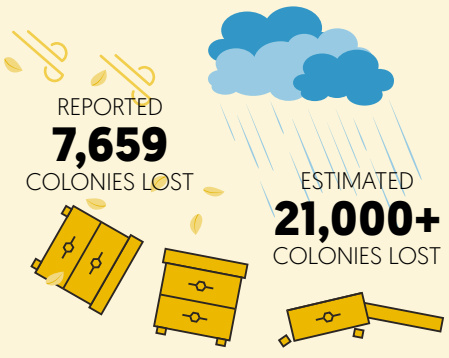
3.6%

8.9% **Suspected starvation** losses were higher than in previous years.

3.4% **Wasps** were less prominent in 2023.

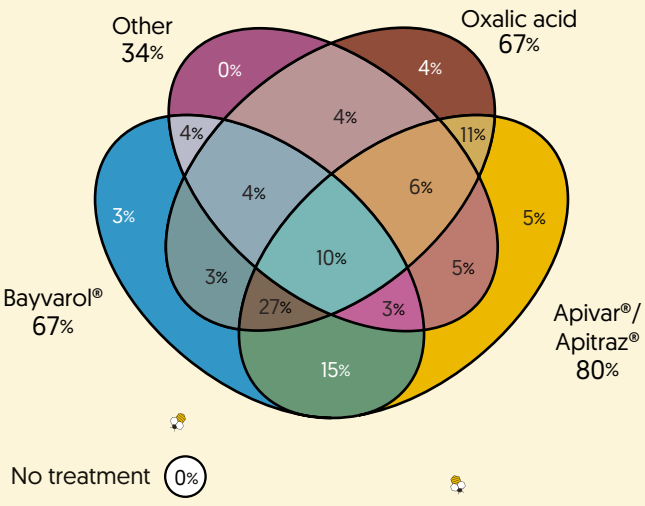
Cyclone Gabrielle

The survey asked about losses to Cyclone Gabrielle. 144 survey respondents reported losing 7,659 colonies. Based on these figures, we estimate that over 21,000 colonies were lost to the storm and its aftermath.



Treatment of varroa

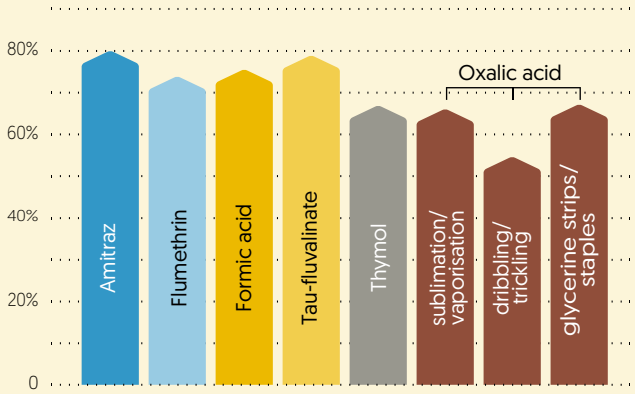
Different varroacide treatments used by beekeepers with more than 250 colonies.



No treatment 0%

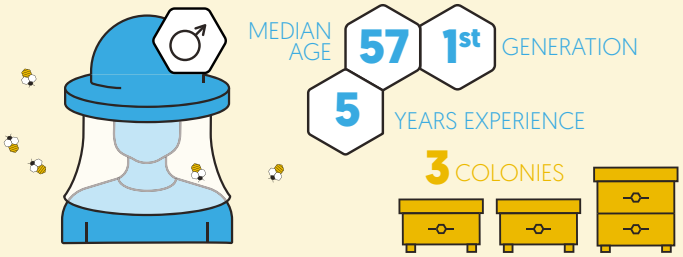
Effectiveness of varroa treatment

Across treatments, approximately 75% of beekeepers described the efficacy as being "mostly successful" or "completely successful".



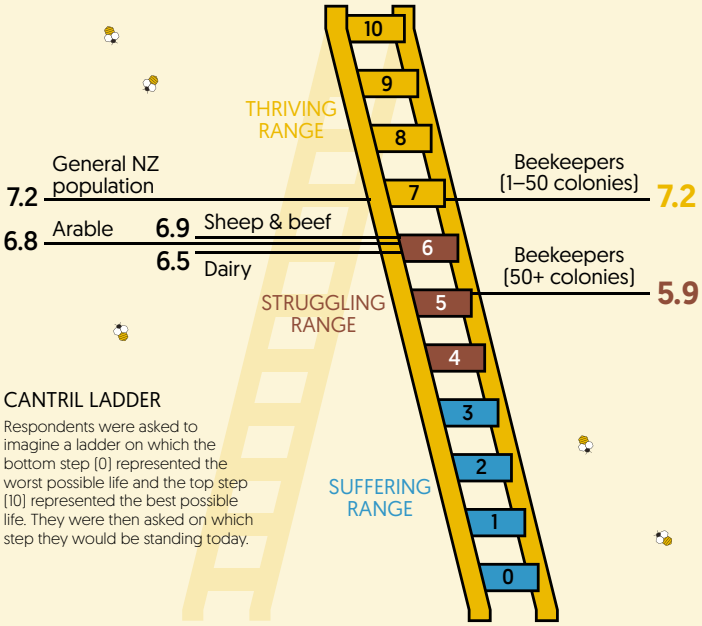
Beekeepers – demographic profile

The 'typical' NZ beekeeper is a male in his late 50's. He is a first generation beekeeper with 3 colonies and 5 years of experience.



Beekeepers – wellbeing

Hobbyist beekeepers reported well-being similar to the general NZ population. Commercial beekeepers reported wellbeing well below that of the general population as well as other primary producers.



In a 'queen cell'

Based on reports from 42.6% of beekeepers managing 35.0% of New Zealand's honeybee colonies, we estimate the overall loss rate over winter 2023 to be 12.7%. These loss overall rates are statistically lower than over-winter loss rates recorded in 2021 and 2022 but are higher than those recorded between 2015 and 2020. Over-winter loss rates were highest in the upper North Island and lowest in the upper South Island.

These winter losses followed overall autumn losses of 16.8%. Overall autumn loss rates – which were included for the first time in 2023 – were highest in the upper North Island and lowest in the upper South Island. This is the first NZ Colony Loss Survey in which autumn losses were systematically recorded, so we cannot yet report on trends in autumn losses.

Varroa was the most prominent cause of colony losses over both autumn and winter. Indeed, we estimate that 5.6% of all healthy, living colonies entering autumn 2023 were lost to varroa, and a further 6.4% were lost to varroa over winter 2023. Queen problems and suspected starvation were problematic issues in both autumn and winter, although losses attributed to wasps were down compared to previous years. Natural disasters were the underlying cause of many losses in autumn.

Commercial beekeepers treated varroa using various combinations of amitraz (Apivar® and Apitraz®), flumethrin (Bayvarol®), and oxalic acid during the 2022/23 season. Indeed, commercial beekeepers are more likely to use each of these treatments than non-commercial beekeepers.

Three-quarters of beekeepers described their treatment as "mostly successful" or "completely successful", suggesting that these treatments maintain their efficacy. That said, amitraz, flumethrin, and glycerin strips/staples were all perceived to be less successful than in the previous survey.

The 'typical' NZ beekeeper is a male in his late 50's. He is a first generation beekeeper with 3 hives and 5 years of experience.

The 2023 survey also asked about wellbeing. Results showed that hobbyist beekeepers are 'thriving' with wellbeing scores similar to those of the general NZ population. Commercial beekeepers, on the other hand, are 'struggling'. Their wellbeing is not only lower than the general population, on average, but also lower than other primary producers.

View full survey results at:
www.landcareresearch.co.nz/bee-health

Survey and report commissioned by
Ministry for Primary Industries

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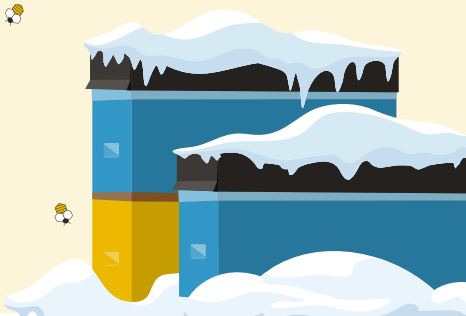

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HONEY

MARKET UPDATE

Headwinds in key markets could delay export recovery

Phil Edmonds, Apiculture New Zealand Senior Policy Analyst

New Zealand honey shipments in the traditionally strong final quarter of 2023 exceeded the results achieved in 2022, giving some hope that the downward trend in volume and revenue since 2021 has been halted. But the economic outlook in key export markets suggests caution should be taken when expecting a sustained near-term bump in fortunes.

The volume of honey that left New Zealand between October and December in 2023 was 9% higher than in the same months the previous year. More significantly, the prices received for that honey were up by a similar 8%, to $54.50/kg. This has helped turn the annual rolling volume back from its long-term descent. For New Zealand's most valuable export honey, retail-ready monofloral mānuka, the 12-month period to December was near identical to 2022—boosted by the late revival of shipments to China.

The protracted COVID-19 disruption in China has finally eased, and considerable efforts have been made in the past six months to re-engage consumers there. This was reflected in 16% more honey sent to China in the 2023 calendar year than in 2022. Revenue was up slightly more (17.2%), which meant average prices were also higher.

The renewed demand from China is encouraging, but it comes off a lower base than New Zealand had been experiencing. In 2022, China's share of all New Zealand export revenue was 14% (compared to 20% in 2019). It has climbed back to 17%, but still sits below the USA. In addition, the spike in October and November will likely have been due to the need to refill inventories ahead of key selling dates. It won't necessarily be obvious how successful those selling initiatives were until year-on-year comparisons can be made to re-ordering in the first quarter of 2024.

There are also wider warnings on the strength of the China economy to take note of that should temper prospects of a new boon. Economist expectations are for GDP in China to slow slightly in 2024—down from 5.2% in 2023 to 5.0%. Westpac's global economic commentary in March suggests added risk is posed for New Zealand exporters as that projected growth is likely skewed towards high-tech industries, and not necessarily reflected in consumer demand.

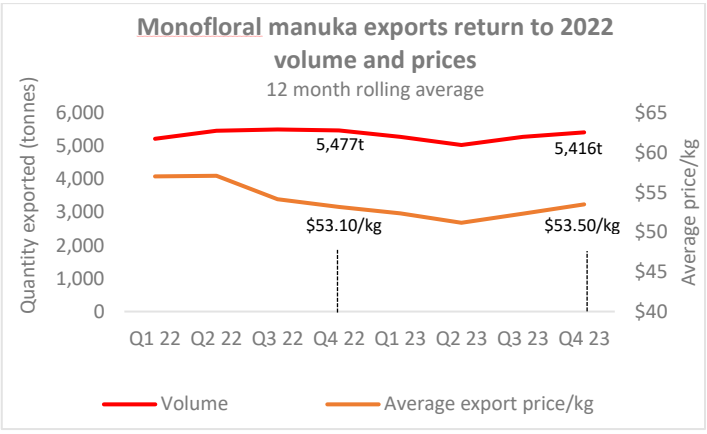
While China has rebounded from its weaker COVID-era interest in New Zealand honey, demand from the USA has slowed—almost as much as China's has risen. Export revenue generated from the USA was down 16% on 2022. This likely reflects market demand consolidating after successive years of significant growth.

All told, understanding the fortunes of selling opportunities in China and the USA have become more important; combined, China and the USA took 36% of New Zealand's honey in 2023 (more than one in every three units exported), up from 34% in 2022.

Export trends in other key markets tell 'inching up' stories. The value of New Zealand's honey exports to the EU increased 2% to $49m in 2023, which was enough to lift it a point to account for 12% of all New Zealand honey sold last year. A more conclusive improvement was evident in the UK—which may or may not have been influenced by the recent tariff removal; export revenue was up to $44m (8% higher than in 2022).

The minor change in performance in the EU, unlike in China, is more in keeping with wider economic conditions. GDP growth in the euro area was just 0.5% in 2023, and there is little expectation that will change over the coming 12 months. Meanwhile, trading conditions in the UK are expected to weaken with evidence of a GDP contraction over the past three months.

Domestically, the return to pre-COVID levels of international visitors had been keenly anticipated during 2023 but the rapid recovery has eased. Most significantly for local New Zealand honey sellers, those visitors who had typically been the keenest customers of New Zealand honey have been laggards; visitor arrivals from China have stalled at about 50% of pre-COVID levels. Immigration watchers are now predicting that an increase in Chinese visitors is unlikely to materialise until next year, given the New Zealand summer is now largely over.



BEEKEEPING

Keeping pollination services up to standard

Karen Allan

For many beekeepers, pollination is a good way to keep up a steady income stream when honey may be difficult to sell. But how can the industry ensure that good standards are being maintained to protect bees, growers and beekeepers involved in pollination?

Tairāwhiti beekeeper Barry Foster says there is an increased demand for pollination hives in his area, stemming from the expansion of apple and kiwifruit crops. And there is an even greater demand for quality pollination hives that meet industry standards.

Barry says beekeepers with excellent quality hives that have been independently audited are picking up more pollination contracts and are charging appropriately to provide quality hives going into pollination. In a few cases, beekeepers are tripling their pollination contracts because of good management, he says.

"In other cases, there is the 'race to the bottom' mentality held by a certain number of beekeepers who are undercharging and undercutting just to get work. This inevitably leads to lower standards, and economic loss for growers and beekeepers alike," he says.

Barry has seen this before in the 1970s and 1980s when kiwifruit growing began in the Tairāwhiti region and is concerned about reputational damage to the industry resulting from this poor business practice.

"Too many beekeepers got into pollination thinking they were in some sort of a bonanza, too often undercutting everyone else on prices just to get work."

He is concerned that undercharging is still happening and although growers in Tairāwhiti see pollination standards dropping, in some cases they accept this just to get hives.

Former kiwifruit pollination beekeeper Dennis Crowley says substandard hives are put into orchards every year. Some beekeepers may be unaware that their hives aren't up to industry standard.

Honey bee on kiwifruit flower. Photo: Jody Mitchell.

"There'll be those who have no idea of the standard needed but will just put their hives in an orchard, and those who are struggling and put hives in knowingly because they can't solve problems, thinking the orchardist is lucky to get any hive."

Barry also wonders if a lack of accessible information about the standards for beekeepers new to pollination could be contributing to the problem.

POLLINATION STANDARDS—HIVE SIZE

Colony strength standards have been suggested for a number of crops, Plant and Food Research's Melissa Broussard reports. Early scientific studies showed a poor correlation between numbers of beehives in kiwifruit orchards in New Zealand and bee activity on flowers, likely due to variability in hive size (Clinch, 1984). With funding from the then Ministry for Agriculture and Fisheries, the Kiwifruit Pollination Association (KPA) was formed in 1984 to improve the standard of pollination in kiwifruit orchards, including assessments of individual hives. The group implemented the standards laid out by Matheson (1990).

- 12 full-depth or 15 three-quarter-depth frames covered with bees
- the equivalent of seven full-depth or nine three-quarter-depth frames, 60% filled with brood in all stages (7000cm²)
- most of the brood in the bottom box of the hive

- a young, active queen bee
- sufficient empty comb for colony expansion
- adequate food stores
- no American foulbrood disease.

AsureQuality's Byron Taylor says the majority of bee pollination contracts in New Zealand are for kiwifruit. AsureQuality uses the KPA standard (outlined above) when auditing. It may be time to update these older colony strength recommendations, however, Melissa Broussard suggests. A number of studies—including ongoing work led by Plant and Food Research's Ashley Mortensen in her project 'Beekeeping outside the box'—suggest that small hives have a higher proportion of foraging bees. This trend has been observed specifically in the kiwifruit context (Howpage et al., 2001). Dennis remarks that the standard was written before the existence of netted orchards and gold kiwifruit.

Plant and Food Research's Lisa Evans agrees that the way kiwifruit has grown and changed since the 1980s, such as the widespread use of hail netting, adds complexity to the application of a standard. Her team has just completed seven years of field trials in protected orchards, both kiwifruit and apple, and found that large colonies don't perform as well under cover.

"It isn't really a case of 'one size fits all' in terms of honey bee colony standards for kiwifruit pollination. For a covered setup it is unlikely that the large colonies are the best option. Our protected cropping research has consistently shown that under covers, more, small (but healthy and growing) colonies, that are spread around, are better for the bees and by extension pollination." (Evans et al., 2020)

Byron says other crops have different standards. Pipfruit and stonefruit, for example, have a lower standard than kiwifruit because pollination needs to be done earlier in the year and it is difficult for beekeepers to achieve a substantial population by that time, so it is based around what is realistically possible around that time, says Byron.

Avocado pollination is also different. Avocados can flower for six to seven weeks. Dennis says that if you put a strong hive into an orchard at the start of avocado pollination, it will result in swarming. Beekeepers providing for avocado pollination will start with a slightly smaller hive, as it will grow over those six weeks. There are different management techniques, says Dennis. Some beekeepers will place hives at an avocado site and then pull them out partway through the avocado season for kiwifruit pollination.

HOW MANY HIVES?

Beekeepers working in pollination need to calculate the number of hives needed per hectare for whatever crop they are working with.

The standard number of hives for kiwifruit is 7–10 per hectare, originating from recommendations in Palmer-Jones and Clinch (1974), which suggested eight hives per hectare, Melissa Broussard says. She also notes that some research led by Mark Goodwin suggests that fewer bee visits are required to pollinate gold kiwifruit (~6 visits) versus green kiwifruit (~40 visits) (Broussard et al., 2021). This means that fewer colonies are likely required by gold kiwifruit (Goodwin, 2013), although growers may choose to stock gold orchards at higher rates instead due to their higher returns.

THE IMPORTANCE OF QUALITY POLLINATION

The quality of pollination makes a big difference for some crops, says Byron.

"The difference in yield is key and it translates into money in the back pocket. The cost of not gettting it right is just too great."

This is why Byron believes there is real value in the audit process. Byron says the default sampling plan they use gives an orchardist 95% confidence that non-compliance is less than 10%.

"There's a piece of mind about the audits. I think that runs both ways."

Although it is usually orchard management companies requesting AsureQuality audits, Byron says some beekeepers, packers or pollination groups also use the service. For those providing pollination services, an independent report can be provided to an orchardist as a measure of quality—a

continued...

SUGAR SYRUP AND KIWIFRUIT POLLINATION

Kiwifruit do not produce nectar, meaning bees must leave the orchard to obtain carbohydrates needed to support the colony, especially if the orchard is kept free of flowering weeds. Goodwin (1986) found that feeding honey bee colonies sugar syrup inside the hive can double the collection of kiwifruit pollen. This is now common practice in kiwifruit pollination and needs to be factored into the potential cost. About a litre a day of sugar syrup is required to keep the bees fed. Dennis Crowley says this adds up to quite a lot of syrup for 8–10 days in an orchard and beekeepers need to allow for it in the price they charge.

Ideally bees consume this sugar syrup as they go but, Byron Taylor says, there is a danger that residual sugar syrup remains in the hive. Beekeepers don't want their hives coming out of pollination and into the honey flow with significant sugar syrup residue, as it could end up in the honey and be identified in tests as honey adulteration.

NETTED ORCHARDS

Netted orchards have their own problems, says Dennis Crowley. A study of bee foraging under netting found that bees were roughly three times less likely to return after their first trip outside the hive. Consequently, the number of adult bees in hives declined at a faster rate in these orchards, with colonies losing, on average, more than 1000 of their bees in under two weeks (Evans et al., 2019).

Dennis says there is usually a noticeable drop off in bee numbers after four to five days, so some beekeepers swap out hives at this point.

For this reason, beekeepers may charge a higher price for pollination of crops in netted orchards.

WHAT'S BEST FOR THE BEES

Many of the standards have a bee health component, particularly around American foulbrood and keeping varroa under control, says Byron Taylor. They also often mention having an effective queen and queen-related issues could cause the queen to fail.

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Setting up hives for pollination. Photo: Jody Mitchell.

marketing tool—showing that a business is providing a premium service, Byron says.

Many orchardists will develop a relationship with their beekeepers over the years and might just get an audit at the start of a relationship or when something changes.

"The orchardists I talk to with good relationships with their beekeepers have an understanding of beekeeping. They understand if they're having a bad season, the role weather plays, and other challenges," says Byron Taylor.

APPROPRIATE PRICING

The Ministry for Primary Industries' 2023 Apiculture Monitoring Data shows the range of prices being charged for pollination by crop type and region. For example, in Hawke's Bay the range for kiwifruit pollination is $150–250 per hive. For kiwifruit orchards under hail netting the current range is $250–500 per hive.

Dennis Crowley says Bay of Plenty prices are a bit higher, around $190–280, with similar prices for netted orchards. He says whether or not this is sustainable depends on a number of variables, although he suspects prices may go up as cost-of-living pressures increase.

Barry says there is a potential correlation between undercharging and poor pollination standards in hives.

"If you cannot afford the inputs required (sugar, etc.) to build up a hive from early spring for pollination, then it's a self-defeating exercise," he says.

Dennis says that until someone creates an artificial pollination method that works as well as bees at a reasonable price, there will need to be a price adjustment if the kiwifruit industry wants to get beekeepers in for pollination.

"That's going to be a discussion that will come if it isn't being had already."

Those beekeepers doing both gold and green kiwifruit are getting paid twice for one hive, he says. The first payment covers costs, and the second is enough to live on. However, green kiwifruit production is giving way to the more popular gold kiwifruit, which is a one-off pollination contract, and there's no money in that at current prices, says Dennis.

Dennis says, if he were to go back to kiwi pollination, he would have a two-tiered pricing system; for example, green kiwifruit would be $200–250, red kiwifruit and gold kiwifruit would be $300–350.

Red and gold kiwifruit are the most lucrative in both prices paid to orchardist and numbers of fruit produced per hectare, but they are also the hardest to get bees ready for as they flower earlier, Dennis remarks.

"If you're able to sell your honey, then one pollination is good to add to your business model to get guaranteed income each year. But you really need two pollinations otherwise," says Dennis.

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Starting out in pollination

A few tips for those considering getting into the pollination business, from pollination guru Dennis Crowley.

Work out your deadline date. Start by finding out the date that the hives are going into the orchard. If a new beekeeper meets with a new orchardist, or it's a brand-new orchard, both will be guessing. Talk to neighbouring orchards about when they might be putting in hives for pollination. As a general rule of thumb, pollination begins about 90 days after Hi-Cane® is sprayed in July/August. For gold kiwifruit, this means the end of October or early November, or late November for green kiwifruit.

Prepare your hives. Six weeks earlier than the pollination date (probably around mid-September), you need to have a hive that has five frames of brood and a good box of bees.

Plan ahead for problems. When working with nature and insects, things can change on you. You just have to keep balancing your hives out and bring them all up together. The standard isn't that hard to meet unless it's a bad season. Although sugar helps, it is not a perfect food replacement. At some point you may only get 80% of your hives ready. If this happens you might have to either cancel a contract or broker some extra hives. You'll have a bit more leeway if you're not typically using all of your hives for pollination.

Be professional. You want to charge a good price and should expect professionalism from the orchardist, but you need to be acting professionally also. You need to provide a good product on time (both into and out of the apiary). This can be a topic of dissension, so need to find a balance that suits both you and the orchardist.

Communication is key to building a good relationship with orchardists. A lot of pollination contracts don't have direct contact with the orchardist, so you need to be proactive about going to the site, meeting the owner and letting them know what you need. For example: Can you drop off hives and get around the site without obstruction? Consider your health and safety. You will be bringing in the hives at night-time, when things will look different. Allow for access in all kinds of weather as you don't want to be stuck in the rain at 2 am, having to ring the orchard owner.

Be clear about expectations in advance. At the end of each pollination season, ask the orchardist for their plan for the coming season. The orchardist has to understand that if they want an increase in hives the next season, they need to let you know in advance. You only see them for about 10 days of the year and often the only time you'll talk with them is a couple of weeks before pollination. Train the orchardist that if they're expanding their orchard(s), they need to tell the beekeeper early.

Bee on apple blossom. Photo: Nick Thorp.

SCIENCE AND RESEARCH

Breeding varroa-resistant bees: holy grail or realistic goal?

Ken Brown

With increasing costs of synthetic miticides and some beekeepers reporting a need to increase treatments, many are looking for other tools to fight off this invasive pest. *Apiculture Land Based Training tutor Ken Brown* looks into the extensive research on varroa-resistant breeding and how it could add to the beekeepers' toolbox.

HOW VARROA MITES KILL BEES

It's not the varroa mites that are killing our bees as such; they are rather a vector for the many diseases that do. Varroa feed on the fat body cells of bees and in doing so, they suppress the immune response of their hosts. They also inject viruses into the haemolymph of the developing bee; the virus is then quickly spread throughout the bee. Parasites don't usually kill their host, or they too would die. In evolutionary terms our Western honey bee, *Apis mellifera*, and varroa are a very recent pairing, and our bees aren't equipped to cope well. The varroa mite evolved with a Southeast Asian bee, *Apis cerana*, and both co-existed relatively well.

Seventeen viruses are associated with varroa mites in New Zealand. These include deformed wing virus (DWV), black queen cell virus, sacbrood, chronic bee paralysis virus, acute bee paralysis virus, and Kashmir bee virus. It is worth noting that these viruses can be present in a healthy hive and managed comfortably, but varroa can massively increase the spread of these pathogens, causing collapse. And, of course, parasitic mite syndrome (PMS), while not a specific disease on its own, is a condition that is present with high numbers of mites and often presages the loss of the colony.

NATURAL SELECTION

One option is to not treat for varroa at all, but instead breed from any surviving honey bee stock. This is sometimes called the 'Bond Test', named for the Bond film *Live and Let Die*, a method that relies on negative natural selection. It has had some success in Europe. Interestingly, a trial in Gotland, Sweden produced varroa-resistant bees that haven't been treated since 1999 (Le Conte, 2020). They were not treated for varroa, were only minimally managed and were allowed to swarm. After initial losses, the mortality rate fell to less than 20%, although this was after a three-year peak of 80%. Infertile mites and dead offspring were more likely in resistant hives compared to control hives.

According to Le Conte, "Mites in the Gotland population also showed signs of delayed egg-laying, which has been suggested to result from potential inhibition of egg-laying, maybe through pupal volatiles" (Le Conte, 2020).

Even if we could get all beekeepers to agree to not treat their bees, there are several disadvantages to this draconian method. Randy Oliver discussed this in the *American Bee Journal* (March 2017). Not treating may create a genetic bottleneck with a very small gene pool and could contain undesirable traits; a huge number of mites would be produced and potentially inundate an area; it would lead to a massive reduction in working stock and, of course, not many beekeepers could sustain several years of such losses.

IMPORTING VARROA-RESISTANT BEES

In a programme run by John Kefuss and associates, resistant bees (*Apis mellifera intermissa*) were imported from Tunisia to France. They now use these untreated bees in a commercial operation with a survival rate comparable to other local beekeepers (McNeil, 2010).

This could be an option to achieve varroa-resistant bees in New Zealand, except that we rely on our bees for pollination of a large proportion of our food production. Any significant reduction in pollination capacity would directly affect our capacity to produce fruits, vegetables, oils, not to mention beeswax, propolis and royal jelly. We would need to start with pockets of resistant bees and expand from there through breeding programmes. Difficulties in breeding for resistant bees would be similar for breeding for any desired trait. Since we've been keeping bees, we've naturally preferred placid bees that produce more honey. With the advent of movable frames, we have been able to be more selective with the characteristics we have in our colonies. As our understanding of heredity grew, we were able to specifically breed for desired traits. Unfortunately, there is also a flip side to the coin, as it seems as though the placid behaviours that we bred for may be the very things that make honey bees such accepting hosts. Would much less prolific and more defensive bees be better able to cope with varroa?

It's not a single goal though, it's more of an arms race. As bees become more resistant, varroa will also strive to survive and successful traits will prevail.

HOW VARROA SURVIVE IN THE HIVE

Varroa use semiochemical camouflage, mimicking most of the pheromones given off throughout the bee's life cycle, making it difficult for a bee to detect mites in a capped cell. Recent research by Fanny Mondet (2021) isolated six varroa-parasitisation-specific (VPS) compounds that trigger varroa sensitive hygiene (VSH).

Varroa also use physical camouflage; there is no evolutionary reason that a flightless arachnid would evolve branched hairs except to fool their host that has a legitimate use for them (for electrostatically attracting pollen and then trapping it). The varroa lifecycle is within the darkened hive and a mite will feel almost identical to a bee's own body, even the parts that aren't buried between the sclerite plates of the bee.

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RESISTANCE VS TOLERANCE

Perhaps a realistic aim would be for bees to tolerate varroa and cope much like their original hosts *Apis cerana.* There is a difference between the two; resistance is the bees' ability to limit the varroa burden, whereas tolerance is the reduction in harm caused. An example of resistance would be reducing the reproductive ability of the varroa or suppressed mite reproduction (SMR): this has been found in hives with low mite levels. The mechanism is unknown but has shown to be a hereditable trait in bees (Ibrahim, 2005). An example of tolerance could be bees that are less susceptible to DWV.

A key to understanding tolerance/resistance is to look at how *Apis cerana* deal with varroa compared to *Apis mellifera.*

Apis cerana:

- groom themselves and each other of mites quicker and more effectively and kill more mites doing so
- uncap and recap cells more often
- have a shorter period that the brood is capped
- produce fewer drones and have longer drone brood breaks
- are more likely to swarm or abscond, leaving behind varroa-infested brood
- create smaller cells.

There are other sub-species that are more resistant than our bees, like the *Apis mellifera scutellata* from Africa and the Africanised honey bee hybrid found in North and South America. There has been meta-analysis of studies of these populations and of surviving colonies of feral bees. It isn't always the same characteristics that are statistically significant, but there are definite patterns (Nganso, 2017).

WHAT TRAITS ARE WE LOOKING FOR?

Bees displaying hygienic behaviour are more likely to detect and remove infested, diseased or dead brood. Specifically, we are interested in Varroa Sensitive Hygiene (VSH) traits. VSH bees are able to identify varroa-infested brood in the cells and then clean them out. VSH bees have better olfactory detection of mites in the cell; it is thought that they can smell better because of an allele related to antennae development. New Zealand queen breeder Rae Butler is passionate about VSH and has been galvanising support for a national approach to VSH, and she has been instrumental in the formation of the New Zealand Bee Breeding Association (NZBBA).

New Zealand is an island both figuratively and metaphorically. Our gene pool is isolated and currently we are unable to introduce new DNA to assist with any breeding programme. *Apis mellifera* honey bees seem to be the least well equipped to deal with varroa of all bee species, but there are some sub-species that exhibit more resistance than others. Our bees are mostly variants of *Apis mellifera ligustica* (Italian honey bee) and *Apis mellifera carnica* (Carniolan honey bee), which don't usually rate too highly on the tolerance or resistance scale.

Tests for hygienic behaviour (HYG) include pinprick and spot-freezing, where a selection of brood are killed and then the hive is monitored to see the clean out rate—over 95% is considered 'hygienic'. Bees with hygienic behaviour detect, uncap and then remove diseased brood before it becomes infectious. For varroa-hygienic behaviour, the pupa should be removed within 60 hours of capping to ensure that no mite progeny survive (Ibrahim, 2005). Common beekeeper field tests for varroa resistance include mite drop and dead/damaged mite drop, observed grooming, surviving colonies, recapping, and levels of mite infestation.

Resistant bees aren't surviving just because they're killing the mites; there are other small ways in which they contribute to a hostile environment in which mites do not thrive. One such example is suppressed mite reproduction (SMR): bees with this trait have reduced mite reproduction even without interference by adult bees (Scaramella, 2023); delaying a foundress mite from starting to lay an egg by even a few hours can have a significant effect. Normally, after the cell is capped, the foundress first lays a male egg and then every 30 hours lays a female egg, which when sexually mature will mate. Besides the foundress emerging from a worker cell, there could be one or two adults. An emerging drone could exit with a foundress and two or three mites. Combine the delayed egg laying with a slightly shorter stage of capped cells and there will be a much lower reproduction rate of mites.

Ideal characteristics to choose from for increased varroa resistance could include:

- *grooming*, both self-grooming and grooming of each other
- *mite drop*, higher natural mite drop and more dead mites
- *mite levels*, lower levels of mite infestation
- *capping duration*, the length of time that a cell is capped. Even a few hours can make a significant difference
- *SMR*, suppressed mite reproduction. How poorly mites reproduce in the cell, up to 20% of mites failing to reproduce is typical
- *hygienic behaviour*, how readily dead and diseased brood are detected and disposed of
- *VSH*, how well infested brood are detected and disposed of
- *surviving*, colonies that survive and exhibit low levels of varroa-borne diseases present. We can observe the adaptations without understanding the mechanism. The Darwinian Black Box model relies on natural selection: "use the analogy of a black box from which the content remains hidden while the obvious effects of this content are nonetheless clear and visible" (Blacquière, 2019)
- *over-wintering*, natural brood breaks or less brood over winter; shorter drone cycle; better survival rate of smaller colonies
- *swarming*, while not practical for commercial beekeepers, swarming is a common factor in resistant colonies
- *recapping*, healthy cells may be opened and recapped many times; this can interrupt the development of the mite, leaving the brood unharmed.

DOWNSIDES OF VARROA-RESISTANT BREEDING

The issues will always be inbreeding (too small a gene pool) and outbreeding (where resistant genes are diluted), especially with mating in the wild. This can be partially overcome with artificial insemination until natural selection reaches the tipping point. Purely varroa-resistant bees may be a long way off but used as part of an integrated pest management plan (IPM), it can be an economically viable option.

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APICULTURE NEW ZEALAND

SCIENCE AND RESEARCH

Bringing out the little guns: lasers join the war on varroa

University of Auckland

Tiny lasers stationed at honey bees' hives will disable and kill varroa mites in experiments aimed at defeating the parasitic pest ravaging bee colonies around the world.

Devising a cheap tool for beekeepers to protect bee colonies without using pesticides is the aim of scientists led by Dr Francesco Merola and Professor Cather Simpson at the University of Auckland's Photon Factory, in a collaborative project with New Zealand's Plant and Food Research.

Varroa mites (*Varroa destructor*) cling to bees to enter hives but tiny lasers stationed at beehive entrances can target the mites and prevent them from infesting and critically damaging the hive, the scientists believe.

"Our goal is to free bees to do their important agricultural work by allowing beehives to thrive again, to be more resilient, healthy homes for bees," says Merola.

"It's an ambitious project which will make a difference all over the world if we're successful," says Simpson.

Varroa mites feed on honey bees, larvae and pupae, spread disease, and can cause bee colonies to collapse. As bees have a critical role as crop pollinators, varroa mites represent a global threat to food security.

Merola, of Waipapa Taumata Rau, University of Auckland, will test how different laser blasts affect bees and mites, working in a containment laboratory at a Plant and Food Research facility in Hamilton.

Merola previously worked at Engender Technologies, a University spinoff founded by Simpson that sorts sperm by sex for the dairy industry.

The University's Photon Factory is collaborating with Plant & Food Research's Bee Biology and Productivity Team led by Dr James Sainsbury. Industry advisers include representatives of Apiculture New Zealand, Comvita, and the Māori beekeeping industry.

A $1 million "Smart Idea" grant from the Ministry of Business, Innovation and Employment's Endeavour Fund is supporting the project, which aims to create a device for New Zealand and abroad.

In a five-year plan, research and development are slated to take two years, followed by commercialisation. Challenges will include creating a device easy to fit to the hive that bees are happy to move through.

Advanced optical spectroscopy methods are key techniques the science team will use to understand the structures of key biochemical components in the bees and mites, including proteins, lipids, and pigments.

NON-MĀNUKA MONOFLORAL HONEY SAMPLES WANTED FOR RESEARCH

The High-Value Nutrition National Science Challenge currently has a project looking at the unique characteristics of New Zealand monofloral honeys, with a focus on honeys from non-mānuka species such as rewarewa, rātā, kāmahi and many others.

One of the key goals of the project is to measure the biochemical features of monofloral honey collected within a given location, to provide a better understanding of honey variants, and ultimately identify any molecular components within the native honeys that may be linked to potential health benefits in the future. This is because honey composition and characteristics can differ between regions of origin and the source of its nectar.

Researchers at Plant and Food Research and AgResearch are searching for small sub-samples (5–10 grams) of monofloral honey, along with information on the approximate geographical region that samples were collected.

If you have possible samples that might be suitable, or are interested in finding out more about this research project, please contact Karl Fraser at AgResearch (karl.fraser@agresearch.co.nz) or John Van Klink at Plant and Food Research (John.VanKlink@plantandfood.co.nz) for further details and we can arrange shipping.

Southern rātā. Photo: Craig McKenzie, Wikimedia Commons.

To find out more about the project, visit: https://tinyurl.com/2k8avn2v

HEALTH AND WELLBEING

Getting through tough times

ApiNZ board member Murray Elwood has navigated the ups and downs of the beekeeping industry for over 30 years. He chatted to Farmstrong about how he manages the pressures of an uncertain business.

ApiNZ board commercial representative Murray Elwood. Photo: Farmstrong.

TELL US ABOUT YOUR BACKGROUND.

We're based in Nelson and our business is in the top of the South Island. I've been in the industry for about 35 years.

WHAT DO ENJOY ABOUT THE JOB?

I think it's the fact that bees are such an intriguing insect. Sometimes I'll just hold a frame and look at what they're doing. They're all busy and they've all got their roles. They really are an incredible insect. There's also the satisfaction in harvest season, when you come to a hive with four or five honey boxes on it, of knowing that you and the team have done what it takes to make it a successful unit.

WHAT ARE THE MAIN PRESSURES?

Over the years, we've had some major challenges. Beekeeping is a rollercoaster industry dictated by three things—the weather, hive strength and flowering. If you haven't got your hive right or haven't got a flowering or you've got poor weather, then you get a very limited crop. A number of years ago, even when prices were good, we had a very poor season. It was fifty-fifty whether our business could continue.

WHAT IMPACT DID THAT HAVE ON YOU PERSONALLY?

I had a year where I barely left the house and was very withdrawn. I felt mentally drained. We were facing the collapse of our business and the fear of failure and what people might think of me, was very real. So, I withdrew.

CAN YOU SHARE HOW YOU GOT THROUGH?

What kept me going? My wife and my kids were an amazing source of support for me. The kids were teenagers and just having them around put a smile on my face.

I guess the other thing I learnt during that time was that who I was as a person was far more important than what I achieved. That was a massive lesson. I learnt to accept that even if the business failed, it wasn't going to be the end of the world for me. I'd just do something else with my life. I'd go and work for wages for someone else if need be.

> "I realised I had to be more open, especially with close friends, to deal with how I was feeling."

WHAT ELSE HELPED?

I had to learn to be more open. I was selective about who I confided in, but I realised I had to be more open, especially with close friends, to deal with how I was feeling. So, my family and friends really helped me through that time, and I did come through.

WHAT DO YOU DO NOW TO KEEP WELL?

There's an old saying—the best things in life are free. When you're under financial pressure, the last thing you want to do is spend money. Luckily, I'm a hunting, fishing, outdoorsman and you

continued...

can do all of those things on an absolute shoestring. I just love getting out there in nature with mates and taking a couple of days off. It does me the world of good and it doesn't cost anything. That's big for me.

WHAT'S THE BENEFIT OF TAKING TIME OUT LIKE THAT?

Sometimes when you've got a massive list of things to do and you're losing money while you're doing it, it's tempting to think you've got to work seven days a week. But that's the worst thing you can do. You've got to take that time out to recharge so you can be more effective in the time you are at work.

> "For me, it's about standing up from the beehive and just appreciating the moment that you're in."

HOW DO YOU DO MAKE SURE YOU ENJOY THE JOB NOWADAYS, DESPITE ALL THE UNCERTAINTY?

We're beekeeping in some absolutely stunning areas. For me, it's about standing up from the beehive and just appreciating the moment that you're in. The view from the top of the hill. The cicadas singing away. It's just spending a moment to enjoy it.

WHERE ARE THINGS AT NOW IN THE INDUSTRY?

The prices we're getting for the honey are less than what it costs to produce it. Financially and mentally that's very stressful. The prices are low and if you put that on top of a poor season, like it was last season, sadly that has already tipped over quite a few beekeepers.

WHAT'S YOUR ADVICE TO SOMEONE NEW TO THE INDUSTRY AND WORRIED?

If you're new to the industry, then don't expect to get wealthy. Just do your best to break even or a bit better. Do the simple things right. Make sure your hive health is good but visit your hives as little as you can to limit your spending.

The other thing is stay connected. You can't work out every single problem yourself. Beekeepers are often loners. They like to do their own thing their own way. That's why they got into the business. But when you get tough times, it's important to have Apiculture NZ behind you. Sometimes advice from another beekeeper is like gold. Having that collective input gives you a new way of looking at things.

ANY ADVICE FOR PEOPLE WHO FEEL STUCK?

If things are too tough, seek advice on an exit strategy. You might not get a lot for your business as it is now, but you'll save the other assets you've built up. If you can't see a way forward, you've got to be willing to let it go.

It's about realising that's there's always something else for you around the corner. If you've had a successful business, you can have one again. It's just that the current pricing is very hard. Even if you love beekeeping, you've got to work out a way where you're not losing money.

ANY FINAL ADVICE?

One thing I would say is that I think it's great that Farmstrong is advocating about mental health. In the past, it was a taboo subject. We were all good Kiwi men who never had a weak moment. But that was never true. Everyone needs a hand and everyone needs support at some stage.

Last year 14,000 farmers and growers increased their wellbeing thanks to something they learnt from Farmstrong. To find out what works for you and lock it in, visit www.farmstrong.co.nz for free tools and resources.

HOW APINZ WORKS FOR ITS MEMBERS

Strategy for the future—implementing a plan to secure a stronger, more resilient industry through the NZ Honey Strategy 2024–2030.

Support in tough times—ensuring critical information gets to all beekeepers and exporters. For example, ApiNZ's liaison with central government in the wake of Cyclone Gabrielle resulted in $250k government recovery funding specifically for the apiculture industry.

Advocacy—working directly with key agencies, including the Ministry for Primary Industries, on members' behalf on issues that matter to them.

Communications—regular updates circulating the latest information on issues and events in the apiculture industry.

Market intelligence—sharing insights through our quarterly Honey Market Update.

Providing value—securing member laboratory discounts for honey testing; free business tools through the BeeSmart Toolkit.

TECHNICAL SUMMARY

American foulbrood testing: what options do you have?

Matthew Lewis, Analytica Laboratories (now part of ALS Limited)

American foulbrood (AFB) is a bacterial infection that affects honey bees and has disastrous effects on a colony's health. The disease is caused by the bacterium *Paenibacillus larvae*, which produces spores that can survive for over 35 years in beehives and beekeeping equipment. The spores are able to survive in a wide range of disinfectant solutions and temperatures so the advised way to destroy the bacteria is to burn the affected equipment/honey.

Closeup of an AFB-infected cell. Photo: Dwayne Hill.

If you want to know more about detecting AFB in your hives or controlling and eliminating an outbreak, please reach out to the AFB Management Agency. They are there to help!

How does AFB spread?

To preface, AFB does not affect the health of humans or adult bees, but humans and adult bees are the two main spreaders of AFB. The disease is spread when AFB spores are fed to brood by the nurse bees, which allows it to germinate into its vegetative form inside the larval gut. In this form, the bacteria will **multiply** and consume the larva's tissue before turning back into spore form. This brood cell will now house up to 2.5 billion AFB spores that the house bees will then try to remove. The removal process only causes the disease to spread throughout the hive and onto neighbouring hives via contaminated worker bees.

The other common way AFB is spread is through the use of contaminated beekeeping equipment. Remember that even though you have never had AFB before, you are not immune no matter how secluded your hives are.

WHAT TESTING IS ON OFFER AND WHY WOULD YOU CHOOSE ONE OVER THE OTHER?

AFB testing of honey

Honey is the most common matrix-type test for AFB. This is because AFB testing is required by the Ministry for Primary Industries prior to export to China. Testing honey for AFB can also be used at extraction as a screening tool. Keep in mind that hives infected with low/moderate levels of AFB may still produce honey without AFB and can become a bigger problem in the future!

AFB testing of bees

AFB testing in bees is the easiest way to test feral colonies for AFB. Simply sample a handful of bees from different sections of the colony, freeze them, and send them to Analytica for testing.

Freezing the bees is important as it is a humane way to kill the bees and it also prevents them from decomposing prior to arriving at the laboratory.

AFB testing via swabs

Testing swabs for AFB gives beekeepers a variety of ways to prevent the spread of AFB and detect AFB before it turns into an expensive problem.

The common way to use swab testing is by swabbing your hives and/or equipment and sending the swabs in to be composited and tested. This allows you a cost-effective way to screen your hives/equipment before and after they are put into use. If you get a positive result for one of your composites, you can ask for it to be broken down and have the swabs tested individually for a more detailed report. A similar philosophy is used by our clients in the housing industry when testing rental properties for controlled substances like methamphetamine.

In conclusion, there are many tools available to the industry to help prevent, control, and eliminate AFB in your hives. Analytica understands that even though testing is available to all, the cost does not always make it accessible to all. If you do find yourself stuck between a rock and a hard place in regards to AFB, reach out to the AFB Management Agency and ask for help!

MEET THE BEEKEEPER

James Malcolm, Natural New Zealand Honey, Rangiora

James Malcolm. Photo supplied.

What's your background in beekeeping? How long have you been keeping bees and what got you started?

I've been involved in commercial beekeeping for 16 years. I started doing work experience in the summer of 2007 for a top-notch Canterbury beekeeper, Warren Hantz. He took me under his wing and gave me an introduction.

I then bought Len Hunt's last 10 beehives before he completely retired. I was hooked straight away, falling in love with the bees and the concept of working my arse off in the summer, to have the winter off.

What is the size of your operation?

We have 5500 hives. We employ 15 permanent staff and eight seasonal workers. This includes office staff, operations managers, team leaders, beekeepers, queen breeders, extraction staff and truck drivers.

What kind of honey do your bees produce?

Mānuka, honeydew, clover, rātā and kāmahi.

What is it that you enjoy about beekeeping?

The adventures and the relationships. Everything in this game is relationship based—relationships with landowners, staff, the consumer, and characters along the way. I enjoy these relationships and the remote parts of the South Island we travel to along the East Coast and West Coast.

What is the best advice you've received about beekeeping?

Always find the queen. Once you've found her, don't lose track of her.

What is the biggest pitfall for new beekeepers?

They need to slow down. Don't be in a hurry while working the hives. Do the basics well and speed will come with experience.

Do you have any advice for beginner beekeepers based on your own experience?

Do the basics well and always check for American foulbrood when harvesting honey.

What do you see as the biggest priority for the beekeeping sector?

Collaboration, relationships with buyers, marketers.

This industry is typical of a young primary industry going through its consolidation phase. Some great examples that have been through something similar in their infancy are the wine, deer, and fisheries sectors. The industry is heavily fragmented. I don't believe there needs to be a total governing or marketing body, but it needs alliances, beekeepers, and marketers to work closer together.

As much as it hurts right now, I believe this industry will bounce back. Looking into the crystal ball, how long will this take? That's the unknown. And, will the continuous rising cost of operation align with bulk sale prices that include a sustainable profit margin for the producer? This sustainability is currently non-existent.

> "As much as it hurts right now, I believe this industry will bounce back."

QUICK QUESTIONS

Favourite honey?

Kāmahi.

Favourite honey drink or recipe?

Coffee with cream and mānuka honey.

Favourite beekeeping equipment?

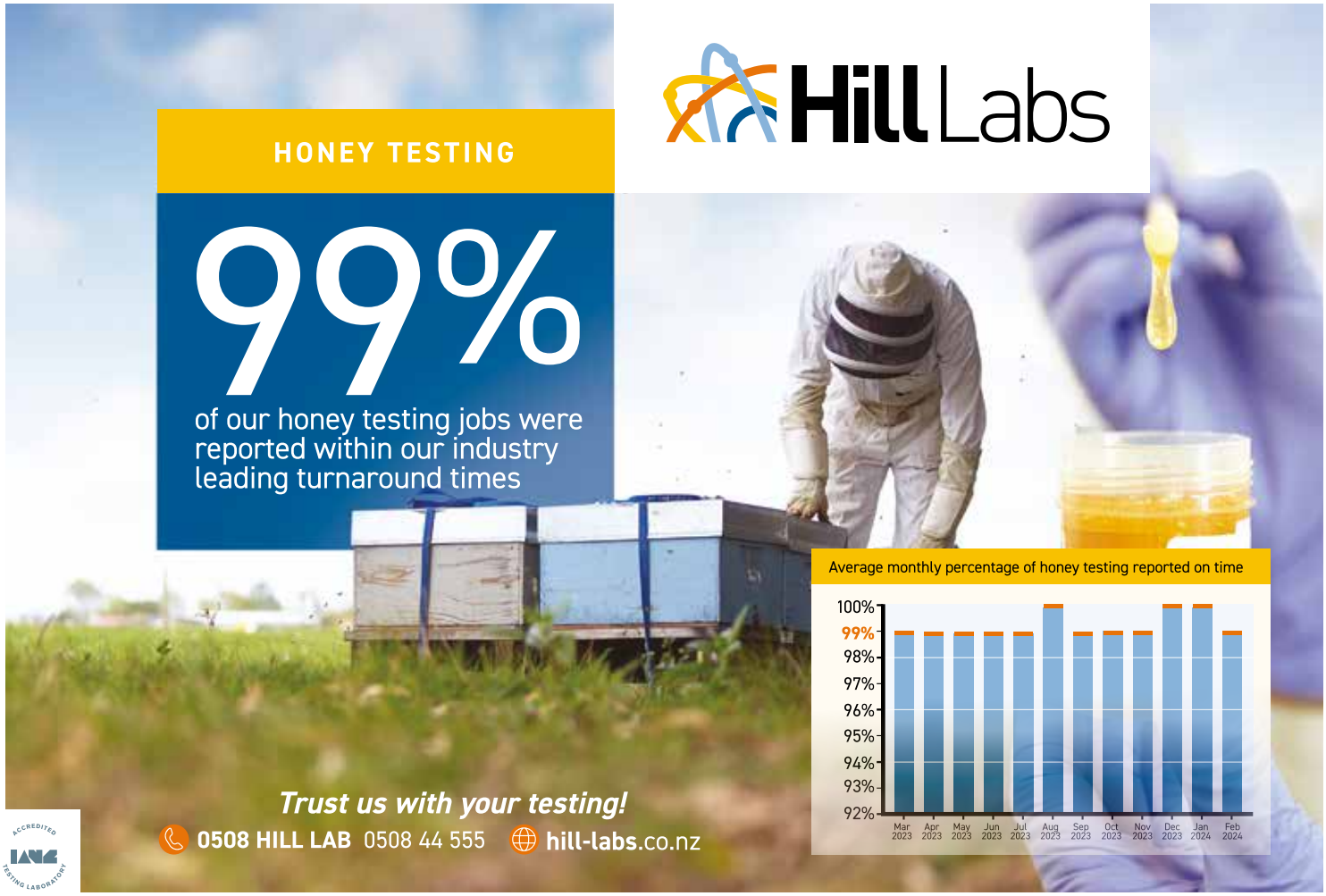
Avant® loader.

Favourite beekeeping book or resource?

Queen Bee: Biology, Rearing and Breeding, by David Woodward. This book taught me everything, initially, about queen breeding.

Favourite task at the apiary?

Making splits, manipulation, the first round of queens, fixing dead outs.

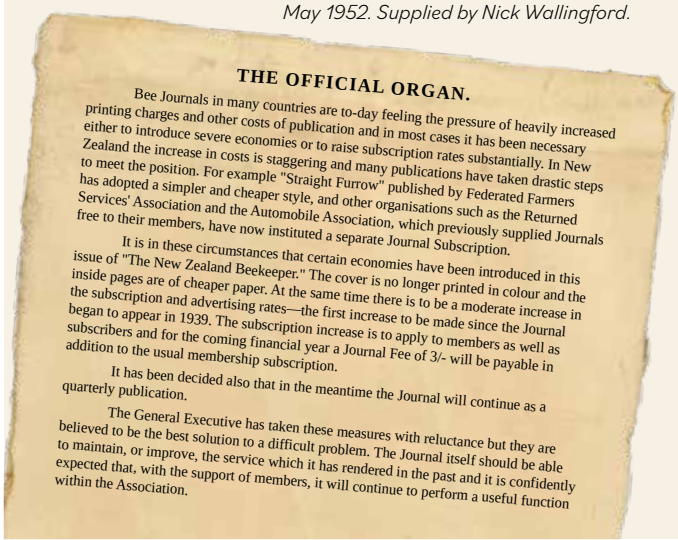


HISTORY REPEATS

In order to maintain financial sustainability, *The New Zealand BeeKeeper* is now available in digital form only and will no longer be printed in hard copy.

This is not the first time the journal has had to make some format changes in response to difficult economic times as this excerpt from the May 1952 edition of the journal illustrates.

Excerpt from The New Zealand BeeKeeper, May 1952. Supplied by Nick Wallingford.



THE OFFICIAL ORGAN.

Bee Journals in many countries are to-day feeling the pressure of heavily increased printing charges and other costs of publication and in most cases it has been necessary either to introduce severe economies or to raise subscription rates substantially. In New Zealand the increase in costs is staggering and many publications have taken drastic steps to meet the position. For example "Straight Furrow" published by Federated Farmers has adopted a simpler and cheaper style, and other organisations such as the Returned Services' Association and the Automobile Association, which previously supplied Journals free to their members, have now instituted a separate Journal Subscription.

It is in these circumstances that certain economies have been introduced in this issue of "The New Zealand Beekeeper." The cover is no longer printed in colour and the inside pages are of cheaper paper. At the same time there is to be a moderate increase in the subscription and advertising rates—the first increase to be made since the Journal began to appear in 1939. The subscription increase is to apply to members as well as subscribers and for the coming financial year a Journal Fee of 3/- will be payable in addition to the usual membership subscription.

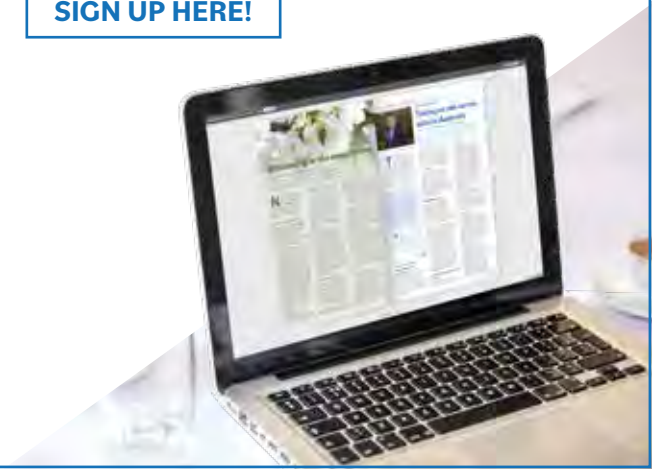
It has been decided also that in the meantime the Journal will continue as a quarterly publication.

The General Executive has taken these measures with reluctance but they are believed to be the best solution to a difficult problem. The Journal itself should be able to maintain, or improve, the service which it has rendered in the past and it is confidently expected that, with the support of members, it will continue to perform a useful function within the Association.

SUBSCRIBE FOR FREE NOW to all four editions of *The New Zealand BeeKeeper* journal!

All registered beekeepers currently receive the AFB-focused editions of the journal in Autumn (April) and Spring (October). You can now subscribe, free of charge, to receive the Winter (July) and Summer (January) editions in your inbox as soon as they are published.

SIGN UP HERE!



AMERICAN FOULBROOD NATIONAL PEST MANAGEMENT PLAN

General Manager's Report: Winds of change for the AFB PMP

Niharika (Niha) Long, AFB PMP General Manager

The past six months have seen significant change for the Management Agency. The Management Agency has begun working with the new Government and the new Minister of Biosecurity on progressing the changes required for the new American Foulbrood Pest Management Plan (AFB PMP).

To support the implementation of the new plan, the Management Agency has identified and begun implementing five milestones collectively housed under the 'AFB National Pest Management Plan (NPMP) Change Programme' (see Figure 1). Core to this Change Programme is the Management Agency's overarching vision of accelerating AFB elimination by transforming beekeepers' focus from the presence/absence of AFB to the implementation of good AFB elimination practices within beekeeping operations (i.e., the fundamentals of AFB elimination).

The five milestones have been selected as the best mechanism to enable this transformation to happen. The AFB NPMP Change Programme aims to not only achieve the amendments to the new Plan Order that beekeepers provided valuable feedback on, but also to ensure these changes are executed and embedded in a positive manner.

Figure 1: Milestones for the implementation of the AFB NPMP Change Programme.

WHAT WE HAVE BEEN DOING BEHIND THE SCENES

HiveHub: HiveHub was built with busy beekeepers in mind. As with any IT system, we need to invest in its maintenance and upgrades. Enhancements to HiveHub will support the implementation of the new AFB NPMP and improve the way we use AFB data for triaging AFB elimination efforts, at a time when resources are constrained and the risk from AFB from unknown sources, such as abandoned or unregistered apiaries, are on the rise.

DECAs and Commercial employee training: With over 5,000 DECA holders in New Zealand, the Management Agency has pivoted towards changing the sector's understanding of a DECA and how it ties to overall AFB elimination. Reviews of existing DECA templates (commercial and hobbyist) have begun and will include beekeeper feedback, before being rolled out to the wider sector. At the same time, the Management Agency has begun developing a training package complete with AFB elimination guidelines and scalable Standard Operating Procedures to assist commercial beekeepers in their journey of successfully eliminating AFB.

Communications: The Management Agency's social media page has been reactivated and the introduction of our quarterly newsletter has also received positive feedback. My Operations Managers and I will endeavour to meet as many beekeepers as we can throughout 2024. Over the course of the year we will develop resources that will assist all beekeepers with their

Niha Long.

Category	As of end of Feb 2023/24	As of end of Feb 2022/23
Number of registered beekeepers	9,126 (9.6%) ▼	10,103
Number of registered apiaries	56,296 (7.1%) ▼	60,622
Number of registered colonies	586,076 (18.6%) ▼	720,576
AFB cases	2,227 (1 June 2023 – 29 February 2024) (10.49%) ▼	2,488 (1 June 2022 – 20 March 2023)
AFB incidence YTD	0.37	0.35

Table 1: Key statistics (as of 29 February 2024)

statutory obligations and provide clarity on the Management Agency's various functions and decision-making frameworks.

While we acknowledge the tough times the sector is continuing to face, it is encouraging to see new beekeepers also joining the sector. As such, ensuring all beekeepers—new and veterans alike—have access to the right information at the right time and place is important. We welcome feedback and suggestions from beekeepers on topics for future newsletters or on our website.

Efficient resource management: Between February 2023 and February 2024, there was a 9.6% decline in beekeeper numbers and an 18.6% decline in colony numbers (See Table 1).

Whilst this has wider implications on pollination and our other primary industry partners (e.g. horticulture), a combination of declining colony numbers and inflationary pressures also affects the revenue available for the Management Agency to carry out AFB elimination activities. It is anticipated that colony numbers may decline further. The Management Agency has prioritised continual monitoring of operational expenditure while delivering on the other four milestones, and while the sector navigates through these challenging economic conditions.

I want to acknowledge those beekeepers who have been continually vigilant and doing their part in managing AFB in their operations, and seeking advice from the Management Agency. We also encourage the sector to assist us by promptly reporting neglected and abandoned apiary sites using HiveHub, so that we can investigate unknown sources of AFB that get in the way of the sector's success.

The Management Agency values the knowledge and passion all New Zealand beekeepers bring, and we want to work with you to build resilience against AFB. Thank you for your ongoing commitment to the Management Agency and the AFB PMP.

AFB PMP MANAGEMENT BOARD VACANCY

Help support beekeepers in their fight against American foulbrood (AFB)

This is your opportunity to be appointed to the AFB PMP Management Agency Board, which is responsible for eliminating clinical AFB in Aotearoa's managed beehives. This contagious, lethal disease is a major threat to New Zealand's beekeeping and bee products industries.

The role is remunerated and is not location specific; the board meets 4–5 times per year.

The Management Agency Board is passionately committed to AFB elimination. Since 2016, the Board has led a series of important changes. Those changes have enhanced the capability and capacity of the Management Agency so that it can better support beekeepers to reduce the incidence of AFB in New Zealand.

We believe a diverse Board is one that can provide the right guidance for the future of the Management Agency. As such, we are seeking to appoint **two** new Board members to bring significant commercial beekeeping experience.

The role is suited to someone with significant experience in the beekeeping industry, who can champion the elimination of AFB and provide governance oversight while ensuring that the Agency delivers value to beekeepers.

The ideal appointee will have:

- significant experience in the beekeeping industry on a commercial level
- history of full compliance with the AFB PMP, credentials, and reputation in the beekeeping industry
- strong financial/accounting and or legal skills
- strong relationship skills and the ability to engage positively with other board members
- proven governance experience and a clear understanding of governance policy and processes
- successful experience designing and running large-scale beekeeping production systems where effective AFB elimination is a natural outcome
- strong strategic thinking and the ability to contribute to operational solutions
- no conflict of interest; e.g., a contracted service provider
- a willingness to champion change in a fast-moving and dynamic industry.

The Management Agency Board will contract an independent recruitment consultant as part of the appointment process who will screen all applicants before making an interim recommendation for consideration.

For further information and reference to the relevant AFB PMP Governance Policy # AFB/22/0/11-012, please visit www.afb.org.nz.

To obtain a copy of the role description, contact Niha Long via manager@afb.org.nz

Applicants will be required to submit a CV, a cover letter, and a minimum of three references to manager@afb.org.nz or PO Box 88, Rolleston 7643

Niharika (Niha) Long
General Manager
The Management Agency, AFB Pest Management Plan
Email: manager@afb.org.nz

Applications close at 5.00 pm on Sunday 12 May 2024

AMERICAN FOULBROOD NATIONAL PEST MANAGEMENT PLAN

National Operations Managers' Report

Dwayne Hill, AFB PMP Operations Manager
Marco Gonzalez, AFB PMP Operations Manager

As of the end of February 2024, the current national incidence of AFB is 0.37%. When taking a regional approach, it is evident that some regions have reported an increase of AFB, mostly among commercial beekeepers (Table 1). These include Gisborne, Hawke's Bay and Wellington. In other regions we are finding AFB outbreaks in urban and suburban areas involving multiple hobbyist beekeepers.

It is recommended that the table below is interpreted in conjunction with our surveillance, compliance and enforcement actions, as our inspections identified 17% of all these cases (378 AFB cases). We recommend beekeepers use this chart to compare the performance of their region against other beekeeping regions, and AFB incidence in their own beekeeping operations against their area and the whole country.

REGIONAL BREAKDOWN OF AFB CASES AND THE MANAGEMENT AGENCY'S ACTIONS

Hawke's Bay: 314 AFB cases reported

Four large commercial beekeeping operations accounted for 60% of all the AFB reports in this region. These cases are mostly self-inflicted. We are working with these companies to ensure their AFB outbreaks are eliminated. We expect a reduction in AFB cases reported in this district in the next 12 months.

Canterbury: 309 AFB cases reported

A commercial beekeeping business that was recently sold was the largest contributor to AFB reports in Canterbury with 44 cases (14% of all reported cases). Pre-purchase inspections found and reported all these cases. We are working with the new owners of these hives and we expect a fast decline of AFB reports in the mid Canterbury area where this beekeeper used to provide pollination services.

West Coast: 41 AFB cases reported

Fifteen of these cases (36% of all reported cases) were reported by a single commercial beekeeping operation. They report tracing most of these cases to second-hand gear purchased from another company.

Nine of these cases (22%) are traced back to AFB that was found or that escaped from two identified high-risk beekeepers.

Southland: 58 AFB cases reported

53% of the cases of AFB reported in this region have been traced to already identified high-risk beekeepers who are currently subject to compliance and enforcement actions. We expect a reduction in AFB reports for this region.

Table 1: AFB Per Region 2023–2024 season (1 June 2023 to 29 February 2024)

Area	AFB	Colonies	AP2 %	AFB found by beekeeper%	AFB %
Northland	204	46,406	21%	79%	0.44%
Auckland	162	35,452	10%	90%	0.46%
Waikato	251	80,392	11%	89%	0.31%
Bay of Plenty	152	53,462	7%	93%	0.28%
Gisborne	51	19,064	2%	98%	0.27%
Hawke's Bay	318	40,923	10%	90%	0.78%
Taranaki	38	25,535	39%	61%	0.15%
Manawatu/Whanganui	212	66,472	5%	95%	0.32%
Wellington	169	45,789	35%	65%	0.37%
Nelson/Tasman	114	27,920	11%	89%	0.41%
Marlborough	41	17,866	20%	80%	0.23%
Canterbury	309	85,170	2%	98%	0.36%
West Coast	41	5,235	29%	71%	0.78%
Otago	78	31,382	35%	65%	0.25%
Southland	58	13,410	23%	77%	0.43%
Total	**2,198**	**594478**			**0.37%**

Table 2: AP2 surveillance inspections for the 2023–2024 seasons to date (1 June 2023 to 29 February 2024)

Month	Hives inspected	AFB found	AFB %
June	1,074	40	3.72%
July	320	13	4.06%
August	2,220	60	2.70%
September	3,737	66	1.77%
October	2,809	75	2.67%
November	2,562	82	3.20%
December	692	12	1.73%
January	185	4	2.16%
February	1,080	26	2.41%
Total	**14,679**	**378**	**2.58%**

Sixteen of these cases were found in unregistered apiaries.

Targeted surveillance is yielding high AFB detection rates. Every case of AFB found by our inspectors is one less potential source of AFB eliminated in the area that could spread AFB to other levy payers.

Issues destroying AFB hives found during Total Fire Ban

You are still required to destroy AFB hives during a Total Fire Ban. You must apply for a fire permit and the permit will be issued to you if you explain that the purpose of the fire is to destroy AFB-infected hives. **Note: Fire and Emergency New Zealand will issue a fire permit to beekeepers with AFB hives even under a Total Fire Ban.**

The AFB Management Agency has received confirmation from Fire and Emergency New Zealand (FENZ) that it will not deny a fire permit to any beekeepers who need to destroy AFB hives, as long as beekeepers can meet the fire permit conditions. We are finding beekeepers who failed to destroy AFB hives within 7 days because of total fire bans, some of them exposing AFB to neighbouring bees.

It is the responsibility of the beekeeper who owns the AFB-infected hive to kill and destroy the hive by fire and burying the ashes within 7 days of finding it.

It is an AFB PMP requirement to kill, burn and bury any AFB found within 7 days of finding it. This is also one of the compulsory requirements of holding a DECA.

We are still finding AFB-infected hives in storage for longer than 7 days and in some cases AFB has been found in the immediate vicinity of these AFB storage locations, which suggests AFB has escaped during storage.

We receive too many calls from beekeepers (some of them commercial DECA holders) asking us to help them find a burning site for them to destroy their AFB hive(s).

Although we are happy to assist beekeepers to meet their obligations, it is recommended beekeepers take a proactive approach and have a plan in place to meet their AFB destruction obligations, prior to AFB being found.

Dealing with beekeeping gear associated with AFB (Section 31 of the AFB PMP)

No person may transfer the ownership or possession to any other person or to remove from a place where they are situated, any honey bees, bee products, or appliances associated with any honey bee colony where that person knows or suspects that the honey bee colony is or was displaying any of the clinical symptoms of AFB.

DECA holders may have an exemption to this in their DECA where they can move AFB-infected hives and associated gear to a different location for safe destruction.

If you are a **non-DECA holder** beekeeper, you must destroy the AFB-infected hive at your apiary site where the case was found. If you cannot destroy the infected hive at the apiary site, you must contact your local Operations Manager.

An Operations Manager can grant an AP2 with a written consent to allow the transfer of possession and movement of AFB-contaminated gear for safe disposal in a different location.

The written consent will have the following conditions that must be met during transport and the destruction of the hives:

1. The hive(s) must be sealed and killed at the apiary site before removal.
2. The dead hive must be transported double-bagged to ensure no contaminated material could spread during transport.
3. If the hive and associated gear is not going to be destroyed immediately, the hive and any associated material must be stored indoors, away from bees.
4. The hive must be destroyed within 7 days of finding AFB.
5. The hive must be destroyed by fire over a hole on the ground and the ashes must be fully covered with dirt at the end of the fire.
6. You must notify the Management Agency when the burning was completed and provide photographic evidence that this was done correctly.

Neglected and abandoned apiaries

Over the past few months, we have received reports about beekeepers who have walked away from their hives. Some of these beekeepers did not have all their sites registered; the only reason we are finding out about them now is that landowners are contacting us to try and get somebody to care for them. If you are finding this to be the case in your area, please contact your Operations Manager with details.

WHAT IS COMING YOUR WAY (OR ALREADY HERE)

Behind the scenes we have been working on some suggestions from the industry.

Facebook

We have become active on Facebook again; we hope for this to be the place where you will find a single point of information on social media. Please follow us for regular posts and updates. We will also be available for contact.

Open maps for beekeepers

We are currently working on an interactive map which beekeepers can use to see the areas where AFB has been reported. You will also be able to use the map to see the operational split of the country and the general location of our current AP2s. This functionality will be made available on our website soon. Please keep an eye on our Facebook for an update regarding this.

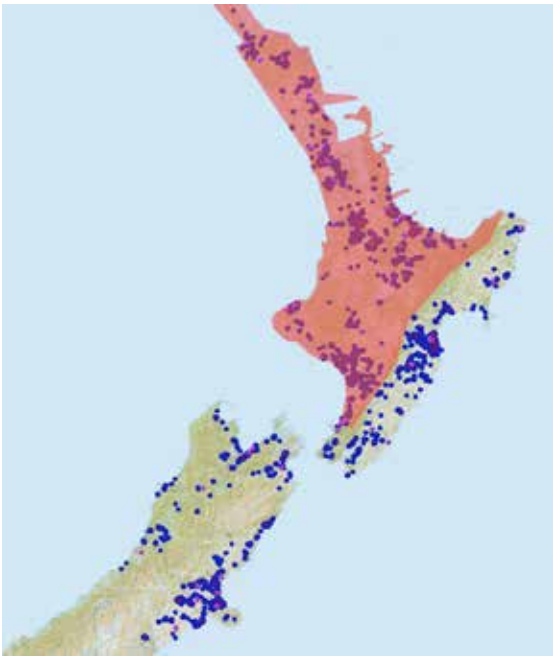


Figure 1: A snapshot of the new AFB map, soon to be released on our website.

FIELD ACTIVITIES COMPLETED FROM OCTOBER 2023 TO MARCH 2024

NORTHLAND

AFB cases have been on the rise in Northland after many hives were sold. The new owners have been finding AFB and reporting it to the Management Agency. This shows that some of those who have left the industry were not checking for AFB and that those remaining are better equipped to protect the industry.

AUCKLAND

Unregistered apiaries and beekeepers are still being found across the region. If you are aware of apiaries or people who have bees, please encourage them to register or pass on the location and details to the Management Agency.

WAIKATO

Surveillance inspections near recent reports of AFB of unknown origin were completed and no new cases were found.

continued...

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BAY OF PLENTY

A large amount of gear has changed hands as beekeepers left the industry, which has caused some beekeepers ongoing AFB issues. It is important that no matter who you are buying from that you check all of what you are buying, including the dead hives. Remember: if in doubt, do not buy second-hand gear or be prepared to destroy some to protect yourself from disease. Please make pre-purchase due diligence your go-to.

AFB numbers for this region have reduced for the same period as last year.

Beekeepers identified as high risk in the BOP are showing excellent signs that they are now able to eliminate AFB within their operations, with no further AFB found during this period.

TARANAKI

A beekeeper who was associated with a high-risk beekeeper in the area requested inspection. These hives were free of AFB; however, the two neighbouring beekeepers were checked, and AFB was found in both beekeepers' hives. Both beekeepers were DECA holders and unable to spot AFB. They no longer have DECAs.

ARE YOU CONFIDENT YOU CAN SPOT AFB IN YOUR HIVES?

If your answer is NO, think about contacting your Operations Manager to discuss if you should have a DECA, or what you can do to build your confidence.

MANAWATU

A commercial beekeeper in this region has been finding constant AFB within their hives. This is mostly due to the way gear was returned to the shed with no traceability or known reason the hive had died out. Please ensure all dead gear has been inspected before leaving the apiary and that it is stored in a way which can be traced.

This area of the country is in need of a couple of AP2s who can complete work when required or within the correct time frames. I encourage you to start thinking about if you may have time to complete inspections and be part of the AFB PMP journey. We will be inviting people to apply for this role in the coming months.

GISBORNE REGION

Surveillance inspections around multiple reports of AFB of unknown origin from a single beekeeping operation couldn't identify an external source. Inspections were completed in the Mahia Peninsula near recent reports of AFB and no cases of AFB were found.

Following Cyclone Gabrielle last year, some beekeepers have requested to become de-registered but, in some cases our AP2 confirmed that hives are still present at some of the apiaries. Please remember that it is illegal to de-register an apiary if the apiary still contains a hive (dead or alive).

HAWKE'S BAY

We have seen three instances where AFB outbreaks may be associated with AFB hives being washed away by the floods following Cyclone Gabrielle and getting robbed out down river.

Surveillance inspections around recent reports of AFB of unknown origin found a hobbyist and a semi-commercial beekeeper as the source of an AFB outbreak in Bay View.

A small commercial beekeeper lost his DECA after failing to comply with a notice to destroy infected hives.

Two semi-commercial beekeepers were identified as high-risk beekeepers. They were issued with a Section 128 Notice and their DECA was cancelled.

We have found unregistered apiaries of hives that were supplying paid pollination services. We need all beekeepers to remember that if a hive is located in a place **for more than 30 consecutive days**, this location must be registered as an apiary.

The fact that the apiary was used for pollination does not grant an exemption from the requirement to register the apiary.

WAIRARAPA

Surveillance inspections near recent reports of AFB of unknown origin in Greytown and in Martinborough were completed and no new cases were found.

WELLINGTON DISTRICT

Surveillance inspections around recent reports of AFB of unknown origin in Johnsonville and Tawa and found no additional cases of AFB.

A DECA IS DESIGNED TO ENSURE BEEKEEPERS FIND AND ELIMINATE AFB FROM THEIR OWN HIVES EFFECTIVELY.

Having a DECA is a privilege (not a right) reserved to beekeepers competent in eliminating AFB from their beekeeping operation and who show ongoing full compliance with the AFB PMP. A DECA is also a living document which needs to reflect any changes a beekeeper's operation is going through.

We regularly review DECAs and cancel DECAs based on evidence of non-compliance with one or more of the DECA obligations.

For instance, a DECA holder who was found with AFB hives at surveillance inspections in August 2023 was subject to follow-up surveillance as he hasn't reported any cases of AFB since our last inspections. We identified further nine cases of AFB, all of them advanced infection and some of them in an unregistered apiary. This commercial beekeeper lost his DECA as a result of these findings and we are currently inspecting the rest of his beekeeping operation. We will work with this beekeeper to ensure he no longer poses an AFB risk to neighbouring beekeepers.

NELSON

Beekeeper lost DECA because failed to comply with notice to destroy infected hive.

Surveillance inspection found the beekeeper whose apiary was source of a local report of AFB of unknown origin. This beekeeper was issued a Notice to Destroy the infected hive within 7 days but failed to comply with the notice. The beekeeper's DECA was cancelled, and we acted on default of the Notice to Destroy.

A high-risk beekeeper in northern Nelson reported finding AFB in all the

continued...

rest of his hives. He has destroyed all his hives and used beekeeping gear following this finding.

MARLBOROUGH

Inspections around recent reports of AFB in Picton were completed and some AFB was found.

We inspected old beekeeping gear at the storage place of a commercial beekeeper in Para Valley, where we took samples and tested them for the presence of AFB. All samples came back positive for AFB contamination. The beekeeper was provided with the test results and agreed to destroy all this old beekeeping gear safely.

WEST COAST

A hobbyist beekeeper reported multiple cases of AFB in hives that received paraffin-dipped boxes that this beekeeper obtained from a known high-risk beekeeper. This highlights the risk of buying second-hand gear even when it has been already paraffin dipped.

Very few commercial beekeepers currently have a DECA that allows them to carry out sterilisation of AFB-infected boxes by paraffin dipping. We require auditable records to verify that the paraffin dipping has been done correctly. "*I kept it in the paraffin dipper for longer than 15 minutes*" or "*it was pretty hot*" are not enough evidence that the treatment was done correctly. We need verifiable evidence that the sterilisation process was done correctly.

> "We require auditable records to verify that the paraffin dipping has been done correctly."

For avoidance of doubt, the correct sterilisation process is as follows.

1. The whole piece of woodware must be submerged under paraffin wax at 160° Celsius for at least 10 minutes. Introducing hiveware into the paraffin dipper lowers the paraffin wax temperature. Therefore, you need to wait until the temperature reaches 160° Celsius again before starting the timer.

2. Both time and temperature are critical control points, so it is essential that a timer and a probe thermometer are used.

a. Critical Control Points in this process includes recording in a log book (for each piece or lot of equipment sterilised at the same time) the time and the temperature of the paraffin wax when the sterilisation process started, and again to record the time and temperature when at the time the sterilisation ended.

b. This shows that the minimum required temperature 160° Celsius was maintained for the minimum required time 15 minutes.

c. Without keeping your critical control points your only other verification step would involve sending samples from paraffin dipped gear for AFB culture test. This is expensive and will make it uneconomical.

3. We also recommend that you identify all your sterilised gear clearly so that you can easily verify if new cases of AFB are showing on hives that received gear sterilised AFB woodware.

CANTERBURY

AFB reported in the Ashburton District was traced back to Goose Bay near Kaikoura. Surveillance inspection in that area identified a new high-risk beekeeper: seven out of 15 colonies were found infected with AFB. This beekeeper is now subject to default inspections on his hives and his DECA was cancelled.

Multiple AFB of unknown origin reported near Geraldine identified a hobbyist beekeeper as the source. All three hives were found infected with AFB. This beekeeper is no longer beekeeping and his DECA was cancelled.

A non-complying commercial beekeeper failed to destroy AFB hive within 7 days of finding.

On 15 November 2023, our inspector found an advanced case of AFB in an apiary where a COI inspector reported finding the same hive infected with AFB on 26 October 2023.

This is an example of how beekeeper negligence towards the AFB PMP can put at risk the livelihood of many other beekeepers around him.

This beekeeper was issued with a Notice to Destroy, and he complied with this notice. We also sent him a written warning that any further breaches to the AFB PMP would be referred to MPI for investigation. We will continue closely monitoring this beekeeper's compliance with the AFB PMP.

North Canterbury beekeepers, landowners and the AFB Management Agency worked together to ensure safe destruction of abandoned apiaries posing AFB risk.

A number of commercial, hobbyist beekeepers and landowners helped the AFB Management Agency to safely destroy 145 commercial apiaries with about 2000 hives of a company that went into liquidation.

In September 2023 we were notified by the liquidator of a beekeeping company in North Canterbury that it was no longer responsible for any of the apiaries of the company in liquidation. A number of local beekeepers became aware of the situation and the potential AFB risk that these abandoned apiaries posed to their hives. Many of these beekeepers contacted us to offer their help to safely destroy the abandoned gear.

The beekeepers understood that this situation was unexpected and that without their support, this logistically complex job would have taken months to be completed by AP2s alone and at a cost that would have significantly eroded the AFB surveillance budget for the year.

The Management Agency would like to acknowledge these beekeepers' support and would like to highlight this as an example on how beekeepers and the Management Agency can work together to eliminate AFB from their areas.

NORTH OTAGO

Surveillance inspections south of Oamaru identified the likely source of the local AFB outbreak. We will monitor this area again in autumn to confirm that AFB has been successfully eliminated from this area.

CENTRAL OTAGO

Follow-up surveillance on apiaries where AFB were reported last autumn found an apiary with multiple AFB cases. Further inspections of hives from this beekeeper identified him as a high-risk beekeeper.

CHATTO CREEK

A beekeeper affected by AFB of unknown origin in a persistent AFB hotspot in Chatto Creek reported an abandoned commercial apiary of 18 hives that, upon inspection, was confirmed as the ongoing source of AFB in this area.

This apiary used to be a registered apiary of a beekeeping company that left the industry four years ago and this apiary had a long history of reported AFB. We seized and destroyed this apiary under Section 119 of the Biosecurity Act. We expect AFB reports to decline in this area in the next 12 months.

SOUTH OTAGO

Hobbyist beekeeper defaulted on his DECA

A hobbyist beekeeper was found with eight cases of AFB out of eight hives. He was instructed to destroy all the apiary and old beekeeping gear. He received a Section 128 Notice and his DECA was cancelled. Following this, the beekeeper quit beekeeping.

SOUTHLAND

Two identified high-risk beekeepers that were being subject to compliance and enforcement actions have volunteered to leave the beekeeping industry. Following this, we expect AFB to disappear from the areas where they used to keep hives.

Close up of bees.. Photo: Bianca Ackermann (@biancablah), Unsplash.

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AMERICAN FOULBROOD NATIONAL PEST MANAGEMENT PLAN

Use HiveHub to receive your 2024/25 levy invoice and submit your Colony Return before 1 June this year

Levy payments are due by 1 June each year.

HOW MUCH IS THE 2024/25 AFB LEVY?

The rate of levy for 2024 is $40 ($46 including GST) per beekeeper and $1.95 ($2.24 including GST) per bee colony owned by the beekeeper as at 31 March 2024. For example, If Barry has three apiaries and each apiary has two colonies, Barry owns six colonies.

Barry's levy would be calculated as below:

$40 (ex GST) + $1.95 (ex GST) x 6 colonies = $51.70 (ex GST) or $59.44 (inc. GST)

WHAT IS A BEE COLONY?

A bee colony is a group of honey bees living in a beehive. It includes nucleus hives as well as full beehives.

WHAT DOES THE LEVY FUND?

The levy funds the implementation of the National American Foulbrood Pest Management Plan including:

- AP2 inspection of 4% of apiaries to monitor the elimination of AFB by beekeepers
- AFB Recognition Courses and refresher training (classroom and online)
- compliance and enforcement of plan rules
- maintenance of the Apiary Register including beekeeper registrations/ deregistration, apiary registration/ deregistration, Annual Disease Returns, Certificates of Inspection, and DECA applications
- extension research and communications.

WHEN IS LEVY PAYMENT DUE?

The 2024/25 AFB levy payments are due by 1 June 2024.

HOW DO I PAY THE LEVY?

The Management Agency will notify beekeepers when their levy invoices are available in HiveHub in April, based upon the number of honey bee colonies recorded in HiveHub as at 31 March 2024. Beekeepers will be able to access their levy invoice from their HiveHub My Invoices tab. The invoice will contain a pay now button for credit card payments, as well as instructions on how to pay the levy directly to our bank account by the due date of 1 June 2024.

Beekeepers who opted to receive compliance notices by post will be sent a paper copy of their levy invoice, Annual Disease Return and Colony Return papers in the mail.

WHAT SHOULD I DO IF I AM LEVIED FOR THE WRONG NUMBER OF BEE COLONIES?

The easiest and fastest way to request an amended levy invoice is to:

1. Complete a Colony Return using HiveHub, and
2. Send an email to levies@afb.org.nz to request an amended levy invoice.

Please note that you will not receive an amended invoice until you complete a Colony Return and request for a new invoice to be generated.

An amended levy invoice will be sent to you once your Colony Return has been processed.

WHAT IS A COLONY RETURN?

A Colony Return is a statutory return required for levy collection purposes.

All beekeepers are legally required to declare the number of bee colonies they own on 31 March each year.

WHAT SAFEGUARDS ARE BEING IMPLEMENTED TO ENSURE THAT ALL BEEKEEPERS PAY THEIR FAIR SHARE OF FUNDING FOR THE NATIONAL AMERICAN FOULBROOD PEST MANAGEMENT PLAN?

All beekeepers are required to make a Colony Return for levy collection purposes. Making a false Colony Return and/or entering false bee colony information into HiveHub is an offence under the Biosecurity Act 1993, and substantial penalties apply that are many times greater than paying the correct levy.

The Management Agency will be monitoring bee colony numbers recorded in HiveHub during the autumn and will audit beekeepers who have unusually large reductions in bee colony numbers.

Learn to taste

HONEY LIKE A PRO

Specifically designed for New Zealand varietal honey, this three-day immersive training will introduce you to the art and skill of honey sensory analysis.

The curriculum will be consistent with the time honoured, respected Italian National Register Training for Honey Experts and will inspire you to enter the diverse and exciting work of honey appreciation.

The course is primarily designed for beekeepers, packers, and honey technicians for quality assessment, but also offers invaluable insight for chefs, food writers, nutritionists or passionate foodies.

Training will be conducted by Maureen Conquer, ApiNZ National Honey Competition Senior Judge.

Dates: *Wednesday 10 April to Friday 12 April, 9 am – 5 pm*

Location: *Glengarry Wines (upstairs), 47 Mt Eden Rd, Central Auckland*

Course Fee: *$900 (ApiNZ members), $1000 (non-members)*

Morning and afternoon tea will be provided, and a special tasting platter on the final day. *Please advise of any dietary requirements when you register.*

REGISTER HERE

Places are limited, so act now to secure your spot.

AMERICAN FOULBROOD NATIONAL PEST MANAGEMENT PLAN

American Foulbrood Recognition Courses

From April 2024, we will send beekeepers a FREE copy of the "yellow book" with every payment received for a full course booking (either online or classroom based).

Janette Gwilliam

American foulbrood is caused by a spore-forming bacteria and is the most widespread and destructive of the bee brood diseases. Learning how to recognise American foulbrood and its symptoms is essential knowledge for every beekeeper.

The Management Agency has classroom-based courses throughout the country every year taken by trainers who have considerable knowledge and experience in beekeeping and American foulbrood. However, we appreciate it's not always convenient or simple to attend classes in person, which is why we also now offer an online AFB Recognition Course.

The classroom and online course will teach you how to:

- recognise AFB symptoms
- inspect a hive for AFB
- prevent AFB from spreading
- implement quarantine procedures and good management practices, and
- effectively destroy any AFB-infected hives.

Classroom courses are deliberately kept small to ensure that the groups can discuss their own experiences and learn from each other. Where possible, an infected AFB frame will be available for beekeepers to see the symptoms of AFB first-hand. Classroom courses usually run from 9 am through to 3 pm and cost $100 per person to attend this one-day course.

Online learning will provide great convenience and accessibility to those that are unable to, or find it difficult to, attend a classroom course. Our online learning platform offers the course content in modules, so you have the ability to work through them at your own pace. You will need to allow at least four hours to complete the online learning and the cost is $100 per person.

Who needs to complete an AFB Recognition Course?

All beekeepers are encouraged to attend an AFB Recognition Course, which will help to familiarise them with what is normal and what is abnormal in their working hive. This ensures that the detection and recognition of AFB is caught early and eliminated prior to spreading.

There are no set timeframes for when beekeepers must be registered prior to attending the Recognition Course; however, you are unable to apply for a DECA until you have been registered for at least 12 months, as well as complying with all plan rules. It is not essential for every person attending a course to eventually become a DECA holder.

Who needs to complete an AFB Refresher Course?

DECA holders are encouraged to attend an AFB Recognition Refresher. This is to ensure you are up to date with the signs of symptoms of AFB within your beehives, which will support beekeepers in their fight against AFB in New Zealand.

How do I register for an AFB Recognition or Refresher Course?

You can register for your AFB Recognition or Refresher course by going to our website: https://afb.org.nz/beekeeping-courses-1/

What is the cost of these courses?

The classroom-based and online AFB Recognition Course costs $100 per person.

The classroom-based Refresher Course costs $30 per person, and the online Refresher Course is available free of charge.

If you have any queries relating to courses, please contact Janette on phone 0800 232 767, extension 301 or e-mail training@afb.org.nz.

The **deadline** for receipt of advertising material is **12 June** for the Winter publication!

If you are advertising, mark this in your diary and make sure you don't miss it!

NEW ZEALAND BEEKEEPER, APIARY AND COLONY STATISTICS
BY REGIONAL COUNCIL AS AT 22ND OF MARCH 2024

REGIONAL COUNCIL LOCATION	CATEGORY 0 - 5 COLONIES		
	BEEKEEPERS	APIARIES	COLONIES
Northland	427	526	798
Auckland	1,138	1,377	1,968
Waikato	717	882	1,336
Bay of Plenty	406	519	730
Gisborne	94	134	156
Hawkes Bay	207	261	328
Taranaki	319	383	566
Manawatu-Whanganui	449	539	795
Wellington	616	749	1,103
Nelson and Tasman	286	343	464
Marlborough	155	190	274
West Coast	96	135	163
Canterbury	1,034	1,285	1,945
Otago	600	732	1,207
Southland	185	223	386
NEW ZEALAND	**6,729**	**8,278**	**12,219**

REGIONAL COUNCIL LOCATION	CATEGORY 6 - 10 COLONIES		
	BEEKEEPERS	APIARIES	COLONIES
Northland	65	119	487
Auckland	97	201	721
Waikato	91	169	704
Bay of Plenty	54	120	425
Gisborne	11	18	87
Hawkes Bay	19	35	139
Taranaki	30	66	241
Manawatu-Whanganui	56	115	441
Wellington	51	120	408
Nelson and Tasman	25	64	192
Marlborough	9	15	63
West Coast	14	23	112
Canterbury	87	196	645
Otago	70	164	547
Southland	32	63	257
NEW ZEALAND	**711**	**1,488**	**5,469**

REGIONAL COUNCIL LOCATION	CATEGORY 11 - 50 COLONIES		
	BEEKEEPERS	APIARIES	COLONIES
Northland	93	320	2,376
Auckland	75	308	1,614
Waikato	100	448	2,517
Bay of Plenty	60	258	1,529
Gisborne	20	65	491
Hawkes Bay	29	117	706
Taranaki	35	144	864
Manawatu-Whanganui	65	283	1,507
Wellington	49	193	1,243
Nelson and Tasman	35	144	785
Marlborough	17	83	360
West Coast	12	44	220
Canterbury	87	370	1,964
Otago	74	344	1,607
Southland	19	86	402
NEW ZEALAND	**770**	**3,207**	**18,185**

REGIONAL COUNCIL LOCATION	CATEGORY 51 - 250 COLONIES		
	BEEKEEPERS	APIARIES	COLONIES
Northland	61	750	7,473
Auckland	31	408	3,243
Waikato	46	499	5,543
Bay of Plenty	56	594	7,047
Gisborne	13	129	1,662
Hawkes Bay	24	318	2,027
Taranaki	11	128	1,207
Manawatu-Whanganui	36	434	4,771
Wellington	41	594	4,769
Nelson and Tasman	18	221	2,159
Marlborough	18	270	1,731
West Coast	5	56	520
Canterbury	57	955	6,449
Otago	32	575	3,882
Southland	9	77	928
NEW ZEALAND	**458**	**6,008**	**53,411**

REGIONAL COUNCIL LOCATION	CATEGORY 251 - 500 COLONIES		
	BEEKEEPERS	APIARIES	COLONIES
Northland	22	611	7,128
Auckland	12	481	4,706
Waikato	27	814	10,017
Bay of Plenty	20	431	6,913
Gisborne	6	123	2,183
Hawkes Bay	3	137	916
Taranaki	4	115	1,633
Manawatu-Whanganui	13	332	4,170
Wellington	17	460	6,391
Nelson and Tasman	7	484	2,313
Marlborough	2	61	727
West Coast	1	48	488
Canterbury	20	688	7,367
Otago	12	496	4,556
Southland	2	89	678
NEW ZEALAND	**168**	**5,370**	**60,186**

REGIONAL COUNCIL LOCATION	CATEGORY 501 - 1,000 COLONIES		
	BEEKEEPERS	APIARIES	COLONIES
Northland	15	870	11,954
Auckland	3	147	1,957
Waikato	13	661	9,395
Bay of Plenty	21	841	14,621
Gisborne	3	104	2,142
Hawkes Bay	3	82	2,094
Taranaki	2	279	1,264
Manawatu-Whanganui	9	313	5,827
Wellington	3	214	2,601
Nelson and Tasman	8	489	5,976
Marlborough	5	234	3,828
West Coast	2	198	1,495
Canterbury	20	1,160	13,371
Otago	9	694	6,347
Southland	4	260	3,054
NEW ZEALAND	**120**	**6,546**	**85,926**

REGIONAL COUNCIL LOCATION	CATEGORY 1,001 + COLONIES		
	BEEKEEPERS	APIARIES	COLONIES
Northland	7	1,286	14,930
Auckland	9	1,010	21,126
Waikato	17	3,365	50,780
Bay of Plenty	11	1,096	20,588
Gisborne	5	680	10,874
Hawkes Bay	11	2,853	33,388
Taranaki	3	2,185	19,773
Manawatu-Whanganui	12	2,841	49,142
Wellington	8	2,535	29,225
Nelson and Tasman	8	1111	16,368
Marlborough	4	699	10,951
West Coast	2	117	2,253
Canterbury	17	3,018	47,817
Otago	4	715	13,039
Southland	3	434	7,958
NEW ZEALAND	**121**	**23,945**	**348,212**

REGIONAL COUNCIL LOCATION	TOTAL		
	BEEKEEPERS	APIARIES	COLONIES
Northland	690	4,482	45,146
Auckland	1,365	3,932	35,335
Waikato	1,011	6,838	80,292
Bay of Plenty	628	3,859	51,853
Gisborne	152	1,253	17,595
Hawkes Bay	296	3,803	39,598
Taranaki	404	3,300	25,548
Manawatu-Whanganui	640	4,857	66,653
Wellington	785	4,865	45,740
Nelson and Tasman	387	2,856	28,257
Marlborough	210	1,552	17,934
West Coast	132	621	5,251
Canterbury	1,322	7,672	79,558
Otago	801	3,720	31,185
Southland	254	1,232	13,663
NEW ZEALAND	**9,077**	**54,842**	**583,608**

AMERICAN FOULBROOD NATIONAL PEST MANAGEMENT PLAN

Submit your Annual Disease Return with HiveHub *before 1 June this year*

Annual Disease Returns (ADR) are due before 1 June each year.

WHAT IS THE ANNUAL DISEASE RETURN?

Every year the Management Agency administers the collection of Annual Disease Returns. The Annual Disease Return is a census of managed honey bee colonies—the official count of the number of honey bee colonies, the number of apiaries and their location, the transfer of ownership of beehives between beekeepers, and the location and date where cases of American foulbrood were discovered.

WHY DO WE DO IT?

The Annual Disease Return provides key information about the beehives in New Zealand and the occurrence of American foulbrood. This information is required to manage the American foulbrood disease control programme and help the Management Agency to make good decisions about where resources should be applied to effectively combat the disease.

HOW DO I SUBMIT MY ANNUAL DISEASE RETURN USING HIVEHUB?

The easiest and fastest way to submit your Annual Disease Return is to use HiveHub. Go to https://afb.org.nz/hivehub to find out how. There, you'll find everything you need to know about HiveHub, including how to complete your Annual Disease Return, links to a step-by-step video and a user guide. ***You are not required to have your hives inspected to submit your Annual Disease Return.***

WHAT IF I NEED A PAPER ANNUAL DISEASE RETURN?

Beekeepers who opted to received compliance notices by post will be sent a paper copy of the Annual Disease Return. If you require a paper copy and have not received one, or have mislaid your copy, please contact an Apiary Coordinator at apiary@afb.org.nz or by calling 0800 AFB PMP (0800 232 767).

HOW CAN I GET ASSISTANCE?

You can view step-by-step demo videos and user guides, or request assistance via the HiveHub Help and Support tab. Alternatively, you can contact an Apiary Coordinator at apiary@afb.org.nz or by calling 0800 AFB PMP (0800 232 767).

YOUR INFORMATION

The Management Agency is committed to keeping your Annual Disease Return Information completely secure and confidential. Your privacy is important to us. You can view our HiveHub Terms of Use here: https://afb.org.nz/hivehub/

AM I LEGALLY REQUIRED TO COMPLETE MY ANNUAL DISEASE RETURN?

All beekeepers are legally required to send an Annual Disease Return on or before 1 June each year.

Failure to submit an Annual Disease Return is an offence under section 154N(18) of the Biosecurity Act 1993.

GET YOUR PHOTOS READY FOR

THE NEW ZEALAND BEEKEEPER PHOTO COMPETITION

CATEGORIES INCLUDE:

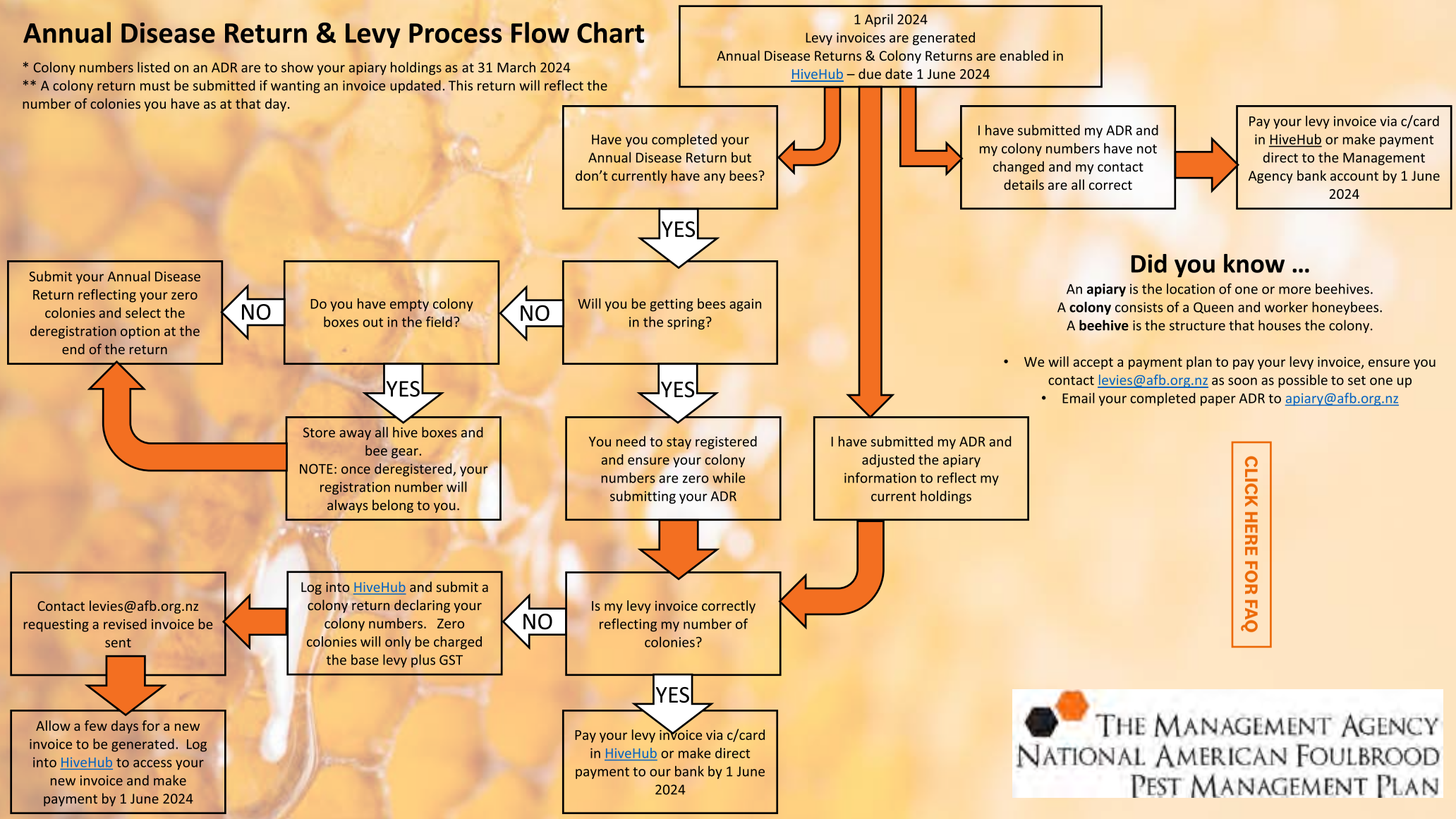
1. Close-up print – subject must relate to apiculture
2. Scenic print – apiary subject such as flowers, hives, etc.
3. Portrait print – person involved in any part of the apiculture industry
4. Essay prints – a set of four images depicting beekeeping, honey production etc.
5. 'Oh Darn!' – for those 'oops' moments that occur during beekeeping
6. Beekeeper Business Challenge – get your beekeeping business to send in a photo of your 'office' (apiary site/s). Who's got the best in the country?
7. Mobile Phone Snaps - an apiculture moment captured on your phone

To enter you must be a fully paid up ApiNZ member by 31 May 2024.

Entries open in June and close Friday 30 August 2024

Annual Disease Return & Levy Process Flow Chart

* Colony numbers listed on an ADR are to show your apiary holdings as at 31 March 2024
** A colony return must be submitted if wanting an invoice updated. This return will reflect the number of colonies you have as at that day.



Did you know …

An **apiary** is the location of one or more beehives.
A **colony** consists of a Queen and worker honeybees.
A **beehive** is the structure that houses the colony.

- We will accept a payment plan to pay your levy invoice, ensure you contact levies@afb.org.nz as soon as possible to set one up
- Email your completed paper ADR to apiary@afb.org.nz

CLICK HERE FOR FAQ

THE MANAGEMENT AGENCY
NATIONAL AMERICAN FOULBROOD PEST MANAGEMENT PLAN

HONEY PRODUCT REVIEW

Willy Wonka, move over!

It's a whole new world of chocolate

Maureen Conquer reviews *Chocolate Room* artisan honey chocolates.

This product combines two of my greatest passions—honey and chocolate. The pairing of the two is a marriage made in heaven, provided by Auckland-based husband-and-wife team Ken and Sarah Brown.

Beekeeper Ken produces the honey, while trained pastry chef and baker Sarah crafts the chocolates. She makes her own chocolate using Belgian cocoa butter, which gives the chocolates an amazing creaminess and melt-on-the-tongue consistency. They contain less sugar and more cocoa solids than mainstream commercial chocolates, creating a rich flavour without bitterness (even in the 66% dark chocolate). In short, they taste like chocolate should taste.

Working with chocolate and honey is not easy. You need quite an advanced sense of taste to get a good balance. I have experienced a number of examples of people trying it and not achieving a balanced and harmonious combination. But I have to say that these chocolates are superb.

The chocolate bonbons come in four different chocolate varieties—dark (66%), milk (44%), white and caramelised white chocolate. Each chocolate is filled with one of four ganache flavours and a little bit of liquid honey on top. The flavours are balanced and blend well with the honey.

The white chocolate is creamy and delicious without the cloying sweetness you sometimes get with white chocolate. The caramelised bonbon/truffle is filled with a caramel ganache reminiscent of South American dulce de leche. Scandalously good.

The chocolate bars, which also come in four flavours, contain mānuka honey crystals. This adds a subtle, but lovely, sugar honey crunch to the chocolate, creating wee pops of concentrated honey flavour in each bite. The creaminess of cocoa solids and the delicate crystal crunch is masterful.

Not only do they taste jolly good, these chocolates also look fantastic. The individual chocolates are an attractive honey dome shape reminiscent of a traditional skep with a wee chocolate bee perched on top, as if it's just flown in and landed there. The honeycomb-imprinted bars are beautifully presented with more perching bees and airbrushed with metallic copper or gold finish.

Expertly constructed, with great balance and distinctive flavour variation—this is an excellent product from a foodie with real technical skill. I would heartily recommend them as a special gift for a beekeeper friend, or any other chocolate lovers out there.

The chocolate bars and packs of three bonbons retail for $10 each (GST included).

To order, visit:
www.chocolateroom.co.nz

E-mail:
sarah@chocolateroom.co.nz

Or, if you're in Auckland, you can find them at either the Kumeu Farmers Market or Mt Eden Arts market.

Chocolate Room chocolate bars.

Chocolate Room chocolate bonbons. Photos: Maureen Conquer.

Got questions?

This is a column where you get the opportunity to ask your burning beekeeping, science and honey-related questions.
Send your questions to editor@apinz.org.nz and we'll find an expert to answer them.

Q. Do bees grieve?

A. A very interesting question. First, we must ask if bees have the capacity to grieve or even feel any emotions.

With only one million neurons, it is unlikely that they have the physical hardware required for the mental computational power to express emotions. Bees do have a certain level of awareness and maybe some sort of consciousness, but we must be careful to avoid anthropomorphising (humanising) them and comparing their world experience to ours.

To me though, the important element is that even if they could feel emotions, would they grieve? I don't think that they would. Death is likely a very different experience to them. All living things have a 'purpose in life' and that is to continue their genes. Because of the way that bees reproduce, workers can be more similar genetically to their sisters (75%) than their mothers (50%). That is why their seemingly altruistic behaviour in the hive actually ensures that more of their genes continue. So, if they are willing to lay down their life for the good of the colony, they are unlikely to mourn, with any real sense of loss, a sister that has done likewise.

Q. If a colony is queenless and there's no brood to raise a new queen, would they stay, swarm or die?

A. If there isn't any viable brood, they can't raise a queen. A queen can only be raised from a fertilised larva that is about 24 to 36 hours old. Therefore, a broodless hive doesn't have the capacity to raise a queen. So when the adult bees eventually die, there is no longer a colony.

These bees will not swarm as they go with a queen. Similarly, they are unlikely to abscond without a queen. Without a queen and her pheromones, the hive is more susceptible to being robbed; and is more susceptible to diseases due to the high stress levels.

Eventually without the pheromones of a queen or brood, some workers may develop rudimentary ovaries and become laying workers. Seeing as they haven't mated, they will only lay drones, which may then hasten the demise of the hive.

A queenless hive will eventually die.

Q. Who is in charge inside the hive? The queen or the workers (foragers)?

A. Good question. While it is commonly thought that she is called the queen because she is in charge, the hive can be likened to New Zealand and its form of government, which is a constitutional monarchy.

The queen is the titular head of the hive. She is obviously essential to the hive as she is (usually) the only egg layer. Without her the hive would need to replace her or perish. However, she doesn't even choose which egg to lay. She can only lay worker eggs into worker cells and drones into drone cells, as created by the worker bees. She lays almost constantly. If it's decided to rear less brood, then the eggs are consumed by workers.

However, her pheromones are at least as important as her egg-laying ability as they are needed to hold the hive together socially. Releaser pheromones affect behaviour and primer pheromones can affect physiology. The queen mandibular pheromone (QMP) acts as both a primer and releaser. It reduces swarming behaviour and inhibits the development of ovaries in workers. These are all unconscious actions from the queen and when she doesn't perform by laying fertilised eggs or secreting enough QMP, she is killed and replaced via supersedure. In this respect the hive could also be described as a proletariat dictatorship.

Q. My queen came outside the hive for some reason.

A. With so little context, it is difficult to give a definitive answer as to why this happened. Assuming that she came out alone and went back in, we can eliminate swarming, absconding and being ejected after having been superseded. If she's a virgin, then it's possible that she was preparing to do her orientation flight before mating or going for a mating flight. Otherwise, it could be a misidentified bee of another caste. If you have recently done an inspection, then it is quite likely that she fell off the frame and was trying to find her way back into the hive.

Ken Brown is President of the Auckland Beekeepers' Club and a Land Based Training Apiculture Tutor

REGIONAL REPORTS

FROM THE COLONIES

WAIKATO

The Waikato has been basking under sunny skies for the most part this season. The humidity has been horrible for humans, but bees seem to be doing OK.

The flow has stopped in some parts and is trickling in at other areas. Queen issues seem to have steadied and we are all looking forward to finishing off harvesting and adding our autumn varroa treatments.

- Crystal Lange

TAIRĀWHITI

Vespulid wasp. Photo: Barry Foster.

From reports received, this past honey production season has been above average by volume but down quality wise for our monofloral honeys. Recent estimates from one producer are that hives returned on average 30 kg of honey per hive, even after being placed into pollination, which normally has the effect of reducing bee numbers and hence honey production.

The main reason for the increased honey production per hive was the much greater flush of pasture flowers this season over previous years due to increased soil moisture combined with warm conditions. This favored both plant growth and nectar production. It has also had the effect of naturally blending in more pasture honeys within the targeted monofloral honeys, such as mānuka and tāwari. Reports are of a 20% lower MGO quality from a few lines of mānuka honey with other lines having only 10% or less mānuka honey over the 15 NPA threshold. A lot of mānuka this season has been tested at below 15 NPA, with much of it being classed as multifloral mānuka honey; the rest being either 20% or 30% monofloral mānuka. Some local beekeepers are focusing on producing multifloral mānuka over monofloral mānuka due to market conditions.

A few local beekeepers are exporting packed lines of mānuka honey to Asia and North America. They report that markets are holding up and are consistent in re-ordering. However, it is demanding work and expensive to maintain these markets that in a few cases only produce a neutral cash flow. Local beekeepers are interested in learning more details about what the new honey strategy launched by ApiNZ might mean for them to assist greater exports of our honey in the future. Our Hub intends to hold another field day in Gisborne at the end of May, the focus of which will be on marketing and varroa control.

As of the last week in February, varroa numbers in hives seem to be much lower for this time of the year compared with previous years. Alcohol wash monitoring over 40 hives in a range of sites by one beekeeper produced varroa numbers in the 4 to 6 count range, with a lot of other hives showing zero varroa counts. More beekeepers than in previous seasons are using organic acids and thymol-based treatments in addition to, or in place of, the usual synthetic-based treatments.

Autumn marks the peak of wasp numbers and this season is shaping up to be worse than previous seasons for

BAY OF PLENTY

I am hearing conflicting reports about this season's honey harvest. Some areas have done very well yet other areas have failed. No one is complaining too much, so I presume most people got something.

A few beekeepers are still learning how to control varroa and we are still seeing hive numbers reducing in the industry.

Honey sales are starting to move but prices are still low.

Most harvesting has been completed and extraction plants are in full swing.

Bees seem to be wintering down well and there is a slow honey flow to finish off the summer.

American foulbrood (AFB) seems to be more common this season, but everyone seems to be proactive in sorting it out. Beekeepers are realising that honey with AFB traces is hard to sell and this will certainly incentivise commercial operators to keep on top of this problem.

I have trouble seeing this industry doubling in revenue in the next six years but it's nice to see a bit of stability start to appear, even though the supply-demand ratio still hasn't quite balanced out.

Hive numbers must be close to as low as they are going to go, and I am hearing beekeepers are starting to grow their businesses again after four very tough years.

Hang in there, we may be able to draw a wage again soon.

- Bruce Lowe

TARANAKI

Taranaki bees are looking strong and healthy. Very few hives appear to have a high varroa count.

As of early March, most of the honey has come off and varroa strips are in. The hives on farmland are still bringing nectar in, mostly lotus major and clover. The mānuka flow was late—only starting mid-January to mid-February.

There seems to be a lot of splitting and requeening happening in the area, so beekeepers must still be confident about next season. Hopefully the honey market will pick up.

To date no American foulbrood has been reported by members of the Taranaki Beekeepers Club so I am keeping my fingers crossed.

March is wintering-down time in Taranaki and time to put in varroa strips. Please do varroa counts; we do not want another year like last year, when a third of our hives died of varroa and wasp predation.

The Taranaki Beekeepers Club is looking forward to next month's honey competition.

- Francis Proffit

wasp numbers. There are a couple of theories about this, one being that wasps like to build their nests in silt and soft soil. Following a succession of severe weather events 12 months ago there is still plenty of silt around the region.

Another theory is that there has been an abundance of food for wasps this past season from dead-out hives full of brood stores and greater numbers of insects around that are food for wasps. Whatever the reasons, beekeepers need to be aware of this being a bad wasp season. Our photo this month serves as a reminder to check your hives for wasp predation.

- Barry Foster

HAWKE'S BAY

Clover seems to be the outstanding performer in Hawke's Bay this year as far as honey production goes. Mānuka has been variable but still vastly better than last year.

Generally, the hives seem to be in reasonable order and, so far, varroa has been not as bad as the last few years, but it is still early.

Beekeepers are still going through very tough times but there seems to be more optimism about. It is finally looking a bit on the dry side in parts of the Bay and the main flow is over in a lot of areas. There is still plenty of pollen coming in and hives are breeding well for this time of year.

- John Berry

WELLINGTON

Our March meeting was a celebration for Frank and Mary-Ann Lindsay, to recognise Frank's Officer of the Order of New Zealand Merit (ONZM) award. There were the obligatory speeches, lots of laughs, lovely food and a beehive-themed cake that was cut with a hive tool. It was a great evening with lots of old faces to honour Frank and Mary-Ann.

Frank and Mary-Ann Lindsay cut their beehive cake at Frank's ONZM award celebration at the Wellington Beekeepers' Association.

Members have reported a mixed season; some have good honey harvests, others very little. Everybody agrees the season was very late, and despite a good flowering of many plants, there doesn't seem to have been a lot of nectar in the flowers. As usual, the flow was over before Christmas; meanwhile, a lot of hives had barely started building up.

A mild winter meant varroa continued to be a problem through summer and members are treating all the time to try and keep on top of the pests.

We are still getting reports of swarms, and this year there seem to be a lot of bumble bee nests being reported also. Wasps are also now appearing and, again, a mild winter has kept them active all the way through the season.

- Jane Harding

Frank and Mary-Ann Lindsay receive a full beekeepers' honour guard at Frank's ONZM award celebration at the Wellington Beekeepers' Association. Photos supplied.

continued...

NELSON

With the honey season almost over, most beekeepers will be getting the last of their honey crop off before autumn treatments go in.

The season has been patchy in some areas. Large parts of Marlborough dried out this summer with the Molesworth area being the driest for 20 years. So, while pasture areas did not fare so well, kāmahi, mānuka and kānuka have done well with a good honeydew crop in the higher regions capping it off.

Prices being paid for honey have improved substantially from last season, which will be a welcome help for many of us. In addition, a warmer summer which has given many of us an above-average crop.

Varroa seems to have been less of an issue in the top of the South this season than it was last year, when a lot of hives were affected.

Looking forward to the autumn rains in April.

- Jeff Lukey

WEST COAST

February, honey harvesting in full swing. Photo: Bruce Wardle.

The honey-gathering part of the season has long since finished on the West Coast and there is a distinct autumnal feel to the days now.

We still have a few apiary sites left to harvest, but our focus now is wintering hives. In our area, mid-West Coast, the honey flow was all over by mid-January.

Normally, we would expect the hives to gather honey for winter stores until well into March, but this year there has been almost nothing. The crop overall was a bit above average, with some multifloral sites producing a great crop. Inland kāmahi and rātā sites did not yield so well, although a few rātā trees flowered way up the mountainside and some of the crop has a rātā taste.

Hives we are revisiting after crop removal in January are very light and will need a lot of sugar feeding to make it through the winter. One beekeeper I talked to had hives starving in February after the honey crop was removed.

The varroa levels seem to be very low for this time of year, but we are still putting in strips. We know from past experience that levels can escalate rapidly for re-invasion at this time of year if the feral, varroa-infested, collapsing hives get robbed out.

So, looking ahead, we will continue wintering hives, putting out varroa controls, feeding sugar and reducing entrances. Things will continue to be rather tight heading into winter as, although varroa control bills will be a bit smaller, it is looking like the sugar bill will be a lot bigger.

- Bruce Wardle

SOUTH CANTERBURY

It has been the driest and hottest summer on record in the Mackenzie Basin. In December we braced ourselves for one of our worst crops, but at the same time hoped that rain from the west would sneak past Twizel as far as the eastern foothills. It has done this before in El Niño years and ended up being a bumper crop. Time and time again they said it would rain on Sunday, but it never did. It seems it just cannot rain anymore. However, even though the countryside looked bare and brown we did get some honey, and more than we were expecting. Hare's-foot was the hero of day, we think.

Down country was a different story. The easterly rains kept the paddocks moist and green, but at the same time hung around the foothills a bit too long for good yields of clover. Later in the season catsear came to the party. Other areas around South Canterbury were very good, producing four or five boxes of honey. And hives are looking healthy.

February has been very favorable (not too much wind) for autumn requeening. But there is still no rain and no autumn growth. Farmers are feeding out bailage already. Our sugar bill will be a whopper!

A skiff of snow cooled things down this week. The odd fantail fluttered around the kitchen to remind us that winter is coming, and it is only the first week of March.

- Ali Bell

[**Editor's note:** Welcome, Ali Bell who is taking over as South Canterbury reporter. Ali has been beekeeping in the Mackenzie Basin for forty years. Her family-owned business, Mackenzie Country Honey, runs around 2500 hives and is based in Twizel.]

ABOUT THE APIARY

Leave the bees alone and go on holiday

John Berry

Hives can gain a box of honey in April but for most of us it will be a once-in-a-lifetime experience, if at all. April is when I finish shutting hives down for winter and I like to have this job done before the start of May. I see no point in disturbing hives once they are in winter mode.

What better way to spend your time away from your beehives than heading overseas to go and look at…hives in Lillehammer, Norway.

PREPARING HIVES FOR WINTER

I winter most of my hives in two full-depth boxes with 15 kg (six heavy frames) of honey, which should be sufficient for most areas. If you keep your hive in an urban area, with winter honey flows you probably could get by with less and if you live in the deep South, you probably need a bit more. I do my best to end up with that amount of honey on each hive but the flowers and the weather don't always play the game, so I feed sugar when necessary. I try to have my feeding done by mid-April: late April at the very latest. When it gets too cold, bees can really struggle to process the sugar.

Boxes of combs that are not on hives should be stored in a cold, draughty place with plenty of ventilation to discourage wax moth. Combs can be frozen for a week and then sealed in a plastic bag—but you better seal them properly or you will be sorry! I find that having plenty of ventilation takes care of most of the problems and while I get the occasional bit of wax moth damage, it costs less than the alternatives such as long-term cold storage or freezing.

Many things affect the strength of hives. Wasps and varroa are two of the worst causes of weak hives but winter stores are also important. Hives left too light in their winter stores will dwindle to the point where they have only enough honey for the remaining bees to (hopefully) survive the winter. On average, hives that are left heavier will

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WE WANT YOUR PHOTOS!

The Publications Committee welcomes photos for the journal. Pop a camera in the truck and snap away when you find something interesting.

The safest way to supply a digital file is in a high-quality jpeg format. If you're thinking big (such as a potential front cover photo), these need to be as large as possible (300 dots per square inch (dpi) at the size they are to be used, and in portrait format (vertical rather than horizontal).

Regular digital photos are only 72 dpi, so are not suitable for the front cover.

Please provide a caption and the name of the photographer so we can credit them.

Email photos and captions to editor@apinz.org.nz

come through stronger. Stronger hives eat more but also gain a lot more honey in spring than weak hives.

If you have not dealt with varroa by April, then it is probably too late and your hives will die. It is the time for taking treatments out, not putting them in. Although if they have not worked as well as you have hoped, or you are experiencing serious re-invasion, you might want to look at trying some of the alternatives such as oxalic acid fogging. It may well be worth doing one fog in the middle of winter as well, especially if you have a broodless period. I am still on a learning curve when it comes to oxalic acid but so far, I am having good results and have not seen any damage to the hives from this practice. I have yet to do any winter treatments though.

LEAVE THE BEES ALONE IN WINTER

Opening hives in May and particularly in June does the bees no favours at all. You are breaking up the winter cluster and if it is cold it will be a tight cluster. The chances of rolling and killing the queen accidentally goes up markedly, with no chance that the hive can replace her.

And if you really feel the need to do some beekeeping in winter there's plenty to do on the other side of the world. John Berry (left) helps shift hives in Fylkesvie, Norway. All photos: John Berry.

Get everything finished on time and leave them to it for the winter.

GETTING READY FOR THE NEW SEASON

Winter is a good time to get some jobs done in preparation for the new season.

Make up new gear. Most New Zealand beekeepers do not replace enough brood combs. Some of my English friends replace half of the brood combs every year. I consider this a bit excessive and expensive but regular comb replacement (in the spring) helps keep down diseases like nosema and chalkbrood, and probably helps with viruses as well.

Plastic frames can be scraped down, water blasted and then re-waxed. Wood and wax frames can be melted out and then rewired. For small numbers it is probably easier to use a solar wax melter; the residue can be used as firestarters or even composted.

Each bee that pupates spins a cocoon. It is the multiple layers of these cocoons that make the comb heavier and darker. Eventually the cell walls become so thick that the bees can no longer fit and at this stage the bees will chew down the cell walls and rebuild. They cannot, however, chew out the bottom, which keeps getting thicker, heavier and fuller of nasties, not to mention more uneven and with far more drone comb.

Hives on the Yorkshire moors.

> "Clean up your existing gear. Go through all your beekeeping equipment and scrape and clean everything, repairing when necessary."

Clean up your existing gear. Go through all your beekeeping equipment and scrape and clean everything, repairing when necessary. I do as much as I possibly can in winter so that everything is ready for the new season.

Shift your hives. June is a good month for shifting hives, especially from the high country into spring sites. Provided there are sufficient autumn pollen sources, I much prefer to move hives in winter. You can do it during daylight hours on cold days and for those that need early hives for pollination, the simple act of moving the hives tends to break winter dormancy.

Finish off all preparations for wintering down your hives by the end of April. Leave them alone for the rest of the winter except for non-invasive things like wasp monitoring and possibly an oxalic acid vape or two.

Clean up, straighten up and then go on holiday.

APICULTURE NZ CLUB CONTACTS AND SPECIALTY GROUPS

WHANGAREI BEE CLUB
www.whangareibeeclub.co.nz

Meets on the first Saturday of every month at 10 am at the Whareora Hall on Pataua North Road, Whangarei.

President – Nick Watkins
E: n.i.watkins@hotmail.com

Secretary – Vincent Lane
E. wbccommunication@gmail.com

AUCKLAND BEEKEEPERS CLUB
www.aucklandbeekeepers.club.org.nz

Meets second Saturday of the month from 11am at:
Gribblehirst Park
5 Cabbage Tree Swamp Drive,
Sandringham, Auckland 1025

Please send all correspondence to:
PO Box 44-427, Pt Chevalier 124, Auckland 1022 or
email: admin@aucklandbeekeepersclub.org.nz

President – Ken Brown
P: +64 21 088 01700

RODNEY BEEKEEPERS CLUB
www.rodneybeekeepersclub.co.nz

Meets the first Wednesday of the month, 7.30pm at:
St. Matthews Lounge, Garfield Road, Helensville.

All welcome.

President-Ian Harris
P:021 910 724
E: ian_harris@sapienter.co.nz

Secretary - Barbara Ryan
P: 021 238 2935

FRANKLIN BEEKEEPERS CLUB
www.franklinbees.co.nz

Meets the second Sunday of the month at:
The club hives at 137 Sim Road, Paerātā

10am - midday. Visitors welcome.

Secretary - Kylee Howe
E: secretary@franklinbees.co.nz

ROTORUA HONEY BEE CLUB
www.rotoruahoneybeeclub.co.nz

Please send all correspondence to:
45 Keith Road, Ngongotaha, Rotorua RD7 3097

Chair – Pauline Spear
P: +64 21 022 80591
E: pauline.spear@xtra.co.nz

Secretary – Sharron Pope
E: rotoruahoneybeeclub@gmail.com

TARANAKI BEEKEEPERS CLUB
Meets 3rd Monday of every month at:
West Baptist Hall 144 South Road, Spotswood,
New Plymouth.

President – Wayne Brownson
P: +64 27 208 3664
E: taranakibeekeepers@gmail.com

WAIKATO DOMESTIC BEEKEEPERS ASSOCIATION
www.waikatobeekeepers.org.nz

Meets every third Thursday of the month at 7.30pm at:
The Cosmopolitan Club, 32 Claudelands Rd, Hamilton

President - Crystal Lange
E: president@waikatobeekeepers.org.nz

Secretary – Corey Regnerus-Kell
E: secretary@waikatobeekeepers.org.nz

BEEKEEPERS HAWKE'S BAY INCORPORATED
Meets first Thursday of the month, 7 pm at:
The Pakowhai Community Hall, Pakowhai Road, Pakowhai.
New members are welcome.

President – Robyn Gichard
P: 06 858 7833
E: robynandgg@gmail.com

THE BUZZ CLUB OTAKI
Meets every third Wednesday of the month at 7 pm at:
Waitohu School Hall, Te Manuao Road, Otaki

President – Mike Noon
P: +64 21 659 704

Secretary – Thomas Reisinger
E: thebuzzclubotaki@gmail.com

WELLINGTON BEEKEEPERS ASSOCIATION
www.beehive.org.nz
https://www.facebook.com/wellingtonbeekeepers

Meets first Wednesday of the month (except Jan) at:
Johnsonville Community Centre
Main Hall, Moorefield Road, Johnsonville
6.45 pm Beginners' session, 7.30 pm main meeting

President - Tricia Laing
P: +64 27 4766540
E: tricialaing48@gmail.com

Secretary – Jane Harding
P: +64 4 499 4123 / +64 27 421 2417
E: info@beehive.org.nz

MARLBOROUGH BEEKEEPING ASSOCIATION
www.marlboroughbeekeepers.co.nz
https://www.facebook.com/MarlboroughBeeKeepers

Meets the last Sunday of the month at 2 pm at:
NMIT carpark, off Budge Street, Blenheim.

Chairperson – Dion Mundy
P: 021 226 8327
E: marlboroughbeekeepers@gmail.com

NELSON BEEKEEPERS CLUB
www.nelsonbeekeepers.org.nz

Meets first Tuesday of the month, Feb–Dec inclusive,
7–9pm. Waimea Lounge, Nelson A&P Showgrounds,
Lower Queen Street, Richmond.

Secretary – Mary Dowie
E: tasmanbees@gmail.com

NORTH CANTERBURY BEEKEEPERS CLUB INC.
www.ncbeeclub.org.nz

Meets second Sunday of the month at Eyreton Hall,
corner of Mandeville Road & South Eyre Road, Mandeville.

President – Gerard van Kuppevelt
P. 03 312 6966

Secretary - Grant Stalker
P. 021 899 516
E. ncbeeclub@gmail.com

CHRISTCHURCH HOBBYIST BEEKEEPERS' CLUB
www.chchbeekeepers.org.nz

Meets the first Saturday of the month, 9.30am to
12.30pm. 681 Cashmere Road, Hoon Hay Valley

President - Josephine Winter
E: chch.beekeepers@gmail.com

DUNEDIN BEEKEEPERS CLUB
www.dunedinbeekeepersclub.org

President – Brian Ellis
M. 027 460 5985

Secretary – Chris Hinton
E. secretary@dunedinbeekeepersclub.org

IS YOUR **CLUB** OR **GROUP MISSING** FROM HERE? OR HAVE YOUR DETAILS CHANGED?

Contact info@apinz.org.nz. Please also send any changes or additions to: editor@apinz.org.nz

NB: listings on this page are limited to clubs and groups that are financial members of Apiculture New Zealand.

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BEES GIVING LIFE

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