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APIARIST'S ADVOCATE

News, Views & Promotions - for Beekeepers - by Beekeepers

'Tis the Season to Come Together

Four industry groups hope to become two in 2025 – but how will the pieces fit?

Full Steam Ahead for ApiNZ/UMFHA Restructure

Work is apace to disestablish Apiculture New Zealand (ApiNZ) and considerably alter the Unique Mānuka Factor Honey Association (UMFHA) constitution to broaden their remit, in an effort to draw in beekeepers to what has been tentatively titled 'The New Zealand Honey Association'. Leading figures in the two groups, ApiNZ chief executive Karin Kos, board chair Nathan Guy and UMFHA chief executive Tony Wright, explain why they believe the shake up of their respective industry groups is in the apiculture industry's best interests.

With the target date of April 1 for launch of *The New Zealand Honey Association*, January and February are going to be busy in the offices of both ApiNZ and UMFHA. Both are currently assessing feedback from a consultation period with their members, following the November 27 release of a draft constitution for the new industry body and "a stronger collective voice".

Wright says they plan to correspond with UMFHA members with a summary of that consultation and a more detailed constitution on the week of January 6. The hope is that constitution will be appealing to their existing 82 members and a SGM can be called to implement the changes in mid-February.

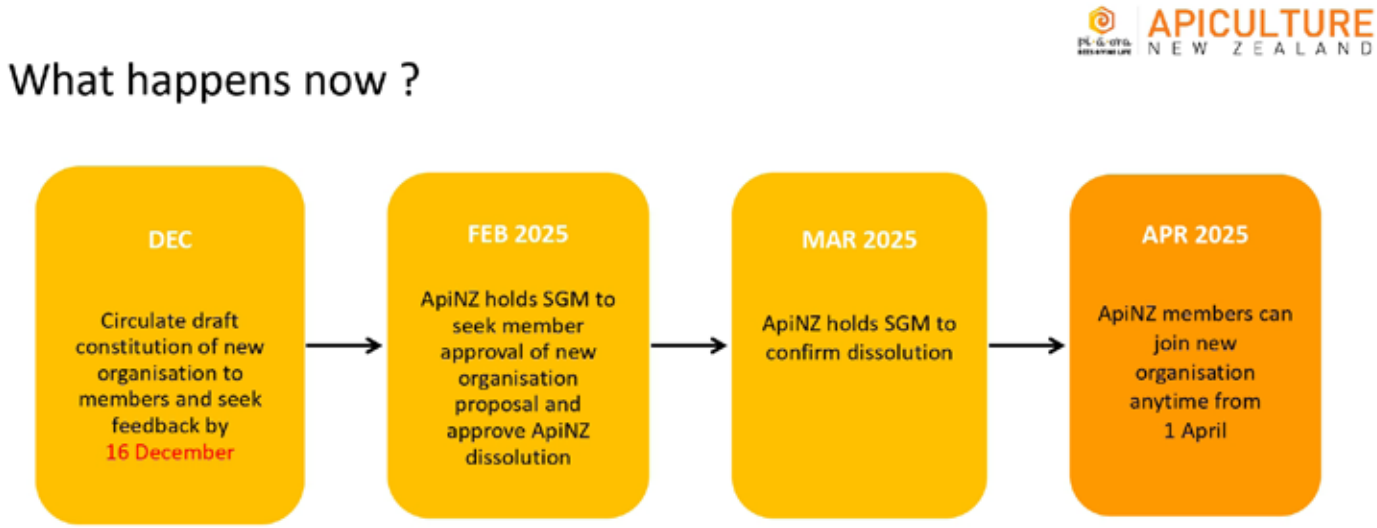
For ApiNZ, members must be convinced that dissolution – earmarked for March – is the right move, with the new industry body offering a viable alternative to current operations.

ApiNZ has struggled to stay afloat financially in recent years, and their voluntary membership model has proven ineffective at supporting a Wellington office and a small number of paid staff. Despite those challenges their industry good activities have continued, more recently thanks to a contribution of $309,000 through the government's Sustainable Food and Fibre Futures (SFFF) fund. Soon, however, it seems it will be largely up to the UMFHA membership to pick up the tab.

So, should beekeepers have greater confidence that a new industry body, likely to gain the bulk of its revenue from UMFHA's current membership – which includes many businesses without their own beekeeping operations – will better serve them?

"There is a genuine desire to rebuild what an industry organisation looks like," Kos says.

"We have still set ourselves up as an industry good body. It will still have all the functions, focus groups, Beekeeper Journal, with commercial beekeepers on the board. We have had input into the constitution and our members will. That is what we are working through now. This is still an industry good organisation."



ApiNZ's timeline for dissolution in 2025.

Karin Kos, ApiNZ chief executive since day one of the organisation, April 2016, and likely to the end in March 2025.

The ApiNZ chief executive has been buoyed by seeing what can be achieved when the two boards work together, while also noting that the two groups already share many members.

"I am really seeing the value in how we are working together now. I look at the UMFHA board, and they have some independent directors with expertise that have been incredibly valuable in how we set up our professional organisation … the expertise between the two boards and management teams will be a real advantage as to what we roll out in 2025. There is momentum, experience and funding."

The draft constitution for the new Association has proposed a board of six directors. Four would be elected by the members, two of which would require commercial beekeeping experience, and two with honey exporting experience. The final two director roles would be appointed by the board. Membership would primarily be 'full' members of 'any person or entity involved in beekeeping, extraction, packing, retailing and/or exporting of honey from New Zealand for commercial purposes', with 'associate' membership available to anyone else wanting to support the Association, without being granted voting rights. The draft constitution outlines a flat membership fee for all full members, but the bulk of funding will come from a honey (likely monofloral mānuka it has been suggested) export levy on members. The constitution also specifically states that the Association would have the purpose of seeking out wider ranging honey industry levies, under the Horticulture Export Authority (HEA) and Commodities Levy Act. Thus, seeking to make a honey export levy mandatory, for members and non-members alike.

There's no mention of the UMF brand in the proposed constitution though. So where does it stand? UMFHA chief executive Tony Wright explains.

"The suite of UMF assets – the trademarks, the UMF brand, and all the associated collateral – none of that goes away. All of that

Nathan Guy, ApiNZ chair.

survives into the new organisation. We were mindful that we can't go out calling it UMF 2.0 because it is a broader organisation with a broader purpose for the whole sector. The UMF components become assets owned by the New Zealand Honey Association. They don't need to be part of the constitution itself, because the constitution allows for the ownership and management of intellectual property. So, we envisage we could be developing IP in all sorts of things. This is one of the areas where we are in discussions with the Mānuka Charitable Trust on, because they are developing stories and we are working with them on that. All of that will become IP we will want to manage … instead of it being a focus on a set of trademarks under UMF, we want to make sure we are enabling a broader consideration of all the assets the industry could create and how we could manage that for the greater good," Wright says.

Members using UMF branding on their honey exports would pay a 'UMF levy' to the Association, while others exporting mānuka honey would likely pay a 'mānuka levy'.

Many beekeeping and/or honey exporting businesses include at least partial, and some controlling, foreign ownership stakes. This level of overseas ownership shouldn't be a concern though, Wright believes, instead saying it can offer benefits such as offshore-owned businesses paying levies, but not holding voting rights.

"We want the membership to reflect genuine connection to New Zealand. An example, how we currently manage that within UMFHA, is our member licence holders are all GST registered – for lack of a better description – as New Zealand entities. We also have licences issued to overseas licence holders who are not members. That is a policy that works really well, because it means you still have stakeholders who are involved with our industry, but they don't have a right to vote about the shape of the industry. That is a principal we are likely to retain," Wright says.

The disestablishment of ApiNZ comes with a few unique challenges. While a management agency and separate board has carried out the implementation of the American Foulbrood Pest Management Plan (AFB PMP), ApiNZ is the management agency named in legislation and thus overseen operations. That relationship – between the AFB PMP and ApiNZ – is currently being reviewed by the Ministry for Primary Industries (MPI) though anyway. Kos says they have briefed the Minister about their intention to disestablish, will do so further in 2025, and the findings of the MPI review will guide decisions beyond that.

As chair of the ApiNZ board, Nathan Guy is comfortable that MPI is well informed of their moves.

"We are very well connected with the government," Guy says.

"We have briefed ministers on the direction of travel. If we want to get serious about biosecurity, we need the government to help us. If we want to get serious about the Horticulture Export Authority, we need the government to help us. Wherever you look in the industry, engagement with government is going to be vital. ApiNZ has built up a great relationship with government and that can be seen in the funding of the Honey Strategy."

Guy says they have received assurance from MPI director-general Ray Smith that the current round of SFFF funding allocated to ApiNZ will be transferable to the new Association.

Among the work to be undergone in January and February will be putting in writing how the new Association and Mānuka Charitable Trust – which has the goal of attaining trademarks against the use of the term 'Mānuka Honey' by international sellers – relate.

"We are still working through the detail of how we will engage with them long term, but both sides are committed to working together," Wright says.

(Editor's note: we explore the Trust's position more in *What is Mānuka Charitable Trust's Role in the Industry Restructure?* pg 9.)

At a board level both sides of the ApiNZ-UMFHA equation also share that commitment to working together. UMFHA will have to convince their members to accept constitutional changes, and a name change, but Guy believes that it is in their best interest to do so and beekeepers will benefit too.

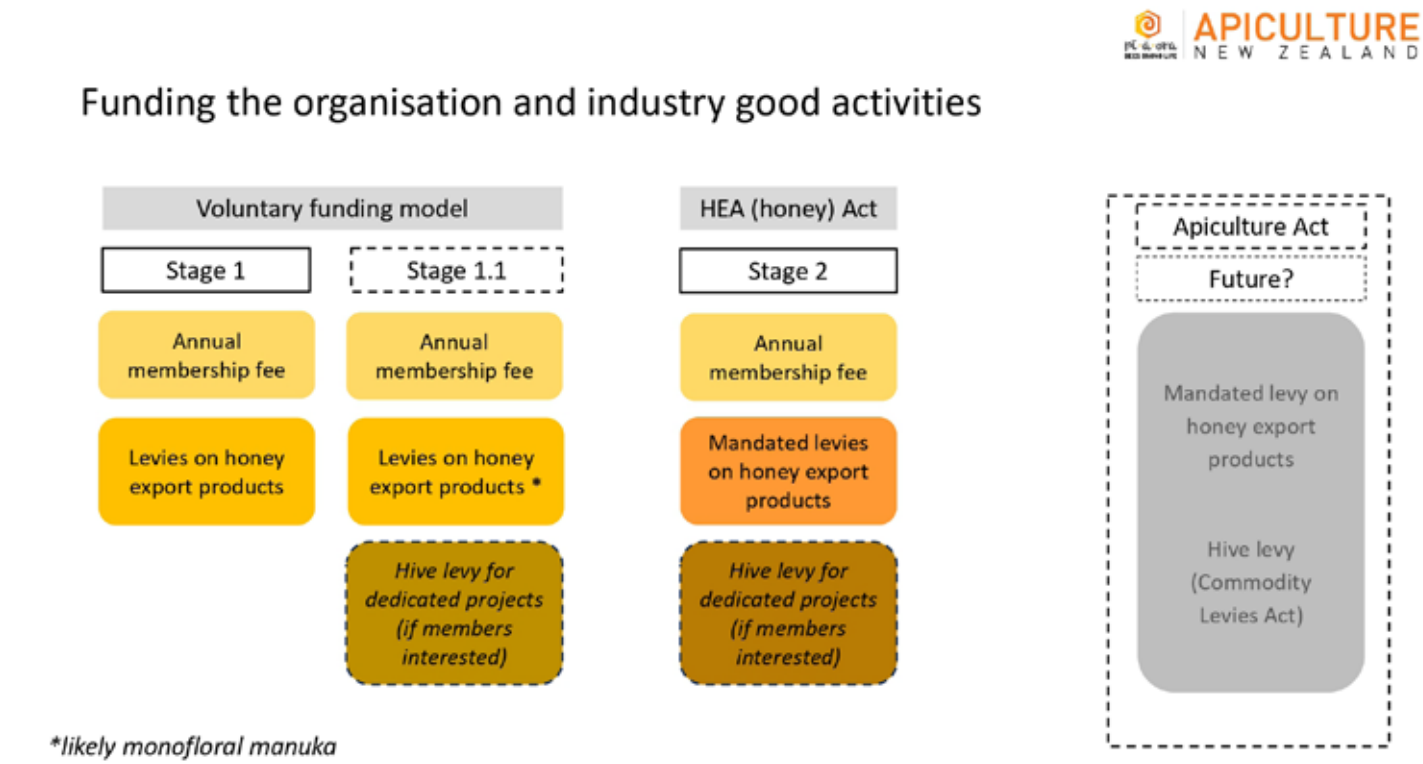
"This is a new association with a breadth of skills around a board table and management and will be representing beekeepers through to exporters. Ultimately, exporters don't really have a viable business without beekeepers and that is why biosecurity and bee health will be vitally important moving forward," Guy says.

Kos has been on the front line for ApiNZ from day one, April 2016, as their chief executive, and she knowns as well as any that it is going to have to be more than just words or philosophies that draws their existing members, and even more so those not currently ApiNZ members, into a new Association.

"The value proposition is what is going to appeal. We have a job to go out and talk to beekeepers and engage. We have some time to do that. The first cab off the rank is to get this new organisation set up. One of the key things, from the beekeepers I talk to, is they need their voices to be heard. They tell me 'make sure our voices can be heard, and we will join'. I take heart in that, but we will have to go out and talk and engage," Kos says.

Wright adds to that sentiment as he looks beyond the first quarter of 2025 and to the remainder of a year where they hope the rubber hits the road for the New Zealand Honey Association.

"Assuming we get this over the line with respected memberships, the hard work then begins," Wright says, adding "that is building the confidence of the wider industry that we are there to deliver on what we have said we are going to."



ApiNZ's plan for gaining industry funding under the proposed New Zealand Honey Association would move from voluntary membership contributions in the short term, to a mandatory honey levy in the longer term.

Another Amalgamation? NZ Beekeeping and Southern North Island Beekeeping in Talks to Form "National Beekeeping Collective"

2025 is the year to come together it would seem, with New Zealand Beekeeping Inc (NZBI) and Southern North Island Beekeeping Group (SNIBG) taking steps to form a "National Beekeeping Collective". After announcing, via an email to their respective members on December 18 last year, that the groups' leaders had been in talks to work more closely together and form a "peak body" for beekeepers, not two weeks later NZBI members were sent the latest concept document for the new group.

Running to fewer than 500 words the introduction document to the National Beekeeping Collective being proposed is high level and succinct, but will give their members plenty to chew over as the calendar turns to 2025. It sets out a framework which NZBI and SNIBG leadership hope can achieve 'real and legitimate peak body status', all while Apiculture New Zealand (ApiNZ) and Unique Mānuka Factor Honey Association (UMFHA) seek to gain the same footing with the 'New Zealand Honey Association'.

"We are hoping to achieve a bigger beekeeping body to work for commercial beekeepers," NZBI president Jane Lorimer says.

"We see what ApiNZ and UMFHA are doing as being focused on export mānuka. We need to consolidate our beekeeping groups. It's an alternative that will focus solely on beekeeping matters."

She hopes the proposed new groups could work closely together, and the document sent to members floats the idea of having a memorandum of understanding with other industry groups on 'areas of commonality'.

SNIBG president Frank Lindsay says the prospect of working together with NZBI has been on the table for a while and there is some cross over in membership. Lindsay puts their membership at around 90, and believes they bring a larger base to the table than NZBI. Therefore, with only between 100 and 200 members between them, they will need to present a more compelling offer to beekeepers if they are to achieve the "peak" status they desire.

Jane Lorimer, president of New Zealand Beekeeping Inc hopes that by working with Southern North Island Beekeeping Group they can present beekeepers with a national model compelling enough to reach "peak body" status.

The document to NZBI's membership states the new group would be 'committed to creating a thriving future for the beekeeping community' and that all beekeepers across New Zealand would be invited, but not compelled, to participate.

In a somewhat 'back to the future' approach the model of the former National Beekeepers Association (NBA) – which became ApiNZ, but with a different structure, in 2016 – appears to have been drawn upon. Autonomous regional beekeeping branches would be created, 'where there is support to do so'. These would feed into a centralised, national executive on which a member from each regional branch would sit.

"The regional groups would cater for local field days to make sure beekeepers in their area get opportunities to meet and discuss beekeeping matters. They can then take any concerns to the national body. The national body would then handle discussions with government and things of national significance. It would feed from the bottom up, rather than top down," Lorimer says.

Lindsay, who has five-decades-plus experience beekeeping in New Zealand, says a model of industry representation where beekeepers and honey packers have sperate groups, but work together as required, has worked in the past and could again.

"There used to be a group to represent the honey packers, and the NBA for the beekeepers, and we all met up at conference. The packers' interests and the beekeepers' interests are there, but they don't have the same outlook. We are the two corners of the bottom of the same triangle. There should be two organisations that work together. Other than that, beekeeping should be represented separately," Lindsay says.

The document sent to NZBI proposes 'we won't get involved in honey marketing or export; we hope to work with those who do'. It claims the concept will be 'developed collaboratively with

Frank Lindsay. The Southern North Island Beekeeping Group president was an early proponent of working closely with NZ Beekeeping Inc, which could lead to a new industry group.

beekeepers … by and for New Zealand's beekeeping community'.

A 'limited central agenda to tackle national issues critical to the industry' and 'issues fed in from the regions to a central Executive to action' are stated as purpose and structure.

Five initial focus areas are detailed in the document, with the first being growing the membership base to achieve 'real and legitimate peak body status'. There follows biosecurity, pollination services, bee health and bee products, which are all briefly detailed.

Following the December 31 email of the new concept, a period of consultation with members of both groups is being undertaken by their leadership.

However, one of those members, Arataki Honey owner Russell Berry, already has a major concern – that NZBI could fail to exist. While Berry is a long-time member of the executive council of the beekeeping group, he has tendered his apology to the two latest meetings where the amalgamation with SNIBG was discussed. Reading the email to members on the last day of 2024 and speaking from a position outside of the leadership group, he says he agrees with much of the concept document, but fears that if it was to lead to the winding-up of the group it would amount to a throwing out of the baby with the bathwater, given what the group has achieved to date.

"New Zealand Beekeeping Inc has done a huge amount for the beekeeping industry and it should be encouraged to carry on with the assistance of Southern North Island Beekeeping Group, and any other beekeeping organisation which can assist us in making an organisation that truly represents the commercial beekeepers of New Zealand," Berry says.

"I would be greatly opposed to the demise of New Zealand Beekeeping Inc."

So, it is clearly early days in the discussions and consultations with members and a consensus between the two groups is far from guaranteed. However, if things advance as mooted, and the National Beekeeping Collective eventualises, it could leave beekeepers in the position of having two national industry groups vying to represent their interests – with the National Honey Association of UMFHA and ApiNZ scheduled to come into existence on April 1 (as detailed in *Full Steam Ahead for ApiNZ/ UMFHA Restructure* pg 2).

Nine years on from the winding up of the more-than-century-old NBA, 2025 shapes as another year of change in national beekeeper representation.

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What is Mānuka Charitable Trust's Role in the Industry Restructure?

The coming together of Apiculture New Zealand (ApiNZ) and Unique Mānuka Factor Honey Association (UMFHA) was signalled in the New Zealand Honey Strategy 2024-2030 released early last year, and Mānuka Charitable Trust (MCT) was included in that foreshadowing as "kaitiaki" or "national guardian" for mānuka. So, what role have they been playing in the industry bodies' restructuring?

The Manuka Charitable Trust and its operating arm, Te Pitau Ltd., might have been quiet of late as attempts to secure 'Mānuka Honey' trademarks go on the backburner, but they shape as having plenty to offer – and plenty to gain – should mānuka honey take a place within the Horticulture Export Authority (HEA). While the proposed New Zealand Honey Association would see those members who export honey (or at least monofloral mānuka honey) pay a levy from day one, a longer-term goal would be a mandatory, industry wide, levy through the HEA, and then a bespoke piece of legislation under the Commodities Levy Act.

If those levies were to get across the line, it would provide a more secure pathway to funding for MCT. A look to the recent past also confirms how much MCT has on the line as UMFHA looks to broaden its scope of operations, with the UMF group having provided $700,000 in funding to MCT's operating arm, Te Pitau Ltd., over the past two financial years.

While MCT has been in "active" and "regular" discussions with ApiNZ and UMFHA, board chair Victor Goldsmith – who took over the role from Pita Tipene last year – says "the way they organise themselves is really up to them".

Victor Goldsmith stepped into the role of chair of Mānuka Charitable Trust in 2024 and says they have been in active and regular discussions with ApiNZ and UMFHA as they plan a restructuring, with an eye to what they might contribute should a mandatory mānuka honey export levy be achieved.

With any inclusion in the HEA likely at least 18 months away, Goldsmith says the most important thing for them is they remain "at the table" for the discussions, but this is likely to take the form of a memorandum of understanding between MCT and the new association mooted by UMFHA.

"I know they are looking to establish an HEA, but that may take some time, and that is where the MCT will be positioning ourself. We don't need to be involved intimately at this stage of their planning, but in terms of some of the collateral and assets we have – our science programme, our certification trademark programme – those are assets we can potentially transfer over to the Horticulture Export Authority in time. But, it will take some time. There is a change in legislation required. The industry will have to go through the vote for a levy," Goldsmith forecasts.

Efforts to secure certification trademarks for use of the term 'Mānuka Honey', on behalf of New Zealanders, have been the domain of MCT in recent years. However, they has been unable to do so in any markets, including a loss on the home soil of New Zealand's Intellectual Propety Office in 2023. A science programme, which received $4million taxpayer funding in 2019, has been operating, and its findings are the sort of thing they hope can add value to the honey industry, especially if mānuka honey takes a place in the HEA and a framework for greater export control is established. Goldsmith says it is a comprehensive programme, which includes research into honey adulteration prevention.

"The science programme includes a whole range of different things which leads to us being able to put our hands on our heart and say 'that is mānuka honey, from New Zealand, not anywhere else, and this is the characteristics of it'," he says.

Regardless of how the group representing UMF forms itself, or what it is called, the newly-appointed MCT chair says they are aware that in the immediate future it is the UMF licensees that will ultimately cast the vote on whether to continue to provide their funding into MCT's legal work.

"There may come a time where they say, 'hey we can't continue to do this unless we see some contribution from iwi Māori', but they haven't asked for that yet. There is mutual respect so far, because we are doing what needs to be done."

With the hope of mandatory levies to support the Trust's work, they will continue to stay in contact, but leave the industry groups to the finer details of their constitutions.

"We are not concerned, as long as we continue to have the conversations which lead us towards a Honey Export Authority model," Goldsmith says.

"We will dot the 'i's and cross the 't's on that and work with government, and whoever else we need to, to get that over the line."

Fire, Flooding and Invasive Pests – Beekeeping Resilience in 'The Lucky Country'

1400 beehives destroyed by fire, then within a year another 700 to flooding, soon after that small hive beetle wipes out 500 more, and then close to another 1000 fall victim to the varroa mite incursion. In Grafton, northern NSW, Australia, Wayne Fuller and Janine Rudder have seen their beekeeping operation ravaged by Mother Nature and invasive parasites over the last six years. We get the grizzly details and learn how, with ongoing resilience, they are progressing their business to the next generation.

With approximately 4000 beehives and 600 sites, the Fuller family beekeeping business, Bee Services is a serious enterprise. Serious in its ability to provide for partners Wayne and Janine, Wayne's brother Steven, Wayne's two daughters and their partners, plus six more staff members and other labour hire staff when required for extracting; but also serious in the nature of that work – generating an annual honey harvest of anywhere between 150 and 250 tonnes, pollinating vast areas of crops, and at times having to destroy their own hives for a proposed greater good.

In August last year Fuller and Rudder attended The Beekeepers Conference in Whanganui, where Fuller took to the main stage to give a beekeeper's perspective on small hive beetle. Following that, the couple sat down with *Apiarist's Advocate* to provide greater insight into Bee Services, and the challenges which they have had to overcome in recent years.

Wayne Fuller and Janine Rudder are looking to step back from operations at Bee Services in NSW, Australia, as they hand over to Wayne's children, but not before having survived some serious challenges.

A FAMILY AFFAIR

Bee Services has long been "a family affair", with Wayne at the helm for 45 years and Steven for 12 years. Now with Wayne's daughters and their partners in the mix, along with wife Janine, the family connection is stronger still and it's coming time for the next generation to take on a greater mantle. But, with Fuller still busied in office and field and Rudder dedicating a lot of time to site management, handing over is a gradual process.

"Janine has told them she is retiring, and I have told them I will give them another year," Fuller says.

"I don't want to leave, but at the moment I am probably working 80 hours a week. I want to cut back, I need to cut back. First, I need to make sure the kids have a good year and I leave them in a good position."

Despite working those long hours, Fuller says his physical abilities – especially his ability to lift heavy weights – are diminished following a cancer diagnosis in 2012 and the resulting treatment.

PLENTY TO DO

Bee Services revenue is a near even split between organic honey production and pollination contracts. Around 1000 of their 4000 hives are organic, supplying Australia honey behemoth Capilano. Honey varieties harvested include Ironbark, Spotted Gum, Bloodwood and other eucalypt species and hives can sometimes be on honey sites for just six weeks before they are moved off to chase the next flow.

The other 3000 hives work even harder, bouncing between pollination jobs and honey sites, making for plenty of hive movements – compounded by even more movements when fleeing bushfires.

About 2200 hives go from a six month blueberry placement between February/March and August/September, then a stint in macadamia orchards for about six weeks in spring, before heading back to the blueberries for their summer crop for six more weeks, starting in December. Others hit the berry crops, with blueberries, raspberries and blackberries all receiving visits.

All that pollination work is a recent-addition to the long-running business, with change coming about following that all too common Australian scourge – bushfire.

DIVERSITY FOLLOWING DESTRUCTION

"In 2019 we were simply bulk honey producers, 250 tonne of honey a year and then a bit of pollination for a neighbour," Fuller explains.

"Then in the bush fires we had 1400 hives of bees burnt and lost all our floral resources. So, we swung over to pollination. That's what we figured we had to do because we lost 80 percent of our country."

2019-20 has been dubbed 'Black Summer' in Australia, due to the wide-ranging fires which ravaged numerous states. That included New South Wales where, for nine months from July 2019 to March 2020, uncontrolled fires burned.

With their honey production sites being so remote, there was no chance of stopping the fire from reaching their hives. However, some hives were able to be rescued and relocated in a frantic few months where Fuller only stopped for sleep … and then only occasionally.

"Three months straight and barely any sleep," he recalls.

In the end, it was Rudder who decided something had to change.

"They were working all day, then moving hives every night, because fires would pop up everywhere," she says.

"In the end I said to the guys, 'you can't keep doing this. You are going to have an accident, fall asleep at the wheel.' I told them just to bring all the hives home."

A state forest near Grafton, NSW. Devastating wild fires not only burned through beehives in 2019 and 2020, but destroyed bee habitats, leaving hives taking years to recover.

So that's what they did. Between 600 and 700 hives in the backyard of their property and another 800-900 to their Grafton base.

"I remember calling a neighbour and saying, 'be aware there is going to be a couple of truck and trailer loads of beehives coming home tonight and I don't know whether you are going to get hit with bees or not tomorrow'," Rudder says.

It was far from ideal – "you couldn't walk outside the front door for the first few days because the bees were so disorientated" – but at least they could see the hives, and get water to them quickly if needed.

It was more than a year after the last fire was put out until the bees were able to recover themselves, as they struggled to adapt to a charred landscape.

"The fires stopped in 2021 when it started raining, but the hives were still dying. You would put them out on site and the bees would go out and not come back," Fuller remembers.

"I spoke to Liz Frost at the Department at Ag and she had seen it before in the Californian fires and said you need six generations of bees for them to get their directional sense back, so they can find where they are going to."

WHEN THE RAIN COMES... BUT DOESN'T GO

All up around 1400 hives were either directly or indirectly lost to the devastating fires of 2019-20. In a cruel twist of fate, more disaster awaited the NSW beekeepers though.

Floods have been just one of many challenges thrown at Bee Services over the last six years, including at this Gunnedah canola field in 2021 in northern NSW.

First 200 hives were swept away in flooding in 2021, then one of Australia's worst recorded flood disasters struck Queensland and northern New South Wales in February 2022. Grafton, located on the floodplain of the Clarence River, was in the firing line again. This time 500 Bee Services hives were inundated.

As if those four years of torment at the hands of Mother Nature were not enough to test their team, as the flood waters receded in 2022 a new foe was on their doorstep – small hive beetle.

'SMALL', BUT MIGHTY DESTRUCTIVE

"There were about 8000 hives washed away in the Lismore flood area and that created a massive hive beetle problem," Fuller says.

"Even though we are 100km away, we were badly affected. The beetle will fly seven kilometres, but it will find a hive then hop to the next hive. It was looking for food because it had run out of food in its original area."

Eventually they found food too, located in the beehives of their new domain. The result would be the loss of 500 more Bee Services hives to the invading beetle as it consumed honey and pollen, taking over the beehives and "sliming them out" with its faeces.

Yes, 2022 was a terrible year, but the team at the helm of Bee Services take a pragmatic approach.

"The way I looked at it was, OK we lost beehives, we lost all this, but we didn't lose any lives. That was the only good I could look at coming out of it," Rudder says.

Having had several seasons to learn to manage the beetle, Fuller says it is not all that big of a concern, while noting other beekeepers might disagree with that assessment.

"You just have to stay on top of it. As long as you don't under estimate it, it is no different from American foulbrood (AFB). If you don't take AFB out, it will take you out."

VARROA'S TURN

Witnessing Mother Nature, or an invasive pest, wreak havoc with your livestock is one thing, but having humans inflict the destruction is another challenge altogether and in June 2022, the very same year small hive beetle and flooding were having their way with Bee Services, varroa was detected 470km south in Newcastle. Then in July much closer, Nana Glen 60km away.

Rudder says they were mentally exhausted before varroa was found in NSW and news of its arrival "was just devastating". However, Fuller is circumspect.

"We always accepted the fact we were going to get varroa and so when we did, it was no surprise," he says.

"The timing could have been better though" Rudder points out.

"Another year, another honey flow, would have been good. But it is what it is."

And again, the destruction was vast, as the industry undertook to eradicate the invader through euthanasia of infected, or nearby, colonies – an ultimately unsuccessful measure as the ectoparasite now moves across the county.

Fuller says 160 of their hives were killed because they sat inside an eradication zone. Another 1000 were in a surveillance zone and they were offered a cash payout to destroy them. With pollination contracts to fill, and having already witnessed so many of his bees killed, Fuller decided not to take the cheque.

That was a one-million-dollar mistake.

Continuous working and sampling of the bees left most of those colonies dead or near-dead, even though no varroa mites were found in the process.

"We agreed to keep monitoring for mites, not to move them, to keep feeding sugar as required, whatever we needed to do to keep them alive, because they were pollination hives. They would continually do surveillance on them though, sometimes three times a week, because one hand of the response wasn't talking to the other and they were looking for things to do," he says.

The response has now turned from one of eradication to management and at Bee Services that has meant varroa training for all the staff and selling a lot of equipment – including more than half a million dollars' worth of trucks – to get cashed up.

Moving hives is a regular job for the Bee Services team in NSW, with honey flows and pollination contracts to chase.

"The business plan was to get leaner, so that we have the resources behind us to get through. We planned on having a bad time, which is what you have to do sometimes. You have to be ahead of the game to survive. And it is about survival mode for a lot of beekeepers," Rudder says.

SURVIVAL MODE

Survival mode continues as the calendar turns to 2025, but the challenges faced down between 2019 and 2023 were surely enough to defeat many a person's mind, body or business. Despite them, the business continues and they are welcoming a new generation into the fold.

Some have struggled, including Wayne's brother Steve who suffered a stress-induced stroke amidst the pandemonium of the bush fires. He has recovered and returned to work, but some staff have not. The scene which greeted them on their return to fire ravaged environments have been particularly challenging.

"Steve walked in to a site and said the screams from the animals were eerie. We had one young fella who had been with us for four years who, after seeing what he saw, didn't want to go back. He finished beekeeping," Fuller says.

"Normally the bush is alive, birds squawking, possums fighting, but then it was quiet, except for the screams of animals in distress. I never want to go back to that."

They have not been alone in their setbacks though, and helping other beekeepers motivates them.

"There were beekeepers on suicide watch, but generally the beekeeping community, especially amongst the older guys, is

'Give me a home among the Gum trees'… trees which still bear the scars of bush fire.

very tight. I definitely noticed the amount of phone calls they were making, just to check up on each other," Rudder says of the varroa elimination period.

"There are times where you could just about sit down and cry, but you would keep on going," Fuller admits of his own challenges through the worst of it.

"We like to keep an eye out for other beekeepers as well."

Despite their setbacks, due to the size of their business and the success they have at times had, Fuller says others have been, astonishingly, known to comment on their good luck.

"People keep telling you how lucky you are, but it is not luck. It is 40 years of hard work. I tell people who ask, 'keep working on it'. We have a monthly plan, a six-monthly plan, and so on," he says.

Those plans are made in family business meetings, where conversation is frank and to the point, but can still take a full day, such is the level of detail.

"The kids came back into the business after five bad years and varroa has just hit. We are hopeful though," Rudder says.

"The kids and their partners had high paying jobs and if they didn't see a future in beekeeping they would not have left those jobs," Fuller says, adding "There is definitely hope at the other end."

***A note from Wayne and Janine:** We would like to thank all who made us welcome in New Zealand and at the conference, especially Mary-Ann and Frank Lindsay and other beekeepers. Learning about varroa and how New Zealand was coping were the main reasons for our visit.*

It is worth noting that beekeeper problems are the same wherever we go and detailed record keeping is the key to survival.

Not one to rest for long, Wayne Fuller chats with daughter Min on a site in Walgett, NSW, nine hours from home base, as the black box gum (Eucalyptus largiflorens) flowers.

Expert Honey Tasting Training Served Up

A desire to upskill the next generation of honey experts will see expert honey judge Maureen Conquer offer an "immersive" three-day honey sensory analysis training course in April – and the invite to attend is open to all.

Following on from a successful first foray into a multi-day dive into the analysis of New Zealand honeys in Auckland in April 2024, Conquer has been motivated to offer further education into the "art and skill" of honey sensory analysis.

The course is to once again be held in Auckland, April 2 – 4, where participants' taste buds will be exposed to a wide range of honeys produced in New Zealand.

Expert honey judge Maureen Conquer will lead an immersive three-day honey tasting experience in Auckland in April, and she invites attendees from all corners of the honey industry.

Learn to taste honey like a pro

Places are limited – act now to secure your seat.

3-day Introduction to the Sensory Analysis of Honey

Specifically designed for NZ varietal honey, this 3-day immersive training will introduce you to the art and skill of sensory analysis. The curriculum will be consistent with the time honoured and respected Italian National Register training for Honey Experts and will inspire you to enter the diverse and exciting world of honey appreciation.

Primarily designed for beekeepers, packers, and honey technicians for quality assessment, but also offering invaluable insight for chefs, food writers, nutritionists, or passionate foodies.

- Study the physiology and techniques of sensory analysis.
- Learn to memorise, record, express and share findings.
- Determine honey defects and solutions to mitigate.
- Identify added value products, honey food matches and cooking with honey.
- Plus, taste and record a diverse range of New Zealand honey.

This advanced apicultural education program supports excellence, quality, and innovation in the honey industry. It has been developed in collaboration with the APINZ education committee.

Training will be conducted by Maureen Conquer, APINZ National Honey Competition, Senior Judge and Apimondia NZ Representative.

Wednesday 2 – Friday 4 April, 2025

Central Auckland Location

Course Fees: $1100

Enquiries to
maureen@wildforage.co.nz
021 956 349

While the workshop is primarily designed for beekeepers, packers, and honey technicians for quality assessment, Conquer says it will also offer invaluable insight for chefs, food writers, nutritionists, or passionate foodies.

The 2024 course was the first time such a detailed training programme into honey analysis had been held in New Zealand, where Conquer called on her 13 years of experience as a local and international honey judge, and training in Italy.

"Participants will study the physiology and techniques of sensory analysis," Conquer explains.

"They will learn to memorise, record, express and share their findings. Defects and solutions to mitigate those defects will be covered. Possible added value products, honey food matches and cooking with honey along with lots of opportunities to taste and record a diverse range of New Zealand honey."

Much of that honey will come from her own collection, which not only includes a wide variety of well-known honeys from native plant species such as, mānuka, kanuka, rata, tawari, rewarewa and beech honey dew, but also introduced species such as clover, thyme and vipers bugloss. On top of those, there will be analysis of rarer and harder to collect honeys – lavender, orange blossom and even grape 'honey' – to help round out the training.

"There is a lot more value that can be added to New Zealand honey if we can gain a greater appreciation for it and the subtleties between not just floral varieties, but everything which goes into making each batch of honey unique," Conquer says, adding "other industries have taught us what is possible, but we need the knowledge and skill to tap into that value."

The selection of honey varieties sampled at the honey sensory analysis training course is wide ranging, from both native and introduced floral sources, plus 'horizontal' and 'vertical' tastings.

Enquiries can be made to maureen@wildforage.co.nz / 021 956 349 / Course Fee $1100

A review of the 2024 experience is available here.

Thoughts, feelings or other input you'd like to share?

We'd love to hear it.

Email your
'letter to the editor' to
editor@apiadvocate.co.nz

New Honey Trading Website Launched

Seeing disorder and inefficiency in the process of buying and selling bulk honey in New Zealand, Wairarapa beekeepers Scott Anstis and Louise Hight have taken matters into their own hands. Following four years of work, the recently-launched New Zealand Honey Market – a website where sellers can list honey, and a one stop shop where buyers can more readily find what they need – is now open to listings.

It's not showy, but they hope it will be effective. One look at nzhoneymarket.com tells you a lot about what those behind it hope to achieve – it's straight down to business.

The home page features the NZ Honey Market logo and site menu at top, then it is straight into the honey listings.

"We didn't want it flowery," Anstis says.

"No flash pictures, just tidy and unemotional. Business should be unemotional, so we wanted an NZX kind of look – straight to the point of what is going on."

Despite not being promoted up until this point, there is already nearing 150 listings for batches of honey – the vast majority monofloral mānuka.

The need for a well-organised honey trading platform was first discussed by Anstis and Hight in 2020 and the couple, who own 800 hive Wairarapa business Royal Mānuka, have been beavering away to get the site up and running ever since.

"We saw the New Zealand method of selling honey was unique, in that there was no market place. I thought this was because it was a young industry and it hadn't developed an open market which you see in most other industries. It looked like a dog's breakfast, the way people were selling honey all over the place, and it hasn't really changed much," Anstis says.

"We decided it needed a selling platform, somewhere where sellers could sell honey and buyers could buy, and they could come together in one place."

Wairarapa beekeeper Scott Anstis has 14 years' experience in the honey industry and says it is time trading in honey became more organised, so he has launched a business to do it.

Honey sellers can list their honey for free on the website, where buyers can visit, filter honey listings by a wide range of attributes – storage region; variety; DHA; MGO; NPA; HMF; etc. – and make offers to buy. Once two parties come to an agreement, NZ Honey Market buys the honey from the seller before reselling to the purchaser at the agreed price, plus their commission – $1/kg or 3% of purchase price, whichever is higher.

Louise Hight carries out much of the logistical work behind the honey trading at the recently-launched nzhoneymarket.com

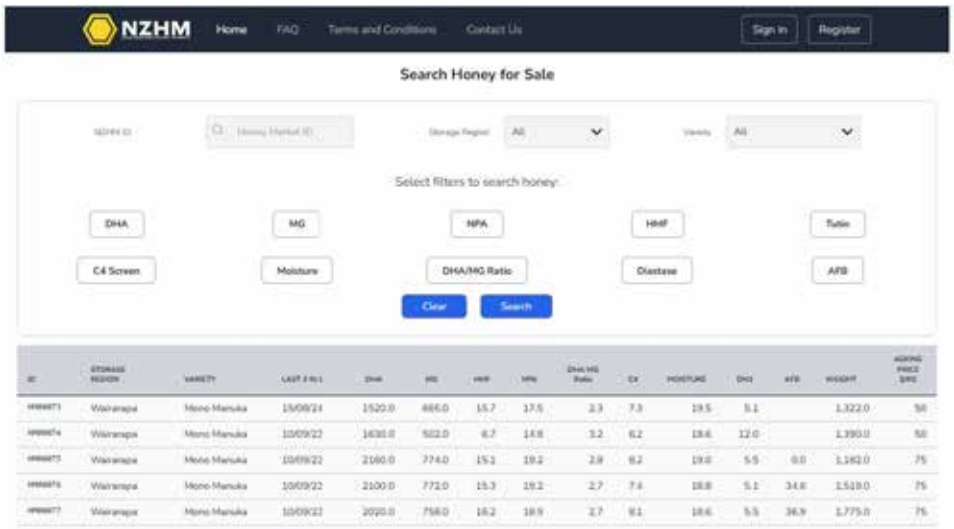
"What we are charging for our services is all out in the open, and we are not trading in the honey ourselves. That is against what we are hoping to achieve," Hight says.

A key part of the service is many of the logistics of the trade will be organised by NZ Honey Market – think sourcing complete test results and organising transport of the honey.

"As a beekeeper, I think the question is, it is free to list, so why wouldn't you?" Anstis asks rhetorically, while Hight sees it from the buyers' perspective.

"Buyers can come to a place where they can pretty much find anything they want. We have established the site with enough search criteria that will make it easy for them to find what they need. They don't have to call 30 beekeepers to find it," she says.

While there is potential to automate more of the trading in future, as it stands the couple keep a close eye on any new people registering, offers made, and deals done – giving traders



The nzhoneymarket.com homepage is all business, just how its developers want it and just what they believe honey buyers and sellers need.

confidence things will go smoothly and there is a human behind all the dealings.

It's very early days for the trading platform and they are realistic there will be some teething issues, but they are both contactable by phone and email, listed on the site, so improvements will be made swiftly.

Both buyers and sellers can register to join on the site and once they have done so they can shop for or list honey as they require. Anstis says it will necessitate "a bit of a mind change" from beekeepers to list on the site, but believes it will allow them to put their produce in front of more potential buyers.

For it to work for them, as hosts of the platform and middle-men themselves in the trade, access to appropriate lab tests results for honey being bought and sold is imperative, Anstis stresses.

"With that in mind, it would be a big help if beekeepers allowed us to take their results straight from the labs. If they get in contact with us, we can explain why that is, and what they need to include in their sample submission form which will allow us to access that data."

If the platform progresses as they have planned, it will create efficiencies in the market place which are much needed, they say.

"Ultimately we hope the buyer will be paying less and the beekeeper getting more," Hight explains.

"We have tracked honey in the past which has gone through seven middle men before it has been potted. We hope, with NZ Honey Market, the beekeeper gets more money and the wholesaler or packer is buying it without so many middle men in between," she says, adding "It should be a win-win for everyone".

Ken Brown's "Ministry of Bees"

During a 20-year "OE" in the UK, restauranteur Ken Brown discovered a love for local seasonal food – including honey. Now back home in New Zealand, he finds himself well immersed in the world of honey and beekeeping, and taking great pleasure in introducing others to it too. Chris Northcott spoke to this Auckland-region beekeeper about his roles as an educator, club president, and assistant chocolatier.

BY CHRIS NORTHCOTT

CHEF-TURNED-BEEKEEPER

Brown's fascination with bees began during his 20-year "OE" while he worked as a restauranteur in West Sussex, UK. Aiming to deliver a dining experience with a seasonal flair, he got into foraging locally sourced supplies for the larder, including game, seafood, mushrooms, and … honey. Keeping honeybees for himself was not possible at the time, but upon returning to New Zealand seven years ago he found opportunity to dive right in.

Beekeeper of 28 hives, president of the Auckland Beekeepers Club, beekeeping tutor, and assistant chocolatier – it is fair to say Ken Brown has his hands full thanks to the humble honey bee.

Brown considers himself a hobbyist beekeeper, but with 28 hives technically comes under the "semi-commercial" category. Based in Waimauku, just north-west of West Auckland, his hives are on a range of sites in the area – a golf course, a berry farm, and a macadamia orchard, to name a few. He produces some honey from these hives, most of which is gifted to friends and family, and has recently been trying out the heart-shaped honeycomb kits sold by Beequip Beekeeping Supplies.

Most of the hives are used for teaching though, and education is Brown's other great passion. In addition to his 2000+ books on food from his cheffing career, his personal library includes 227 (to be precise) and counting on beekeeping related topics. Evidently very active minded, Brown loves to share what he learns. One outlet for this is his writing – regularly contributing articles and book reviews to local magazines, Auckland Beekeepers Club publications, the *New Zealand Beekeeper* journal as well as his own "Ministry of Bees" ***Substack*** page. He also teaches with Land Based Training Ltd, and uses many of his hives for the hands-on experience that student apiarists need for their training.

MR PRESIDENT

After a year of "training" as the vice-president, Ken Brown is now in his second year as president of the Auckland Beekeepers Club. Like many clubs, it has suffered a drop in members since the Covid era. Brown notes that some people come for a while to learn what they need about beekeeping, but then stop once they have acquired the basics. Rebuilding membership is one focus at present.

To help attract and retain members, Brown is aiming to engage intermediate and advanced level beekeepers by organising regular seminars on interesting beekeeping topics that go beyond the basics. Every fourth Wednesday evening of each month, different speakers present on topics such as an AFB recognition refresher course hosted by Kim Kniejber and a forthcoming seminar on honey tasting by Ken Brown, sharing what he learned from Maureen Conquer's workshop in March (read about it ***here***).

For Brown, the best part of the role is the opportunity to engage with enthusiastic new beekeepers who are keen to learn. During club "field days", when club hives are opened, he loves the time for discussion. Brown also notes the great committee he serves alongside, where everyone has different specialisations and is willing to put those to good use for the club.

One highlight came after hosting beekeeping maestro John Berry during a visit to Auckland's club. As a thank you gift, alongside a frame of his own honey, Berry passed on a handmade heavy-duty hive tool, crafted from the leaf spring of a Morris Minor classic car!

ARTISAN CHOCOLATIER … "ASSISTANT"

Although Christmas has passed, it is never too late to delve into the Browns' honey chocolates. Brown's wife Sandra is a chocolatier – a professional creative chocolate maker (her hubby assists by providing the honey and the taste-testing services!). Ken and Sandra met through shared food interests in his role as a restaurateur in the UK, and married before returning to his homeland and Auckland. Their chocolates are made from imported "raw" ingredients of cocoa solids and cocoa butter, rather than simply melting down pre-made chocolate from the supermarket. Due to some steep price increases in the past year (four-fold!) due to droughts in West Africa and investor

speculations, they are looking at acquiring from emerging new supply markets in Samoa and Papua New Guinea.

Sandra crafts a range of boutique chocolate products – including hand painted edible chocolate dragons! (The dragons are definitely worth at least a look on their website: thechocolateroom.nz). For beekeepers, the most interesting are the "honey chocolates." These are made in moulds shaped as faced domes with a bee on top. Inside there is a filling of liquid Waimauku multifloral honey from their home hives. Sandra and Ken had to run a lot of trials to get the recipe right (resulting in plenty of gifted chocolate concoctions for friends).

Initially they had worked with a chocolate ganache, but found that this had only a short shelf-life and tended to absorb the honey into it and subsequently leak the honey inside the packaging. After further experimentation they perfected the recipe: keeping the honey both liquid and inside!

Two other chocolate products involve honey. One is the "honey chocolate" which is made with honey in place of sugar, while the other is "crunchy Manuka bar" made with dried honey pieces. These are decorated with a hexagonal pattern on the top, together with several chocolate bees.

Trading as "The Chocolate Room", Ken and Sandra sell at local farmers' markets and through an online store. Two years into the venture, business is growing and they are now looking at the possibility of exporting. Ken explains that adding value to their chocolate products, building a good customer base, identifying niche markets, and not over-extending, are key considerations as they develop their business.

HARD, HOT, BUT "COOL" WORK

As a beekeeper, Ken Brown loves to learn and to educate, and is enthusiastic about the work. His professional restauranteur days may be behind him, but he sees the work of a beekeeper being akin to that of a chef: the work is hot, often painful, with low pay, hard working conditions and long hours.

Then he adds one last similarity, "but people think you're really cool for what you do".

Auckland beekeeper Ken Brown supplies the honey and a helping hand, and wife Sandra the expertise as a chocolatier in their boutique business 'The Chocolate Room', in which honey plays a key role as an ingredient in a range of delicately crafted chocolates.

John Berry on Drought

Hawke's Bay is, for the first time in several years, experiencing a very dry, late-spring-early-summer and this has prompted me to write about drought and how it affects beehives.

(**Editor's note** – since submitting this story, John has reported rain through the holiday period, easing drought concerns in his area – for now).

Drought can be soul destroying for both farmers and beekeepers and droughts can be a fairly common occurrence here on the East Coast. As far as beekeeping goes, the bad ones are pretty bad, but the really cold wet miserable summers tend to be worse and at least you're not getting stuck all the time in a drought.

One year there was mud over the top of your gumboots until the end of October and then it didn't rain again for six months, not anywhere in the Bay, even in the normally summer safe country. Every day was perfect with no wind and the bees did a moderate crop as it dried off.

Probably the biggest effect from that season was the number of really weak hives the following spring. These hives went into winter with really high bee numbers, but the reality was that they were mostly old bees that had no work to do over the late summer, and with no autumn flow, there were very few autumn bees (you know the ones that survive winter). If natural stimulation is not available in autumn, then it is a really good idea to feed some sugar, whether they need it for stores or not, so that you have a cohort of young bees to survive the winter.

THE POSITIVES

Some parts of Hawke's Bay are just too dry on average to provide a good honey crop. Dry to the point where everything is dead, is obviously not a good thing, but just a bit dry can be surprisingly good. Clover in particular yields best when it is a bit on the dry side and, providing you're not overstocked, hives can often find damper gullies and South faces to work. One year I remember particularly was a bit like this and farmers in the dry country had largely destocked when a few showers started occurring, just enough to keep the clover alive. With no lambs hoovering up all the flowers, those areas did a huge honey crop.

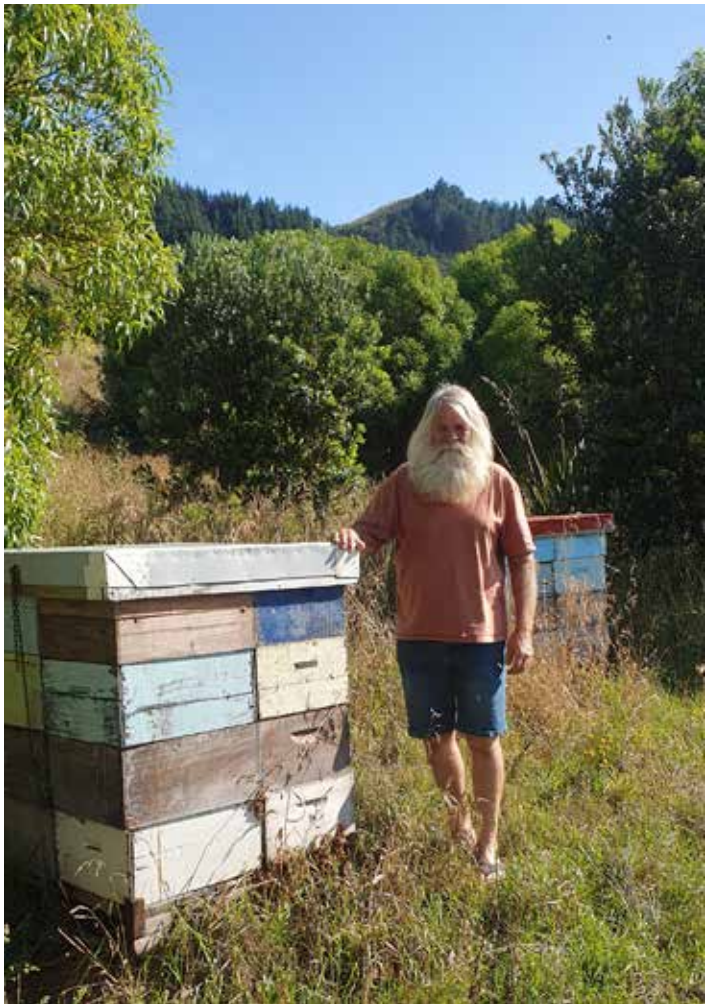
It also needs to be a bit on the dry side around here to get a good autumn honey crop. It's a long time since we had a really good autumn honey flow but they can happen and nothing kills an autumn flow faster than rain. Drought stressed plants concentrate on reproduction rather than vegetative growth.

A MOVE MAY NOT BE THE ANSWER

It can be very tempting to shift hives away from drought and I have no doubt there are some areas where this would be worthwhile, but round here really severe drought is usually accompanied by continual rain just on the other side of the mountains. And, if hives are going to starve over the summer, it's a lot easier to feed them in the dry. A dry start to the season can very quickly turn into a wet finish and a wet finish is when dry country can shine.

A SUBJECTIVE TERM

Drought is of course a somewhat subjective term. A few years ago I was visiting a beekeeper friend in Shropshire and he was complaining about drought. His hives were pouring the honey in and, when I tasted it, it was clover. He had never had clover before and went on to get another box per hive.



John Berry – hoping not to be mistaken for a summer Santa Claus! – in the Hawke's Bay in December where drought is never far from the minds of farmers, even when a little bit of green grass remains.

Similarly, when I lived in the Waikato many years ago the farmers would be crying drought and yet everything was still green. Round here drought is when the hills are all golden brown and bad drought is when all that golden grass is eaten and the hills turn grey.

Talking to beekeeping friends, there are quite a few areas around here that are still reasonably green and there have been a lot of showers about lately (all of which have missed me). Personally, I am an optimist… which I think you need to be to keep bees. I think most of Hawke's Bay could be in for a really good season, but only time will tell.

BE ON YOUR TOES

If you do get a drought then you still need to keep an eye on things. I have many times seen areas that I thought would do nothing, fill up because a thunderstorm went through the area or some unknown weed in the riverbed decided to yield nectar.

If you do autumn requeening you may need to bring your start date forward. Around here I normally start on 15 February and do the colder mountain areas first, but in severe drought I might start three weeks earlier and in the driest parts. It doesn't matter how good the weather is, if all the drones have been kicked out you will not get any mating.

Drought can take away your whole year's income, but in the past it often did some long-term good. When I was young there were subsidies on sheep farming which meant most farms were very heavily stocked and all the clover flowers got eaten. When the subsidies came off, fertiliser use declined dramatically, but stock numbers stayed up and there was even less clover. I think another couple of years like that would have driven us under, but we had a very severe drought and farmers were forced to rationalise their sheep numbers. The next few years were amazing and, before they brought in the weevil that destroyed the nodding thistle seeds, droughts were often followed the next year by huge autumn thistle honey crops.

Since I started writing this we have had a week of rain. Around here it's been cold and miserable, but we have only had 17mm. Not enough to make any real difference, but I do live in one of the driest parts and in a lot of the Bay clover flowers will be popping up like little miracles.

LAST THOUGHTS…

Be extra vigilant with fire safety, especially your smoker. I carry an extinguisher and a bucket with wet sacks inside. In extreme conditions I just don't use a smoker.

Go away for a summer holiday. I really enjoyed the only one I ever had (except for the continuous rain).

Don't worry, be happy. There is nothing you can do about the weather and at least it's not raining.

John Berry is a retired commercial beekeeper from the Hawke's Bay, having obtained his first hive in 1966, before working for family business Arataki Honey and then as owner of Berry Bees. He now keeps "20-something" hives.

Probiotics – a Gut Feeling

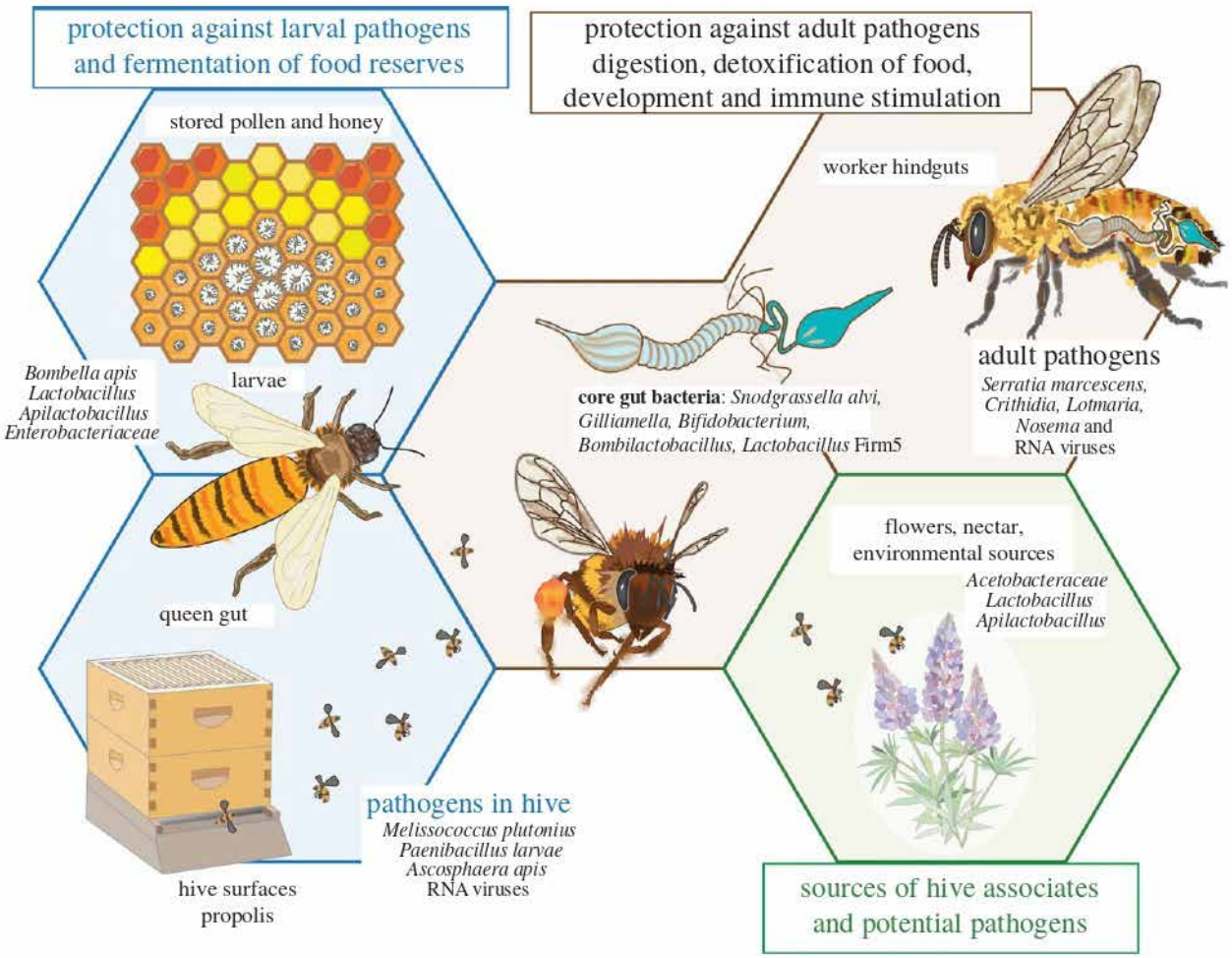
BY DAVE BLACK

With nothing better to do one morning than read the list of ingredients on my morning 'yoghurt' pot (which, incidentally, apparently didn't contain any micro-organisms at all – eh!), not for the first time I started wondering about probiotics in apiculture. Not about whether they existed, but about whether they did any good. After all, the UN's World Health Organization and Food and Agriculture Organizations define probiotics as; *"Live microorganisms which, when consumed in adequate amounts as part of food, confer a health benefit on the host."*[1] It seems to me if they don't provide (confer) any health benefit you're not entitled to call them 'probiotic', so what evidence of benefit to bees is there?

THE MICROBIOTA

We really know very little about honey bee gut micro-organisms. The most recent review on the subject by a leader in the field, Nancy Moran (with Erik Motta)[2] was published at the beginning of the year. Accurate identification of the microbes in the honeybee gut has only been possible in the last ten years or so, yeasts and bacteria are so ubiquitous it's tricky to work out what should be there from what is actually there. We can be pretty sure then the microbiome (the collection of 'tiny things' that live in the gut) is quite specific to bee species, but develops or changes with age and caste.

Broadly speaking, a few microbes and the bees they live with have evolved together for 80 million years, and these microbes don't really live anywhere else. They inhabit particular regions of the bee's digestive tract (mainly the hind-gut) and not others, and provide specific abilities within the community they inhabit. Strains of *Lactobacillus* or *Gilliamella* bacteria found in honeybees for example, are not the same as those found elsewhere or even in other kinds of bees.



Microorganisms associated with honeybees and their hives. Distinct microbial communities occupy different niches, including a distinct community in hindguts of adult worker bees and a set of microbes exchanged between hive surfaces, food reserves, larval guts, queen guts and worker foreguts. These communities have been shown to confer benefits for bees and hives, but they also include pathogens of larvae and/or adults. Some of these microbes are acquired from or exchanged at environmental sources including nectar and plant surfaces. Source: https://doi.org/10.1098/rstb.2021.0156

For the host bee the gut microbiota, individually and collectively, provides a degree of protection from opportunistic bacteria, fungi, viruses, and other small organisms using a variety of methods, many of which we don't fully understand. They can secrete antimicrobial chemicals, out-compete the invaders for space or nutrients, form physical barriers, and function to maintain the activity of the host bee's own immune defences. The bee microbiome's role in nutrition also affects its host's development and behaviour, changing the levels of available oxygen, acidity, and fatty acids, detoxifying harmful substances, and partly metabolizing some proteins and hormones. Honeybees and the microbiome they evolved with are interdependent, and inseparable.

When a bee emerges from its natal cell it arrives with no microbiome[3]. Although it's been fed as a larva the mid-gut is closed, only joining with the hind gut just before pupation when anything retained up to that point is then excreted into the cell. During metamorphosis the gut lining is shed, so every new bee acquires its microbiome in the days before it first leaves the hive environment, from a reservoir held in or on wax surfaces, pollen cells, and propolis[4]. Trophallaxis (the exchange of food between bees) is not particularly significant because the microbiome lives in the hind-gut, not the fore-gut, but particular bacteria are probably transmitted by a faecal-oral route too.

In the first few days the colonisation by environmental bacteria appears to be chaotic, but within a week this settles into a stable, organised, and characteristic community of the microbes best suited to each other and the environmental niches they come to inhabit.

DEMANDING A CURE

Whether we see bees as managed agricultural labour or natural pollinators, there are plenty of environmental challenges that can disrupt this cozy bee-germ relationship and threaten healthy bees. There are always stresses, parasites, or diseases of various kinds for bees to cope with, and these days an array of agricultural chemicals and pollutants too, so there is every reason to look for ways to try and ensure we maintain or repair this dependency. Inspired by a lucrative industry promoting our own health, it's not surprising that we might see probiotic formulations as a cure-all for honeybees too.

Many studies have suggested that exposing bees to chemicals for one reason or another disrupted their microbiome and weakened their normal immune response. Implicated in that negative effect have been antibiotics used elsewhere for foul brood control, medicines used for varroa control, and insecticides, herbicides like glyphosate[5], fungicides, and their adjuvants.

At the moment the prospect of mitigating the harm using probiotics is distant. We have seen that the honeybee's microbiome is highly specific (ours is individually unique!), inoculated in an exceptional way, for a particular group of young bees, and, in truth, that we should be talking about the *colony's* microbiome.

CAVEAT EMPTOR

Whatever the branding, as far as I can tell the products on the market currently originate from three manufacturers. One, EM (as in Effective Microorganisms) originated in Japan, but mainly supplies the US and Latin America. It produces a lot of dubious, low quality science papers, but no actual information on what the product contains. In 2016 there were 59 'localised' versions of the product in 120 countries and I'm not convinced even they know

what is contained; Effective Microorganisms is more a process than product. In my own opinion the company is little more than a pseudoscientific, if well-meaning, cult. It's not a good sign when even the founder (Teruo Higa) admits beneficial effects are an article of faith, there are no meaningful tests, and results can be variable or absent[6].

SCD Probiotics (Sustainable Community Development) LLC was formed by Matthew Wood in Missouri. He completed a Master's degree in probiotics research at the university EM's founder teaches in, the University of Ryukyus, Okinawa, in Japan. SCD supplies microbiological 'consortia' (cocktails) of 'starter' or 'mother' cultures to other suppliers (Slide Ridge's Fat Bee Products, Pro-Biotyk, etc.) as well as its own brands, and has a US patent on its products which is quite a read[7]. The patent 'protects' (conceals) the actual ingredient list.

Strong Microbials in Milwaukee, Wisconsin (think milk and beer) appears the most credible manufacturer to judge by that most scientific of measures... its web site. Its products have also been used in some recent peer-reviewed studies, so that's a good start. It supplies a product called SuperDFM (Direct-Fed Microbials), which, to its credit, declares its ingredients and you can even download the Materials Safety Datasheet!

The origins of another brand I've heard of, Durvet, are unclear and is now only available for poultry.

THE INQUISITION

I have six studies in my library that examine whether some benefit is likely from using currently available probiotics, most, if not all (because some don't say) looking specifically at versions of Strong Microbial's offering[8, 9, 10, 11, 12, 13]. The most recent (published this year) describes work done with Randy Oliver's bees[14] that started in 2021 and echoes the conclusion of all the others.

Those conclusions being that, whether applied prophylactically or therapeutically the non-native microbial communities now available, largely derived from human or animal probiotic preparations and 'Generally Regarded As Safe' (GRAS – to humans), do not survive or propagate in the honeybee gut. Neither do they survive in the colony microbiome which, by design, tries to keep foreign organisms out. So far, even trials using preparations of honeybee-specific strains of bacteria, successful in petri-dishes, have not translated into successes in real colonies in the field. No real-world efficacy could be demonstrated. I think we have a lot more to learn about the honeybee microbiome before we might reasonably call them 'probiotic'.

The studies remain surprisingly optimistic that something could be made that 'works' but *"the current market-available products for beekeepers are making claims that far outreach the ability of their products"*[15] . It's obvious there is a demand for these products, and the easiest, cheapest way to supply that is with constituents that have some prior regulatory approval, and when the infrastructure for producing them at scale already exists. I wonder if anyone could ever really afford to supply bespoke, properly tested probiotic preparations to the size of market honeybees might create, and if a thorough knowledge of the honeybee microbiome might be more cost-effectively directed at not messing it up in the first place.

Snake-oil.

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References

1. Probiotics in food: health and nutritional properties and guidelines for evaluation; Food and Nutrition Paper 85, Food and Agriculture Organization of the United Nations [2006], Rome. ISBN 92-5-105513-0.
2. Motta, E.V.S., Moran, N.A., 2024. The honeybee microbiota and its impact on health and disease. Nat Rev Microbiol 22, 122–137. https://doi.org/10.1038/s41579-023-00990-3
3. Kwong, W.K., Moran, N.A., 2016. Gut microbial communities of social bees. Nat Rev Microbiol 14, 374–384. https://doi.org/10.1038/nrmicro.2016.43
4. Powell, J.E., Martinson, V.G., Urban-Mead, K., Moran, N.A., 2014. Routes of Acquisition of the Gut Microbiota of the Honey Bee Apis mellifera. Appl Environ Microbiol 80, 7378–7387. https://doi.org/10.1128/AEM.01861-14
5. Motta, E.V.S., Raymann, K., Moran, N.A., 2018. Glyphosate perturbs the gut microbiota of honey bees. Proc Natl Acad Sci USA 115, 10305–10310. https://doi.org/10.1073/pnas.1803880115
6. Higa, T.,and Parr, J.F., 1994. Effective Microorganisms. Bokashicenter.com.
7. https://patentimages.storage.googleapis.com/02/4c/49/6858ea8d47afb7/US9096836.pdf
8. Powell, J.E., Martinson, V.G., Urban-Mead, K., Moran, N.A., 2014. Routes of Acquisition of the Gut Microbiota of the Honey Bee Apis mellifera. Appl Environ Microbiol 80, 7378–7387. https://doi.org/10.1128/AEM.01861-14
9. Damico, M.E., Beasley, B., Greenstein, D., Raymann, K., 2023. Testing the effectiveness of a commercially sold probiotic on restoring the gut microbiota of honey bees: a field study.
10. Daisley, B.A., Pitek, A.P., Chmiel, J.A., Al, K.F., Chernyshova, A.M., Faragalla, K.M., Burton, J.P., Thompson, G.J., Reid, G., 2020. Novel probiotic approach to counter Paenibacillus larvae infection in honey bees. ISME J 14, 476–491. https://doi.org/10.1038/s41396-019-0541-6
11. Chmiel, J.A., Pitek, A.P., Burton, J.P., Thompson, G.J., Reid, G., 2021. Meta-analysis on the effect of bacterial interventions on honey bee productivity and the treatment of infection. Apidologie 52, 960–972. https://doi.org/10.1007/s13592-021-00879-1
12. Motta, E.V.S., Powell, J.E., Leonard, S.P., Moran, N.A., 2022. Prospects for probiotics in social bees. Phil. Trans. R. Soc. B 377, 20210156. https://doi.org/10.1098/rstb.2021.0156
13. Stephan, J.G., Lamei, S., Pettis, J.S., Riesbeck, K., De Miranda, J.R., Forsgren, E., 2019. Honeybee-Specific Lactic Acid Bacterium Supplements Have No Effect on American Foulbrood-Infected Honeybee Colonies. Appl Environ Microbiol 85, e00606-19. https://doi.org/10.1128/AEM.00606-19
14. A Field Trial of Probiotics, Randy Oliver, Grass Valley, California. https://scientificbeekeeping.com/8601-2/
15. Damico *et al*, Ibid.

Full Circle

A year on from day-one in the family beekeeping business in Bay of Plenty, Aimz reflects on having gone full circle as a full-time beekeeper for the first time.

If you asked my girls how life was right now, they'd tell you it was pretty sweet.

The honey season.

Right back where I started my beekeeping intro – the year has flown by.

Welcome to the New Year. The bee jobs are caught up on for the mean-time and I have enjoyed a well needed break, with a few days off over the silly season.

Christmas came early with a cracker pre-season honey crop. Having so much brood and hives around, our usual pollination racket has seen us up to our armpits in the sticky stuff. Our target harvest is yet to begin, but I have done hard time in the extracting room, barred from the outdoors by thousands of frames of honey.

It's a toss-up between that, or bee-ing in a bee-suit. Beaten by the sun and drowning in sweat. I think my favourite beekeeping season may be winter. Crisp mornings and handfuls of bees, not crispy skin and sky-scraping towers of bees. Cruisy feed runs a distant memory as we plough into summer.

Saturated with smoke and stings, this time around I have climbed the ladder from honey box runner and stacker to (almost) chief disease inspector as the honey is being taken off.

Earlier in the year I attended and passed an AFB recognition course. At about this time we were fortunate enough to find a clinical case on one of our sites (incidentally, it was the same hive that had been tampered with by thieves some months back). I say fortunate, as our company had not had AFB detected in the last five years or so, and real-life training goes deep.

Show me the honey, mummy – Aimz's kids are enjoying the sweet rewards of honey season.

100 honey supers on their way from the field to the extraction shed in Bay of Plenty.

After destroying the first AFB hive, we found it also present in the next-door hive, so another fire ensued. It was pretty exciting to me, going through the site as foulbrood detectives and a couple of weeks down the track I was able to identify on the site, two more diseased hives from single-cell infections on frames full of brood.

Right from the beginning, my dad was cool as a cucumber. AFB does not faze him. As he told me, "We've had it before - we manage it and move on". The disease is an almost unavoidable part of the industry. By keeping good hive hygiene and swiftly imposing seek and destroy orders, AFB is controllable for most beekeepers. Using every opportunity when in a hive to quickly inspect brood is a definite shortcut in the identification and management of American Foulbrood before it spreads too far.

Fast forward months down the track and this site is to all appearances AFB-free, although honey testing will tell, rather soon, whether it has all been picked up in the preliminary stages. Instant AFB test kits have been a new addition we tried this year, a helpful tool if you can't visually, positively identify a suspect cell. Positive AFB results appeared in the window within a minute or two. Very reminiscent of pregnancy tests – a line is a line, it doesn't matter how faint.

As timelines progress, and as needed, we are looking toward the Foster Method, a qPCR test capable of detecting AFB before symptoms become visible, or in a hive with no brood. There is beauty in a composite swab test that can give an indication of an apiary site's AFB load without even cracking a lid.

Clever idea. Another of those we intend to try this year is the oxalic acid vaporizer for varroa control. A quick blast in the front of the hive sounds too easy. Alternating 'OA' with our existing

organic and chemical mite applications will help to resist resistance in the mighty mite fight.

Something different we started trialling earlier in the year is Micromed probiotic spray, as an alternative treatment for chalkbrood, and general colony health. Specifically targeting chalkbrood affected hives, initial results seem promising. Treated hives became strong and healthy, and with the colony increase they kicked out the chalkbrood as is (usually) to be expected going into the warmer months. Because the honey boxes are stacking, we are no longer going through the brood nests routinely, but hive trials will recommence when the cooler weather comes, along with other winter stressors that allow the fungal spores to proliferate within the gut of the bees.

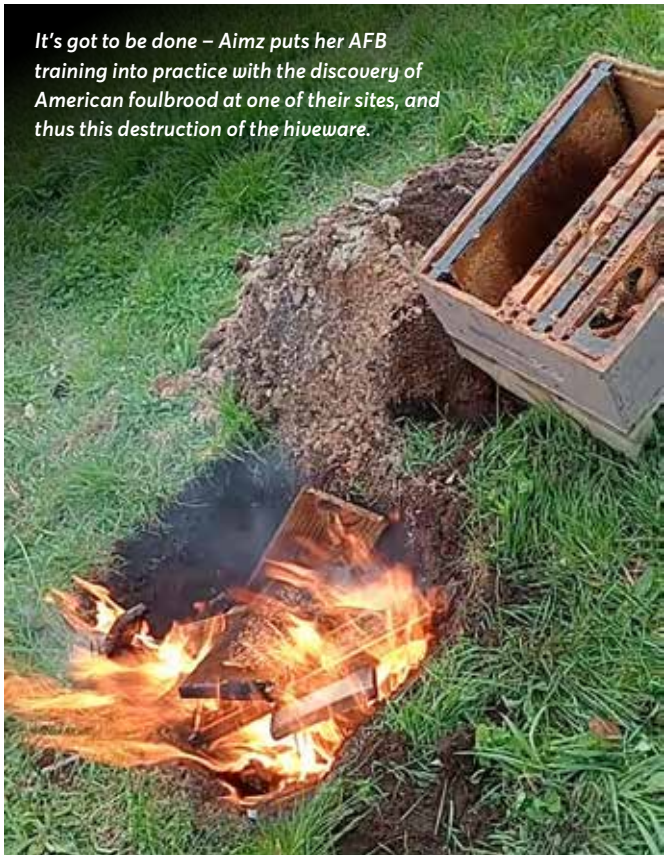
Winter – a world away. For now the relentless hours and physical labour has been keeping me out of trouble. Some mornings I recall that line from Men-in-Black, about the 'last suit you'll ever wear' except I had to change clothes, or I wouldn't have been allowed into the RSA for our work break-up.

My family seams are pulling together, and I have been working some days alongside my brothers, good men and excellent beekeepers, who, after some soul searching, have come to realise we are bound by blood and honey, and life is what you make it.

So, let's make a go of it in 2025. Let's take a lesson from the bees and stick together, like a hive gummed up with propolis. Directed energy into something greater than ourselves is a means to grow and I am up for the challenge.

Wishing you all prosperity and good health,

Aimz



It's got to be done – Aimz puts her AFB training into practice with the discovery of American foulbrood at one of their sites, and thus this destruction of the hiveware.

NZ's Doom Loop – Does Anyone Care Enough to Change?

BY IAN FLETCHER

I've written several times about productivity, which I (as many others) see as the central challenge facing the New Zealand economy – too little output per worker, or per dollar of invested capital. The situation seems to be slowly worsening, and we're not dealing with it very well. This matters.

The current situation: the economy is in a recession. The government says (and surely hopes) this is a cyclical downturn, and that things will just get better (before the next election, the government's earnest but unspoken hope).

Others (including me, and the OECD) disagree, saying the recession exposes underlying structural issues within the New Zealand economy. The OECD (Organisation for Economic Co-operation and Development) is a developed country club that develops and offers generally sensible policy advice. For New Zealand, the OECD points to high household debt, an overheated housing market, and overdependence on tourism and agriculture, border delays (an issue I hadn't spotted) and the risk of declining house prices (actually good for labour mobility). They recommend raising the superannuation age (obvious – it should be means tested too), easing building restrictions (good), and reducing government spending to address these structural challenges (irrelevant, except that wasteful spending is never right).

There's more to it than that: low wages, very low savings, a loss of skills to Australia (which will worsen as the gap between the two economies widens and as Australia follows its now explicit 'hire Kiwis' policy). And – maybe worst of all – we have politicians across all parties who confuse profitability with productivity. Low taxes increase profits, but give companies neither the incentive nor the means to get better. Higher taxes alone would transfer money around, but not necessarily change the system. I've written before on all this. Why again, and what might it mean?

We are stuck in a doom loop: low productivity means we pay low wages, which limits savings and taxes. That makes it hard to invest in the infrastructure to lift productivity (both physical, like better transport, and institutional, like better schools with well-paid staff). Meanwhile, the population ages, healthcare costs rise, skilled people leave, and migration is slowing, ending the economic sugar high we've survived on for a long time.

More taxes would help, but only as part of a revamped savings and investment system, and higher wages. Imagine being able to feasibly buy a decent house and save for a decent pension when you retire, at the same time. That should be the goal, as well as decent schools, hospitals, police and all the rest. We need a bit of ambition. Sliding into genteel poverty (our current track) is romantic, but it's still poverty. And poverty sucks.

We also have institutional sclerosis – as well as cutting the public service in silly, show-off ways, the government is re-hiring former CEs of departments. This is only a symptom, but a telling one. They appear to lack the energy, or willingness to engage in original thought, or to challenge the tired focus on balancing the books that dominates what now passes for debate. More junior public servants are just keeping their heads down, I'm told, and not seeking promotion. Again, another symptom of a very tired outlook. The bottom line: we can't cut our way to growth nor just tax ourselves to a better future; we need a strategy for investment and institutional renewal that actually changes the system.

My holiday reading has included delving into the last days of the Austro-Hungarian Empire (yes, it's been raining here). The frightening insight is that the New Zealand political and administrative class looks very similar in age, outlook, attitude and lack of imagination to that unhappy state. Comparing our current PM to the late Emperor Franz-Josef is insightful, but not comforting.

In the past, governments have tried to break free by big borrowing to invest in schemes – like Muldoon's 1970s "Think Big" policies. The original attempt was the Vogel Plan in 1870. Vogel (a journalist who started the Otago Daily Times) was Premier, and his idea was to borrow big abroad to build railways, to 'open up the country'. It fell apart for other reasons (worth studying too, but not for this column). Big-bang, win-the-lottery type policies are not the systemic change we need. There is no quick fix.

Care to join me mate? New Zealand is on a steady decline and appears destined to become a seventh state of Australia, warns Ian Fletcher.

The government of New Zealand, led by Prime Minister Chris Luxon, centre, and dual deputies David Seymour, left, and Winston Peters, lacks original thought on how to overcome the country's productivity problem, says Ian Fletcher.

People (including senior folk in Wellington) tell me they share this analysis. They expect things will continue to steadily decline until a crisis that makes the current system obviously untenable. Most of them see eventual Federation with Australia as the best outcome. I agree with that, but I'd rather join Australia on reasonable terms than as a bankrupt failure.

You may say that'll never happen. To which I say: Newfoundland. Newfoundland was once a self-governing Dominion adjacent to Canada. Newfoundland is now a Canadian province. New Zealand is not doomed to survive.

To some extent, all this is obvious. My real fear is the extent to which we are all wilfully, cooperatively blind to these issues. Partly that is because our system of government is overly centralised, so there is no established and politically legitimate source of other ideas or proper criticism. Local government is financially hobbled, and lacks the resources to tackle bigger issues (with the notable exception of the Auckland Mayor). The media is in a Darwinian struggle for survival based on lowest-common-denominator rubbish content. Universities lack resources, the mandate and the courage to really challenge the status quo.

And we all have the private option of quietly slipping away to Australia. No one actually has to stay, so no one really has to care enough or be desperate enough to act to make things better. That's a tragedy. It may also be destiny.

Ian Fletcher is a former head of New Zealand's security agency, the GCSB, chief executive of the UK Patents Office, free trade negotiator with the European Commission and biosecurity expert for the Queensland government. These days he is a commercial flower grower in the Wairarapa and consultant to the apiculture industry with NZ Beekeeping Inc.

How Many Can You Name? – The Answer Sheet...

Readers of our December content will be aware that we ran the below photo – as supplied by Hawke's Bay beekeeper John Berry – with the challenge to see who of our readers could name the most subjects in the photo. Now the results are in...

The photo was taken during a week-long Queen Bee Production training course hosted by the Ministry of Agriculture and Fisheries at their Flock House Farm Training Institute in the Manawatu, January 1976. A cropped version of the photo appeared in the June 1976 New Zealand Beekeeper magazine (thanks to Nick Wallingford – front of shot – for providing me a link to that magazine) and thanks to this, we can reveal the full caption as:

From left to right: Paul Ashcroft (Havelock North), Tony Taiaroa (Leeston), Guy Dobson (Dargaville), Stewart Booth (Drummond), Foster Ikimau (Nuie Island), Nick Wallingford (Leeston), Tony Wilton (Waihi), Peter Pegram (Frasertown), Peter Viner (Himatangi), Phillip Cropp (Motupiko), Grahame Walton (M.A.F. Palmerston North), John Berry (Havelock North), Theras Broadley (Paeroa), Charles Gauthern (Dargaville), Murray Reid (M.A.E. Christchurch), Trevor Bryant (M.A.F. Gore), Alistair Little (Kaitaia), and Peter Kemble (Fairview).

So, who had the keenest eye and best memory of our readership? – Roger Bray of Mid Canterbury. Roger successfully named nine of the 18 subjects, and could supply some info – but not names – of others. Not bad after 48 years and he wasn't even on the training course! A prize is on its way to Canterbury for Roger.

An honourable mention goes to Keith Pegram of Te Kapu Apiaries in Hawke's Bay, who successfully identified five of the beekeepers, including – most importantly – his father Peter Pegram.

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