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Apiarist's Advocate

News, Views & Promotions – for Beekeepers – by Beekeepers

Are Beekeepers Seeing Blue Skies or Grey?

Preliminary results from the inaugural survey of beekeeper wellbeing are in...

Beekeeper Life Satisfaction Worst of Primary Industries

"How ya going?" – it's a well-worn line among New Zealanders, frequently 'asked' rhetorically as a greeting. However, in recent years there has been a move towards asking similar such questions empirically, to gather wellbeing data. Now, following the 2023 Colony Loss Survey, many Kiwi beekeepers have given their answers, and the results paint a picture of comparative struggles.

Compared to other primary industries, and New Zealand's population as a whole, commercial beekeepers are not 'going' as well. Despite this, apiarists are still deemed to have 'high' life satisfaction as determined by the World Health Organisation.

The 2023 New Zealand Colony Loss Survey was conducted between September and November, with questions of beekeeper wellbeing introduced for the first time. Overall beekeeper wellbeing was surveyed, as well as eight different factors which may impact an apiarist. While full data are not yet publicly available, the results from the measure of life satisfaction has been returned to *Apiarist's Advocate*.

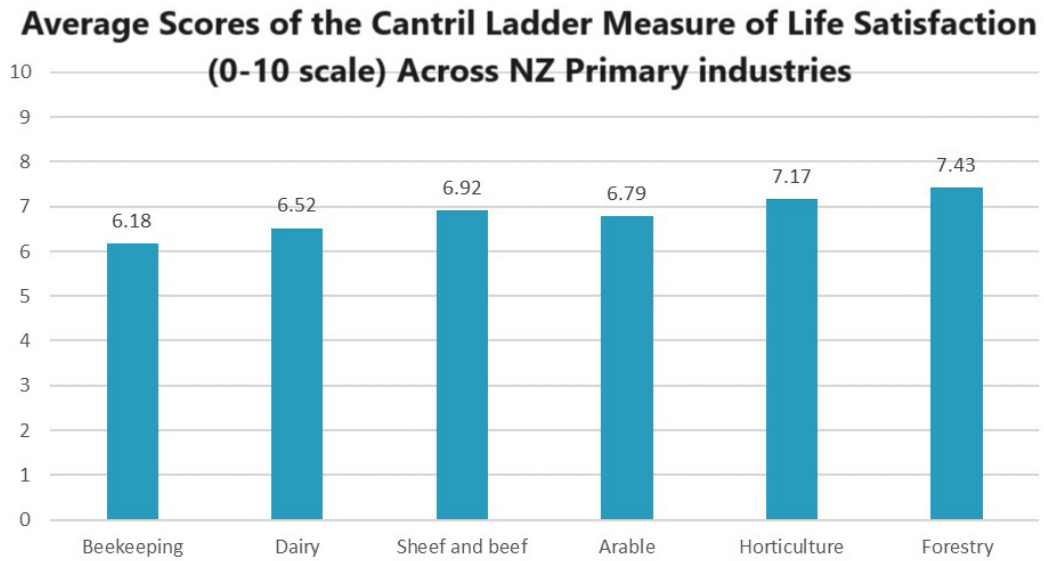
The Cantril Ladder is widely used to measure subjective wellbeing. Using a ladder as a metaphor in which the bottom step (labelled '0') represents 'worst possible life' and the top step (labelled '10') indicates 'best possible life', respondents are prompted 'on which step of the ladder would you say you personally feel you stand at this time?' This measure is widely used to measure life satisfaction, with scores of six and above indicating 'high' life satisfaction.

In New Zealand 43% of all registered beekeepers completed the survey, reporting on more than 35% of all registered colonies, with this study focusing on the 235 respondents who identified as commercial beekeepers.

The average score returned by those beekeepers for the Cantril Ladder is 6.18, substantially lower than for New Zealand's population as a whole, which scored 7.12. It is also lower than five other primary industries surveyed in 2023. Among them, forestry returned the best score of life satisfaction, 7.43 on the Cantril Ladder, followed by horticulture (7.17), sheep and beef farming (6.92), arable farming (6.79), then dairy farming which was the previous lowest scoring primary industry at 6.52.

Landcare Research's Pike Stahlmann-Brown leads the Colony Loss Survey, as well as the Survey of Rural Decision Makers which returned the wellbeing data for the other primary sectors in 2023. The genesis for the concept of including wellbeing questions in a survey of beekeepers was back in 2021, when the first surveys of primary industries were conducted, Stahlmann-Brown explains.

"What was interesting in 2021 was, the national mood on rural issues felt quite down to me, but when you compared the farmers, foresters and growers to the general population, wellbeing was almost identical. That was a mystery to me. Digging deeper, there were a lot of people whose wellbeing was fine, but they were under the pump quite a bit and they had stressors, particularly around



the regulatory environment. That survey was repeated in 2023 and we really tried to unpack the regulatory concerns to determine what it is about regulations that are affecting people," Stahlmann-Brown says.

"It got me starting to think about how beekeepers might be different to dairy farmers, horticulturalists, or growers. What is going on in the regulatory environment for beekeepers? If you go along to beekeeping conferences you will hear people talking about honey prices being down and compliance being up, so it seemed like a natural extension to focus on beekeepers, just as we had focused on others in primary industries in the past."

Pike Stahlmann-Brown says it was a natural extension to introduce questions of beekeeper wellbeing to New Zealand's Colony Loss Survey.

Including questions in the survey based off the Cantril Ladder measurement was a no-brainer he says.

"It's a great measure and there is a robustness to it. You are not comparing yourself to just one thousand other people in another country, this measure has been asked of tens of millions of people."

The Cantril Ladder measure is routinely included in nationally representative surveys undertaken in more than 160 countries; these data are reported in the annual World Happiness Report. Factors reflecting local context have been shown to strongly influence average scores. For example, wealthy Finland and Denmark reported the highest average scores in 2022 at 7.80 and 7.57, respectively, with New Zealand coming tenth at 7.12; respondents in Afghanistan reported the lowest average score at 1.86.

As a reference point, New Zealand commercial beekeepers' score of 6.18 would rank 42nd in the global context of wider populations, below Latvia, but above Bahrain.

Apiarists scoring the lowest of New Zealand's primary industries does not come as a surprise to Stahlmann-Brown.

"People working in rural sectors tend to score lower because they are dealing with uncertainties such as weather, regulation and changing prices, but for beekeepers I think all of those are amplified again. A lot of prices in primary industry have been down, others up, but honey has been down for several years now. You can still do a lot of farming in the rain, but you can't do beekeeping in the rain. So, a lot of those stressors are more ramped up for beekeepers," Brown says.

The Colony Loss Survey was conducted following the worst honey production season in many beekeepers' memory, with Ministry for Primary industries predicting the total national honey crop to be 12,000 tonnes in 2022-23, 45% down on the previous year. It was also a year where an estimated 8000 beehives were destroyed on the east coast of the North Island by Cyclone Gabrielle and associated flooding.

Commercial beekeepers placing at the bottom end of the scale of primary industries' life satisfaction was also not a surprise to Jane Lorimer, a long-time Waikato beekeeper who is president of industry group New Zealand Beekeeping Inc and has spent more than two decades representing beekeeper interests. Lorimer was heavily involved in the response to the parasitic *Varroa destructor* mite incursion in the early 2000s, and that is the only other time in her memory she believes beekeeper wellbeing would have been lower than now.

"The survey result didn't surprise me, because of the financial situation many beekeepers are in," Lorimer says.

"If it had been during the boom of mānuka honey I think it could have been a totally different result, beekeepers might have been upbeat. There are just so many who are struggling because the honey buyers are not paying and there is a hell of a lot of stress for beekeepers."

More detailed results from the survey, as well as colony loss data, will be reported in the coming months to help further paint the picture of beekeeper wellbeing. Stahlmann-Brown says he plans to continue conducting the wellbeing portion of the Colony Loss Survey in future years, that way speculation about future events' impact on beekeeper wellbeing can be replaced by data.

So, while beekeepers might continue to use the informal welcoming of 'how ya going?', the industry now has a foundation of data to empirically answer that question and determine what leads to being 'well'.

World Happiness Report 2023, Rankings by Country Using Cantril Ladder Score (top 48 countries)

Average Life Evaluation

Rank	Country		95% i.c. for rank
1	Finland	7.804	95% i.c. for rank 1-1
2	Denmark	7.586	95% i.c. for rank 2-4
3	Iceland	7.530	95% i.c. for rank 2-7
4	Israel	7.473	95% i.c. for rank 2-8
5	Netherlands	7.403	95% i.c. for rank 3-9
6	Sweden	7.395	95% i.c. for rank 2-9
7	Norway	7.315	95% i.c. for rank 3-9
8	Switzerland	7.240	95% i.c. for rank 5-12
9	Luxembourg	7.228	95% i.c. for rank 5-12
10	New Zealand	7.123	95% i.c. for rank 7-13
11	Austria	7.097	95% i.c. for rank 8-15
12	Australia	7.095	95% i.c. for rank 8-16
13	Canada	6.961	95% i.c. for rank 10-20
14	Ireland	6.911	95% i.c. for rank 11-20
15	United States	6.894	95% i.c. for rank 12-20
16	Germany	6.892	95% i.c. for rank 11-20
17	Belgium	6.859	95% i.c. for rank 13-20
18	Czechia	6.845	95% i.c. for rank 13-23
19	United Kingdom	6.796	95% i.c. for rank 13-25
20	Lithuania	6.763	95% i.c. for rank 13-26
21	France	6.661	95% i.c. for rank 18-30
22	Slovenia	6.650	95% i.c. for rank 18-32
23	Costa Rica	6.609	95% i.c. for rank 19-34
24	Romania	6.589	95% i.c. for rank 19-34
25	Singapore*	6.587	95% i.c. for rank 18-37
26	United Arab Emirates	6.571	95% i.c. for rank 20-34
27	Taiwan Province of China	6.535	95% i.c. for rank 21-40
28	Uruguay	6.494	95% i.c. for rank 21-41
29	Slovakia*	6.469	95% i.c. for rank 21-42
30	Saudi Arabia	6.463	95% i.c. for rank 21-42
31	Estonia	6.455	95% i.c. for rank 22-41
32	Spain	6.436	95% i.c. for rank 22-42
33	Italy	6.405	95% i.c. for rank 23-46
34	Kosovo	6.368	95% i.c. for rank 23-49
35	Chile	6.334	95% i.c. for rank 26-50
36	Mexico	6.330	95% i.c. for rank 26-51
37	Malta	6.300	95% i.c. for rank 28-53
38	Panama	6.265	95% i.c. for rank 26-55
39	Poland	6.260	95% i.c. for rank 29-55
40	Nicaragua	6.259	95% i.c. for rank 26-56
41	Latvia	6.213	95% i.c. for rank 33-55
42	Bahrain*	6.173	95% i.c. for rank 28-62
43	Guatemala	6.150	95% i.c. for rank 28-65
44	Kazakhstan	6.144	95% i.c. for rank 34-60
45	Serbia*	6.144	95% i.c. for rank 33-61
46	Cyprus	6.130	95% i.c. for rank 34-60
47	Japan	6.129	95% i.c. for rank 35-60
48	Croatia	6.125	95% i.c. for rank 34-61

Behind the Doors of NZBI's First Meeting with the Minister

Industry body New Zealand Beekeeping Inc (NZBI) has wasted no time in opening up dialogue with the new government, with members of their executive council meeting with Minister of Agriculture Todd McClay, associate Minister Mark Patterson and Ministry for Primary Industries (MPI) director general Ray Smith in December.

The Wellington meeting, attended by NZBI president Jane Lorimer and executive members Ian Fletcher and Cameron Martin came just weeks after the new government had been sworn in and after the industry body had presented them with a succinct brief – centred on five key points – pertaining to the state of apiculture in New Zealand.

Lorimer says they received a positive response from the MPs that received the brief and her team feels encouraged following the first up meeting with McClay.

Recently appointed Minister of Agriculture Todd McClay has given industry group NZ Beekeeping Inc an encouraging first meeting, even taking responsibility for dealings with the apiculture sector himself.

"Going forward, if we continue to communicate like this, it should lead to a better understanding of our industry," Lorimer says.

A win out of the meeting was a move from MPI to appoint Karen Adair, the current deputy director-general agriculture and investment services, as a sole contact within the Ministry for issues of apiculture – something that was top of NZBI's wish list in their brief. In the past the lack of a contact point has held back the industry, especially when trying to get changes to compliance rules, Lorimer says.

"We have struggled, at times, to get continued discussion. A change of personal or something happens and we are set back. Whereas now, a single point of contact will hopefully make things better," Lorimer says.

The new National-led coalition government has a strong team to cover agriculture and primary industries, with McClay as minister backed by Nicola Grigg, Mark Patterson and Andrew Hoggard as associate ministers. While various sectors of the primary industry were delegated to each of the MPs, apiculture was missing from the attributions. However, NZBI are reporting that the minster himself has taken ownership of their sector.

"That is again a positive, that we have him to reach out to, if we don't get traction through Karen Adair at MPI," Lorimer says.

Also high up on the NZBI wish list was a review into compliance costs, and Lorimer says they appear to have got a start there.

"It looks like MPI will carry out a review of compliance costs and their cost recovery processes. We pointed out to the minister that export licenses for beekeepers had gone up from about $1000 to $2500 and the minister turned to Ray Smith from MPI and asked 'have beekeepers got better value for this?' then he turned to look to me and I said 'no'," Lorimer details.

A separate meeting with Patterson was held, while they hope to soon progress a meeting with Hoggard, who is also Minister for Biosecurity, an area which NZBI has also called for an urgent review of apiculture operations.

Karen Adair, already among MPI's senior leadership team, has been assigned the role of the apiculture industry's single point of contact within MPI.

NZBI did not specifically raise the issue of a promise to the honey industry of $3million made by McClay in June last year, but Lorimer says they did outline the need for more funding for research projects within the industry.

After years of getting short shrift from Minister for Primary Industries Damien O'Connor under various Labour-led governments, Lorimer says NZBI are heartened by the new minster's attitude so far.

"It was good to have McClay listening and making some positive comments. He even said 'we want you to be talking with one voice, but not necessarily as a totally united industry'. He could see value in us having a couple of industry bodies. That was refreshing, because previously we have been told by the minister we need to be one industry body and one voice," Lorimer says.

Ray Smith, director general of MPI, has conceded the need for a specific person of contact within the Ministry for issues of apiculture, and it appears his department will be held to a new level of account under the National-led government.

While nothing substantial has yet eventuated, the NZBI president is hopeful.

"It's an incredible change and it seems really, really positive that we will at least get a chance to review that [compliance]. What will end up happening, I don't know, but at least it is a start."

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What Have ApiNZ Got Planned?

While fellow industry body New Zealand Beekeeping Inc (NZBI) report back on encouraging first meetings with the new government, Apiculture New Zealand (ApiNZ) are staying stum on any dialogue they may have had with the Agriculture Minister – but there could be big news to come in the new year.

Former Minister for Primary industries, Nathan Guy is independent chair of Apiculture New Zealand's board, but is not letting on what the nature of his discussions with the new government have been.

Both ApiNZ chair Nathan Guy and chief executive Karin Kos are keeping their powder dry, each offering a "no comment", but promising more later in January. Guy, who is also chair of the Meat Industry Association, will almost certainly have met with members of the new National-led government, considering he spent 15 years in parliament with the National Party, including a term as Minister for Primary industries.

With ApiNZ having stated in recent months that their current voluntary membership model is financially unsustainable, there

is speculation around the industry as to what they might have planned to fill the coffers moving forward. Silence on their dealings with the incoming government tips that, whatever they are working on, they are working on it having government backing.

ApiNZ led a bid to implement a honey producers' levy in 2018-19, but that was roundly voted down by beekeepers. Ever since, ApiNZ's appetite to launch another levy bid has been, at least publicly, little. They are likely to have been pondering new tactics, with murmurings of potential mergers with other industry groups, or less comprehensive and more targeted levies.

There might be an ace up the industry's sleeve though, with now Minister for Agriculture Todd McClay using the platform of ApiNZ's national conference in Rotorua in June 2023 to promise $3 million "to expand New Zealand honey into markets internationally, by removing barriers to our honey marketers", should his party gain office. Following 2023's election, McClay is now not only the Minister for Ag, but also the Minister for Trade, putting him in a strong position to fulfil his promise to apiculture.

ApiNZ has also been sitting on the release of their industry research project 'Securing a Resilient and Sustainable Future: Strategic Planning for the Sustainable Growth of the Honey Sector' which was taxpayer funded through the Ministry for Primary Industries' Sustainable Food and Fibre Future Fund, as well as contributions from project partners ApiNZ, the Honey Industry Trust, Comvita and Mānuka Health. The project began in March 2022 with a stated length of 14 months. Now, almost 22 months later, no results have been presented. Beekeepers had their say as part of the groundwork with a roadshow of meetings and zoom calls which sought beekeeper opinion on the state of the industry in 2022, but all through 2023 the project partners have not publicly presented results.

Rotorua MP Todd McClay promised apiculture $3 million in June last year should his party win power in the national election. The now Agriculture, as well as Trade, Minister is in a position to deliver, but will he?

The release of that report could be used to shape a new funding model for ApiNZ, but with it so long overdue, and funded at least in part by honey packing companies, its relevance and impartiality to the average beekeeper could be called into question.

Hard Working Beekeeper Earns New Year Honour

For 54 years Frank Lindsay has kept beehives and for most all of that time he has had a heavy involvement in the beekeeping industry, having dedicated uncountable hours to clubs, industry groups, research projects and just generally helping other beekeepers to support a better industry. Now, after years of nominations, the Wellington beekeeper has been announced to be an Officer of the New Zealand Order of Merit (ONZM) in the New Year Honours list.

Modest to the core, Frank Lindsay's first thoughts are of other people when congratulated on his impending ONZM honour.

"You think about other beekeepers and what they have done and this makes you a bit humble," Lindsay says, speaking from his Wellington home via a phone which has been running hot since the New Year Honours list was made public that morning, December 30.

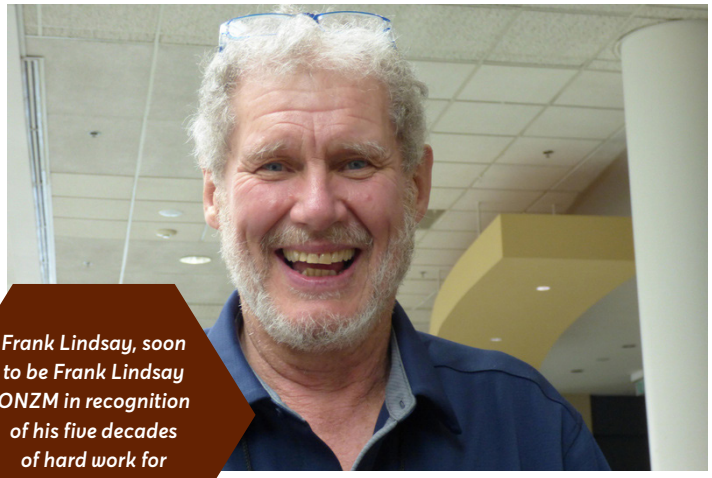
"There's a few people running around with smiles on their faces," he says following the news.

One of the biggest smiles would have to belong to former Wellington Beekeepers Association president James Withington who has put Lindsay's name forward every six months for the past five years for New Year or King/Queens' Birthday Honours.

"It's a long time coming," Withington says, adding that he has spoken some terse words every time the Royal Honours lists have come out for the past five years without Frank Lindsay's name.

"Frank dedicates his time to everyone else and sacrifices his own stuff when he drops what he's doing to help others. His work has gone under the radar. People don't have a true understanding of his level of involvement in the beekeeping industry," Withington says.

Lindsay has been beekeeping for 54 years after getting his first hives in the early 1970s as a young man. At age 48 he dedicated himself to full time commercial beekeeping with around 500 hives. Now in his 70s he still keeps "about 60 colonies, mainly nucs". He holds life memberships to the Wellington Beekeepers Association as well as the Southern North Island Beekeeping Group and the now-defunct National Beekeepers Association. (Editor's note: more detail on his beekeeping career can be found in this February 2022 story).



Frank Lindsay, soon to be Frank Lindsay ONZM in recognition of his five decades of hard work for beekeeping.

Withington says there were dozens of supporting letters from those in apiculture that went along with the Royal Honours application and he has continually been adding to Lindsay's list of accomplishments over the past five years as it grows, or at least he learns of various undertakings in the name of better beekeeping. There are research projects from far and wide, such as the thousands of sound recordings of beehives which Lindsay took for an American scientist, plus the assistance he gives to others, including a recent visit from Australian scientists to learn about varroa, on top of a mountain of work with industry groups in Lindsay's five decades of dedication.

"That is at his own time and expense. It is not a paid job. He has all the right intentions. He will continually battle until he can't lift a hive tool, in an industry that doesn't get recognition," Withington explains.

Wife Mary-Ann Lindsay has also been involved in the family's beekeeping enterprises and beekeeping groups. Withington says she has been a help in detailing all of Frank's beekeeping endeavours, but keeping their efforts secret was a challenge.

The ONZM honour is for "a distinguished regional or national role in any field" and sits above both the Queen's Service Medal and Member of the New Zealand Order of Merit in terms of seniority of New Zealand honours. It is below Knighthoods and the Companion of the New Zealand Order of Merit. An investiture ceremony with the Governor-General will take place at Government House in Wellington in May.

Lindsay says he hopes to be there, but May is when they usually take a holiday to Australia to visit various beekeeping conferences, and he wouldn't want to miss them. Withington thinks he should show up to Government House in a brand new bright white bee-suit, but he doesn't think his friend Frank would rock the boat like that!

While that ceremony is five months away, Lindsay has been sitting on the news of his honour since accepting the nomination in October. He has had to keep it secret, but he did recently let it slip to one person.

"I told my mum on Christmas day," Lindsay says, adding that she had perhaps the best response of all, "she's 102 years-old, quite proud, and she said 'oh, another thing to live for'."

Advising Aussies About the 'Varroa Wave'

In early December New Zealand Beeswax general manager Nick Taylor hit the road in Australia to educate their beekeepers on varroa treatments, with efforts to eradicate the mite having been halted and attentions turned to management. Having covered more than 2000 kilometres in a rental car in a week to make six meetings between Armidale in northern NSW to Canberra, ACT, with between 40 and 100 beekeepers at each venue, Taylor reports back here.

BY NICK TAYLOR

I Opened each meeting with a 15 minute gambit covering key messages, followed by interactive questions from the floor. Between the meeting, the bar and a meal after, typically 100 questions came flying in, 98% of which were the same from meeting to meeting.

Overall, I was very impressed with the thoughtful and considered questions from the floor. Many had clearly been doing their research and, most impressively, they were taking 'guru' advice from Youtube and forums, with a healthy dose of scepticism. Arguably I was preaching to the converted, that being the proactive first movers, open to build their knowledge base ASAP.

It felt necessary to start each meeting with an apology – varroa is not a fun topic and I felt like the grim reaper standing at the front of the room with my scythe. It was important to relay that varroa isn't a death knell for their industry, varroa and the associated viruses are just one more management challenge to overcome (of many!). There is no one definitive source of all varroa knowledge, no one size fits all, just accumulated skills and experience and taking any/all advice with a grain of salt (including mine).

Key messages I tried to impart were:

- Varroa control requires a **12 month strategy**; select multiple best in class treatments, e.g. Amidine (Apivar), Pyrethroid (Bayvarol) and at least one organic (Formic Pro, oxalic acid). Alternate and always use full dose for full treatment period, and monitor, monitor, monitor. Timing comes down to slotting these 10 week, eight week, one week treatment windows into the individual beekeeper's unique business calendar and climate.
- When **monitoring**, it's important to be consistent with methodology/technique, to ensure a consistent and comparable number. Best practise world-wide is to take a 300 bee sample (1/2 a cup) from the brood chamber (after first ensuring the queen is safe), then use a fit for purpose device with alcohol or CO_2 (non-lethal) for the most accurate results. The resulting number of 'mites in a wash' is a data point most beekeepers use globally. The scientific community will often use a percentage instead, simply take the 'mites in a wash' number (assuming ½ a cup i.e. 300 bees) and divide by three e.g. three mites in a wash is 1%, six mites in a wash is 2% etc. Make sure you are speaking the same language. Current guidance from the NSW Department of Primary Industries is to monitoring every 16 weeks and when one hive in an apiary reaches six or more mites in a wash, then treat the whole apiary.

The honeymoon phase with varroa will initially leave generous room for trial and error because the compounding negative consequences of high virus loading can take months/years to irreversibly peak. The beekeeper's early intervention will help prolong this phase, minimising the damage to their hive. However, the decision making of their neighbours and/or proximity to feral bees, may result in the need to perpetually treat until the feral colonies/neighbours disappear.

With up to 150 hives per square kilometre, Australia has among the highest feral honey bee densities in the world. There are recent anecdotes of managed hives being reintroduced in the original red

An apiary in New South Wales visited during NZ Beeswax GM Nick Taylor's whirlwind educational trip to Australia in December. Australia's nearly year-round honey flows and hot temperatures will make controlling varroa a very different challenge to that faced by Kiwi beekeepers, Taylor says.

zones around Newcastle only to be infested with mites within days, and off the chart mite loading within weeks. This intense pressure from feral bees will be an ever-present risk that could drag on for years.

There are three key differences with commercial beekeeping in Australia and New Zealand, speaking in sweeping generalisations:

- the Aussies feed their bees with diesel, i.e they are almost continuously moving from one floral source or pollination event to the next, typically for nine to 12 months of the year, with no two years exactly the same. Most Beekeepers in the room would cover more kms in a single day, than most Kiwi hives will cover in a whole year.
- With the exception of a few inland/higher elevation spots and the furthest south, bees don't have a winter broodless period. For the week I was there, daytime highs were between 37 and 42°C!
- They can go months without looking in the brood chamber. In their new varroa world, this will need to change. Staffing/loading numbers will need to be adjusted to meet the new workflow (treatments in and out, health checks, requeening more often, monitoring, firing up hives for early spring crops/pollination etc).

All of the above results in a much longer season, greater variability year to year, and no winter brood break to pause the insatiable march of varroa. The typical Kiwi strategy of a calendar core Spring and Autumn treatment rotation, supplemented with an (or multiple) organic flash treatment(s) to help supress growth in-between, leaves our Aussie compatriots scratching their heads. The mental gymnastics required to fit this into their 12-month carnival tour of the state is a bridge too far at this time as they understandably are not wanting to take on unnecessary costs and/or forgoing a revenue stream from honey/pollination.

The varroa wave is coming to them and the choice ahead is binary: get on the front foot, take control of what you can control through proactive best in class strategies (outlined above), or, alternatively, take the reactive route, and continuously be chasing your tail.

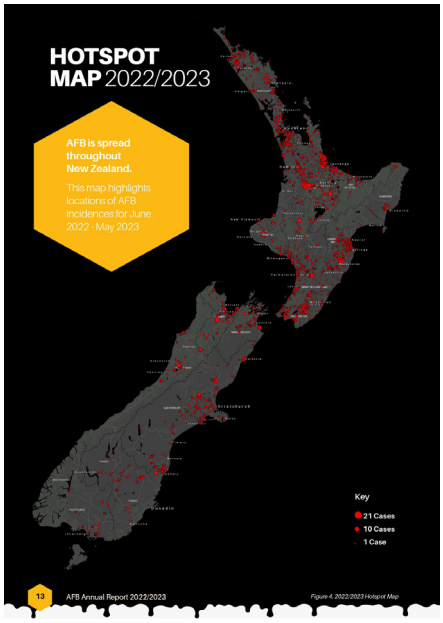
Conveniently, the 2000km traversed by rental car in just one week by Nick Taylor included the iconic Mt Panorama road outside of Bathurst, NSW, for a quick "fang around".

AFB Levy on the Increase

The incidence of American foulbrood (AFB) in managed beehives is on the up and so too is the per-hive annual levy which all New Zealand beekeepers are obliged to pay, the Management Agency National AFB Pest Management Plan has announced.

When AFB levies come due in June beekeepers will be required to pay $1.95 per colony owned, plus a base rate of $40 per beekeeper. That's up from $1.70 per hive in 2023, after two years of no change.

Despite the hike and budgeted cost-cutting of $121,000, the Agency is forecasting a loss of $220,000 in the coming year as registered hive numbers have fallen for the fourth straight year, down to 587,208 colonies as at October 31.



Locations of reported AFB in New Zealand, June 2022 – May 2023.

The 25c per-colony increase was put out for consultation to all 9057 registered beekeepers in October and 78 responded, most via an online poll. Of them there was an even split of those in favour of the increase and those against. However, of those who provided specific comments on the Agency's proposed increase, there was an overwhelming majority of opposition.

Two comprehensive written submissions were made, from industry group New Zealand Beekeeping Inc (NZBI) and from Mid Canterbury beekeeper Roger Bray, both of who have also been critical of the Agency on numerous occasions in the past. NZBI's feedback was once again scathing and called for the consultation

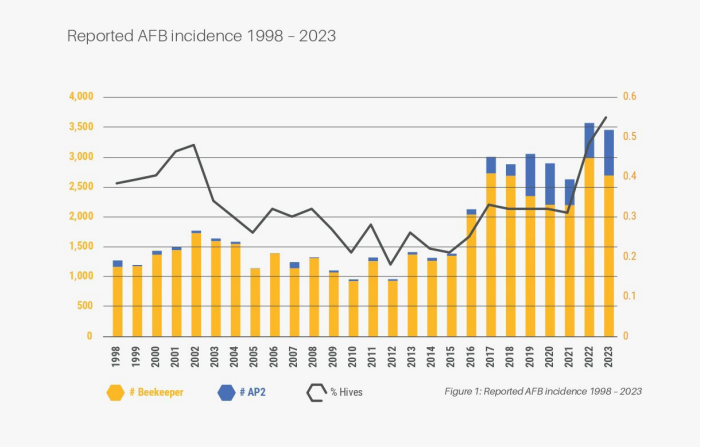
to be "re-run, and done properly". They had four major areas of complaint against the Agency's operations, including a "flawed" consultation process. NZBI claim the Agency to have a "poor level of understanding of the incidence of AFB", that their focus on enforcement is misguided and should be more targeted to training beekeepers and that Agency costings are "opaque" and don't allow beekeepers to adequately understand the situation.

In the latest data from the Agency, incidence of AFB – as reported as a percentage of total registered hives – has increased to 0.55% of colonies, from 0.48% in 2022. Total reported cases of AFB are down though, 3449 being found in 2023 compared to the record-setting 3565 in the previous year. That makes 2023's total the second most cases of AFB to be reported in a year.

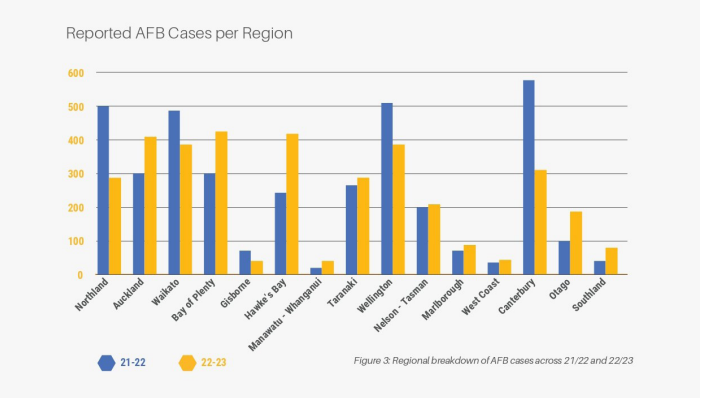
"Before making a decision, The Management Agency Board considered the increased level of AFB risks faced by beekeepers and The Management Agency, due to the increasing number of abandoned/neglected apiaries, rate of inflation, and rising administrative and operational costs to implement the AFB National Pest Management Plan," the Agency's notification to beekeepers regarding the levy increase stated.

"The notified rate of levy will provide the funding required to continue to respond to increased AFB risks. Meanwhile, we will continue to regularly review The Management Agency's operational costs and identify cost-saving opportunities."

The Agency is now operating from one office, in Rolleston Canterbury, after the Wellington office of the Agency and Apiculture New Zealand closed last year.



AFB totals through the years, with the black line representing AFB incidence as a percentage of total hives in New Zealand.



Reported AFB by region in the past two years.

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Beeswax Business Lands Beekeeper's Bounty

Alexandru Halasz has scooped Apiarist's Advocate's Beekeeper's Bounty, meaning he will be able to buy some beekeeping equipment from the likes of New Zealand Beeswax and Ecrotek.

One lucky beekeeper scooped *Apiarist's Advocate*'s 'Beekeeper's Bounty' in December, scoring hundreds of dollars in beekeeping equipment, honey and diagnostic testing, and more to sweeten their Christmas. It's all heading to Cambridge, to assist a beekeeping business with a difference – specialising in beeswax products.

Alexandru Halasz has been beekeeping most of life, starting in his native Romania, and then landing in New Zealand in 2017 to take up with Comvita. Now, six years on, he has progressed to a team leader position, while also launching his own business in April last year.

Exelle Bees is the brainchild of Halasz and his Kiwi partner Danielle Ratcliffe. He and his hives supply the beeswax, and she adds the value to it, converting it into a range of health and beauty products.

"We started with candles, face cream and lip balms, after that we have ended up making food wraps and now also kawakawa

balm based off beeswax. We started selling them and at that point, over winter, I had eight hives," Halasz explains.

He now also has mating units and is producing mated queen bees from their Cambridge base, meaning the haul of prizes won will find plenty of use. Some of *Apiarist's Advocate*'s leading advertisers put up a suite of gifts in December, from vouchers at Hill Laboratories, Ecrotek Beekeeping Supplies and New Zealand Beeswax, to Foster Tests for AFB at dnature Diagnostics and Research, merchandise from Crystech NZ and Manuka Orchard, plus queen bees from Pyramid Apiaries. The bounty was won after commenting on an *Apiarist's Advocate* Instagram post.

With their business still small, but growing, Halasz says the prize pack will help out in many ways. Being able to buy some new equipment from the major suppliers will be particularly useful and Halasz says he finds the relative uniformity of New Zealand beekeeping equipment a real positive, whereas in Romania the hive components often vary in shape and size between beekeepers.

Excelle Bees, the newly created business of Alexandru Halasz and Danielle Ratcliffe, specialises in a range of beeswax-based health and beauty products.

It's far from the only difference in beekeeping between the two countries on opposite sides of globe, but despite that the Romanian has clearly found a niche in New Zealand apiculture. He grew up working hives with his grandfather, so always knew how to handle a hive tool. For years before he came out to New Zealand, Halasz even owned up to 70 beehives of his own.

"In Romania beekeeping is a secondary income for families. There are many beekeepers, but not many hives per beekeeper, perhaps 40 to 50," he explains.

For about seven months of the year it is too cold to work hives, so the longer beekeeping season in New Zealand is much more appealing.

Running a business alongside full-time work as a beekeeper means evenings and weekends in his own hives. So far it is paying off, as they are selling more and more of their beeswax products online and at various weekend markets around the Waikato.

"We are definitely enjoying it and each month it gets better because we have more customers," Halasz says, adding "it's definitely been a positive for us".

Editors note: *Thanks to all our wonderful advertisers who supplied gifts for the 'Beekeepers Bounty' won by Alexandru: Hill Labs, Ecrotek Beekeeping Supplies, New Zealand Beeswax, dnature Diagnostics and Research, Mānuka Orchard and Crystech.*

A Winning Process

For HD Process the clue is in the name – they make sure honey processing operations are running at the top of their game, and to do that they rely on a simple but effective process of their own. By combining 26 years of business experience with the best of locally and internationally manufactured equipment they ensure those in the business of honey have their plants best setup to not only extract and pack honey as efficiently as possible, but meet the exacting requirements of international markets too.

While honey might require less 'processing' to change its state than many other foods, there is still the 'process' of getting it out of the frame, into the drum and then the significant challenges of getting it from drum to packed into a jar in the highest quality form.

However, there are not many honey challenges that HD Process owner and engineering manager James Dolan and his team hasn't seen – and solved – since the business launched in 1997. Through the last two-decades-plus they have witnessed the honey industry boom, and now retract, all the while honing their skills as they have assembled some of New Zealand's largest and most efficient honey and extraction plants, and helped improve existing facilities.

"Sometimes we provide a single component, such as a particular filter or pump, to fit into an existing system and other times we are specifying and supplying a range of components making up a system. Whatever the case, our business revolves around making sure that whatever is supplied works as precisely as it should, thus being headache free and adding value to the customer's business," Dolan says.

Those precise results are gained by working alongside local manufactures – because New Zealand's honeys are unique – while also sourcing the best equipment from around the world.

James and Kim Dolan, HD Process owners. There are not many honey processing challenges that the HD Process team haven't solved since the business's inception in 1997.

"Much of the equipment we offer is tailored specifically to the particular needs of our industry. For instance, our Crystal Cruncher pump is a local adaptation, designed to break down honey crystals so they can be dissolved back into the honey, without using heat and thus without any increase in HMF," Dolan explains.

HD Process might be based in Penrose, Auckland, but their small team of engineers is often on the road, visiting processing plants all over New Zealand. They deal in a range of industries from wine to dairy to honey, with an extensive catalogue of equipment for honey processing, including:

- **Positive displacement pumps** – able to cope with the different types of honey, from warm, runny honey to cold, highly viscous, creamed honey.
- **Coarse and fine filters** – including self-cleaning filters and bag filters.
- **Honey extraction equipment** – including honey looseners, extractors and centrifugal honey/wax separators.
- **Heat exchangers** – for heating honey to allow fine filtering and thermalising, then also cooling (e.g. prior to creaming).
- **Vacuum evaporators** – for removing moisture from honey at low temperature, without degrading the honey, or adding HMF.

The wide range of equipment on hand means any solutions they recommend, and implement, achieve the desired results, no matter how specific a processing problem may be – and honey does throw up some curve balls.

Right now the honey industry itself is throwing up some curve-balls too, with retrenchment the order of the day for many businesses and therefore, unsurprisingly, a slowdown in work in the honey sector for the HD Process team. However, with 26 years of adding value to honey businesses, there are still the regular clients who continue to work with HD even in the downturn, and the family owned and operated business is thankful to have built that base.

"Many of the smaller producers we deal with are struggling as their costs are up and their incomes are down. Consequently, there's not a lot of capital available for new plant and equipment. Given this situation, we are grateful to work with our existing honey industry customers when invited to and have the level of business we currently have," Dolan says.

The good news for the rest of the honey industry is, it means Dolan and his team have scope to offer their expertise to new clients. So, if you are having any troubles in processing your honey, or you have plans to adapt or grown your plant, then HD Process would love to hear from you.

"We love talking honey processing. So – regardless of whether a beekeeper has a big budget to invest in new plant, or not – I encourage them to pick up the phone, or email us, and we can help get their honey flowing the way it should be." ■

Editor's note: *HD Process is among the small group of Apiarist's Advocate's most loyal and supportive advertisers, having backed each and every issue right from publishing our first content, 54 months ago, in August 2019. They support us, so we can bring you – the beekeeper – this content for free.*

HD Process have a huge catalogue of honey processing equipment, from pumps, to filters, heat exchangers, centrifugal wax separators and more.

Blueskin Bay's Ideal Ways

Having learnt the ropes of beekeeping on an organic farm in Wisconsin, USA, David Milne's road to launching Blueskin Bay Honey in Otago is far from conventional. His is a business with "authenticity" of products at the core, from a range of honey varieties to skincare products utilising bee venom and beeswax. Maggie James ventured down the picturesque Otago coast road to explore this unique beekeeping story.

BY MAGGIE JAMES

Blueskin Bay, 25km north of Dunedin, is a charming location, where blue seawaters meet the green of the Otago countryside, so perhaps a fitting name for a business built on the ideal of "make the world a better place". The motto recognises that consumers are demanding more authentic products, Milne says.

"If the world markets can look after the health of the honey bee and the environment, that's number one, because that ensures food security," he says, outlining his beekeeping motivations.

Authenticity is certainly a hot topic, with the Merriam-Webster Dictionary's Word of the Year for 2023 recently announced as "authentic". The award gives annual recognition to a word that dominates searches on the dictionary's website.

With this in mind, Milne and wife Dawn have developed a range of skincare products using only produce from their own hives. Bee venom, beeswax and honey are combined to create various skincare balms, plus they have their own honey range with varieties such as thyme, mānuka, kānuka and clover, and even honey-based salad dressings. It's all sold locally via a shop in Dunedin and a weekend market, as well as online.

LESSONS LEARNED STATESIDE

While the business might be very much locally Otago, Milne's beekeeping skills were first learnt 25 years ago on another continent. In 1998, after graduating from Art School with a Diploma in Ceramics, he travelled from New Zealand to an organic farm producing melons and corn, near Madison, Wisconsin, in America's Mid-west. There Milne launched into beekeeping with three hives of his own, and the following season had ten hives.

The state capital, Madison, hosts America's largest producer-only farmers' market, the twice-weekly Dane County Farmers' Market. Milne's experiences there still strongly influence the manufacture and presentation of Blueskin Bay Honey's products today.

Beautiful Blueskin Bay on the coast north of Dunedin for which Otago beekeeper David Milne has named his honey company. Photo: Tomas Sobek.

Wisconsin honey was packed in glass jars, as expected by the customer. This concept harks back to the pioneering days of glass manufacture, and Milne believes this to be environmentally friendly and thus has continued the concept with his honey packing. He places much emphasis on "raw" or non-pasteurised honey.

His hives were on the outskirts of urban Madison, and most of the migratory interstate hives were sent to north Wisconsin for pollination of massive areas of alfalfa (lucerne). While his was a non-migratory business, apparently the bulk of beehives in Wisconsin came in on semi-trailer trucks from California after almond and orange pollination to undertake cranberry pollination. Following that they moved off to apple pollination in Seattle on the north-west coast of the USA.

The practise in this area with non-migratory commercial hives was that all honey was harvested and, prior to heavy snowfalls, the hives starved. Whilst this management was draconian, it was the easiest to implement, with hives being repopulated in the spring with package bees from imports and most likely from varroa-free US states.

At the time a non-migratory operation in Wisconsin was considered large if it had 400 hives. Two full-depth brood boxes were preferred and honey harvested was linden, lime and basswood.

Milne also recalls the routine treatment for American foulbrood being the broad spectrum antibiotic Terramycin, administered in powdered (icing) sugar.

These days Milne produces his own queen bees at Blueskin Bay Honey, the daughters and granddaughters of Betta Bees stock, but while in Wisconsin there was no need to learn queen rearing skills. At the end of winter package bees arrived from Florida and Texas to rural Wisconsin and the Dadant supply house. Waiting for package bees here was an experience, Milne recalls, as a lot of the truly 'hill-billy' beekeepers would congregate.

With 12 hives for the 2003/04 season, the Kiwi followed the lead of some other US commercial beekeepers with a varroa management plan consisting of Apivar strips and garlic and powdered sugar shaken onto the hives – the latter a forerunner to alternate organic treatments he would later try in New Zealand after coming home in 2005.

BACK HOME

"I returned to New Zealand and worked a year for Blair Dale at Dale Honey in Middlemarch, Otago," Milne says.

"I was responsible for 1000 hives and this experience enabled me to become part of the local industry."

The next year Milne was off to Dunedin to undertake a post graduate Diploma in Teaching for secondary schools, but he continued to keep bees and built up hive numbers until 2013, when the Blueskin Bay Honey brand was launched.

Putting some of his educational training to use, for a few years Milne undertook marking of extramural apiculture students who studied via Telford Rural Polytechnic.

In 2012 *Varroa destructor* appeared in Otago, which he found more tenacious than the *Varroa jacobsini* he observed in the US.

"We are guardians of the bees, so we do need to help with killing of mites. For control I sometimes use oxalic acid strips. With proprietary treatments my preference is Bayvarol and the two treatments are alternated," Milne says.

Recently he has been trying something truly experimental.

"A couple of years ago, I came across a scientific paper documenting the effects of caffeine on arachnids. My thoughts were, if it works on eight legged spiders, hopefully it works on eight legged mites, in the same arachnid class. So, for the last two seasons, using 20 hives, I have been experimenting with caffeine powder fed in syrup patties. There appears to be a reduction in mite numbers."

Milne also notes research in which honey bees prefer nectar with caffeine, above non caffeinated nectar! (Editor's note: this research was detailed in 'Gimme a Feeder of Joe', August 2023).

HONEY ON THE HIVE

Last season, 2022-23, the Blueskin Bay honey crop was left on the hives, with Milne deeming the cost of harvest not worthwhile alongside the value returned. Consequently, the hives are now in great condition, he says.

"A major factor for the decision was that in 2023 my wife Dawn completed her civil engineering degree at Otago University and so leaving the honey crop on provided time for me to look after our primary school aged children, Max and Abby. It was a no brainer," Milne says.

When he does need honey for his label, Milne uses contractors – Strathdale Honey for extraction and Parakore Honey in Mosgiel for packing into glass jars.

When queried about glass breakages on the packing line, or in storage, this has not been an issue for Milne, with nil incidents. Packed honey is placed on a pallet, in a specialised cardboard box, then pallets stacked. If necessary, these can then be sent to Mainfreight and sit in storage.

While the Blueskin Bay Honey Company began as an online selling business, they have since opened their Dunedin retail store.

"Basically, we needed room for storage for our online business. Post Covid there were plenty of empty retail and warehouse spaces available, which consequently led to us opening our store in Stuart Street, Dunedin CBD."

The shop is well located. Foot traffic comes from the nearby Octagon bus terminus and it is situated handy to their other outlet, the Otago Farmers Market. 50 weeks of the year, this large market is held in the carpark of the historic Dunedin Railway Station. It attracts both locals and passengers from cruise ships which dock nearby.

INDUSTRY IDEAS

"In travesty great opportunities are created," Milne believes, and that could apply to apiculture's industry representation he says. The Otago beekeeper would like to see an industry organisation using good creative networking to bring industry participants together. He believes there is no cohesion in the apiculture industry, and that something broken requires an amazing approach to repair.

"New Zealand does have some well-informed helpful specialist people, such as the Ministry of Business, Innovation and Employment. I would like to see a national honey market board, that beekeepers automatically get a share in for one to two years for free at their setup, then they pay a subscription. This organisation would be charged with developing sales channels and product ideas," he suggests.

"If beekeepers can get a good market rate for honey, plus produce value added products, they would benefit twice and the cost of production would be well covered. The organisation marketing board would buy at a good rate. The Board would be skilled, encouraging value added products and sales, selling to the world, with profit back to shareholders."

Looking at world trends, Milne sees the value of honey increasing. New Zealand produced honey has a clean, green edge and food shortages are predicted.

Like many commercial beekeepers, he says his business is hindered by undue compliance costs.

"Our productivity, is paying for expensive bureaucrats, earning more than beekeepers," Milne says, adding "and the value of their productivity is questionable".

To discuss any aspect of this story with David Milne email ***info@blueskinbayhoney.co.nz***

Otago beekeeper David Milne, practising one of his favourite hobbies, archery.

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Intelligent Apiculture Part II – AI's Arising Issues

Artificial Intelligence (AI) is playing an increasingly prominent role in our lives, so last month science writer Dave Black *answered some big questions*, detailing what AI is and how it works. This month we have more questions, leading our science expert deeper into an exploration of how AI might assist apiculture, and the issue of the big money and big environmental impacts swirling around our AI future.

BY DAVE BLACK

Q. Do you think AI can make beekeeping smarter?
Dave Black: Hmm. How long have you got? Maybe. One of the possibilities you're reading about already is what I'll call geospatial intelligence. Imagine it would be possible (it kinda already is…) to collect and use data from lots of sources, including satellites, fixed and mobile sensors (GPS), aerial images and the bits (like RFID tags, fridges, weather stations) we can connect to the 'Internet of Things' (IoT). All the data is used to produce real-time maps and simulations and we can imagine never registering hives and apiaries, because intelligent software will pick them off maps and report them to the Management Agency (and send us the bill).

There will be no Harvest Declarations. The AI will note visiting utes (it's already managing their batteries, range, and your honey house energy consumption), associate the surrounding vegetation types, crops and terrain (all these are already mapped in most developed nations), monitors and forecasts the weather (accurately, because AI and big data), and reports the boxes and their potential bounty. We could include ecological data on all possible pollinators (for example there's already one current 'prototype' that claims to associate iNaturalist observations (a biodiversity social network). Theoretically it could determine the price to charge for the most effective number of pollination units for the crops in range. Equally, it's possible to monitor and manage the carrying capacity for any given location; we could imagine seasonal 'surge pricing' (like road tolling) for resource use.

By utilising GPS technology and the 'internet of things' many compliance activities associated with beekeeping may be able to be automated in an AI-powered future.

Increasingly 'Smart' apiaries will provide data about hive health and performance which intelligent software will integrate into local and regional assessments of productivity across several years. The 'intelligence' knows what data is important to all the different participants. Apiary visits are scheduled by the AI. The software takes weights from axles and lifting gear, communicates estimated yields to the contracted extraction facility, and live data informs packer inventories, market trading and prices – globally. People trade 'futures' in honey, and hedge currency to do so. Monitoring hives and their environment in real time is used to predict outcomes, streamline export compliance, and achieve logistic efficiency. The effect of the next cyclone will be factored into economic forecasts before it's off-shore. Think of it as smart, hyper-sophisticated surveillance.

Q. I've seen adverts for 'precision beekeeping' and 'smart' apiary software already. Sign me up?
There is a cost for knowing everything, and to me it's difficult to see beekeeping having any sort of priority for these sort of developments. As they become common place elsewhere, as corporations can recover a return on investment in more lucrative sectors, beekeepers will adapt too, eventually. The value of experience and expertise to a business will probably diminish and some businesses will consolidate into larger more strategic entities, but very little in apiculture is going to be solved with better data unless you are a pretty big business. If you think about it though,

the current manuka turmoil is not going to be resolved by an intelligent machine.

Q. That sounds like more of the same to me…
Producing intelligent systems takes time, money, and an awful lot of data. It's not surprising that the effort is largely centred in the wealthy global north, scrapping free data from a largely English-speaking internet but reliant on outsourced cheap labour in the developing world. The technology media has widely reported news from The Information, an American technology-focused business website, that last reporting year OpenAI's losses reached $USD 540 million, double the previous year. With a projected revenue of $USD 200 million the CEO was apparently trying to raise venture capital amounting to $USD 100 billion to continue its AI development. When undertakings of this size are underway even large companies like Microsoft find the cost of entry sufficiently high that it's more cost-effective to partner with others rather than develop their own system. The real story here is about the power of money, not the power of AI. The temptation is greater than ever to wield Kaplan's hammer (that's the 'law of the instrument' that states "give a boy a hammer and everything he meets has to be pounded").

Q. Shall I start saving up then?
Money is not the only thing that concentrates power in the hands of these companies. Once trained the first models continue to learn from their users, the more people that use the products, the better they get. As more people have conversations with ChatGPT, for example, the model gets better. Better models get more users, and so on, exacerbating the gulf between themselves and any competitors over time. Building the technology into other products extends their reach, so Microsoft's Bing Chat and Microsoft Office now include OpenAI's ChatGPT. Each time a user writes a document, edits a spreadsheet, or searches the internet

One of Microsoft's hundreds of data centres spread around the world where huge banks of servers power their company – including AI technologies – and it all takes vast quantities of water to cool.

OpenAI and its large language model technology ChatGPT are playing a big money game, with the CEO reportedly seeking $100 billion dollars in venture capital to continue AI development.

the information it contains goes straight back to OpenAI's servers. It's not just your car watching you. If OpenAI thought it worthwhile, they could know more about your operation than you do.

Q. I can't afford one of *those* cars anyway…

There are all sorts of big issues that will have to be resolved, and that won't be easy. The companies making these systems are not unaware of their resource consumption, or transparent about it, but it takes an increasingly spectacular quantity of electricity. It's been credibly suggested a ChatGPT query takes five to 10 times as much electrical power as a regular search query. Stored data isn't measured in terabytes any more and it's been estimated by 2035 humans will have created 2,000 zettabytes of data[1] (2^{70} or 10^{21}) kept in a thousand data centres (often built in cooler countries) consuming hundreds of megawatts each. The numbers are open to debate, but computing could account for 51% of global electricity consumption, a third of it from data centres, and 23% of greenhouse gas emissions by 2030[2].

All this energy also needs cooling and a lot of water. Open AI's ChatGPT was trained by Microsoft in Iowa. The weather is cool enough for the supercomputers during much of the year, but even so cooling water used in the summer months took 6% (11.5m gal) of the district's supply in July, which is seen as an issue for further expansion of the facilities. A report from Microsoft in 2022 documented a 34% increase in its water consumption mainly due to AI research. University of California scientists suggest a single 'conversation' with ChatGPT (20-50 interactions) consumes about half a litre of water[3].

Q. A bit bigger than beekeeping then?

You remember how the global Covid vaccine rollout went? For one reason or another, first poor people, then poor countries, got left out. The rest of the world is looking on as unaffordable technology widens the inequality already at the root of some of the problems they are trying to solve, or alternatively, becomes a new kind of commercial colonial imperialism limiting their independence. As William Gibson famously observed[4], "The future is already here - it's just not very evenly distributed". Fundamentally, the big problems are not technical, they are socio-political or matters of faith, morality, greed, emotion, ethics, or gender; all the things Artificial Intelligence can know nothing about, but *essentially* human.

AI's current apostles read too much science fiction and have a very limited skill-set. They see 'intelligence' as a single component on a one-dimensional scale that goes from dummy to smart. That's not the reality of human intelligence, and it certainly doesn't begin and end with language. For people, intelligence is a collective emergent property of living a multi-faceted, conscious, social existence. Maybe we can create another, non-human, kind of intelligence, but can it be accountable, responsible even? Will it know the value of failure? Would it imagine and dream? Could it forget, or forgive?

Dave Black is a commercial-beekeeper-turned-hobbyist, now working in the kiwifruit industry. He is a regular science writer providing commentary on "what the books don't tell you", via his Substack Beyond Bee Books, to which you can subscribe here.

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Moving Towards a Pit Stop

December is a month of two halves when it comes to the workload at Pyramid Apiaries in Marlborough, explains owner Patrick Dawkins as they hit the honey flow in this month's *Inside Pyramid Apiaries.*

BY PATRICK DAWKINS, OWNER

I like December in the hives as you can aim for a clear, well I was going to say 'finish line', but I think 'pit stop' would be the better analogy. You can't have a finish line just as the honey starts flowing, there is still the hot and heavy work of the honey harvest to get through in January and February before our minds can turn to any of that. However, queen sales slow down, grafts are fewer and our spring pollination work is done and dusted, so attentions turn to getting hives to their honey sites, supering up and then – hopefully – applying our energies elsewhere for a short while before the honey needs to come in.

We entered the month still making the last of our spring splits which, as I explained last month, was far too late. A round of assessing them followed. I promised to report back on how our on-site splitting of doubles down to singles affected distribution of bees between hives, so here goes.

For the most part it worked out ok, but there were some weaker colonies. A good way to even up strength at the time of splitting was to make the extra effort of shaking bees from at least a couple of brood frames into the box that was to be moved to a new base. That way, when the old queen and brood box was moved she went with plenty of young bees. You can't stop the field bees from orientating back to their original hive site, but by giving the split plenty of bees from a brood frame, then at least there is plenty from the new generation coming through.

Owner Laura Dawkins and a mix of single brood box hives, and a few double-queeners for fun, in one of Pyramid Apiaries yards.

An early morning load of hives in a vineyard in the lower country, destined for a mānuka/kānuka site up country.

Once all the splits had been made, the next round required assessing the splits to be queen right, healthy, and populous enough for honey production. That meant adding a few brood frames from strong hives to weaker hives on site. After this, it was time to make sure they were where they were supposed to be for the main honey flow.

December is a key month in Marlborough. It's when mānuka starts flowering, followed by kānuka, and white clover really kicks into gear as the temperatures rise. Our main mānuka/kānuka block is a little later flowering, but by the middle of the month I had made a few early morning trips from the vineyards of Marlborough to the bush with hives, thanks to our trusty tail-lift Isuzu Elf. A fully loaded truck on some true 4WD tracks can be perilous, but hopefully the loads coming out in a month's time are even heavier with honey.

Beekeepers all over New Zealand make the same migrations every spring/summer and then hope for hot, clear weather. In Marlborough there was very little rain in December with a few hot

days thrown in too, so our honey flow is off to a decent start.

While all this is going on in the production colonies, we are managing the mating units. We have honey boxes on our 3-in-1 units to prevent them getting honey clogged, there are a few smaller queen orders to fill, and then it is a matter of getting all the units queen-right for the late-summer rush of orders.

As I write this on December 28 though, I'm on top of the workload and in the mode of hoping for hot weather and full honey boxes, to give me plenty of work in January. I'm sure you're all hoping for the same.

Hives unloaded on site just in time for the sun to strike. Bring on the heat and the honey flow.

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

Productivity – The Hardest Topic of All

BY IAN FLETCHER

In Mid-December, the official statistics for the New Zealand economy showed a small but quite unexpected contraction in the economy in the three months to September. It was masked by the effect of significant immigration. The Herald summed it up:

'The economy shrank 0.3 per cent compared to the June quarter and GDP per capita fell 0.9 per cent, … despite some record-setting recent net migration.'

This is the productivity issue: how well the economy works, measured (essentially) as changes in wealth per capita. I've noted before that (as the economist Paul Krugman famously said) "Productivity isn't everything. But in the long run it's almost everything". Better productivity gives the country room to manoeuvre, coping better with climate issues, an aging population, inequalities and so on. A stagnant economy won't deal well with these challenges, and is likely to end up in a nasty winner-take-all populism.

The key phrase in the Krugman quote is "long run". We don't want to be like Argentina, but it's not impossible. At the end of the Second World War, there were four new-world countries judged to be both already affluent, and poised to grow on the back of a perfect trifecta of internal peace, significant immigration and great resources: Australia, Argentina, Canada and New Zealand. Canada and Australia have fulfilled that hope. Argentina has not. New Zealand is behind Australia and Canada, and I think we risk falling permanently out of the rich group, into the much less attractive middle group.

As Finance Minister and Prime Minister Nicola Wilis and Christopher Luxon have a challenge on their hands to boost New Zealand's productivity, and Ian Fletcher hasn't seen a lot in their plan that will achieve it.

The point is that Argentina got poor slowly. Short-term expediency was never arrested; the decline was never catastrophic enough to prompt real change. Argentina's recent election has returned a candidate who says he is ready to do radical things. But history is not on his side.

What about New Zealand? We know we've had a productivity problem for a long time. Our relative decline may now be on the brink of becoming an absolute decline in national wealth per capita. Successive governments talk about it; their action suggest that short-term expediency rules. Labour failed dismally to tackle the housing crisis (affordable housing supports a mobile and productive workforce). Public investment in education, infrastructure and the innovation system is all behind where it needs to be. Short term thinking is where governments confuse profitability (or short-term cash surplus) with productivity (long term return on investments across the economy). It's a lesson we need to learn.

So, what can be done? We need an economic plan (and abolishing the Productivity Commission, as the government proposes, isn't a plan). There are four challenges:

First, building the skilled workforce we need. Schools, universities and polytechs, and vocational (ie trade) training all need a serious re-think. Our best schools are world class, but many kids languish in schools whose results are second rate. Paying teachers properly, making university education free (yes, free) for the people we need: nurses, teachers, engineers.

National's idea of an hour a day of reading and maths in primary schools is a simplistic answer to a complex problem. If we had a standardised curriculum (like France), we'd get the same

results as France: clever kids would do well, kids from a Māori or other ethnic background would get left behind. Kids with other needs (dyslexia, or autism spectra for example) would fail. That's not good enough.

Secondly, we need to invest in what makes the workforce more productive: housing and social infrastructure (like really good childcare). The shortage of decent housing in many parts of the country makes the workforce sclerotic, inflexible, and unproductive. A decent health system is part of that too; we should aim for a system no worse than Australia and fund it accordingly.

Thirdly, infrastructure – the transport and IT backbone that moves goods, people, energy and data around. In a big, thin country with a small population that will always be expensive. If we want to move seriously to electric transport (cars, trucks and trains), we will need to invest enormously in both generation and transmission. We can do that by leaving it to the market (so electricity prices go up a lot), or by public investment. Given that it will take regulatory intervention to get diesel trucks off the road, and the fact that KiwiRail is basically broke anyway (despite the fact that it's the best environmental solution for long distance freight and people), I'd favour public investment. Much quicker and cheaper.

Fourthly, innovation. We should build systematically our ability to develop and sell ideas – technology. We know we can do this, but our successes depend more on luck, or connections than they should. The one policy the new government has announced that may yet really help is to legislate to allow genetic modification. Properly done, it will mean our primary sectors can catch up with the rest of the world. Imagine bees that resist varroa.

That needs to be matched by tax reforms that incentivise investment in new ideas-based companies, and penalise property speculation. That alone would help enormously. In fact, I think taxes need to rise in general to provide the services we want, and to meet climate, aging population and other challenges. We can't expect European services for American levels of taxation. This will be the conundrum that confronts Nicola Willis next year.

Finally, a word about Australia. Australia soaks up New Zealand's surplus working population. Australia would act if politics in New Zealand went serious awry, or if our ability to govern ourselves was interrupted by a natural disaster. That means our risk of ending up quite as bad as Argentina is low. But just waiting for the Australians to rescue us, either as individuals or as a society, condemns us to a second-rate outcome. That said, change is afoot – as well as the GDP numbers, the other big story from December was the wake-up call on foreign and defence policy delivered to Christopher Luxon when he went to Canberra. We may now need to sing for our supper… More on that next month …

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.

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Editor: Patrick Dawkins

To make comment or send press releases please email **editor@apiadvocate.co.nz** or phone **Patrick, 027 383 7278.**

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