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APIARIST'S ADVOCATE



News, Views & Promotions - for Beekeepers - by Beekeepers



A Honey Industry in the Dark

What light can be shed on the honey in the shed?

A Honey Industry in the Dark



Looming over a seriously depressed mānuka honey market is what has variously been described as a honey “oversupply”, “stockpile”, “surplus”, “backlog” and even a “glut” stored in sheds around New Zealand. Most-recently estimated by Apiculture New Zealand (ApiNZ) to be anywhere between 30,000 and 50,000 tonnes, we explore the data – or lack thereof – behind those big numbers and ask, could New Zealand’s honey inventory really be that large?

Over the past 10 years New Zealand has exported an average of 9595 tonnes of honey a year. And that is where the hard publicly available data on total New Zealand honey production and consumption begins and ends.

As a result, the honey industry remains largely in the dark over not just the size of the honey inventory, but the specifics of it. And when it comes to New Zealand’s honey, particularly the flagship mānuka honey, details count. A honey industry with no honey inventory is susceptible to failing to supply markets if production decreases. And, if mānuka honey is not held in storage to be “aged” or “grown” to maximise antibacterial properties, then there is lost value to producers and packers alike.

Opinions vary surrounding the national honey inventory, its size, how it should be worked through, and if it is a concern at all. However, one thing is for certain, many beekeepers have fallen on tough times in recent seasons as New Zealand’s honey supply far outstripped demand. Now, as droves of beekeepers exit the industry and registered hive numbers, once nearing one million, now fall below 600,000, a future with annual supply and demand equilibrium is being forecast.

The question of now remains though, how much honey is in the shed and what will become of it?

A FAINT LIGHT

Statistics New Zealand tracks honey exports and makes data available publicly at www.infoshare.stats.govt.nz where total export quantities and values are detailed, along with a breakdown of various honey forms (bulk, retail packed, comb). Also tracked are monofloral and multifloral mānuka – as per the Ministry for Primary Industries (MPI) definition – honeydew and varieties “other than mānuka” are collected in that catchall.

Honey floral variety by packaging type (export volume, tonnes) 2023



Total export quantities for all honey have ranged from 8702 tonnes in 2014 (the year registered hive numbers first passed the 500,000 mark) to the record setting 12,690 tonnes in 2021 off the back of Covid-related demand. The most recent full reported year, 2023, saw 9880 tonnes move offshore, closer to the 2014-2023 annual average of 9595 tonnes.

DIMINISHING LIGHT DOMESTICALLY

While international markets buy the vast majority of New Zealand's honey, domestic market consumption needs to be added to export volumes to complete the demand side of the equation.

New Zealand's grocery marketplace is dominated by Foodstuffs and Woolworths and, helpfully, their New Zealand honey retail sales data is tracked and available through Nielsen IQ. Unhelpfully, that data is priced at \$2375+gst (*editor's note: Apiarist's Advocate declined the opportunity to purchase*).

Various industry stakeholders spoken to have, at times, gained access to the data though. In 2022, as part of their research for the Honey Industry Strategy, ApiNZ bought the retail sales figures.

"It confirmed what we had anticipated and had based earlier assumptions on; that annual sales totalled around 2000 tonnes, and this had fallen over time," ApiNZ's Phil Edmonds says.

Bucking that assumed falling trend was a rebound to "about 2600 tonnes" the following year, major local seller Airborne Honey can divulge, having seen the more recent Nielsen IQ sales data.

"The trend for honey sales during the past two years in New Zealand supermarkets is up. The value of honey sold in

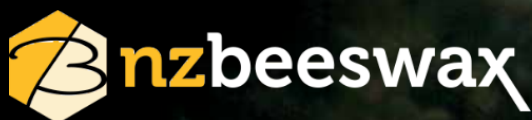


Nielsen IQ collects data on honey retail sales through leading supermarket chains such as Pak n' Save, New World, Four Square and Woolworths, but gaining access to it comes with a hefty price tag.

supermarkets has increased by approximately 37% and the volume has increased by approximately 15%. These increases are as a result of consumers purchasing lower price manuka honey at a higher price than multifloral honey," Airborne general manager sales John Smart reports.

The increase in larger department-store-type retail businesses in recent years, such as Costco and Chemist Warehouse, has provided new avenues in which honey is sold. Online trading is likely increasingly prevalent, and 'door sales' by beekeepers have traditionally been avenues for direct honey sales, including local farmers' markets. Pharmacies sometimes stock honey, especially mānuka honey, while airports and tourist stores also retail the sweet stuff.

How much is sold through those channels is a guessing game though.



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So too is the size of the "daigou" trade of visitors to New Zealand (typically Chinese) buying honey to take or post offshore to be on-sold. In recent years, both New Zealand and China governments have sought to crack down on the daigou trade with law changes. What impact this has had on honey sales is, like much of the domestic consumption sales picture, a complete unknown.

Edmonds says that prior to Covid and the attempts from China to stymie daigou, there were assumptions made that "off-retail" honey sales could amount to double the supermarket sales. That is likely to be "much reduced" since, given visitor numbers to New Zealand still haven't returned to their pre-Covid levels.

GROPING IN THE DARK FOR PRODUCTION FIGURES

Each year MPI produces Apiculture Monitoring Data, included in which is their estimation of honey production. Despite the numbers presented often being reported as an in-the-field factual reality, they are but an estimation in the truest sense of the word.

On behalf of MPI, AsureQuality carry out an annual survey of a range of beekeeping enterprises that account for approximately 30 percent of registered hives in New Zealand. Within that survey the respondents provide information on the total volume of honey extracted that season, and their hive numbers at June 30. An average hive yield estimate for both North Island and South Island is then calculated, which is multiplied by the registered hive totals for each island. Those two results are combined to give MPI's estimated national honey yield – 12,000 tonnes in 2023, 22,000 the year prior, 20,500 before that and a record-high estimate of 27,000 in 2020 as beekeepers reported a bumper 2019-20 summer.

Other than the North Island to South Island differentiation, MPI does not express if any level of regional production fluctuations are accounted for in their calculations, or the level to which the representative sample of honey producers surveyed matches with hive spread across the islands.

In the absence of more credible information on production figures, the apiculture industry has jumped on the MPI estimate to fill the hole in the supply and demand equation.

"It is an estimate, but it is the only estimate we have," Edmonds explains.

"The trend – proportional changes year-to-year – does however generally reflect what the industry has anticipated, based on changes to hive numbers and regional weather during honey production months."

The bluntness of the MPI production estimate is perhaps best represented by the trend, since 2017, of rounding the total to the nearest 500 tonnes.

GRASPING AT SOMETHING

The equation to determine annual honey surplus therefore relies on the broad production estimate generated from surveying, proportionally, less than a third of the beekeeping industry as a starting point. From that number, known honey exports are subtracted, along with a domestic honey sales assumption, which can seemingly only be reached following considerable guess work.

What you're left with is the surplus (or potentially a deficit). If totalled over several seasons, such as the last 10 years – the period since supply is believed to begin significantly shading

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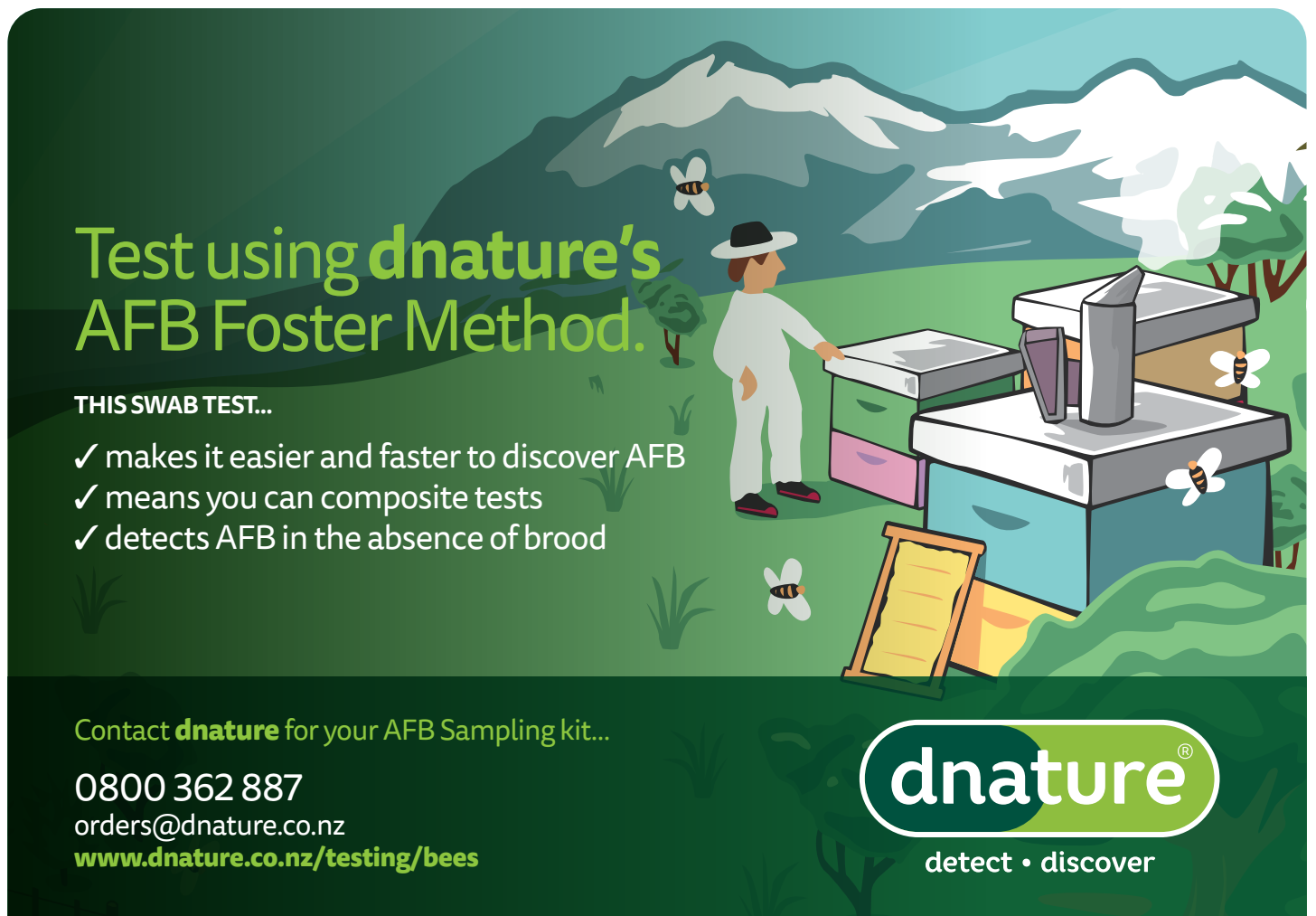
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demand – you have your stab in the dark at the current inventory.

According to ApiNZ, that's anywhere from 30,000 to 50,000 tonnes.

It's hard to argue with, in large part because it is such a broad range, but also because without better data – particularly around honey production – there is not a lot else to bring to the discussion.

The Mānuka Collective chief executive and ApiNZ board member, Sean Goodwin takes a keen interest in honey production and sales trends, having come from a FMCG (fast moving consumer goods) background prior to taking up his role in the honey industry 10 years ago. He has labelled the last 10 years in honey production and sales the "Decade of Disruption".

In Goodwin's view, in 2018 an inventory of around 20,000 tonnes of honey probably existed and it has since grown, not off the back of any increase in demand from consumers, but off internal industry demand. The introduction of methylglyoxal (MGO) growth forecasting in mānuka honey by laboratories in 2016, then MPI's mānuka honey export definition in 2018, both saw bulk honey buyers within the industry seek out greater volumes of honey.

"Hive growth and production was well in excess of actual outgoing sales. Why? The need to buy in advance because of the ageing process and the need to buy regional variation to meet MPI mānuka standards created an artificial demand which, in hindsight, has us thinking, 'that was crazy'," Goodwin says.

"By the time we got our head around that we were hit by a big crop in 2020, but also Covid, which led to a massive increase in exports. But what we didn't see at the time was, all of that was

going into market and going to sit there for a while. While at the same time the daigou market and anyone who was travelling here was completely cut off. But, you would have been mad if, in 2020, you had said to a beekeeper that you don't think they should place hives that year. They would have said 'nah, it's Christmas'."

Goodwin recently made a presentation to Mānuka Collective personal explaining those factors, which included the graph in Figure 1. It details registered hive numbers, MPI's production estimates, his own estimation of total sales volume (underscored by the export figures) and a cumulative surplus of honey which rises steeply from 2018 to land at approximately 50,000 tonnes.

"I don't intend this to necessarily be the Bible, but I think it is illustrative of what has gone on," Goodwin explains of his modelling.

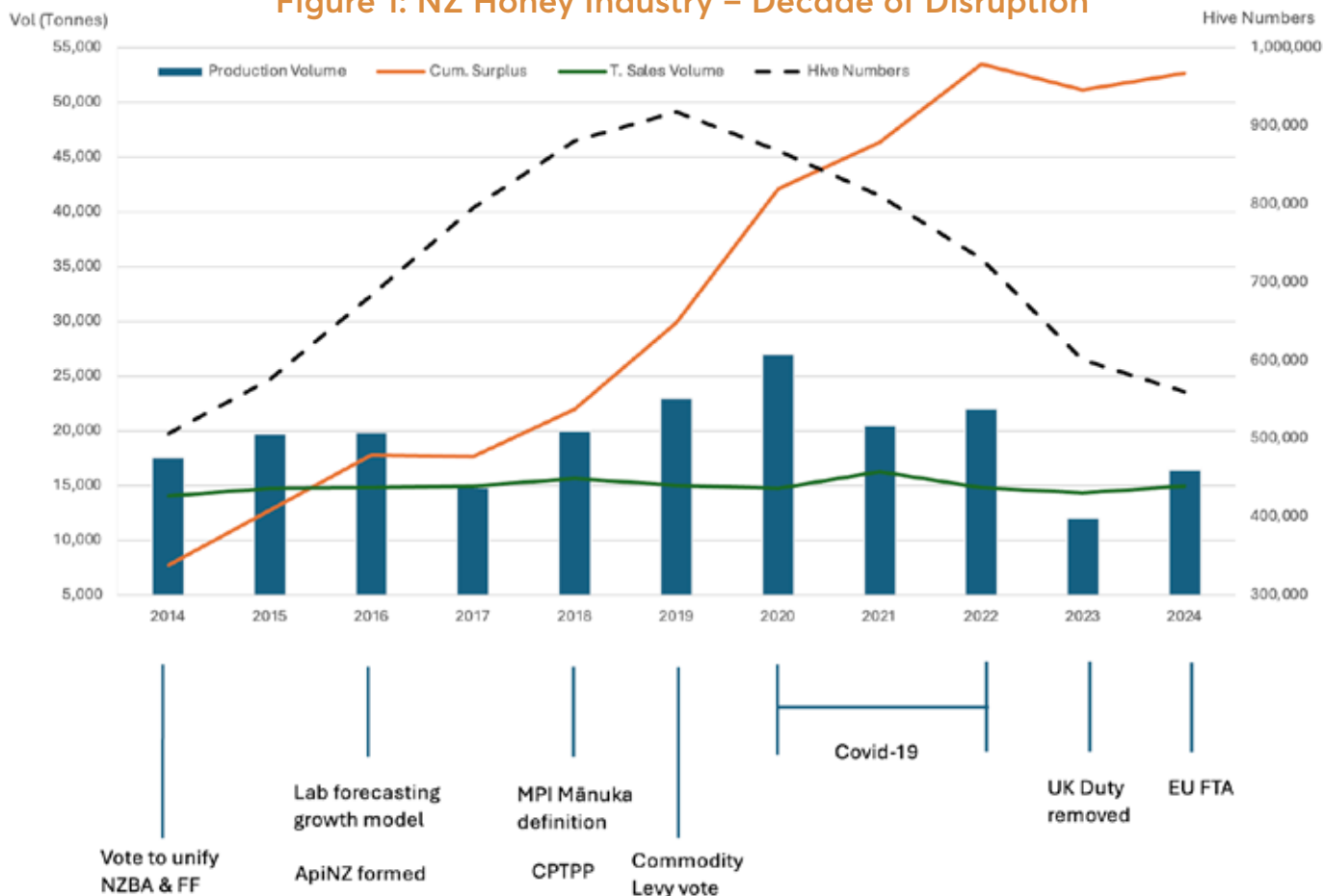
WHAT'S IN THE SHED?

Defining the size of the national honey inventory is one challenge, it's another to determine the variety and – in the case of mānuka – age and grade. Anecdotal evidence would suggest it is largely a mānuka honey backlog though, and that's what Goodwin is seeing presented to The Mānuka Collective by beekeepers.

"There is not much, if any, bush or low-grade mānuka honey and it is probably mostly higher-grades, 15 and 20+ (UMF), based on what I am seeing from suppliers around the place. That really is a legacy from the 2020 season where it seemed like everyone did well and it seemed like everyone got 15+," Goodwin says.

MPI estimated the national honey crop to be 27,000 tonnes that year.

Figure 1: NZ Honey Industry – Decade of Disruption



Notes: NZBA (New Zealand Beekeepers Association); FF (Federated Farmers); CPTPP (Comprehensive and Progressive Agreement for Trans-Pacific Partnership); UK honey tariff pre-2023 was 16%; EU honey tariff pre-2024 was 17.3%.

Credit: Sean Goodwin, chief executive officer The Mānuka Collective and Apiculture New Zealand board member.

A SAFE NUMBER

No industry would want to run at an inventory level of zero though, and the complexities of mānuka honey mean a significant supply should be held in the sheds of honey packers, beekeepers and storage facilities to both maximise its value through "growing-out" which allows DHA (Dihydroxyacetone) in the honey to convert to MGO, and to protect against low production years.

Logan Bowyer runs Bay of Plenty honey storage facility Mānuka Orchard and believes New Zealand should hold an inventory of between 20,000 and 30,000 tonnes.

"At this time of the year, New Zealand should have about 8000 tonnes in stock maturing. We should also have the final 5,000 to sell from last season, because we both produce and sell 15,000 tonnes a year. Then we should have another 10,000 for when we don't produce enough, which tends to happen every three or four years. So, that is about 20,000 to 30,000 we need in the sheds," Bowyer says.

New Zealand exported just over 6000 tonnes of monofloral mānuka honey in each of the past two years, and between 2000 and 2500 tonnes of multifloral mānuka.

Goodwin concurs with the need to hold honey stocks for ageing purposes, and as an insurance against the fluctuations of honey production from season to season.

"We are not producing widgets. If we have a year where rewarewa is flowering and thus a lot of mono mānuka becomes multi, then you need some flexibility," Goodwin says.

MAINTAINING PERSPECTIVE

While beekeepers might be copping the brunt of a large honey inventory depressing mānuka honey prices offered to them, at Egmont Honey chief executive James Annabell believes it can be worked through, and there is a blueprint to do so.

"Hive numbers have dropped significantly, to now be at a sustainable level, and demand for our product is still growing," Annabell says.

"We shouldn't over-estimate the glut. With the reduction in hive numbers, we think it will balance out quite nicely. A few years ago, no one thought we were going to sell through our backlog of bush honey, but within 18 months it was gone."

At Airborne Honey, Smart says you could argue a production and supply equilibrium.

"If you assume the current estimated 580,000 hives produce an average of 25kg of honey per hive, that totals 14,500 tonnes. Estimated export sales for 2024 are 10,000 tonnes and New Zealand supermarket sales are estimated to be 3,000, including retail sales not captured by Nielsen and the non-recorded bulk honey and gate sales," Smart says.

WORKING THROUGH IT

Regardless of its value, the existing inventory over and above what needs to be held will have to go somewhere. Any honey remaining unsold from the bumper 2020 season would now be in its fifth year off the hive. That's at least two years longer than mānuka honey is

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typically aged to maximise its value, and with it comes the risk of its less desirable traits – principally HMF – outweighing the well-known benefits of an “active” mānuka honey.

More recently harvested mānuka honey is fetching higher prices to the producer than honey stored for multiple years, but with a similar rating, Goodwin explains.

“You need to freshen it up. If it was a year or two old you could do it one-to-one with a fresh drum. Now, you might be using two or three fresh ones. That comes at a cost. So, you are seeing very low prices for some of the old stuff. There has to be a realisation for some people who are sitting on older honey that, very soon, some of it will be unsaleable,” he says.

If it is sent offshore in bulk, Goodwin is concerned it could pose a risk to the reputation of the New Zealand mānuka honey industry if it doesn’t present to consumers as a high-quality product.

“Artificial demand led to an oversupply. We are back in equilibrium now, but there is still a hang-over. Is it two years’ worth? Two and a half? Three? Not sure, the bigger question is, what to do with it? Ultimately, that is an issue we all have to resolve. It can’t be left sitting in beekeepers’ sheds. It has to be pulled through, blended and moved, in a way that is – hopefully – responsible,” Goodwin says.

FINDING THE LIGHT SWITCH

If beekeepers had greater and more timely visibility of how much honey, and what type of honey, the industry was producing over the last 10 years, would they have been able to make better

business decisions? ApiNZ believe so, and say beekeepers have told them there is a desire for this data.

The voluntary industry body has plans to implement a compulsory levy on mānuka honey exports, and one of the benefits would be a greater ability to collect and distribute information Edmonds says.

“Levy-funded industry good organisations do a much better job at producing their own data reports, such as DairyNZ, Beef & Lamb and New Zealand Avocado, or helping fund MPI expertise in this field to deliver meaningful data like NZ Winegrowers and Kiwifruit NZ. There are also other private initiatives that do this work on behalf of paying sector participants, and the forestry and wool industries tap into this,” Edmonds says.

ApiNZ has funding from MPI’s SFFF fund which they are using at present to advance their Honey Industry Strategy project. Part of that includes a commitment to exploring what data could be delivered that exceeds, in quality and frequency, that which is currently being generated.

“Once that is clear, the next step will involve understanding the willingness of relevant operators to participate, by submitting their own data. Issues of anonymity, trust and reliability will obviously be important to work through,” Edmonds says, adding “In the first instance, however, we need to make sure the kind of data and information we would look to collate is what beekeepers want and would value.”

In other words, is turning the light on going to be worth the power bill? 🐝

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The Honey in the Sheds, and the Sword of Damocles



While the New Zealand Honey industry bandies about vast ranges for potential honey inventory volumes, Bruce Roscoe explores how the industry once had a firmer grasp on the honey stockpile, while looking offshore and to other industries for inspiration to overcome the shortcomings associated with counting the honey in the sheds.

BY BRUCE ROSCOE

Since early 2021 estimates of the volume of honey stored nationwide have varied from 15,000 to 50,000 tonnes. The stockpile, therefore, might exceed annual export volume (CY2023: 9,850 tonnes) by 52.3% or 5.1 times. Which means, the honey in the sheds cannot be counted.

The industry clearly is more walking the edge of a precipice than facing a crossroads. All components of the inventory equation are either incalculable or only broadly estimated. For example, the volume of honey consumed nationally is not understood and actual production volumes are unknown.

This inability to stocktake handicaps the entire industry, but penalises beekeepers most. If the volume of inventory is unknown, then so is the volume of supply. If the volume of supply is unknown, beekeepers cannot know how much they should produce. Worse, for the volumes they do produce, packers can cap or cut prices paid by citing the high volume of honey in the sheds.

FOUR ESTIMATES IN (NEARLY) FOUR YEARS

- "...we estimate the total volume of honey stored in NZ to be in excess of **30,000 tonnes** (*emphasis added*) – nearly three times the volume of honey exported in 2020."
 - NZ Honey Market Update (March 2021), Apiculture New Zealand.
- "The Ministry for Primary Industries...estimates the stocks of surplus honey to be between **20,000 and 25,000 tonnes...**"
 - "Too many beehives, not enough buyers: NZ's great honey glut" (February 28, 2021), *The Spinoff*. (To our knowledge MPI does not estimate honey inventory.)
- "Apiculture New Zealand chief executive Karen (sic) Kos estimated there was an oversupply of between **15,000 to 30,000 tonnes** of honey in storage..."
 - "Mānuka honey: Beekeepers stockpile as international demand falls" (6 October 2022), Radio New Zealand.
- "...she (Karin Kos, chief executive, Apiculture New Zealand)... estimated there could be between **30,000 and 50,000 tonnes** sitting in sheds..."
 - "Signs of hope for under-pressure honey industry" (14 August 2024), Radio New Zealand.

After assessing the data sources that loosely underpin the various inventory estimates, *Apiarist's Advocate* believes the volume of 50,000 tonnes in (4) is conservative. Our calculation in the following table arrives at a total of 61,000 tonnes.

COTTAGE INDUSTRY COUNTING

The methods of counting honey, whether volumes produced or sold locally or stored, befit a cottage industry, say honey in the year 2000 when 2,522 tonnes were exported for a FOB value of

NEW ZEALAND HONEY INVENTORY ESTIMATE (a)				
	Honey Production (b)	Exports (c)	Domestic Sales (d)	Inventory
	A	B	C	A-(B+C)
				3000 (e)
2012	10,385	7,675	6,000	(3,290)
2013	17,825	8,054	6,000	3,771
2014	17,610	8,702	5,500	3,408
2015	19,710	9,046	4,200	6,464
2016	19,885	8,831	4,700	6,354
2017	14,855	8,450	4,700	1,705
2018 (f)	20,000	8,692	4,500	6,808
2019	23,000	8,065	4,500	10,435
2020	27,000	10,278	3,200	13,522
2021	20,500	12,690	3,000	4,810
2022	22,000	11,320	3,500	7,180
2023	12,000	9,880	4,600	(2,480)
Ending inventory				61,688

Notes:

- Tonnes
 - Source: MPI Apiculture Monitoring data, June yearends
 - Source: StatsNZ Infoshare, calendar yearends (FOB)
 - Source: Estimate by *Apiarist's Advocate* based on industry and company hearings made September 2024.
 - Guesstimated starting inventory volume
 - Estimates from this year end in 500s
- Data collated by Bruce Roscoe (26.9.2024)

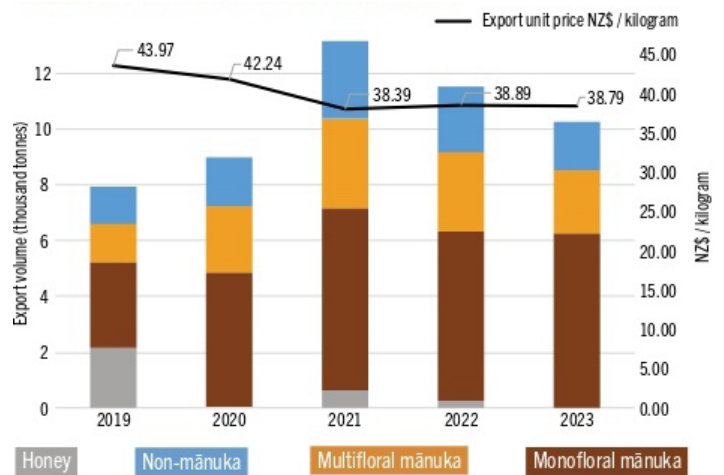
NZD11.3m. The current scale is barely comparable. Export value last calendar year amounted to NZD395.6m after declining in consecutive years since the peak of NZD505.5 achieved in CY2020. Yet the methods of counting seem unchanged, and in some cases – annual production volume, for example – have become more guesstimate than estimate. The industry appears to collect no data about itself by itself. It rather recycles data produced by one or other government agency (as does this writer, and as could *Apiarist's Advocate* readers).

A STRUCTURAL SURPLUS

Participation in mānuka export trade requires holding a substantial inventory of mānuka (and other, such as bush and clover) honey types for blending purpose. Even before the Ministry for Primary Industries (MPI) introduced monofloral and multifloral definitions of mānuka in 2018, a large inventory was needed for production of the various grades of mānuka honey. Post harvest a chemical reaction within the honey would continue to grow the methylglyoxal (MG or MGO) content. Reaching an optimal MGO amount would take two years, according to laboratory modelling. Meeting the MPI definitions in order to obtain export certificates required even more blending and thus more inventory. But how much inventory as an industry total is needed? Comvita Ltd, as the flagship mānuka honey packer and exporter, provides one guide.

In the five years to June 2024, Comvita's monofloral mānuka exports accounted for 45.5%, 42.4%, 46.2%, 62.6%, and 41.7%

Honey export volumes and prices, 2019 to 2023



Statistics for different mānuka honey varieties has been available since July 2019.

of the New Zealand total. Calculating from balance sheet data we can broad-brush estimate Comvita's mānuka inventory (raw material and packed product total) to have ranged from 6,700 to 11,200 tonnes in those years. The implied national inventory range is 15,700 to 26,300 tonnes. But Comvita as more packer than producer can cherry pick its intake (read *Comvita's Freeze Out Hits Honey Suppliers Hard* pg 14) to meet forward demand of one to two years and draw on a 50-year well of experience. Only a small minority of packers are able to operate in that way. The guesswork of the remainder may match the guesswork underlying available secondary industry data.

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THE CHAMPAGNE INDUSTRY MODEL

"We need to ensure supply and demand are balanced", the ApiNZ document *"New Zealand Honey Strategy 2024-2030: Futureproofing New Zealand Apiculture"*, declares. But there can be no "structural demand" to match the "structural inventory", because inventory must always be in surplus to support an export business in multi-grade mānuka honey products to a value of several hundred million dollars.

While market equilibrium is all but unachievable, the relationship between beekeepers and packers can be put on a less unequal footing. The Champagne industry model may have something to offer. Sitting atop groupings of grape growers and wine makers (Champagne Houses) is a "joint trade association" called the Comité Champagne. As a disinterested guardian it advises on suitable production volumes and performs intermediary roles among the industry participants. It is also charged with data collection and market research. Entrusting such to the Champagne Houses, this model seems to suggest, would be akin to assigning sheepdog duties to a wolf pack.

THE FEAST OF FEAR

The mānuka banquet has turned into a feast of fear, the Sword of Damocles strung by a horse hair and swaying over the heads of guests. Trade in the honey has been doubly good in good times, but triply bad in bad times. The need for inventory for blending is structural, but capital intensive. When sales turnover falls the cost of carrying that inventory does not decrease. Mānuka becomes a long or longer game or causes a collapse. Other honey types such as clover can be ill-fated in the same way when mānuka packers add them to the gumbo.

Pressure builds to clear stock. Cut-price selling and re-selling in offshore markets causes brand damage. Examples of mānuka wholesalers selling to wholesalers are now common. The primary wholesalers, unlinked to the retailers, lose influence over product presentation. As one result, don't-care sellers often enter mānuka into the "syrup" category on e-commerce platforms such as Amazon Japan. When keyboards or systems render the registered trademark symbol as a capital R, UMF® mānuka becomes "UMFR mānuka" for which error Google shows 7,070 Japanese search results. Costco Wholesale Japan prices are so low that customers can buy up stock for resale on various e-commerce platforms and post all manner of misleading claims about the product, and they do.

Product sold through business-to-business websites meets a similar fate. Deceitful sales tactics no longer raise eyebrows. Mānuka is passed off as organic when it is not, other certifications are advertised where there are none, prizes are claimed where none have been won.

More pressure builds to export mānuka in drums for processing offshore. New Zealand exported a daily average 3.8 tonnes of bulk monofloral mānuka in the first eight months of this calendar year at an average NZD26.70 per kilogram, 51.9% less than the NZD55.56 achieved for retail pack monofloral mānuka.

THE HIGH PRICE OF FREEDOM

European interventionist agricultural policy of the 1970s caused overproduction of butter and milk among other foods. Surpluses became known as "milk lakes" and "butter mountains". Ironically in the case of New Zealand the morass of mānuka has been borne of deregulation rather than regulation.



Could the New Zealand honey industry learn from the Comité Champagne in France, which provides representation to both grape growers and wine makers (Champagne Houses) as a "joint trade association".

The demise of the NZ Honey Marketing Authority (NZHMA) from an operational standpoint in 1980 brought to an end the collection of honey industry primary data. Whatever the NZHMA's marketing shortcomings during its later years, the records preserved in its 27 annual reports show a complete picture of production, storage, packing, trade, and more. Honey unsold as at the end of the NZHMA's August financial years from 1965-1974, for example, never exceeded the total volume sold locally and exported and averaged a shade over half at 0.51 times. And "honey unsold" included the volume "afloat" and held by overseas agents. Beekeepers could

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learn the amount of their payout as a percentage of export receipts (60.2% in the August 1979 year).

(The NZHMA ceased reporting "unsold honey" volumes in its last six annual reports from the August 1975 year. The honey in the sheds could still be approximated from financial data, but neither local buyers nor offshore agents could easily latch onto a loose-lip inventory volume and use it to drive down prices. Today offshore honey traders in an internet search of a few seconds can learn that the mānuka morass may be as much as 50,000 tonnes.)



The Ministry for Primary Industries has the contact details for approximately 650 beekeepers registered for honey exports. Should they provide the mechanism to survey honey inventories?

After four decades of freedom from the NZHMA straightjacket, decisions on whether to participate directly as producer or packer, or indirectly as investor, still are made in a darkroom. It can be said that the industry has counted little by itself since August 1980.

LET THE COUNTING BEGIN

Without waiting two, three, or more years for the formation of a "peak body" such as the Strategy document envisages, steps toward the collection of primary data for honey production and domestic sales can begin and without spending scores of thousands of dollars on public relations or market research companies. Harness website technology.

1. Production data: As a condition of their registration, require the MPI category "beekeeping enterprises" at the end of each harvest (say in May when their honey is in the shed) to report extracted volume. Comb honey producers can report more quickly. Beekeeping enterprises with more than 50 hives number only some 930 (for context, that's fewer than one quarter the roll of Rangitoto College). Reporting production volume should be no more complicated than an elementary homework assignment for high school students. The data is reported to a database-hosted website. Producer names are undisclosed.
2. Domestic sales: We know the volume of retail pack honey exports. Each honey packer knows the total volume of their retail pack honey. As a condition of packing, licences require all packers to report that volume. Subtract the export

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total from the total provided by the packers. The result should approximate domestic honey sales within any year as, unlike drum honey, retail pack honey is distributed to retail outlets that expect to sell it within weeks. (The same can be done for comb honey.) The data is reported to a database-hosted website. Packer names are undisclosed.

The volume of honey in the sheds will then calculate itself. Whichever methods are employed, they should be direct and their accuracy match the intensity of the labour of beekeepers in summer.

SOME WANT IT DARKER

While a burgeoning (according to the progression of ApiNZ estimates) volume of honey in the sheds remains uncounted, honey packers can be expected to argue maintenance of the status quo. None has been heard to campaign for a national stocktake of the stockpile or implementation of a practice that would render unnecessary such a stocktake in the first instance.

Their markets for monofloral mānuka retail pack honey have remained firm. In the five years to CY2023 monofloral mānuka exports grew 32.1% by volume and 28.3% by value. (Over that period the per kilogram price decline was only 2.8%.) Against popular expectation, the export price for this highest value category of mānuka in the first eight months of CY2024 increased 7.2% to NZD55.56 per kilogram, compared to the same period in CY2023. Yet, in step, under the weight of inventory, the packers' buy-in bulk prices have fallen.

A LEAF FROM JAPAN'S BOOK

NZHMA annual reports for the association's final six years show Japan to have been the largest market, accounting for between 41% and 66% of total honey exports by volume in the six years to August 1980. Whether remaining NZHMA archives can illuminate that history is unclear, but lessons perhaps can be drawn from Japan's current treatment of honey industry data. Foremost, production data is calculated, not estimated, and inventory is undisclosed. Beekeepers report production data to regional governments which are surveyed by the national government. The data categories are production, imports, exports, consumption. Inventory is the volume unconsumed. The Japan statistics seem to say: 'The inventory total is for us to know – and in our industry, we do know it. But it is for you to guess, as we do not broadcast it to the malls of the world.'

A TIME FOR BENEVOLENCE

Mānuka Doctor Ltd donated 200,000 250g jars of honey for use in food parcels in New Zealand during the Covid-19 pandemic, according to a June 6, 2020 *Stuff* news report. Comvita donated products worth NZD10,000 to workers of the Japanese Red Cross Society in its June 2022 year and 1,000 units of propolis spray and 500 packs of mānuka honey lozenges to Shanghai hospitals, among other examples of largesse noted in the company's June 2022 year annual report. It may now be time for the industry as a whole to follow those examples and begin discussions with the International Committee of the Red Cross on how a portion of New Zealand's honey stockpile could be used in food aid.

Separately, for all the industry's seemingly tokenistic references to "sustainability", the question occurs: What size of carbon footprint results from the warehousing of some 50,000 tonnes or larger volume of honey when an unknown proportion of that



In Japan honey production data is calculated, not estimated, and inventory is tracked, but not publicly disclosed. Could New Zealand learn from their methods?

volume is stored under various levels of temperature control for one or two years?

DIVIDING APART

Beekeepers collaborated in the development of the 2024-2030 "Thriving Together" Strategy, the ApiNZ document asserts. They saw a "transformation" and "value creation" during the mānuka-led expansion years. Some chose not to join the association. Varroa training should be compulsory, and use of non-approved varroa treatments made illegal. Those four points are the sum of "Strategy" content about beekeepers.

For all the "value creation" said to have been enjoyed by beekeepers, honey packers have long viewed beekeeping as a pastoral occupation best enjoyed pictorially through photographs. Since Airborne Honey sold its hives in 1997, 'We don't want to own the hives' has become a common refrain heard among packers. In only the three years since acquiring King Honey Ltd in June 2021, Me Today Ltd had disposed of some 18,000 hives. The timespan between comparable examples becomes shorter. Although the Three Peaks Mānuka Honey website under a "Now" heading boasts "...we have close to 8,500 hives..." that was then. Since its merger into the Perry Group-owned The Mānuka Collective in February 2022, Three Peaks Mānuka Honey has been reduced to a brandname.

THE IMPENDING SHED SHORTAGE

Beekeepers build and repair hives during quiet winter months. Their carpentry skills soon could be put to profitable use if they choose to join the ranks of their fellows who seek employment elsewhere. Let us assume that total honey industry revenues through volume growth reach the Strategy target of NZD1b by 2030. (ApiNZ believes the goal is achievable through value growth built by a united industry focused on "highest quality" and telling "our unique mānuka honey story", but market conditions – read Australia – appear likely to conspire against realisation of that noble dream.)

Without export price growth to NZD101.50 per kilogram from the NZD40.20 achieved in CY2023, volume growth is the alternative path to ApiNZ goal attainment. (A combination of volume and value growth is conceivable, but we simplify.) How much volume? Calculating from CY2023 data and assuming a constant export price of NZD40.20 per kilogram, export volume would need to grow 152.8% to 24,898 tonnes (annual compound growth: 14.2%) by CY2030. Such growth, hinging on mānuka demand, would call for an inventory of say three times that volume or 74,700 tonnes.

Many new sheds would be need to be built. Beekeepers could set up shed-building businesses. 🐝

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Comvita's Freeze Out Hits Honey Suppliers Hard



Where Comvita goes, many beekeepers go, and when they cancelled supply contracts with beekeepers in 2021-22 it sent some out business. A few seasons on, and casual buying from the mānuka honey exporter also appears to have been shut off, leaving honey producers "feeling sick" and some in tears. So, what response does Comvita have?

Note: *Apiarist's Advocate* has elected not to name the beekeepers spoken to for this story.

"I'm starting to lose hope. I'm starting to feel sick," says one North Island beekeeper about the state of their business.

Two years ago their relationship with Comvita changed. Told the agreement they had to supply mānuka honey to the exporting giant would no longer be honoured, they haven't sold any honey since.

"I've managed to keep going for the last two or three years but, I don't know, I don't want to have to keep selling things to feed this business. I want to get out, but I don't know how. You have to keep looking after the bees."

The business was built around Comvita's supposed need for mānuka honey, as were others.

"I know a lot of people went under or had to sell their whole business because of what happened with Comvita and their contracts. We also planted out acres and acres of mānuka to supply them with and that has cost thousands of dollars," the beekeeper said.

They were told about a year ago by Comvita that they would be buying UMF10+ honey, but nothing has come of it. Others spoken to by *Apiarist's Advocate* refer to a "buying freeze" with one saying

"I haven't sold anything in the last two years. It is always the same answer. 'We have to wait until the new financial year, we are not purchasing now'. I get the feeling they get calls all day long."

COMVITA'S POSITION

Comvita's struggles of recent are well known, with the publicly listed company's share price having seen a 12 month price drop of 64% to \$1.15 as of September 27. Then, on September 29 they



Comvita's decision to abandon honey supply contracts with beekeepers has already sent some out of business, and more could fall as even spot buying seems to have dried up.

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reported a 12.7% decline in June 2024 year revenue to \$204.3M, a net loss of NZD77.4m, and a 49.3% increase in net debt.

In an investor presentation dated August 29 and titled "Agility in Unpredictable Times", the company stated they were now seeing "the benefits of unwinding the previous long term supply agreements and only acquiring honey as required".

An *Apiarist's Advocate* request for an interview with Comvita to address their relationship with beekeepers was met with email response only, from the marketing department.

"We ran a process of exiting long-term supply contracts that were not linked to consumer demand in market. Before this time, we were contractually bound to accept product regardless of changes in demand and, as a result, by the end of 2022 our inventory peaked at \$146m. At the start of 2023, we step-changed our focus on delivering sustainable positive operating cashflows by optimising our inventory levels and have reduced inventory down from \$146m to \$134m by the end-June 2024," the reply stated.

Despite not willing to front for an interview, the response claimed a desire to "work constructively with our industry partners for the good of the wider Apiculture Industry".

THE BUBBLE'S BURST

"I have literally had beekeepers crying on the phone to me," says Logan Bowyer, owner of Mānuka Orchard storage facility in the Bay of Plenty.

While many supply contracts may have been shredded by Comvita over the past few years, some honey had still been sold to

Former Board chair Brett Hewlett stepped back into the CEO role at Comvita in August, when David Banfield moved to an advisory role. Both men made little comment about beekeepers or their value to the publicly listed company in the 2024 Annual Report.



the exporter. Now, talk of a complete buying freeze is hitting hard again.

"They had lived in a bubble beyond the rest of the beekeeping world for the last few years and they have not had to talk to anyone about how bad the industry was because they have been selling honey to Comvita for up to twice the price as to what others are offered for manuka," Bowyer says.

And the beekeepers the *Advocate* has spoken to corroborate that, with several saying Comvita's prices, when they were buying, were superior to other offers.

"When they are down, the rest of us are down. When they are up, we are up," Bowyer says.

Now, with Comvita's buying gone quiet, there could be more businesses in jeopardy of folding.

"Some of the big names, who you would think are pretty set solid in this industry, are starting to question their future," Bowyer warns.



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"They are heavily reliant on pollination in the next few months to get them through. This announcement has come at the same time as spring kiwifruit work is ramping up, so there is a small sigh of relief. However, when that is done and the pollination cheque is in and it only equates to less than what it takes to keep a hive alive for the season, and it is not followed by an adequate honey sale, they will be looking at another hard year."

A RECESSION REACTION

"Comvita were the forerunner in creating markets for a quality product and a quality price overseas and everyone else has traded off the kudos. And I have to say, they maintained high prices to the beekeeper for a very long time while everyone else was starting to cut them," another beekeeper says.

However, In the year to 30 June 2024, Comvita's revenue fell \$29.9million on the previous year, a 12.7% drop. They put much of the loss down to an economic slowdown in China, Comvita's biggest market, where sales have fallen by \$20million. According to their August shareholder report, other contributing factors are "price competition in entry point segments of Mānuka honey", "over supply from pre 2019 has created a glut of honey that exporters are discounting to clear" and "aggressive and unsustainable price activity from competitors in entry point categories".

Comvita's 2024 annual report features a four page Q&A with (now-former) CEO David Banfield and then-chair and now acting

CEO Brett Hewlett. Amidst the long analysis of international mānuka honey markets, references to those people – the beekeepers – who supply the honey which Comvita takes to the world are near non-existent.

"Lastly, our 20+ year focus on building an industry-beating sustainable supply chain with apiary and forest development provides us with robust supply," Hewlett is attributed with saying, before moving off the topic of beekeepers without so much as mentioning the word.

While beekeepers don't appear to be front of mind for company leadership, with 17,000 of their own hives on the books, they still play an important role in a company which also owns 6300 hectares of mānuka forest across 15 sites. This, they forecast will provide half of their required honey production by 2030.

So then, what need for beekeepers to extend their supply base? There appears to be no need now and no promises coming from Comvita that there will be in the future either. It's therefore no surprise that many of their former suppliers have abandoned the industry. Those who remain hold out hope that, despite the one-sided nature of their relationship with Comvita, the phone might one day ring again.

"I'd like to get away from them completely, but you just never know, so I need to keep the relationship," one of the beekeepers spoken to admitted, adding "It's scary because I am putting everything I have got into feeding this business. To run this business, over 1000 hives, imagine how much that is costing." 🐝

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Unique Kanuka Honey Testing Available This Summer



There will be a new honey testing lab opening its doors this summer, as The Experiment Company (TEC) moves its kanuka (*Kunzea ericoides*) honey project to the next level. With an interim chemical definition for both mono and multi-floral and even a potency rating (sound familiar?...) unveiled for the New Zealand native honey, emphasis now moves towards beekeepers and packers to support TEC and PAQ Laboratories as they strive to add value to kanuka honey.

Half a decade in the making, TEC chief operating officer Sri Govindaraju says the opening of PAQ Laboratories in Auckland for the coming honey season, and the kanuka honey testing that it provides, is an important step in their journey to highlight the unique attributes of New Zealand native honeys and add value to them.

"It's essential to us that our beekeepers continue to be passionate about the honey, the industry, the bees, and the vital role bees play in the broader agricultural system," Govindaraju says.

"Beekeeping solely for the pursuit of mānuka honey is unsustainable in the long term. Having the ability to offer standardised kanuka honey testing to the industry, to demonstrate its true value, is perhaps our way to give another reason to the beekeepers to remain in their profession, tend to their bees,



The native kanuka covers vast areas of New Zealand bush land, but as a standalone honey variety it has had limited value above others. In an effort to change that, The Experiment Company are rolling out their own chemical markers-based definition and have identified immunostimulatory properties which they will be offering testing for through PAQ Laboratories.

The Experiment Company's Honey Definitions

KANUKA MONOFLORAL

3-PLA \geq 10 mg/kg
 4-MPLA \geq 10 mg/kg
 3-PLA + 4-MPLA \geq 200 mg/kg
 Ratio 4-MPLA/3-PLA \geq 0.10
 MSY \geq 5 mg/kg
 LM \geq 0.5 mg/kg

KANUKA MULTIFLORAL

3-PLA \geq 10 mg/kg
 4-MPLA \geq 10 mg/kg
 3-PLA + 4-MPLA: 20 mg/kg to 199 mg/kg
 Ratio 4-MPLA/3-PLA \geq 0.10
 MSY \geq 5 mg/kg
 LM: 0.1 mg/kg to 0.49 mg/kg

KEY:

3-PLA 3-phenyllactic acid
4-MPLA 4-Methoxyphenyllactic acid
MSY Methylsyngate
LM Lumichrome

to harvest kanuka, and keep doing what they do with love and passion."

TEC is a startup company, founded by Govindaraju and husband Sunil Pinnamaneni, which has led a science-based programme to better understand the attributes of kanuka honey. After five years of work between labs in Auckland and Dubai (where Pinnamaneni is now based, following 10 years in the New Zealand honey industry) they are now confident in their testing method to both define kanuka honey and rate its immunostimulatory properties.

High-Performance Liquid Chromatography, Liquid Chromatography-Mass Spectrometry (Triple Quadrupole), and DiffuZone Imaging methods of analysis have been used in the research, which TEC calls "the most advanced instruments for the project".

THE POTENCY PROVIDER

The research stepped up a gear in 2023 and 2024, following submissions of honey samples, which were determined to be kanuka by the beekeepers who provided them. All up, 75 samples spanning seven regions (Auckland, Northland, Gisborne, Waikato, Wairarapa, Marlborough, and Canterbury) were analysed. That background has provided the confidence to proceed with both

an interim kanuka honey definition and a method to measure a glycoprotein which they claim provides immunostimulatory benefits – Arabinogalactan proteins. Like methylglyoxal in mānuka honey, which is marketed as “MGO”, these glycoproteins also lend themselves to a three-letter acronym: AGPs.

TEC research has found that, while AGPs are present in all honeys, they are more highly represented in kanuka. PAQ will test for AGP level in honey, offering results as milligrams per 10 grams of honey.

As for a rating system on which AGP levels can be marketed, that is some ways down the road, TEC’s chief operating officer says.

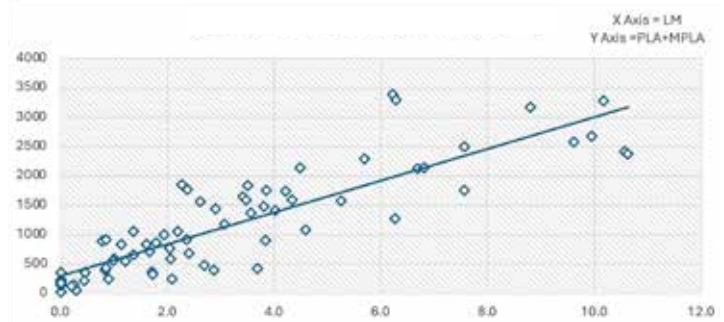
“In our opinion, the rating system should be based not only on the authenticity, but also the potency of kanuka honey. The data insights from phase two of our research will give us better understanding of how that rating system could look. It is going to be a work in progress, and we ask the beekeepers who harvest this honey to bear with us for a while longer.”

The word Arabinogalactan Protein on its own cannot be trademarked, as it is plant molecule occurring not only in honey, but also food sources. In that regard, it is akin to MGO in mānuka honey, which also cannot be trademarked.

MONO & MULTI DEFINITIONS

The path towards both a monofloral and multifloral definition to provide authenticity of a native New Zealand honey is one travelled before, with Ministry for Primary Industries (MPI) having

3-PLA + 4-MPLA Vs Lumichrome



TEC research found a positive correlation between Lumichrome (X axis) and the combined total of 3-PLA and 4-MPLA (y-axis) in the kanuka honey they studied.

required four chemical and one DNA markers to define mānuka honey for export under the two categories since 2018. TEC’s definition for kanuka does not have that level of clout to drive uptake, but they are confident in their “interim” definition, which they will “fine tune” as more samples flow into their lab in the coming years.

For both definitions 3-phenyllactic acid (3-PLA) and 4-Methoxyphenyllactic acid (4-MPLA) must be present in the honey at a level equal to or greater than 10 mg/kg. If 3-PLA is more than 10 times more abundant than 4-MPLA in the honey, it fails both mono and multi definitions (ie. $4\text{-MPLA}/3\text{-PLA} \geq 0.10$). Completing the chemical markers similar to both mono and multi kanuka definitions, Methylsyringate (MSY) must be present at $\geq 5\text{mg/kg}$.



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Key to differentiating mono and multi-floral kanuka honey, according to TEC, are the combined total of the two markers used in the ratio equation. If 4-MPLA and 3-PLA combine to be equal to or greater than 200 mg/kg, then the honey may qualify as monofloral kanuka, between 20 mg/kg and 199 mg/kg – multifloral.

"A great deal of effort has gone into designing the marker criteria, and we've taken a unique approach in their selection. The combination of markers, along with the sum of 3-PLA and 4-MPLA and their ratio, creates a distinct and reliable standard," Govindaraju says.

Lastly, lumichrome (LM) completes the set of four chemicals which make up the definition. At 0.5mg/kg or higher the honey is potentially monofloral kanuka. Below that level it still qualifies as multifloral kanuka because, in New Zealand, lumichrome has only been determined as present in kunzea (kanuka) species' honey. Alone it shouldn't be used as a definition for kanuka honey though, Govindaraju explains.

"Lumichrome is specific to kanuka honey amongst honey from New Zealand, though it has also been found in a few other honeys, such as cornflower, ghaf honey from the United Arab Emirates, and Dalmatian sage honey from Croatia. A definition should function like a fingerprint, and the combination of selected markers serves as a unique identifier for the authenticity of kanuka honey."

MPI's decision to set both a mono and multi-floral definition for mānuka honey exports has been controversial. Many claim the multifloral definition undermines the value of higher MGO monofloral mānuka honey. Despite this, TEC has chosen to embrace a similar philosophy.

"As kanuka honey gains recognition and its value rises over time – which could take several years – the industry tends to blend it to optimize batch production. This makes distinguishing between mono and multi-floral honey crucial. While, like mānuka honey, this distinction may not be flawless, we will continue to refine the multi-floral definition as we gather more data," Govindaraju says.

A NEW KID ON THE BLOCK

PAQ Laboratories plan to open their doors for testing in November. They won't be operating on the scale of some of the longer-serving honey labs, but alongside their testing methods for kanuka honey markers and AGPs, they will also offer HMF, diastase, moisture, colour, and microbiology testing (such as APC and yeast and moulds). Govindaraju says it is their goal to be "a comprehensive, one-stop solution for kanuka honey testing" off the back of their innovative methods.

While a rating system for AGPs might not be in place yet, it is TEC's hope that the industry can band together to take advantage of "phase one" of their research, while they head into the multi-year "phase two" of further kanuka nectar and honey analysis.

"We encourage the beekeepers to normalise the new nomenclature surrounding kanuka honey. The more we keep using it in our day-to-day, the concept and understanding will only increase with time," Govindaraju says, adding "AGP and chemical marker test results that PAQ Laboratories provides, should be a starting point for beekeepers and brands to use this info in their own marketing and educating their existing, and to attract new, consumers." 🐝

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A COLOSS(al) One-on-One



Beekeepers have until 30 November to complete the annual Colony Loss Survey which helps the industry gather data on a range of topics. In September we caught up with survey author Pike Stahlmann-Brown about what's new in the 2024 NZ Colony Loss Survey and what he learnt at the EurBee beekeeping research conference in Estonia, which he recently attended.

Apiarist's Advocate: How long have New Zealand's beekeepers been filing the Colony Loss Survey?

PSB: The first survey was in 2015, making this year's survey the 10th overall. That means we can look at trends over a time, from the heady days of the mānuka boom to the present.

AA: One of those trends the survey has shown is the growing impact of varroa, correct?

PSB: That's right. We first started asking about the cause of losses in 2017. That year, we estimated that 1.6% of all healthy, living colonies going into winter died from varroa. Over winter 2023, it was 6.4%. 2023 was also the first year in which over half of all winter losses were attributed to varroa.

But we've also been able to see how people are treating varroa, and one of the things we highlighted over the last few years is that successful beekeepers are using different treatments at different times of the year. This was echoed by several presenters at the Southern North Island Beekeeping Group's conference in Whanganui in August, where several successful beekeepers shared their varroa treatment programmes.

The 2023 survey also included questions on wellbeing, including questions about factors that shape whether people are thriving or suffering. While varroa was one major theme, economics was another. Costs like fuel and labour have risen rapidly over the last few years while the prices beekeepers get for honey – both mānuka and non-mānuka – have fallen dramatically. A paper we published recently in *Bee World* showed that New Zealand commercial beekeepers reported lower wellbeing than commercial

farmers, foresters, and growers. Beekeepers' scores were the lowest in primary industry, on average.

AA: Other countries have colony loss surveys, too. Have other countries included beekeeper wellbeing in their surveys?

PSB: Yes. The COLOSS network has about 40 countries in it. Most of them conduct annual colony loss surveys, and over half of them followed New Zealand's lead by including wellbeing questions. I'm chuffed to say that our questions were developed by some of our leading beekeepers and researchers, including John Berry, Barry Foster, Ricki Leahy, Jane Lorimer, Russel Marsh, Will Trollope and Jane Pierce. Most countries that included wellbeing in their surveys used our exact same wording.

AA: That's encouraging to see the efforts of that New Zealand cohort capitalised on internationally. Have there been any results about wellbeing in other countries so far?

PSB: Most COLOSS members are in the northern hemisphere, so their winter surveys closed just a few months ago. But I recently attended the EurBee conference in Estonia, and wellbeing was a frequent topic of conversation, and their issues seem to be similar. At that event, more scientific presentations focused on varroa than anything else, and miticide resistance is a growing problem, especially in places where people only use one form of treatment. Hive density was also identified as a problem in some areas and a researcher from the Czech Republic said that there are more than 100 colonies per km² in some parts of the country.

Economics were also front and centre. A beekeeper reported that cheap imports had driven the price for bulk local honey in Germany to 80 Euro cents (about \$1.43) per KG. I spoke with a couple of beekeepers from Central Europe who are each storing several hundred tonnes of honey at the moment. Wages are high, fuel costs are high...

On the other hand, one presenter surveyed consumers and found that nearly one-quarter of them ate honey every day, so I guess there's hope!

AA: You would have been in your element at such an event. I understand it went for four days, so what else did you pick up which might be most pertinent to the New Zealand beekeeping industry?

PSB: There was a lot of interesting research! One of the most interesting was about tropilaelaps mites. The average reproduction of varroa in a worker cell is 1.6 mites. In a drone cell, it is 2.6 mites. For tropilaelaps, those numbers are 3 mites and 6 mites,



Pike Stahlmann-Brown will present the findings of the 2024 NZ Colony Loss Survey next year, with beekeepers having until November 30 to complete it online.

respectively. God forbid that tropilaelaps should ever reach New Zealand!

AA: On that note, you ask about tropilaelaps in the current NZ Colony Loss Survey. Why is that?

PSB: To be clear, tropilaelaps is not present in New Zealand. But it's important to know if we as a country are prepared for invasions of more honey-bee pests and pathogens, some of which could be even worse than varroa. The survey asks beekeepers how confident they are in being able to detect signs of these pests and diseases. It also asks how confident they are that our biosecurity systems could eradicate them if an incursion were ever to occur.

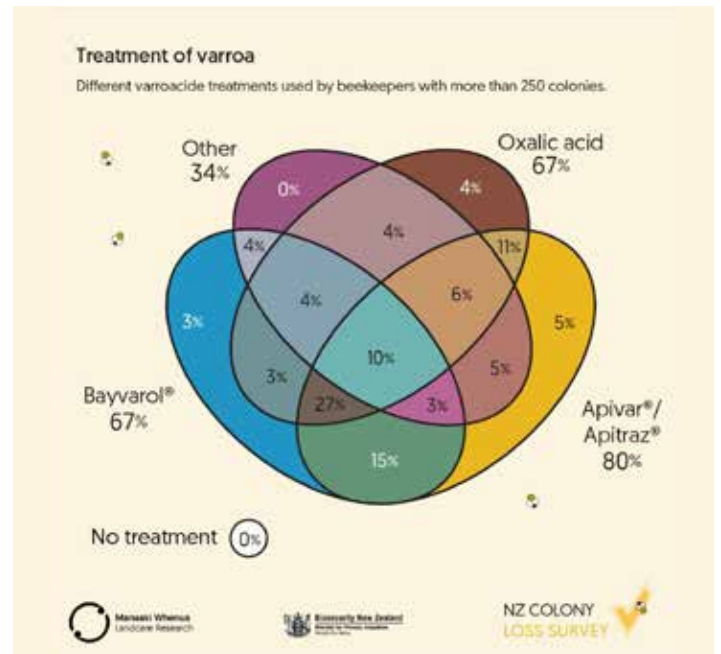
AA: What else is new in the survey this year?

PSB: It turns out that there are hundreds of people who have apiary registrations, but who don't keep any bees. The new survey asks such people whether they're new to beekeeping, on their way out, or just taking a break.

There's also a new question (for everyone) about beekeeping-related activities. Do you attend beekeeper meetings? Do you help collect swarms? That sort of thing.

One more change for this year: I heard from people in pollination that it's hard to get to the survey before the end of kiwifruit pollination, so the survey is open longer this year – until 30 November.

AA: The sooner they get onto it the better though, so can you remind our readers how to take part in the survey?



Results from the 2023 NZ Colony Loss Survey.

PSB: All registered beekeepers should have received emails about the survey on 1 September and 21 September. Those emails have a link that is unique to each beekeeper. The next reminder will be sent on 11 October.

AA: Thanks for catching up with us today, Pike. We look forward to seeing all the results.

PSB: Thank you! I'm always happy to talk about the survey and especially like sharing the results. Watch this space... 🐝

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John Berry on Honey Production



There's nothing more important to the sustainability of most beekeeping operations than the ability to maximise honey production. John Berry has been seeking to continuously improve yields for more than half a century. He shares some of what he has learned.

BY JOHN BERRY

You can't get a good honey crop every year no matter how good a beekeeper you are. Sometimes the weather is against you. In fact, more often than not this seems to be the case and sometimes things just don't flower very well, or you run up against competition from native solitary bees, or other beekeepers.

What you can do is make the most of what you can get and by doing this well you can have a 10-year average that is both respectable and profitable.

New Zealand's current average production per-hive is somewhere around 20 to 30kg, which is pretty pathetic and there are many beekeepers doing a lot better than that. So there must be plenty doing a lot worse. I think a lot of this comes from the idea that more hives means more honey, whereas the reality is that on average a given area can only support X number of hives. Beyond that point you might conceivably get more honey in total, but you will always get less honey per hive.

Correct stocking rates can take years to get right, but you can't go too wrong if you start low and work your way up.

THE APIARY

Warm, dry, sheltered, sunny and accessible to vehicles are crucial. In hilly country it should be as near the bottom of the hill as possible, without being in a frost pocket. All day sun is best but – despite popular opinion – if I had to choose, I would go for afternoon rather than morning sun. The warmer the better. If you feel like you're dying of heatstroke taking off honey in summer, then it is about right for the bees.

Apart from very dry or very wet areas, most places in New Zealand will give a reasonable honey crop most of the time, but if you can find somewhere with multiple potential honey flows you will normally do better.

How you set your hives up is important, as drifting can have a dramatic effect on honey production. Palletised or not, I prefer my hives in groups of four with each hive facing a different direction. I will not keep bees anywhere I cannot set up to drive between the hives. Boxes of honey are heavy enough without having to carry them more than a few steps. Hives set up in long lines not only cause drifting, but also poorer mating results.

If you are lucky enough to keep bees in areas that can support large numbers of hives, I have found that splitting the apiary into two groups a little way apart is also beneficial. Some long-time research my father did many years ago gave a benefit of about 5kg per hive just through properly setting an apiary up.

THE HIVE

The aim is to have every hive in the apiary at full strength by the start of the main honey flow. That's not always easy and for many areas the start of the main flow can vary considerably from year to year. However, do your best to get your hives strong and even. There is no point in having one weak hive and another one swarming beside it.

Good queens are essential. The vast majority of my requeening has always been in the autumn and I expect my queens to last for two seasons. I see no significant difference in honey production between first season and second season queens and, as far as swarming goes, it seems to be slightly worse in the first season queens.

As for swarming, do not ever let your hives swarm. In a bad swarming season it is better to weaken the hives to the point where they no longer want to swarm than to let them go. This will reduce your potential honey crop, but nowhere near as much as swarming, especially just before the main honey flow.

I like to keep a number of spare hives to patch up any problems in the spring. This is especially important on palletized hives as

they basically all have to get boxes at the same time. Keeping bees on pallets forces you to equalise hives when necessary and this is a very valuable lesson when it comes to honey production.

There is a lot of debate about whether you should keep the queen in one brood box or two. I did some quite extensive trials many years ago and they came out firmly on the side of two. Many won't agree with this, but it is what we found.

THE QUEEN

How important is good breeding and breeder selection? I'll go out on a limb here and say that the best queens these days produce more than twice what the average hives did 50 years ago. There are many things you need to select for in a breeder queen, but fortunately the most productive hives tend to tick most of the other boxes.

Most of the costs are the same for an unproductive hive as a productive hive. Proper selection can easily add 10 to 20% to your crop if you are starting from a low point and even 5% makes a big difference over a thousand hives.

WHEN TO TAKE HONEY OFF

Early in the season, if there are still good prospects, I don't like letting hives get too full as they will cram the brood nest down and this reduces further prospects for honey. If your hives are all even then they will all be full at the same time. This makes life a lot easier.



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If hives get full, many beekeepers just keep adding supers until the end of the season. This is better than nothing, but you will get more honey if you take the boxes off when full. Normally I run my hives with two honey supers and after the first cut, unless prospects are amazing, just with one.

The reality of beekeeping is that New Zealand hives don't fill two full-depth boxes, on average, and three boxes containing maybe 70 kg of honey is way above average. That doesn't mean you can't get more and, in those years when all the stars align, it can be a real struggle to keep up.

I used to run 2000 hives with my brother and one year we took off honey 30 days straight. 120 full depth boxes per load and some days we would go out and get another partial load close to home and we still weren't keeping up. So, if we had the energy, we would go out by ourselves and get a full load each. Well over 4000 boxes in 30 days.

Another year all our mānuka hives were full by New Year. The next 10 days were cold and drizzly and we spent a miserable time taking off honey every day, at the end of which we thought, why did we bother doing that? In the end it turned out to be one of the latest mānuka crops I've ever seen and we got another two or three full boxes per hive.

Taking off honey during the honey flow is also a pleasure, with no robbing to contend with. Towards the end of the season I like hives to cram down a bit so they have plenty of stores for winter. Having all the hives with one honey super at the end of the season



It's a wonderful feeling to drive into an apiary when every hive is full of honey says John Berry, although getting it off can be tiring work.

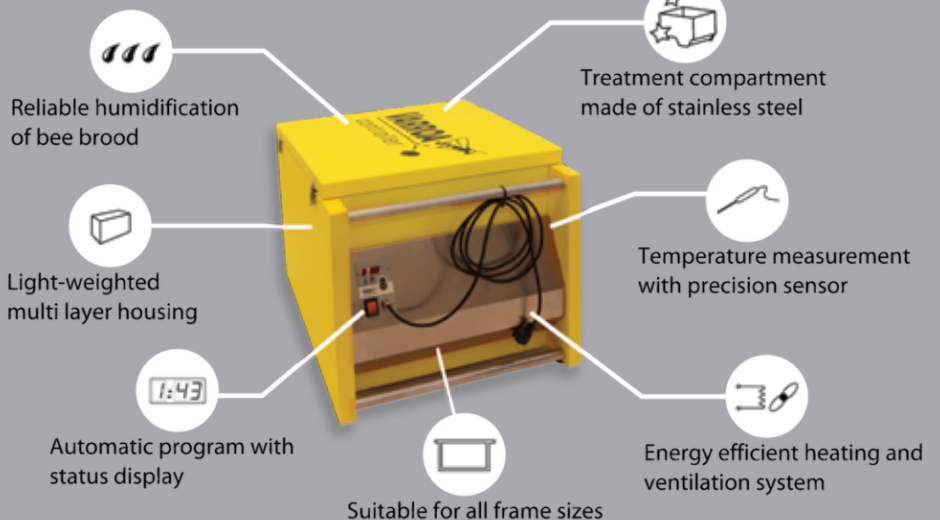
also makes it far quicker getting the last of the honey off, so that you can begin your autumn varroa treatment.

One thing we have found over the years, which seems to be peculiar to mānuka, is that when the mānuka is finished flowering hives are often very reluctant to move on to any other flowers. By removing the honey, you not only keep it pure, but it also incentivise the bees to work something else.

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Late flows don't happen every year, but when they do you need to take advantage of them. Hives with even moderate numbers of varroa in the autumn have hugely reduced honey gathering potential.

Many years ago I ran some trials using various thymol products. I had some untreated control hives that looked exactly the same as the other hives, with just a few more mites than them, but they produced zero honey that autumn compared to 25 kg extra from the hives with no mites. Things have only got worse since then.

SHIFTING

We used to do a lot of shifting out from the mountains in winter, and back again in late spring, with pollination in between. Sometimes, because of drought or excessive rain, we would get the urge to shift bees during the season. One year, because of drought, we took off the one box of honey the hives had and got them ready to shift up into the mountains. Before we could shift them it rained, so we didn't and they went on to produce another 80kg a hive, whereas where we were going to shift them to produce nothing.

In over 50 years as a commercial beekeeper I have only once moved hives during the season and won on the deal. That year there was almost no flower on the mānuka and continual rain in the hills, so after Christmas we moved a lot of hives back from the mountains into their dry winter sites where we never left more than a few hives. It was a good move and they produced a moderate crop as opposed to zero for the hives that we didn't shift.

Most of the time it is easier and more profitable, or at least less loss-making, to do nothing. Keep good records on production and over the years you will see if an area is profitable.

You won't get it right every time. I certainly don't. I still make mistakes, but believe me, it is a wonderful feeling when you drive into an apiary and every single hive is full.

A Little Something Extra

Editor: John has kept detailed notes of his apiaries over decades (some dating back to the 1960s!), including their honey production. This image is from one apiary and features yield data from the 1993-94 season up until summer 2021-22, which he wishes to share to show how things have changed over the years.

The site is on a Hawke's Bay farm in continuous ownership of the same family for the length of John's apiary being there, which he explains "I started working these hives in 1972 and my brother and I brought them in 1995. I have been running them on my own since 2015".

"One thing you do need to remember is that all these averages include honey that was left on in the autumn for the winter and on average that would be about 10kg/hive (all hives were left 15kg but some of that is sugar). They do not include how much is fed in the spring. Average per hive includes all hives, including any that died during the season."

Note the long-term average honey production in excess of 80kg/hive ... and that summer of 2015/16... 🐝

Year	AV	HH	Con	Col	BL	YA	NY	NT
93-94	60	18	S	W		61		5
94-95	62	24	S	M-L		58		8
95-96	84	29	S	C-L		58		10
96-97	71	28	S+	M-W		62		11
97-98	82	24	S+	L-A		57		8
98-99	85	28	S+	TH-M		61		10
99-00	101	24	S+	W		64		5
00-01	57	24	S+	W-M		65		6
01-02	48	20	S+	M-W		56		10
02-03	56	16	S+	A		59.9	48	9
03-04	34	24	S+	W-A		59.3	69	10
04-05	62	24	S	A		60.5	50	10
05-06	86	24	S	W-A		60.7	51	13
06-07	85	16	S	A-M		61.9	52	13
07-08	104	16	S+	W-A		70.1	53	10
08-09	85	16	S+	M-A		69.8	54	9
09-10	71	16	S+	M-W		66.8	55	9
10-11	72	16	S+	A-M		68.3	56	11
11-12	76	16	S+	M-A-W		71.1	57	11
12-13	66	16	S+	A-W-M		72.1	58	12
13-14	78	16	S+	W-M		76.5	59	8
14-15	109	16	S+	W-A		83.2	60	12
15-16	143	16	S+	W-A		88.9	61	11
16-17	75	16	S+	A		87.9	62	10
17-18	72	16	S+	M-A		84.7	63	15
18-19	64	16	S+	A		80.6	64	9
19-20	77	16	S+	M-A		81.2	65	13
20-21	61	16	S+	A		80.1	66	10
21-22	53	16	S	M-A		77.9	67	12
22-23								
23-24								
24-25								
25-26								

KEY

The rows signify the season, and the columns are headed:

Av. Honey production average per hive for the season.

HH. Number of honey hives on site for the season.

Con. Condition of hives at the start of the honey flow.

W Weak

F Fair

S Strong

S+ strong plus.

Col. The colour of the honey produced.

L Light i.e. clover, thistle et cetera

TH Nodding thistle

Cl Clover

M Mānuka/kanuka

A Amber

D Dark (most probably manuka).

BL. American foul brood identified.

YA. Average yearly production for the last 10 years.

NY Number of years the bees have been on that site.

NT. Number of times the hives were worked during the year.

Our Vegetarian Wasps



We know that bees, including honey bees, require protein to survive and thrive. But, does all that protein come from pollen, or is their diet more diverse? The answer to that question lies in their past, 128 million years ago when bees evolved. Science writer Dave Black takes us through that journey, exploring the scientific advances required, bees' ancestry and their assumed vegetarian status.

BY DAVE BLACK

Genome sequencing has become a vital tool for understanding the deep roots of biological phenomena in an organism. In the late '70s Frederick Sanger improved on early methods to investigate the folded chain (or 'sequence') of amino acids ('bases') in a DNA strand, in which it was chemically 'cut' at a particular 'base' and the size of the fragments inferred how the strand was composed. Sanger used chemical 'templates' to connect the bases to a marker, and eventually their own fluorescent labels. While this was extremely accurate, it was laborious and slow, and genome sequencing, in the beginning, took decades.

Sequencing a human's genome (actually it was group of anonymous volunteers) in the Human Genome Project took 13

years (1990-2003). That is now possible in a single day using 'Next Generation Sequencing (NGS). NGS, or 'massively-parallel-sequencing' simply conducts the analyses in parallel; many strands are sampled at the same time, and less time means lower costs. Lower cost brought it within the reach of the bee scientists.

In 2017 a group of US scientists led by Michael Branstetter published the results of a study that described the phylogenomic relationships between 189 members of the Aculeata, that is, how the genetics of bees, ants, and wasps show they are related to each other¹. Such a large and detailed study was made possible using NGS. It confirmed some things we thought we knew (that's what good science does) and provided some insights about things we'd been thinking about. Especially, it helps to explain how bees, and social bees, evolved.



Thrips – seen here feasting on daisy pollen – played an important part in bees' evolution from carnivorous wasps, approximately 128 million years ago.

EAT WHAT YOU LIKE

The study unequivocally links Anthophila (bees, think pollen – ‘Anther-lover’), which includes all the bee ‘families’, Colletidae, Stenotritidae, Halictidae, Andrenidae, Megachilidae, Apidae and Melittidae, to the mid-Cretaceous period, and to their ancestors, the Crabonidae wasps in the early Cretaceous. A subsequent study by others narrowed this down to a particular group of Crabonidae wasps, the Ammoplanidae, 128 million years ago². These small wasps hunted thrips, and these thrips fed on pollen; they use their mouthparts to pierce the grain and suck the fluid contents out³.

Eating pollen is difficult, ask Patricia Wiltshire. She is a famous Welsh palynologist and forensic ecologist who for 30 years or more has used the skills she has learnt to provide evidence for hundreds of difficult UK criminal cases and archaeological site reconstructions around the world. She can do it partly because pollen is nearly indestructible, capable of surviving millions of years virtually unaltered⁴. How do you eat something so durable?

Not all pollen is the same, but essentially a grain of pollen usually has two protective layers, helpfully known as the exine and the intine. The external exine is made of sporopollenin, a complex carbohydrate that builds the intricate but characteristic shapes you see under a microscope, and then an intine, made mostly of cellulose and pectin. Inside that lie the useful, nutritious, cell contents. The ‘wall’ formed by the two external layers is made to resist three ‘D’s, dehydration, decay or digestion, but often

contain a few pores through which the cell can germinate – like a microscopic seed. Eating pollen means you must be successful at doing one or more of the following: destroying the pollen wall mechanically, piercing the pollen wall with sharp mouthparts, dissolving the pollen wall with enzymes, inducing germination, bursting the pollen wall through osmotic shock, or penetrating the pollen wall with digestive enzymes⁵.

Most animals, and bees, are thought to extract pollen nutrients by making it germinate (‘pseudo’ germination), osmotic shock bursting the grain, and/or penetration of the pollen wall with digestive enzymes. What may have provided bees with the ability to do that came as their ancestor identified an opportunity to diversify from eating animals that ate pollen, to eating the pollen itself. The newly evolving bees-née-wasps had already mastered the navigational, visual and olfactory floral features which wasps used to locate their prey (the flower-visiting thrips). The pollen-fed and pollen-covered thrips were transported to the nest by the female wasp to feed larvae, conditioning their gut microbiome to cope. This might have expedited the switch from involuntary and accidental pollen consumption to exclusive and obligatory pollen feeding by the early bee’s larvae. All of a sudden, we have our vegetarian wasp.

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The Integrated Taxonomic Information System lists 133 described species of Ammoplanidae wasps that exist today. That

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contemporary bees, with over 20,000 described species, are sisters to such a small group suggests the switch from thrip predation to consuming pollen was a significant driver of diversification in bees. It's difficult to describe the variety of bees that exist now. One of the most shocking, and recent (1982), discoveries has been bees that obtain their protein exclusively from meat, not pollen⁶. They have 're-invented' and ancient ability.

Scientists have so far identified three stingless bee species, (*Trigona hypogea*, *T. necrophaga*, and *T. Crassipes*) that are known to be 'obligatory necrophages' (their protein comes from things like lizard carcasses) and some others known to supplement their floral diet with carrion. For researchers studying these bees there is a sort of chicken vs egg question, have genetic variations in certain gut microbes enabled shifts in diet, or have diet shifts changed the microbiome? In the case of stingless bees, they seem to readily obtain a variety of microbiome bacteria from the environment, but only ones that suit their diet prosper.

Of course, even in the case of bees like ours that do rely on pollen consumption, their vegetarian status can't be assumed. That we do assume it is because we can't easily see the omnipresent collection of native bacteria, and fungi that dominate a honey bee colony. But they're there, and when we do acknowledge all these microbes it's usually only to attribute a role in 'pre-digesting' that difficult-to-eat pollen!

OUR DAILY BREAD?

Pollen being converted into 'bee bread' might be useful shorthand, but it's not an accurate description of what is going on. Honey bees (or other bees) do not need to store pollen in order to eat it, they prefer eating fresh pollen to stored pollen⁷. When it is stored it isn't for long, most being eaten within a week, and that storage period isn't long enough for the biology to 'do its stuff' and predigest pollen into 'bread', nor are there the number and range of microbes present that would be necessary to do that⁸. During that period the microbe content actually wanes (because bread isn't a good environment for them). The symbiont community therefore appears opportunist, preservative, and a reserve of prebiotics and probiotics that populate the bee's gut microbiome when the store is eventually consumed.

But just as their ancestors couldn't avoid eating pollen grains, modern bees can't avoid eating microbes. We know they do because we can look at the proteins in bees, and proteins in the microbiological 'food', specifically the ratio of isotopes of nitrogen in those proteins, and work out where in a food web a bee sits from what it eats⁹. Most bees sit somewhere between herbivores (level 2.0) and carnivores (level 3.0, level four is for predators of carnivores). Bees are really omnivores. For example, Andrenidae scored 3.09; Apidae, 2.62; Colletidae, 2.11, and so on. We also know that if we eliminate or alter the microbe portion by manipulating their diet in a lab (say, giving them sterile food) they lack essential nutrients and fail to develop or thrive. The microbe community associated with the pollen is a vital part of its nutritive value¹⁰.

If you want a 'take home message' it is this. Bees are all different, but most are not strictly vegetarian. The community of bacteria and fungi they depend on is much more complex than we think, so using antimicrobials (antibiotics & antifungals) on them or their food has consequences that are very hard to predict.

Dave Black is a commercial-beekeeper-turned-hobbyist, now retired. 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. 🐝

References

1. Branstetter, M.G., Danforth, B.N., Pitts, J.P., Faircloth, B.C., Ward, P.S., Buffington, M.L., Gates, M.W., Kula, R.R., Brady, S.G., 2017. Phylogenomic Insights into the Evolution of Stinging Wasps and the Origins of Ants and Bees. *Current Biology* 27, 1019–1025. <https://doi.org/10.1016/j.cub.2017.03.027>
2. Sann, M., Niehuis, O., Peters, R.S., Mayer, C., Kozlov, A., Podsiadlowski, L., Bank, S., Meusemann, K., Misof, B., Bleidorn, C., Ohl, M., 2018. Phylogenomic analysis of Apoidea sheds new light on the sister group of bees. *BMC Evol Biol* 18, 71. <https://doi.org/10.1186/s12862-018-1155-8>, and Sann, M., Meusemann, K., Niehuis, O., Escalona, H.E., Mokrousov, M., Ohl, M., Pauli, T., Schmid-Egger, C., 2021. Reanalysis of the apoid wasp phylogeny with additional taxa and sequence data confirms the placement of Ammoplanidae as sister to bees. *Systematic Entomology* 46, 558–569. <https://doi.org/10.1111/syen.12475>
3. Grinfeld, 1959. reviewed in Kirk, W.D.J., 1984. Pollen-feeding in thrips (Insecta: Thysanoptera). *Journal of Zoology* 204, 107–117. <https://doi.org/10.1111/j.1469-7998.1984.tb02364.x>
4. Patricia Wiltshire, video 15.3Mb, 33min, <https://www.bbc.co.uk/sounds/play/m000cz0p>
5. Roulston, T.H., Cane, J.H., 2000. Pollen nutritional content and digestibility for animals, in: Dafni, A., Hesse, M., Pacini, E. (Eds.), *Pollen and Pollination*. Springer Vienna, Vienna, pp. 187–209. https://doi.org/10.1007/978-3-7091-6306-1_10
6. Maccaro, J.J., Figueroa, L.L., McFrederick, Q.S., 2024. From pollen to putrid: Comparative metagenomics reveals how microbiomes support dietary specialization in vulture bees. *Molecular Ecology* 33, e17421. <https://doi.org/10.1111/mec.17421>
7. Carroll, M.J., Brown, N., Goodall, C., Downs, A.M., Sheenan, T.H., Anderson, K.E., 2017. Honey bees preferentially consume freshly-stored pollen. *PLoS ONE* 12, e0175933. <https://doi.org/10.1371/journal.pone.0175933>
8. Anderson, K.E., Carroll, M.J., Sheehan, T., Mott, B.M., Maes, P., Corby-Harris, V., 2014. Hive-stored pollen of honey bees: many lines of evidence are consistent with pollen preservation, not nutrient conversion. *Mol Ecol* 23, 5904–5917. <https://doi.org/10.1111/mec.12966>
9. Steffan, S.A., Dharampal, P.S., Danforth, B.N., Gaines-Day, H.R., Takizawa, Y., Chikaraishi, Y., 2019. Omnivory in Bees: Elevated Trophic Positions among All Major Bee Families. *The American Naturalist* 194, 414–421. <https://doi.org/10.1086/704281>
10. Dharampal, P.S., Hetherington, M.C., Steffan, S.A., 2020. Microbes make the meal: oligolectic bees require microbes within their host pollen to thrive. *Ecological Entomology* 45, 1418–1427. <https://doi.org/10.1111/een.12926>



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Her Majesty



Seeing queen bees on the inside of her eyelids, rookie beekeeper 'Aimz' checks in from the Bay of Plenty as the season ramps up and the splits just keep on coming...

The season of growth has begun, and there's a lot to consider. I still have much more to learn during my first spring with the bees.

Once upon a time people believed nectar fell from the heavens. Powers of observation proved otherwise. 'Observation' being a key word here. This is a skill I am improving on daily during hive inspections. Splitting, requeening, brood inspection – all require large amounts of it.

And every eye is honed to the Keystone of all, Her Majesty, the Queen.

Subject to another misconception of beekeeping, this colony dictator was once referred to as the 'King Bee'. Using methods of dissection, the monarch was found to have large ovaries. Due to this observation the now engendered Queen Bee became the pinnacle of honey bee research.

We learned that it is her pheromone that incites cohesion in the masses.

An old term called 'colony morale' was used to basically sum up the result of a good young queen with plenty of pheromone. Expressed in traits such as pollen and honey hoarding, ability to overwinter, high brood viability, and degrees of resistance to ailments, as well as being generally content and not overly aggressive or prone to swarming.

Which is why it is crucial we maintain a young vigorous stock of queen bees in our hives.

This season's first order of 35 mated queens arrived via a delicate exchange at the post office. A fragile, softly humming package – the first of many.



35 mated and caged queens arrive at Edgecomb Honey, and there will be more to come to keep the stock young and vigorous.

All systems are Go.

These queens, which have been selectively bred and mated for temperament, productiveness, resistance, and hygienic tendencies, were soon nestled snug into new splits. Egg laying machines poised and ready.

We are splitting, requeening and building our way into pollination with strong double brood box hives. The intensity of work is picking up with timeframes for queens and feed runs crucial as we find some hives honeying out while others have a localized dearth.

And the queens keep coming. Surely, I can't be the only one seeing them before I fall asleep?

Dad has his own queen raising program, selectively breeding from his best performing stock, but his season is only really kicking off now, so into our splits this last month we have been instating cages of overwintered queens from Kereru Queens in the Hawke's Bay. A supplier Dad has consistently trusted and utilized since the turn of the century.

A bit like playing a "Where's Wally", spotting queens and examining frames of bees is always interesting, with every frame a different scenario giving a picture of the whole. Just the other day I was surprised to find two queens co-habiting the same frame, mother and daughter with identical pheromones. Time will tell if two are better than one.

I've come across the acronym, bees with B.I.A.S, or, Brood In All Stages, and it is becoming second nature scanning thousands of frames to check B.I.A.S, as well as inspecting for disease pretty much any time we open a lid.

Identifying queens would probably be a lot easier if they were all 'marked', and I suppose most beekeepers have a story to tell about queen marking, so here's one from my family business...

Some years ago, my dad spent his pocket money on his first Instrumentally Inseminated queens – (can you imagine ejaculating drones for a job?).

They were an investment. At over \$2000 per queen they were, well, worth their weight in gold. Number one was. Leathery perfection, the bee's knees', laying up full frames of brood. She was kept in service for the better part of two seasons and was a shining example.

Number two however, never really did it. Brood frames were patchy, and dad struggled to get enough cells to graft from. One time he went to look for her and she was gone, just disappeared. She had left a nice supersedure cell though, that fortunately developed into a top-notch queen – back to full frames of brood. Being in the habit of marking his queens, dad got a hold of her and went for his trusty twink pen, but she was having none of it -



she broke from his grasp and started putting it on like she had a damaged leg, although after a while she appeared absolutely fine.

Second attempt he had her pinned down, twink in hand – but, he had forgotten to shake the pen. He pushed down on the pen and the twink burst forth, cascading over her body, the top of her head (not the eyes) her thorax and down one of her legs as she went mental.

Oh no.

She fell off the frame and Dad winced as he looked down to see her on the baseboard. Discouraged, and assuming the worst, he put her back on the top bars and amazingly after quite some time she... sort of appeared to come right. Forever after she was known as The White Elephant, and some great queens were made from her line.

If only they were all that easy to find!

Changes are a-foot though with my up-and-coming secret weapon, and queen bee spotter extraordinaire – my 10-year-old daughter. She is nipping at my heels to become the next beekeeper in the family line. Partly obscured by smoke and sporting a new Deane bee suit we picked up for eight dollars in an op-shop, she is buzzing around the apiary sites any chance she can get. Even a small gopher can be a big help when we are head down, bum up.

With my head in a hive until next time,

Aimz 



Beekeeping – it must run in the blood. Aimz and her 10 year-old daughter test out the youngster's new \$8 beesuit.



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The Vulnerability of Comvita



BY BRUCE ROSCOE

If there is truth to the adage that the optimal time to make a securities investment is when there is blood on the streets, the shares of Comvita Ltd should be an attractive proposition. Following confused earnings releases whose summary is “We lost a lot of money”, the company is paring staff, has rescinded beekeeper contracts, replaced its chief executive, and embraced short-termism. The share price, which closed at NZD1.15 on 27 September, has collapsed 64.8% from its 52-week high. The shares may allure the type of private equity fund that acquires a company in order only to break it up and sell the constituent parts. For other investors the shares appear as safe as a hut in a hurricane.

Comvita is now vulnerable to a hostile takeover. By applying the cart-before-the-horse accounting principle that recommends write-downs of asset values in response to reduced stockmarket value, Comvita has waved a red flag to the bulls of funds that search out companies for the purpose of asset stripping. Or the colour of the flag is more white and raised high. Although Comvita, along with much of the mānuka industry, will be unsure how to value the thousands of tonnes of its inventory, linking such a subjective valuation to the fickleness of stockmarket fortune serves only to punish already punch-drunk investors.

On 22 February Comvita announced that an offshore party had made a conditional offer for all outstanding shares at a price



Comvita Ltd was subject to a conditional offer to takeover outstanding shares in February, while the bid was later withdrawn, the mānuka honey exporter remains even more susceptible to hostile takeover as share price continues to fall.

that represented a “significant premium” to the share price. On that day the shares closed at NZD2.25. The offer price likely was at least 30.0% higher, or around NZD3.00. A breakup valuation doubtless was among the several valuations the suitor, reportedly a European private equity fund, had calculated before bringing Comvita into close range. Although the fund withdrew its offer after interviewing Comvita executives and putting the company’s books under a microscope for two months, the share-price collapse has turned Comvita into a new and even larger target.

COMVITA HAS NO CORNERSTONE SHAREHOLDER

Capilano Honey Ltd, Australia’s largest manuka honey producer, can be expected to have monitored the acquisition interest that has enveloped Comvita. Capilano performs as a low road to Comvita’s high road in manuka product grade and pricing in offshore markets. So clear is the segmentation that a casual observer would suspect “cooperation”. The companies’ apparent coziness, though, may have fractured over Comvita’s exit from its 50:50 Medibee Apiaries venture with Capilano at a cost of NZD6.9m.

Capilano would gain much by acquiring Comvita, though the repercussions for the New Zealand honey industry would be grave. Any remaining hopes of securing a certification trademark for “manuka honey” would be euthanized. The UMF Honey Association would face the prospect of losing its flagship brand and supplier of some 60% of its levy income. Once delisted from the NZX, Comvita’s public disclosure requirements would reduce to nil and detail of its activities become guesswork.

Comvita has no cornerstone shareholder that could help defend against a hostile takeover. The largest shareholder is an Auckland-



resident individual who holds 12.2% of the company. When Cerebos New Zealand Ltd (defunct) offered NZD2.50 per share in a hostile takeover attempt in 2011, Comvita then chairman Neil Craig issued a DON'T SELL plea. Shareholders, believing in the promise of better times, were unsuspected by the offer premium and remained loyal. Now that the nationwide honey inventory is understood to exceed 50,000 tonnes or five times' the amount exported in CY2023, coupled with the revelation that Comvita evidently does not understand its balance sheet, a majority of shareholders may view loyalty as unwarranted.

THE EARNINGS RESULTS THAT MAY LIVE IN INFAMY

In a second stab, Comvita on 29 September reported a 12.7% decline in June 2024 year revenue to \$204.3m, a net loss of NZD77.4m, and a 49.3% increase in net debt to NZD79.7m.

These earnings results may live in infamy. Questions could be set about them for post graduate students of accounting, or in the examination for the qualification of chartered financial analyst. Comvita behaved like a government agency by outsourcing the finalisation of the results. The release of two sets of the results – initial and amended – suggests the consultants seemingly had become as muddled as had Comvita's upper echelon of executives (among whom 10 draw salaries exceeding NZD320,000) and its accountants.

Question 1 (in 3 Parts):

(Part 1) Why was a profit and loss amount revised up from a loss of NZD59.6m to a profit of NZD4.5m?

(Part 2) Why were two profit and loss amounts and one cost amount revised down – a profit of NZD14.6m to a profit of NZD10.3m; a loss of NZD5.6m to a loss of NZD9.3m; and a cost of NZD15.7m to a cost of NZD7.6m?

(Part 3) Why was a balance sheet amount revised up from NZD59.8m to NZD62.4m? Discuss. 🐝



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Local Government Finance



BY IAN FLETCHER

There's a lot to 'sort out' with local government at present, but Ian Fletcher takes his best shot – first diagnosing their ailment, before proposing some paths to recovery.

The advice I would give an incoming government would cover a lot of the things I've written about over the past two years: fairer, higher taxes; a focus on higher productivity and better infrastructure; managing health (and education) as proper systems, not just as 'simple' businesses. And, I'm pleased to say that many of these issues have entered mainstream discourse as serious propositions. It might be going slightly too far to say the *Advocate* leads the way, but we're certainly up there.

What's missing from this reforming agenda? Sorting out local government. Any of us who pay rates will know that these are rising steeply. Rates plus insurance are rising even more steeply, as insurers start to price in the seismic and weather risks we face almost everywhere.

Steeply rising property taxes and insurance charges like this are pernicious. They are regressive (so they hit the poorest of us relatively harder). For renters, rates and rising insurance costs are passed on by landlords (of course). For homeowners, they are a big extra charge.

Councils are in a bind. They get their revenue from rates, or borrowing. As elected bodies, they flinch in the face of having to raise rates sharply, and so try to cut costs and maybe borrow more. The result is deferred maintenance and lack of investment in local systems and services. Wellington's literally collapsing water system is an extreme example, but the problem is everywhere.

And it's going to get worse. I wrote at the time that local authorities would quietly welcome Labour's Three Waters plans,



January 2023 floods in Auckland. Increased flood risks are being priced in by insurers and, along with rate rises, make for a pernicious combination says Ian Fletcher.



Auckland's light rail plans have moved little beyond renderings such as this, one of several examples from around New Zealand where central and local issues have become conflated, and local concerns have been sidelined.

as it would get these horrific costs off council balance sheets and onto the Crown's broad, borrowing shoulders. I think that was right; however, the proposals were derailed by the ugly politics around co-governance. But the huge future costs remain.

Sometime central government gets involved in local issues, often because the politics of launching a big new project look appealing, and sometimes because Councils just haven't got the financial stamina.

But this process is also pernicious: it shows that Councils are dependent on Wellington for big decisions and big money, which means they don't build the skills or the local mana to do better. These big project costs are made worse by the delayed 'sticker-shock' effect: projects are launched with optimistic budgets (maybe 'delusional' is a better word), which then inflate up to a realistic number, at which point central government itself tries to pull out or scale back, and a blame game ensues. Auckland light rail is the obvious example, but Dunedin Hospital and Cook Strait ferries are examples where central and local issues have become conflated, and local concerns have been sidelined.

What can be done? I think the first point is to recognise just how broken the current system is. We expect rate-funded Councils to meet a lot of costs – roads, water and sewerage, refuse collection and disposal, tourism, parks, libraries and recreation, civil defence, building and environmental standards, food standards. And that's before we get to the impact of climate change on flood defences and land use. It's a lot, and it matters.



Obviously too there are extra strains where new growth means lots of new housing, roads, water supply, and so on, as well as responding to demands from climate change and associated flood risks, updating infrastructure, and meeting community expectations around recreation, libraries and tourist facilities. Gulp. It's a lot, and a lot of it is unpredictable or unavoidable expenditure. A growing, aging population is hard to please.

The system is broken, but not beyond repair. There are two obvious short-term steps that can be taken. The biggest would be to have the Crown pay rates on Crown land (or even on some Crown land). That would bring schools, hospitals, prisons, and other premises into the rating system. These institutions use the water, roading, refuse collection and other systems provided locally. At present, they don't pay.

The second would be to remit the GST on rates back to Councils. At present Treasury keeps the GST, which amounts to one level of government taxing another (something that the Australian Federal Constitution explicitly prohibits, interestingly).

Of course, both steps are in some way tinkering, moving money from an under-funded centre to under-funded local government. They would make the system visibly fairer, but not better off. That can only be achieved by raising more tax revenue.

Rates are a property tax. There is a strong case for property taxes. But as currently constructed, rates hit the poorest hardest,

and politically it's very hard to raise them to the point needed to raise meaningful new money. A new settlement is needed.

What might that look like? Rates could be levied against property, but rebated for lower incomes (The UK has a rather crude system here, with rebated Council Tax for single-occupant households). That would still sting those just above the thresholds, and would be hard to justify. A proper capital gains tax (desirable in itself) could be shared with local government (as Australia does with GST and the States). Or we could have local income taxes (as many countries do). All unpalatable, but better than the slow decline in services and ratepayer impoverishment going on now.

All of this would be easier if local authorities were bigger, and more able to aggregate their financial resources against the uncertain times ahead. The Auckland 'super-city' idea was a good one; we need similar aggregation across the rest of the country. And we need to face up to finding the money to pay for the future local services and environment we all want. That would be real leadership. Who will step forward?

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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