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Making up splits

Vaughan Kearns and Kevin Paton. *Photos: Frank Lindsay.*

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Table of Contents

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President's Report

Amendments to the Biosecurity and HSNO Acts

This is the hot topic of the month. As expected the Government has reacted to the decision of the Court of Appeal favouring the NBA's position on passenger or incidental organisms. On 12 February, the Government announced that they were proposing to amend the Biosecurity Act and the Hazardous Substances and New Organisms (HSNO) Act to try and rectify problems that were pointed out by the Court of Appeal decision in December.

The Government wanted to fast track the amendments through Parliament. The National Party rightfully put a stop to this nonsense and forced the Government into the select committee process to debate the issue properly. Those of you who have taken the time to read the proposed amendments should be dismayed at what a shonky piece of work this was. It effectively negates the concept of sound and robust border protection for this country. New Zealand's main point of difference in selling our primary products in the world market is our generally superior plant and animal health status and fewer problems with contaminants due to our advanced and strictly managed processing systems. We need to keep it that way.

This issue is more than about a pot of honey; the integrity of our country's entire primary production systems is at stake.

While the amendments seek to clarify the issues regarding the incidental organisms, a number of aspects are causing our hackles to be raised. The officials who wrote the introductory notes seem to be on a different plane of existence from the rest of us. To make the suggestion that an organism such as foot-and-mouth disease introduced accidentally will have a different outcome than if it was deliberately introduced is defying logic. The same goes for EFB: once it gets into the bee population it's here for good, the end result is the same. By deliberately referring to the Import Health Standard that we successfully argued against, in an Court of Appeal decision, gives the impression that the NBA is being singled out for specific punishment. Another section indemnifies the actions of inspectors who either act incompetently or illegally in letting prohibited goods or organisms into New Zealand. Our entire biosecurity integrity depends on the vigilance of these individuals, not the senior bureaucrats in Wellington. I suspect this silly little bit was added to cover the Government over incidents like the French beehive incident and raw pork imports from Korea that were signed off by Biosecurity New Zealand inspectors. Both these incidents were easily prevented if the inspectors had acted competently.

I managed to see on television part of the first reading of the proposed amendments: a very interesting but dry process. All parties supported the amendments going to the Primary Production Select Committee. The chairman, David Carter, was clearly unhappy about the haste of the process but accepted the 17 March deadline to present to the House for the second reading. A consistent pattern in the opposition speakers' comments was that our Court of Appeal victory was being overturned and this was very unfair. The Greens were focused on their GMO fixation and were happy that the HSNO Act still addressed this. They did indicate that they would look at the proposed amendments on their merits. New Zealand First speaker Doug Woolerton offered some rather flippant remarks about supporting the amendments as they were proposed, but suggested that the Government leave us with our victory. The Maori Party was extremely concerned as well as the National Party.

On 15 February, the Friday before our weekend Executive Council meetings, Jim Edwards, Neil Farrer and I had a fruitful discussion with Shane Ardern (National Party spokesperson on Biosecurity) and his secretary, and presented our position and views regarding the proposed amendments.

At the moment the Executive is working quickly and **quietly** behind the scenes to lobby the relevant individuals about the realities of the proposed amendments and how it is such a poorly crafted bit of work. Even the legal profession has taken some notice. We are working closely with the Pork Industry Board, which is facing almost identical issues to us, and they are seeking support from other primary production industries to help influence politicians that the proposed amendments need to be substantially modified.

While there are always risks with the importation of products and organisms into this country, any Import Health Standard is only as good as the post-border system. We are obliged to put our complete trust in these officials to do their job properly. Can we? Their current record of failures suggests not.

NBA President Frans Laas meets with Shane Ardern, National Party spokesman for biosecurity, to discuss the NBA's views on the Government's proposal to amend the Biosecurity Act and the Hazardous Substances and New Organisms (HSNO) Act. *Photo: Pam Edwards.*

NZFSA

On 15 December Neil Farrer, Jim Edwards and I met with a number of NZFSA officials for a chat on various issues regarding the bee industry.

Some of the discussions revolved around the contentious issue of the cost of certification services. They are now taking heed of our concerns and are trying to be more efficient in how they do things. I doubt if costs will reduce but hopefully you will get more for your dollar. In reality the total cost to the industry for the NZFSA to manage the RMP/export verification process is very small. However, we must bear in mind that our industry is made up of a relatively large number of very small processing facilities spread widely over the country, often in rural areas. Consequently the cost to service the process must by necessity be relatively high. On an individual basis the costs appear to be excessive and it hurts. Is it time for rationalisation as has occurred in the meat and dairy industries? Having been involved in the meat industry for a time managing an abattoir, I am quite used to a far more rigid process. I always have a bit of a chuckle about complaints of cost and control of extraction facility systems.

The NZFSA is in reality our friend, despite appearances to the contrary. They ensure that we can still export to the rest of the world. However we still need to keep the pressure on them so they don't get carried away with creating unnecessary controls on our industry.

- Frans Laas

AFB NPMS report

Since the last report the analysis of the aerial survey has almost been completed. A number of issues have been brought up on top of the usual compliance incidents. The survey is also a very useful auditing tool. The surveillance exercise was able to detect 100% of all commercial apiaries. As a result of this exercise, another survey will be carried out to increase sample size and to verify any issues that have been brought to light.

The collection of levies has always been a problem and some individuals have some considerable debts to the Management Agency (MA). Recently we undertook bankruptcy proceedings against a beekeeper to recover the levy money plus penalties and collection costs. This action resulted in that individual paying up all the debt at the court. The MA is required to collect all monies owed to it and has no mandate to write off debt for any reason. It can also charge all costs of collection to the defaulting levy payer. With the success of this action we are now pursuing a number of other levy payers who have considerable debts with the MA.

In mid February, Rex Baynes and I met with officials of Biosecurity New Zealand to discuss the progress of the review process and also offer suggestions to amend the PMS Order, to enable the MA to make it easier for us to deal with any compliance issues that present themselves. While I believe the general thrust of the Order is sound, the mechanisms for implementing the Strategy still reflect a bygone age when the Government controlled the management of AFB.

At the same time we visited the NZFSA to deal with some issues relating to their continued access to the database for export verification purposes.

- Frans Laas

Why using the level of the active component in manuka honey to replace the UMF rating is misleading

Dr Peter Molan
Honey Research Unit, University of Waikato

There have been some news releases claiming that Professor Henle in Germany has found the chemical identity of UMF, and that in future chemical analysis will be used instead of assays of antibacterial activity to indicate the level of UMF in manuka honey. Both of these claims are misleading.

The work done in the institute of Food Chemistry at the Technical University of Dresden in Germany as a PhD thesis project was a survey of a range of foods, including various types of honey, for their content of carbonyls, substances that form when carbohydrate foods spoil on prolonged storage when heated. It was a serendipitous finding that some samples of manuka honey that were included in the survey had a very high level of a substance known to kill bacteria. Using a very crude method for measuring antibacterial activity it was found that the antibacterial activity of this substance at the level it was found in the manuka honey was sufficient to account for the antibacterial activity of the manuka honey. But this does not constitute scientific proof that the substance is responsible for the UMF activity. Statistical analysis has been conducted at the Waikato Centre for Applied Statistics at the University of Waikato of the data reported in the thesis for the antibacterial activity of the four samples of manuka honey tested, converted into a form that can be compared quantitatively. This has revealed that there was not a significant correlation between the level of the substance present and the antibacterial activity of the manuka honey samples.

The thesis was completed in 2005. Nothing has been reported from that laboratory since on testing the antibacterial activity. The paper published on 23 January 2008 on the work in the thesis that led to the discovery of the chemical identity of UMF reports only the crude data on antibacterial activity that was in the thesis. Thus it appears that the claim that the antibacterial activity of manuka honey can be determined by chemical analysis of the active substance is based on a simplistic assumption rather than on research which been carried out to verify the claim.

Dr Chris Adams in the Chemistry Department at the University of Waikato has analysed a large number of samples of manuka honey for the active substance using the same method of analysis as used in Professor Henle's laboratory, and has assayed the antibacterial activity of these samples by the much more accurate technique that is used to rate the UMF activity of manuka honey. His published results, as illustrated in Figure 1 for the samples of manuka honey with an activity of UMF 8 or more, show that the level of this substance is not a good indication of the antibacterial activity of the honey samples. The graph shows a lot of scatter of the data, meaning that for a single stated level of the active substance

the actual antibacterial activity can vary by several UMF units. But what is worse is that the antibacterial activity is not proportional to the level of the active substance present in the honey. For example, a level of 100 for the active substance corresponds to an antibacterial activity of UMF 8, but a seven times higher level of the active substance, 700, corresponds to only a three-and-a-half times higher antibacterial activity (i.e. UMF 27.5, not UMF 56 as may be expected as the level of active substance is seven times higher).

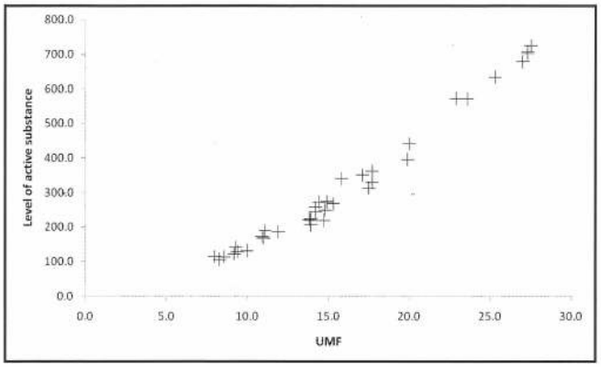

Figure 1: The level of active substance in manuka honey plotted against the UMF activity for 36 commercial samples of manuka honey

The composition of honey is complex, and there are various interactions between components which will influence the antibacterial activity. This is why the antibacterial activity is not proportional to the level of active substance in the honey. The currently used rating system, UMF®, measures the actual antibacterial activity of each batch of honey, tested against *Staphylococcus aureus*, the species of bacteria that is the most common cause of wound infections. It is a very good way of showing the antibacterial activity, has been in world-wide use for many years, and has been relied on for many research papers that have been published on the antibacterial activity of honey, and relied on for a very large amount of clinical treatment with manuka honey.

Because the level of the active substance in manuka honey is an unreliable indication of the level of antibacterial activity and can be very misleading, it is hard to see any commercial advantage for it to be used to indicate antibacterial activity other than if someone wanted to fool the consumer into thinking that the higher numbers are giving them a level of antibacterial activity that is far higher than they are really getting.

Why?

Recently we read that an amateur beekeeper, I think in the Hutt Valley was getting passers-by stung when he was removing honey. Then more recently *The New Zealand BeeKeeper* reported that a dog was stung to death.

Why do these things occur? Do we take a perverse pleasure in tolerating really nasty bees? Perhaps we are starting to follow in the footsteps of some of our British friends.

A year or so ago, I was talking to a British couple on holiday here in New Zealand. They apparently had real man-eating bees and needed the real flash bee suits we are starting to see here, as well as good leather gloves.

What surprised me was that they seemed to think it quite normal and reasonable to tell the adjoining tennis club to stop playing games on the days they wanted to look at their bees. Perhaps the tennis club had experienced the kamikaze bees in the past as it seemed to agree quite readily.

I get the impression that a number of New Zealand beekeepers have similar attitudes. And I don't mean just amateurs. I know a number of commercials believe that their nasty hybrid bees gather more honey than the quiet Italians. Perhaps they do, but I haven't seen any evidence that nasty mongrels do as well.

Anyway, assuming there is more honey, what a problem trying to remove it without getting everyone nearby as well as stock stung.

Perhaps we are spoilt as we seem to have lost our bee gloves and can usually take off honey in most conditions with the minimum of smoke, shaking the bees off the combs and usually don't need overalls. Makes life much more enjoyable in hot weather.

The only time there can be a problem is if robbing starts as then even quiet bees get nasty. However robbing can often be solved by removing honey late in the day when the bees are coming home, or when it is fairly cool.

The trouble with having nasty bees, is that everyone assumes that all bees are the same, and we end up with restrictive council bylaws etc that make it difficult for everyone. If you take care with your stock, replace supersedures regularly etc, you should be able to safely put hives up driveways, alongside houses, schools etc with no problem to anyone at all.

Anyway, perhaps a little thought about re-queening and management will present our industry in a better light as well as giving the individual enjoyment from his beekeeping.

- Gary Jeffery

Originally published some years ago in Ecroyd's The Apiarist of New Zealand. *Reprinted with permission.*

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Locals buzz about bees

By Jenz Davidson

Bees are busy little blighters—whether they live in the country or in the city. Yes, bees do live in urban areas and Napier is no exception.

There are at least half a dozen homes in and around Napier, and Taradale, with beehives in their backyards. Some are near schools, parks and kindergartens, but most people are unaware they exist, Napier City Council's regulatory services manager, Michael Webster, says.

For example, Len Lister, in Taradale, has had bees "boarding" at his section for about 15 years. His neighbours don't object and although Len has little to do with the hives, apart from mowing around them, he takes an interest when Ron Morrison, from the Beekeepers' Association, calls to check up on the two hives.

"He checks them more regularly now, because of the varroa bee mite," Len says. And Len likes having the bees, because they pollinate his fruit trees.

However, Meryl Rodger, who lives in Fryberg Ave, does not like them and although she was unaware bees had been living in hives near her for more than a year, she is upset.

"I have a grandchild who has been stung in the past and had an allergic reaction," Meryl says.

She says another neighbour is also concerned, because there are schools nearby, and Anderson Park.

She also believes that it could lower the value of her home if she sells it.

"Who wants to live next door to a beehive?" she says.

Michael is aware of Meryl's objections, but says the bees have been there for more than a year and their flight path takes them over roof tops, out of harm's way.

"Bees are a valuable asset to a community. We need them," he says. Michael says the council does periodically get complaints about bees, but they are "not what I would regard as a great problem".

"These particular hives were already in place a year before the owners were aware they needed a permit to keep them on their property."

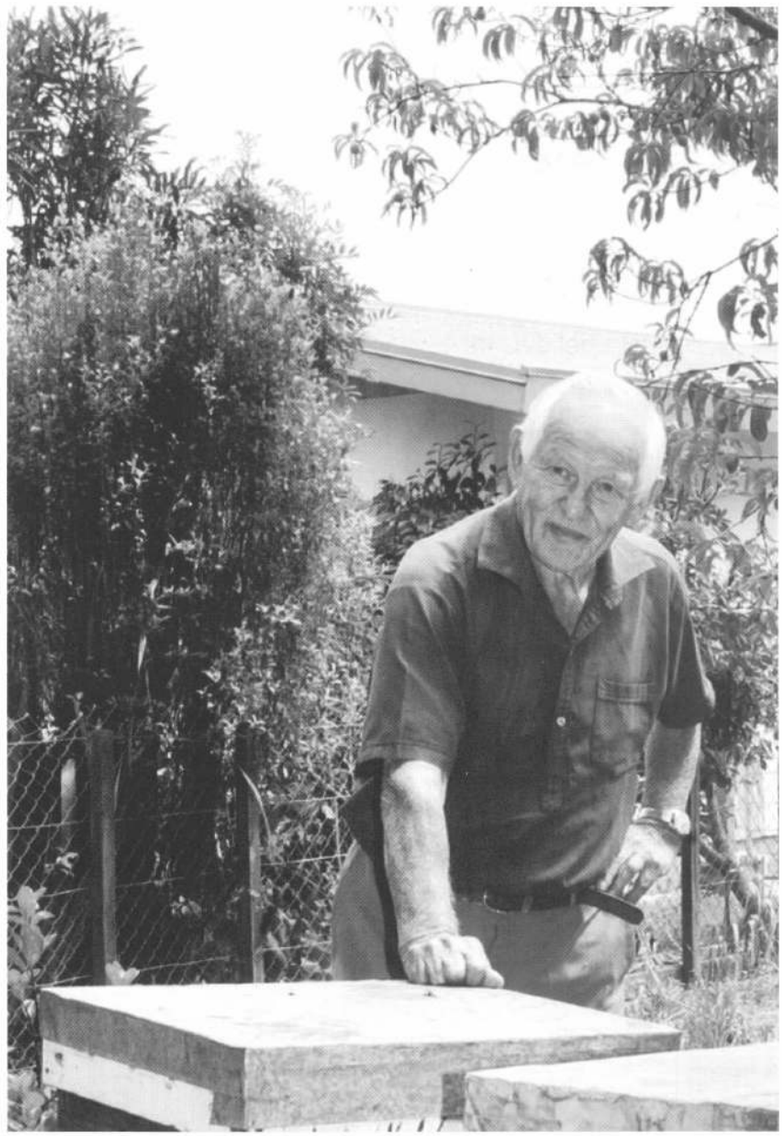
They applied for a permit and part of the process involved the council canvassing the neighbourhood —finding most people were unaware the bees were there.

"Bees add a positive aspect on our lives . . .why would we decline their application?" Michael says.

Len says his bees not only pollinate his many fruit trees, but every year, for about a month, Ron takes them to a kiwifruit orchard.

"Because of the varroa bee mite, it is important controlled urban hives are retained, as feral bee populations have been destroyed by the mite," Ron says.

"It's also important bees have a source of water nearby—as people don't like bees landing in their swimming pool looking for water."



APPRECIATIVE: Len Lister, of Taradale, likes having beehives in his yard. *Photo and story:* Hawke's Bay Today. *Reprinted with permission.*

State of the beekeeping industry

This is the time of the year when political parties present us with their ideas of the state of the nation. Perhaps it is also a good time to look at the state of the beekeeping industry.

As an industry we have suffered the indignity of the New Zealand Food Safety Authority (NZFSA) treating us with the understanding that we produce food equal in risk to poultry, fish and dairy products.

After filling in various forms relating to harvest, transport and storage—which really just emphasise the stupidity of the bureaucrats that integrated them—we see small shipments of honey being treated the same as container loads of poultry. These shipments require about 20 sheets of paper to go with them.

I remember recently filling in harvest declarations for four separate drums of honey, all in the name of traceability, and after an hour wondered if what I filled in had any real value. Of course we record in our own books the number of supers removed from each apiary, and in which drums or containers the extracted product is placed. Finally, we record who actually buys the honey or wax, etc.

I am told that this record is not acceptable and I must have hard copies (or at the very least computer copies) of each harvest and transfer document. I know it is annoying to ask why, but perhaps this question is justified in this instance.

I remember not very long ago being visited by the local authority health inspector who carefully looked at our operations. This cost the very large sum of $150 a year. I know the NZFSA thought we should also have traceability in addition to the other requirements, but we already had a notebook with tick boxes to record the type of honey, the drum numbers it was packed into, etc. The NZFSA also thought that the local bodies were subsidising our health certificates and this situation would end once the NZFSA took over.

They definitely achieved their aim with first of all an annual fee of over $250. Now they are getting very worried about possible residues in our honey and plan to add a further charge of over $250.

Remember that the health inspector could visit and inspect our premises for $150. Then compare with the audit charge of around $1000 and the additional blackmail charge of, in our auditor's case, $140 an hour and 87 cents a kilometre if a return visit is needed to check on a problem that needs rectifying.

What has happened to the old system where the various government officers did their best to aid the producer to produce and export his product with the minimum of costs?

After thinking about the present RMP system, it is obvious that it cannot be changed to suit our industry at all. We need to start afresh and it will probably need to see the Apiaries Act reinstated and remove us from the Animal Products Act entirely.

The starting point toward this aim would be to object in principle to filling in forms that in essence are nonsense.

The next topic in my assessment of the state of the beekeeping industry is the apparent lack of ethics relating to apiary sites.

In many instances, larger beekeepers who should know better see nothing but dollar signs and push in on other beekeepers, often moving virtually alongside existing apiaries. The usual example is where a beekeeper has his apiaries on early manuka sites and then after his manuka finished, moves hives in large numbers onto sites alongside another beekeeper. I realise that Rogernomics set the trend towards placing the individual's aims above that of neighbours, but it would be nice to see some manners again.

We have had 10 hives stolen in December. The thief obviously has good taste as the hives were ready for a good season. However, in many cases it is tantamount to stealing when a person moves into someone else's area. We moved into an area that was rotten with AFB and sacrificed hives to drag the disease out of the bush until we only have one that regularly gives us AFB. How do you calculate what each apiary has cost us to get the area clean? And yet recently someone moves an apiary right alongside our apiaries in this area. He is obviously stealing honey from us as we now cannot use the area we have cleaned up. I wonder if he will be happy if disease again turns up, or will he just be an additional source of disease to reinfect a large area once again?

Take time to look at how you are operating. Perhaps after considering the state of the beekeeping industry, you will modify your actions and bring back some of the ethics that have been lost over recent years.

- G L Jeffery

From the colonies

Poverty Bay Branch

I hope things are going well and that your bees are in good health. The East Coast crop seemed to be below average, but in saying that there seemed to be a large difference in the volume per hive in an apiary as some hives did well and others did not. A lot of this seems to be due to a lot of supersedure in early summer.

Another interesting thing was that some areas produced fairly good crops but 20 to 30 kilometres away there was not a good crop, as there was a big difference in the flowering. I have never seen that before. I observed plenty of hives with the bees turning from yellow to black after being requeened with cells or mated queens or supersedure. Perhaps a mongrel Carniolan cross?

January has produced many hot days in the 30s, making for hot days harvesting and a good clover flow. I see why the South African beekeepers harvest at night now; mind you, that makes AFB checks harder. They have to check next day, I suppose, with all hives and boxes numbered.

I hope you South Islanders are doing lots of monitoring for the mite—good luck.

- Don Simm

Waikato Branch

My previous report talked about the marvellous summer we are having. And so it continues, but in drought mode for much of our branch area. A little rain yesterday with the promise of more tomorrow has put a weak smile on our faces.

Reports are of a reasonable crop in spite of the dry conditions—however, it is mostly pasture. Even the bush crop seems to be mostly pasture!

There is an abundance of passion vine hoppers about this year. These are the beasties that feed on tutu in dry conditions, and exude toxic honeydew. Hopefully all beekeepers harvested their Coromandel honey early enough to be able to honestly declare it toxin free.

I am unable to report on our branch meeting as a date has still not been set—too hot, too dry, and too little time.

- Pauline Bassett

Bay of Plenty Branch

Wind and sun have been the hallmarks of the summer in the Bay of Plenty. For two weeks before Christmas we had drizzly, overcast warm days but since then little or no rain has fallen. Still, we are not as badly off as up the road in the Waikato. The honey flow seems to have been average overall, but with some very good crops. Mite numbers are low although the time is fast approaching for treatment. Bee numbers tend to be pretty good.

Wasps are once again our number one pest of the autumn with numbers high, so the entrance restrictors are being dusted off and put in place to try and reduce the effect.

Meetings start again this month, so check the email for details.

- Barbara Pimm

Hawke's Bay Branch

Parts of the Bay are definitely a bit dry, but not too bad for this time of year. Crops appear to be about average but are very variable, with some of the dry areas producing very well.

A few weeks ago I had a pallet of hives badly knocked around by an idiot in a four-wheel-drive. But the other day I heard of a whole apiary where the damage was so bad that looked like it had been run over by a bulldozer. One day someone will catch this person or persons at it and hopefully be able to give them the one-on-one interface with an angry beehive that they seem so desperate to achieve.

Varroa numbers seem reasonably low at the moment, but like past years there are a few hotspots for no obvious reasons.

- John Berry

Nelson Branch

Nelson and the top of the South Island have had an incredibly hot and settled summer. Several beekeepers have said to me that if you can't get honey this year, then you shouldn't be in beekeeping! So far it looks like it will be a good honey season, but already the days have gone to warm instead of hot and the nights are cool.

Most beekeepers are taking off their harvests as I write, and there is still minimal robbing as we still have native koromiko; even honey dew and certainly borage are still trickling in.

There were problems with hive strength going into the gathering season, mainly due to a very challenging spring with queen raising. All queen raisers that I have talked with are unanimous in their assessment, talking of poor queen laying and high rates of supersedure, resulting in hives being below strength to face an earlier than usual honey flow.

There were a couple of sporadic and short, but significant rainfalls that saved the borage from being nonexistent. So although we are theoretically in a drought, we've had several reprieves from the heat in January.

With varroa well established in the Nelson area, the Golden Bay and Marlborough beekeepers have had time to anticipate the arrival of the mite. Following pollination and the movement of honey supers, varroa will certainly continue its spread.

Marlborough beekeepers met on 11 February in Blenheim to discuss the varroa control lines. Although varroa is now well established in Canvastown and Havelock (beyond the Pelorus control line), it was felt that it was worth maintaining this eastern control line in the hope of slowing varroa spread and saving spring treatments in the greater Marlborough region.

As a result, with the help of Biosecurity New Zealand, all Marlborough beekeepers taking off honey in the infested area over the Pelorus control line will continue to subject their honey supers to refrigerated containers (-10ºC for 48 hours) before moving them into the extraction sheds in the Blenheim area. At this meeting many beekeepers expressed their disappointment that there will be no VAI varroa surveillance this autumn. (I should imagine that the sale of drone uncappers is vibrant!)

- Merle Moffitt

Otago Branch

Another season has come and all but gone again by the time this arrives in your letterbox. If we needed any reminding that the weather is warming up, for whatever reason, we have had one this summer. I haven't seen any stats yet but it felt like the warmest summer in Dunedin I have ever experienced. Central Otago has been consistently very hot and dry for months and their crop has suffered as a result. Other more southern and coastal parts of Otago had just enough moisture and have had an excellent year.

At the February NBA Southland Branch field day, kindly hosted by the Lees at Balfour, beekeepers were generally happy enough with their crop but very grumpy about the poor prices on offer especially for premium clover. It hasn't gone unnoticed that there is a growing margin now between what packers offer beekeepers and many of the prices on the supermarket shelves for the premium lines. At the other end of the scale, if large packers continue to indulge in price wars for their budget brands they are effectively destroying the financial viability of their suppliers. Fuel bills have doubled in the last couple of years and with other costs looming when varroa arrives the numbers simply do not add up. Unless there

is a good lift in prices in the next year or two, clover honey production alone will not be sustainable. Kamahi crops in the south were very good this season but again the prices on offer are miserable. As always, better marketing will be the only answer to these problems. Realising they have little choice in the matter, a large group of Otago and Southland beekeepers have set off on their own path to collectively market their crops and hopefully establish overseas markets.

The brighter news, on honey prices is manuka, which is in a sellers' market and fetching prices up on last year. Unfortunately, with the resource limited and unreliable, very few beekeepers are able to produce it in the south of the South Island.

So now that you have your harvest, whatever it is, bargain tough and good luck out there in the marketplace with your valuable honey.

- Peter Sales

Southland Branch

On Saturday 9 February the branch held a field day at Andy Lee's house in Balfour. We had a very good turnout with beekeepers from Alexandra, Dunedin, Middlemarch and all corners of Southland.

The day started with a welcome from Southland Branch President Carne Clissold, followed by NBA President Frans Laas, who spoke on what was happening around the country with the NBA.

These presentations were followed by very interesting talks from two overseas beekeepers. Bryce Fisher (on the left in the photo) from Wawanesa, Manitoba, Canada runs 700 hives. He told us how he deals with keeping hives inside in winter, when the temperature outside is –20°C degrees and more, and how he goes about getting them strong enough for a good crop on canola and rape in the summer.

Then, Fudco Juliem (on the right in the photo) from Toulon, France, spoke about how he runs 500 hives and 200 nucs which he uses for honey and patch-ups during summer. Fudco moves all his hives 500 kilometres north to Burgundy at the start of the season for rape and Acacia. When those crops are finished he moves them back to Provence for lavender, rosemary and chestnut.

After lunch Allen McCaw gave a well-prepared overview of beekeepers' responsibilities in relation to documentation and product use in our hives, which everyone found interesting.

Marco Gonzalez from AsureQuality was the final speaker of the day. He gave an excellent talk about beekeeping in Paraguay that included a video presentation.

The day concluded with 'serious' beekeeping discussions over a large number of 'cups of coffee'.

Grateful thanks are extended to our hosts, guest speakers and the trade buyers and suppliers who travelled from Christchurch, Orari, Timaru and Dunedin to attend this field day. Everyone attending had a great day with all the stories, true (or not so true!), told as only beekeepers can.

- Doug Lomax

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About the Apiary

Autumn is quickly approaching. You can now see a lot of bees guarding the entrance, although some bees are gathering nectar and pollen from the last flowering trees and ground sources—lacebark, koromiko, pennyroyal and lotus major in wetter areas.

There are some exceptions, though. Hives in the coastal strip from Otaki to Levin (which received a seven-inch dump of rain in 24 hours) have built up once more, stimulated by the ground sources that are flowering. Perhaps they may even collect some extra honey, but I doubt it.

Taking off honey

Take your honey off while these light flows are still on. Once the flow finishes, robbing season starts until the first of the cold days. During robbing season it's difficult to get the honey off during the middle of the day, as any exposed honey triggers a robbing frenzy. Better to remove it very early in the morning while most bees are still in their hives.

I mainly use a blower to get the bees out of the frames. There are several blowers on the market. I use a Hitachi blower/vacuum I purchased 30 years ago and stand the super on a stool to blow the bees out from the bottom of the frames. Tip: screw a piece of gauze over the inlet so bees won't be sucked into the fan assembly. It saves lots of cleaning.

Some beekeepers used stands that invert the super so that the bees are blown directly on to the ground in front of the hive. Each stand was made to suit the height of the person blowing out the bees, so that they worked at an optimum position to prevent bending and any back strain over the hours and days they were taking off honey.

Requeening and making splits

This is perhaps the last month to put queen cells into hives, but we should also have a number of nucs with mated queens available to put on those hives that have failed to requeen. I put the cells into the middle of the third super where bees still congregate, or further down if bee numbers are reduced. Generally the queen will emerge within a day, and after having had a feed of pollen and nectar she will set off to displace the existing queen.

I have also been helping another beekeeper to make splits. In looking through his hives we found brood in the centre frames of all three bottom supers, with the majority in the second super. We made splits without locating the old queen as this also saved a lot of time. The splits were made after removing the honey supers, by putting the third super on top of the first, inserting a protected queen cell between the brood frames and then placing a split board with a side-facing entrance on top. We put the second super on the split board, added a protected cell to this super and put all the honey supers back on again. After assembling the hive, we put a plug of grass in the split board entrance to prevent the bees from migrating back into the lower split, and plugged any extra entrances (cracks) to prevent robbing. Two days later we checked the hives and removed the grass from any split-board entrances that were still blocked.

Why not take off the honey first to save the sore backs we both now have? Well, we could have but I'm not finished with my own extracting yet, so we have all this extra work in the meantime.

By the end of the month when the days are starting to get cooler it's necessary to use mated queens, in which case you have to find and dispatch the old queen. Sometimes finding a queen to replace her can be difficult, especially when you really want to find them. Use as little smoke as possible: just over the entrance and not into the hive, as this tends to drive the queen up or towards the edge of the super to hide. Split the supers and store the top one on the upturned roof and go through them, one frame at a time. Quite often you will find the queen on the third frame in, on the sunny side of the hive mid-morning.

The Berry twins in Hawke's Bay use an alternative method, which entails dividing the first and second super with a queen excluder and checking the brood nest four days later. The super with the eggs in the brood cells contains the queen. Move the whole super to the side and place it on the upturned roof. Allow another 10 minutes for the field bees to fly back to the original hive site, so that the super is easier to inspect. As you lift out each frame, look down on to the surface of the next frame. Quite often you will see the queen scurrying away from the light (she's bigger and stands out). If you don't see her, inspect the frame you are holding and place it in front of the super and repeat the procedure.

I prefer to put the new queen into the queenless super. At the same time, I sprinkle a little sugar syrup over a few frames to divert the bees' attention away from the new queen. Don't use too much syrup as this can encourage robbing. Place the super with the new queen on top of the hive above a split board. This way, if the new queen fails to mate and produce eggs, you still have the old queen as a standby. She will survive for weeks if there are a couple of frames of brood and honey in the super.

Making up nucs

I have been surprised lately just how few bees you need to winter over a queen. The secret is to put insulation foil directly on top of the top bars in the middle of the super so that bees on the frames are covered, apart from a couple of small holes to let vapour given off by the bees to escape. The foil reflects the heat given off by the bees back down, so a lesser number of bees can maintain their cluster temperature.

Although we don't really have cold winters in the Wellington area (mostly lots of rain and wind, with the odd frost), I have overwintered nucs containing a couple of cups of bees in a half-size three-frame nuc, adding only a frame of honey in August. By September the colony was large enough to transfer into a five-frame nuc (the bees covered all three half-width frames by this time), and by mid-November I placed them into a full-depth super with drawn frames and extra honey or a feeder.

An older beekeeper in the Wairarapa used to put all of his five-frame nucs in an upturned plywood car case, so that they faced the morning sun but were sheltered from the wind and rain. The nucs were stacked up to three high and ten to thirteen across, and suffered no ill effects. Inspecting was fairly simple as the hives were slid along one-by-one once inspected, which had another advantage of evening up bee numbers. (Field bees returned to the site of the original entrance.)

Varroa means more queen losses, so bank a few nucs now to cover spring contingencies.

Manuka honey

I'm continuing to extract manuka honey this month. One thing I learned from the article by Jonathan Stephens and Dr Peter Molan on manuka honey [see next page] was that blends of other honey affect the activity of manuka honey to a greater extent than I thought. Unfortunately I do not live in a high UMF activity area, and I can only recount one year in the last twenty years when we had active honey three months after extracting.

In talking to a number of beekeepers about manuka honey, every area is different. Some manuka is light in colour. Some areas just don't seem to produce active manuka honey but it's worth the extra effort to produce it.

When extracting manuka honey, I tend to sort supers and frames to give me a high percentage of manuka honey. My bees tend to work kamahi until it has finished before switching to manuka, so I often get frames of mixed varieties with manuka only in the middle of the frames.

It is difficult when first starting out to determine manuka honey from other honey. When it's in new frames it's easier, as you can generally go by the colour of the wax cappings (manuka cappings are white) and the colour of the honey underneath (dark brown in our area and it doesn't run when the cappings is broken). Sometimes I have to revert to taste but this is not always reliable.

If you are not sure, uncap the frames, removing only the cappings so that most of the honey is retained in the frame and give the frames a quick spin in the extractor (40 to 50 seconds a side). Manuka honey won't come out, whereas other honeys will have been half spun out. Once all the other honey has been spun out and the sumps and lines are cleaned, prick all the manuka frames to loosen the honey and extract all the frames again. It's a lot of extra work but it really pays off in the long run.

For the commercial beekeeper, put your manuka honey into new drums, as your packer may want to export the drums. Far better that it's packed in New Zealand, as we then have quality control over the product.

Things to do this month

AFB check: check hives before removing any honey. Extract honey. Remove all comb honey off hives. Requeen. Keep up with mite control: some individual hives are showing high mite numbers. Treat all hives in a given area for varroa. Winter down hives. Check wasps (I lost quite a few hives to wasps last autumn).

- Frank Lindsay

Publications Committee member Frank Lindsay, Mary-Ann Lindsay and journal editor Nancy Fithian at the NBA Executive Council meeting on 17 February. *Photo: Jim Edwards.*

The explanation of why the level of UMF varies in manuka honey

Jonathan Stephens and Dr Peter Molan
Honey Research Unit, University of Waikato

A few years ago many beekeepers kindly supplied samples of manuka honey, from the spring 2001 season, directly from hives in various specific locations so that a study could be conducted to investigate the possible reasons why there is variation in the level of UMF in manuka honey.

The work was done as a PhD thesis topic for which an Enterprise Scholarship was provided by the Government. A condition of this award is that 50% of the scholarship is paid by a company. Initially this was paid by Bee & Herbal, but then by Comvita when Bee & Herbal was acquired by Comvita. Additional funding was provided by Comvita to cover the costs of the services provided by NIWA in the analysis of environmental factors and the population genetics study. In recognition of the investment made by individual companies there was an agreed delay before the thesis would be made publicly available. The thesis has now been published and a summary of the findings is given here.

Because of the commercial sensitivity of the location of sites yielding honey with a high level of UMF there has been no disclosure in the thesis of the actual site locations—only more general regions are identified. Unfortunately there are geographic gaps in the knowledge obtained from this study as samples were not obtained from all localities where manuka honey is harvested.

Various theories to explain the variation in UMF had been raised, so each of these was examined in detail. The possibility that the variation may arise from another plant or animal species, the blending of nectar sources by honeybees, the impact of a physical or climatic factor, or an inherent difference between the *Leptospermum scoparium* (manuka) populations were explored.

It had been suggested that UMF may arise from the nectar of another plant rather than *L. scoparium* or is the by-product of another species associated with *L. scoparium*. The introduced plant species in New Zealand that yield surplus nectar for honey production were investigated and were not considered to be the source of UMF, as these species are harvested in other geographic regions of the globe where UMF is not recorded. Honey derived from the clover and thistle species now widespread throughout New Zealand are reasonable examples. Likewise the indigenous plant species in New Zealand were investigated, and only *L. scoparium* was significantly common in the variety of environments in which honey with UMF is harvested in New Zealand. *L. scoparium* exhibits the widest environmental adaptability of the indigenous scrub flora. For example *Kunzea ericoides* (kanuka) is a sensible alternative species as the nectar source, being common in many areas where UMF active honey is harvested, particularly hill scrub environments; however *K. ericoides* is not a significant member of wetlands throughout New Zealand where active honey is also harvested.

Possible animal and fungal associations were investigated, with honeydew derived from scale insects or fungal spores from the associated sooty moulds on *L. scoparium* and other plant species being the most likely candidates. However the possibility that these associations are the source of UMF can be dismissed because the distribution of the scale insects does not correlate with the geographical regions in which UMF active honey is harvested, and furthermore honey produced from areas where the scale insects are common does not contain UMF after the *L. scoparium* flowering has finished. Therefore it was concluded the UMF in manuka honey is derived from *L. scoparium*.

It has long been known in the beekeeping industry that there are differences in the level of UMF in honey. This was confirmed when the UMF activity of the 461 samples obtained from around New Zealand was assayed in this study. There were significant differences between regions in which manuka honey is produced, and within regions the variability also differed. Some sites yielded high UMF activity honey yet others provide moderate or low activity, and some sites inactive honey. The results are summarised in Table 1.

Continued on page 19

Continued from page 17

All of the samples of manuka honey used for this study were obtained freshly produced and were kept refrigerated to minimise any increase in the level of UMF occurring before the assay of UMF were carried out, because it was recognised that the level of UMF increases on storage of manuka honey, especially if it is stored in a warm place. As many beekeepers do not get their honey tested for UMF until it has been stored for a while, this increase in activity would account for why the activity levels found in this study may be lower than beekeepers find in the honey they produce from the same areas.

Although the samples of honey had been obtained from sites which were considered to produce good manuka honeys, it was probable many of the samples may have been diluted by nectar collected from other plant species. A method was devised to measure the proportion of *L. scoparium* nectar in honey, based on the unusual feature of manuka honey being thixotropic. By measuring the viscosity of honey samples with minimal disturbance of the honey so that the thixotropic gel did not become liquefied, it was possible to determine the proportion of a honey sample that was derived from *L. scoparium*.

This method showed many of the samples contained significant amounts of other nectar types, and proportionally adjusting the measured UMF values according to level of dilution in the samples revealed three factors. Firstly there was still considerable variability between the regions in the UMF, secondly the variability within each region was mostly reduced, and thirdly there were distinct identifiable areas within the regions that were much less variable, and in these discrete geographical areas the level of UMF was not significantly different.

In effect there were discrete geographical areas throughout New Zealand that yielded similar levels of UMF activity if the honey was monofloral; however these locations were not necessarily found within a specific region. Analyses of these discrete areas showed there were no areas that yielded an average activity of 4–7.9 UMF units, 21 areas yielded 8–9.9 UMF units, 20 areas yielded 10–11.9 UMF units, 14 areas yielded 12–13.9 UMF units, and 16 areas yielded 14–15.9 UMF units. Thirteen areas yielded manuka honey that the viscosity method determined to be solely derived from *L. scoparium* and 100% monofloral, and therefore the UMF activity of these areas was not adjusted. These areas had an activity range of UMF 10–15.6, agreeing with the range of UMF activity obtained with the adjusted activity measurements. The adjusted results are summarised in Table 1.

Samples in which the UMF activity was too low to measure in the agar diffusion assay method (<4 UMF units) could not have their activity level adjusted proportional to the purity of the honey determined by viscosity. The viscosity measurements of these samples revealed that they contained less than 30% *L. scoparium* nectar. All the areas that produced manuka honey also yielded an adjusted activity greater than 8 UMF units. Thus it was concluded manuka honey, provided

it contains a reasonable proportion of *L. scoparium* nectar, will contain UMF activity. Inactive manuka honey is a dilute blend where the strong flavour and scent of the *L. scoparium* nectar incorporated into the honey masks the other nectar constituents.

It had been suggested that the variability in UMF may be due to differences in environmental factors. The use of the NIWA database for climatic and physical characteristics of the sites allowed multiple regression analyses to establish correlations between the level of UMF in honey from each site and environmental factors. The climatic and physical characteristics analysed significantly alter plant performance; such as mean annual temperature and solar radiation, soil water deficit, and drainage. The conclusion was drawn that mean annual temperature is the most important factor in the set of environmental variables, accounting for approximately half the UMF variability encountered. However when a region code detailing the discrete areas of similar activity was included in the analysis, in addition to the environmental factors, that conclusion was significantly altered. The region code accounted for much of the variability, and the environmental gradients became less important, and therefore a factor independent of the environment in these locations was influencing the level of UMF.

Several different varieties of manuka have been identified by botanists in New Zealand, and these are broadly associated with particular regions. Analyses of morphological characteristics, chemotaxonomic essential oil profiles, and population genetics of *L. scoparium* populations were conducted, and the conclusions that were drawn from each of these three studies were very similar. Four varieties were identified, divided into two divisions. The northern division, which contained core populations in Northland and the Waikato, represented *L. scoparium* var. *incanum* and *L. scoparium* var. *linifolium*. This division mostly yields manuka honey with high UMF activity, typically ranging from 14 to 16 UMF units. Interestingly other studies have indicated the *L. scoparium* present on the West Coast of the South Island is closely related to this division. The southern division, which contained core populations in Central North Island and East Coast, represented *L. scoparium* var. *myrtifolium* and an unnamed variety. The latter, growing principally on the East Coast, uniquely contains triketones in the essential oil, giving the oil antibacterial activity. For the most part the southern division yields manuka honey with low to moderate UMF activity, typically ranging from 8 to 12 UMF units. The insignificant variability within these discrete geological areas can most probably be ascribed to environmental factors and hybridisation of the wild varieties.

Hybridisation between these varieties has and will continue to occur, and this has been hastened by widespread land clearance; leading to a range of UMF activity in manuka honey that is difficult to predict in any location, given that varying amounts of hybridisation is often seen in a region.

Acknowledgement: We are very grateful to the many beekeepers who took the trouble to provide samples of honey and information on the sites where the samples were produced. Without their help it would not have been possible to gain this understanding of why the level of UMF activity in manuka honey varies. We are also grateful for the financial support of Bee & Herbal and Comvita that allowed the study to be undertaken.

Table 1. The average measured and adjusted UMF activity recorded from 11 regions throughout New Zealand.

Region	Areas	Samples	Measured UMF		Adjusted UMF	
			Average	St. dev.	Average	St. dev.
Northland	10	35	14.0	1.4	14.8	1.0
Waikato	2	6	14.9	1.2	15.3	0.6
Coromandel	17	128	9.1	3.2	11.8	2.1
Taranaki	6	51	8.7	2.1	10.0	1.4
East Coast	8	39	8.8	2.2	11.8	1.1
Gisborne	2	9	10.4	0.6	10.4	0.6
Hawkes Bay	5	48	5.4	0.7	8.4	1.1
Wairarapa	3	20	6.9	1.7	9.4	1.4
Northern South Island	6	50	5.7	1.3	9.1	0.8
Eastern South Island	4	14	6.7	2.0	9.6	0.7
West Coast (South Island)	12	61	10.9	3.0	12.9	2.1

Key Findings

1. The UMF in manuka honey is derived from the nectar of *Leptospermum scoparium*.
2. The incorporation of nectar from other floral sources in a manuka honey reduces the UMF activity of the honey.
3. Manuka honey without UMF activity is a blend of different nectar sources with an insignificant proportion of the honey derived from *L. scoparium* nectar.
4. Environmental gradients have a limited effect on the variability of UMF in manuka honey.
5. The different varieties of *L. scoparium* that grow in different parts of New Zealand yield different levels of UMF activity.

Varieties of *L. scoparium* and their distribution

Northern branch:

L. scoparium var. *incanum* is widespread in Northland, and in the areas of the Coromandel that yield honey with high UMF activity. There are also morphological traces of this variety on the East Coast. This variety yields honey with high UMF activity.

L. scoparium var. *linifolium* is closely allied to *L. scoparium* var. *incanum* and is found in the Waikato. This variety yields honey with high UMF activity also.

Other studies of *L. scoparium* have revealed an unnamed variety present on the West Coast and the reported characteristics of this variety are shared with *L. scoparium* var. *incanum*, areas of that region yielding honey with medium to high UMF activity.

Southern branch:

L. scoparium var. *myrtifolium* is present in the Central North Island. The level of UMF activity in honey from this region is low.

Another unnamed variety is associated with *L. scoparium* var. *myrtifolium*, and is principally present on the East Coast. This variety yields essential oils containing the antibacterial triketones. The areas of the East Coast where this variety is located yields honey with a medium UMF activity. A blend of these characteristics is present in the Coromandel indicating hybridisation.

Essential oil analysis has also revealed triketones in the essential oil present in *L. scoparium* in the Marlborough Sounds.

Easy check for AFB

Here is a challenge for a beekeeper/dog lover.

On Animal Planet (channel 75 on Sky), I happened on a programme 'K-9 to 5', with various activities of trained dogs. One beekeeper had trained his dog to indicate any hive with AFB. It was simple, really; as with Customs sniffer dogs, this dog would trot alongside hives, sniffing, and indicating which hive was diseased, without opening the boxes. Of course, as with Customs, any indication was proved by opening up for a visual confirmation.

Wouldn't it make life so much simpler and easier, if you could train your dog to help in this way?

- Ron Morison

ACC reminder

Most beekeepers use the ACC Cover Plus scheme to give themselves a calculated income in case of an accident, as their income tends to fluctuate from year to year.

Last year I had an accident that took me completely out of work for two and a half months and for the first time in my life, I relied on ACC for an income.

I have superannuation so calculated that I'd use ACC to pay for a worker to assist me if I was incapacitated, so only opted for a modest level of income. However in working out the amount, I had not calculated that ACC would take out income tax at source, so ended up a bit short to be able to do this.

With the increase to four weeks' leave, vehicle running and living expenses, all beekeepers should review their ACC schemes and increase the amount so that it covers all contingencies.

- Frank Lindsay

Errata

We made an error in the February 2008 issue:

In the photographic captions and credits for front and back covers (page 7), we mistakenly said that the late Sir Edmund Hillary was named the Beekeeper of the Year at the 1994 NBA Conference. In fact, this honour was awarded to Bruce McCusker. On the back cover Sir Edmund is pictured with Bruce McCusker, his wife Jenny McCusker, and Steve Olds, one of the sponsors of the event.

We regret the error and apologise to all concerned.

Letter to the editor

Reply to Browning and Morrall regarding the French Beehive Issue

[Editor's note: in the February issue (page 17) we published a letter from Auckland NBA Branch Executive members William Morrall and Ian Browning, criticising both Biosecurity New Zealand and the NBA Executive Council for their apparent disinterest about a biosecurity breach. Following is the response by NBA President Frans Laas.]

Most of the issues raised by the letter from Ian Browning and Will Morrall have already been dealt with my President's report in the February issue of *The New Zealand BeeKeeper,* which had been finalised for publication at the time of receiving the letter.

Some of the claims made by these gentlemen about the lack of interest shown by the National Executive and a challenge directed at myself and our Secretariat could have been dealt with by a direct discussion in the background. However if these two gentlemen are happy for this issue to be brought into the public arena, then so be it.

We are somewhat bemused by the claims of lack of interest in the situation, as this is clearly wrong. I was first informed about the situation on 8 December by a phone call, nearly three months after these hives had been noticed!! Slight problem if you are kept in the dark by your own members. Our CEO was informed about five minutes before boarding an aircraft to go overseas. However, he made sure that contact was made so that the matter could be investigated properly.

A flurry of phone calls were made and it became apparent that the authorities were already on the case. I received my first formal contact from Auckland Branch on 9 December, which I replied to the next day when I had contacted the relevant people. The Auckland Branch was planning an emergency meeting for 15 December. I received an email from the Auckland Branch secretary on 14 December informing me that the beehives had been seized and the meeting cancelled. The situation was now resolved.

Therefore about four days had elapsed from the time the CEO and the Executive were informed until the resolution of the problem, and the authorities were already on the go by the time I made my first enquiries.

The last paragraph challenges the President, Secretary and CEO over this incident; however our Secretary is clearly not accountable over this issue, and I would expect an apology from both Messrs Browning and Morrall for bringing her into the debate.

Frans Laas
President

Bureaucracy costs anger beekeeper

[Editor's note: in the February issue (page 17) we printed a letter from Gary Jeffery in which he expressed his frustration with increased compliance costs. As a result the following article by Lee Scanlon appeared in The News (Westport), Tuesday, February 19, 2008, page 2.]

A Westport beekeeper says increasing fees and bureaucracy are adding thousands of dollars a year to his costs.

Gary Jeffery, co-owner of Mountain Beech Apiaries, said costs had exploded since the New Zealand Food Safety Authority (NZFSA) became independent of the Ministry of Agriculture and Forestry (MAF).

"When we exported queen bees it used a health certificate free, then it was $10, then $180," he said.

It now cost $300 to $400 to export 50 queen bees to England. He kept exporting only because of loyalty to his customers and because he hoped New Zealand would eventually get "a government with brains that says we need exports".

Mountain Beech had stopped exporting queen bees to other markets in the Pacific, Canada and Malta, because of the cost, he said. "Why would you bother doing it, if you are doing it at a loss?"

Mr Jeffery said Biosecurity New Zealand (BNZ) told him "if you can't afford our fees, you shouldn't be exporting", when he complained.

Assure Quality *[AsureQuality]*, NZFSA and BNZ were all involved in the approval process. The certificate was signed off by a BNZ vet who usually knew nothing about bees, Mr Jeffery said.

Mountain Beech currently employed six, but would like to employ more. "We want to create employment. How do you employ people if the money is going to government departments?" Mr Jeffery said.

NZFSA recently increased its fees up to 312 per cent.

An application to register a risk management programme rose from $100 to $411.75 (up 311.75 per cent).

An application to register an amendment to a risk management programme rose from $100 to $343.13 (up 243.13 per cent).

The hourly charge for assessments rose from $80 to $137.25, up 71.56 per cent.

Mr Jeffery said the increased fees were to pay the increasing number of bureaucrats, a "protected species" which "multiply like triffids".

"My main concern is that instead of the bureaucrats working for us to help in production and marketing, it would appear that we are actually working for the bureaucrats. What I want to know is, when do I get paid?

"Instead, they charge me for the privilige *[sic]* of working for them. I thought serfdom had ceased centuries ago."

He said the NZFSA and BNZ seemed to accept conditions from overseas authorities, like the European Union, as if they came from God.

He said the bureaucrats should be disputing "illogical reasoning". "They are told, for instance, that when a queen bee from an ordinary hive is placed in an organically certified hive, then the honey in that hive is no longer organic.

"It seems strange that one queen that only lays eggs that we do not eat should have such an adverse effect on honey."

Responding for MAF and BNZ, senior communications advisor, Annie Wright said the export of live bees was now controlled under the Animal Products Act, 1999. Under the act, MAF, BNZ and NZFSA Verification Agency (VA) must recover their costs. They undertook a cost recovery review last year and had put out a consultation document, explaining how the costs were allocated, Ms Wright said.

The review found some exporters were significantly subsidising the costs of others, there was under recovery in a few areas and the current regime was overly complex.

It proposed increased charges and other changes. The increases will result in $620,000 being recovered for BNZ and $465,000 for NZFSA VA this financial year.

"This represents a small increase ($37,000) for BNZ compared to revenue collected in 2005/06 and an increase of $66,500 for NZFSA VA to offset an existing deficit," the consultation document said.

Ms Wright said export certificates were signed off by an NZFSA vet specialising in export certification, as required under the Animal Products Act.

She said MAF/BNZ spent a lot of time negotiating access conditions with overseas countries.

"The European Union is an extremely difficult country to negotiate with and MAF/BNZ feels that the chance of getting a significant change negotiated in the near future is slim.

"We do not believe it would be good use of exporters' money currently to initiate further work in this area. We have had no request from Mr Jefferies to undertake further work."

She said organics was an NZFSA issue and was not covered in live queen exports.

Trees and Shrubs of New Zealand

Metrosideros fulgens

Maori name: Aka

Common name: Rata vine

The climbing rata vine has flowers in large clusters, varying in colour from orange-red to crimson.

The aka appears to be constantly in flower in North Auckland but normally flowers from November to April throughout the North Island, Nelson and Westland in the South Island.

Bees work the flowers freely for a pale nectar or pinkish-coloured pollen.

The rata vine has stems up to six inches (15 centimetres) in diameter. It is sometimes confused with the tree rata (*Metrosiderous robusta*), which strangles its host tree.

Bushmen used to quench their thirst by making a cut in the wood and collecting the pinkish liquid in a cup.

The Maori used the sap of the aka to stop the flow of blood from a wound or for sore and inflamed eyes. It was taken internally for coughs and colds.

- Tony Lorimer

Metrosideros fulgens

NIWA's climate outlook: February to April 2008

In the New Zealand region late summer mean sea level pressures are expected to be higher than normal over and east of New Zealand and the Tasman Sea, and lower than normal to the north, with more easterly winds on to northern New Zealand, and lighter winds than normal across the South Island.

Air temperatures are likely to be above average across the country. Rainfall is expected to be normal over the North Island and north of the South Island, and below normal elsewhere. Normal or below normal soil moisture and river flows are likely in the North Island and the top of the South Island. In the remainder of the South Island, below normal soil moisture and river flows are very likely.

Through to May 2008, in addition to the earlier event this tropical cyclone season (cyclone Funa), there remains a significant chance of at least one more ex-tropical cyclone passing close to the country.