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Permit

Slip sliding away ... the end of the drought in the Waikato?

Captions on page 4

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Deadline for articles and advertising

June issue: 2 May
July issue: 5 June
(refer to page 19)

NB: No magazine in January

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(See page 2 for full details)

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President's Report

Amendments to Biosecurity and HSNO Acts

Parliament finally passed the amendments to the above Acts in early April. While the end result was not what we really wanted, we did manage to gain a few concessions that have allowed the NBA to revisit the import health standard for allowing honey into New Zealand.

Our CEO Jim Edwards and legal adviser David Boldt have prepared and sent a letter to MAF requesting a review of the IHS. **We have asked for a review of the Import Health Standard;** that is, not only a review of the EFB and *P. alvei* issue but also for the inclusion of *Nosema ceranae* and Israeli Acute Paralysis Virus (IAPV). Since the discovery of *N. ceranae* in Australia, the IHS is technically void anyway.

MAF has been criticised for its offhand approach to *P. alvei* as they dismissed this organism as of no consequence to the NZ bee industry. Clearly this position has been shown to be untenable. In fact, there are some issues with the safety of the whole *Paenibacillus* family, not only to insect health but to humans as well. *P. alvei* can cause nasty infections in humans, and other members of the *Paenibacillus* family, such as *P. hongkongensis*, are also known to be pathogenic to humans.

Recently I had a visit from a bee researcher from Canada and we discussed the issue of *N. ceranae*. He commented that in Europe, *N. ceranae* is rapidly displacing *N. apis* — in California it is becoming more prominent as a significant pathogen and colony mortality is still very high. Again MAF has been negligent in addressing the *N. ceranae* issue as it was not included in the IHS. MAF also stated that no more virulent strains of nosema existed, despite the fact that *N. ceranae* was known to exist, and at the time of the Import Risk Analysis process *N. ceranae* was being implicated in colony mortality.

It wasn't until a report I prepared for the NBA Executive Council about the 'new' nosema was passed onto MAF that it suddenly took notice. MAF then had the audacity/stupidity to accept the Australian government's statement that *N. ceranae* had not been reported in Australia, despite the fact that the Australians had never looked for it. The reality is that MAF should have acted correctly and assumed that until such time as the status of the organism was known, it should have used the precautionary principle and acted accordingly. The Australians have now found it when they started looking for it and it appears to have been present in Australia well before the IRA process was being undertaken. Australia has always had bigger problems than we have with Nosemosis and this could be related to the presence of *N. ceranae*. At present the status of *N. ceranae* is not known in New Zealand, nor is the status of IAPV.

I must give a great deal of credit to our CEO Jim Edwards, our legal advisor David Boldt and Daniel Paul from Four Winds Communications for the considerable time spent in assisting the Executive Council to gain valuable concessions from the Government, which was hell bent on getting the amendments through without the normal due process. The passing of the legislation occurred a few days before the Free Trade Agreement with China. Is this coincidental?

Industry standards meeting

On 17 April I attended a meeting facilitated by the Bee Products Standards Council, bringing together key players in the bee industry to discuss some significant issues that have arisen recently.

The New Zealand Food Safety Authority updated us on the tutin situation. NZFSA also talked about other issues relating to food production, such as misleading labelling, residues, honey standards, domestic food premises and the Animal Products Act.

In my last column I mentioned that people who sell honey are "food producers". This term came about as a result of editorial concern and I was asked to drop the term commercial. At this meeting the NZFSA has clearly defined what a

commercial beekeeper is; that is *anyone* who sells honey or other bee products. This vindicates my original point of view. While the Inland Revenue Department has a clear definition of a hobbyist for tax purposes, the NZFSA definition is far more rigid. *Hobby beekeepers, please take note.* If you sell honey you are required to comply with the relevant legislative requirements. Honey is a food product—the same as fruit, vegetables, meat, poultry and other processed foods. While honey is inherently a lower-risk product than other foods, it is not immune from contamination issues.

The talk given by John Rawcliffe from the Active Manuka Honey Association (AMHA) was quite hard hitting, and he gave his version of a SWOT analysis of the New Zealand honey products industry. The need to protect New Zealand's brand image from deceptive marketing practises by foreign parties was strongly emphasised.

Moira Haddrell, the Chairperson of AMHA, also spoke of the organisation's issues with its licensees, including the action to withdraw some licences and instigate a product recall.

The clear message here is that there is a cost to maintain brand integrity and 'Brand New Zealand' is no exception.

It is not well known that the NZFSA is also tasked with implementing "true to label", as well as export verification and of course, food safety. While the NZFSA can verify that the honey is actually honey, the certification of monofloral types cannot be verified unless there is agreed industry standards based on Codex and other internationally agreed standards.

The meeting agreed to accept the NBA-ratified (in 2002) definitions of monofloral types as a Mark I version, to be verified and modified if necessary and confirmed by the industry as soon as possible. A clear mandate was also given to have any facilities undertaking analysis of honey to be certified by an independent auditor, for example, TELARC.

The NZFSA would agree to implement an industry-accepted minimum standard and enforce it.

Criticism was voiced about the haste of the meeting and the pressure to make a decision on the day. However, the industry has been dithering for many years about monofloral standards and standards in general, and the time has now come to stop putting our toes in the water and jump in. The industry needs to be proactive in setting accepted standards; otherwise it will be done for us. The NBA ratified a proposed set of monofloral standards in 2002 and it has sat there for six years. The restructuring process in the NBA has diverted our attention somewhat but now that the organisation has stabilised it is time to move forward.

Without a well-defined and enforceable set of standards for the honey industry, the marketing of New Zealand honey will remain difficult and maximum earnings potential will be not be achieved. It is imperative in maintaining our brand integrity that New Zealand producers need in order to be far more proactive in having a degree of control of their honey right through to the consumer.

This meeting discussed a range of issues that I have not commented on. However, the full report of the meeting is available in the members-only section of the NBA website (www.nba.org.nz).

China free trade agreement

On 7 April the New Zealand Government signed a free trade agreement with China. Once the agreement was posted on the Internet I had a look through it. Being in a rather cynical mood at the time after the Biosecurity and HSNO Acts amendment process, I started to look for a few surprises, especially in the area of country of origin labelling. Sure enough, I found a short paragraph:

> "Article 23 Accumulation
>
> Where originating goods or materials of a Party are incorporated into a good in the other Party's territory, the goods or materials so incorporated shall be regarded as originated in the latter's territory".

This could have some interesting outcomes for the honey industry. More on this topic next month.

- Frans Laas

Front cover photo captions

Hives owned by Jeremy and Fiona O'Brien were in the way of a slip created when 100–200 millimetres of rain fell in the Waikato on 15 April 2008. The apiary has been in this location for at least 30 years and possibly as long as 50 years.

Main photo: slip on left mixed with water (at right), creating a mixture of mud.

Inset: the aftermath. The truck at top of photo was unable to get any closer.

Photos: Beeline Apiaries®.

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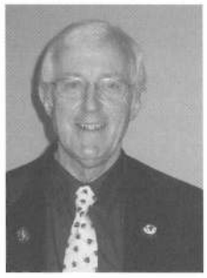
Chief Executive Officer's report

Independent review of honey imports



The Biosecurity Act amendment (known as the Biosecurity and Hazardous Substances and New Organisms Legislation Amendment Bill) passed through Parliament, and as a result the NBA was given the opportunity to have the areas of concern in the honey Import Health Standard reconsidered by an Independent Review Panel to be established by MAF.

Parliament did listen to industry concerns that the disease risks needed to be given an independent review. As a result of our extensive lobbying, we received strong support through the readings and committee stages of the Bill, especially from the Maori and Green parties. We are grateful for their perseverance, because their debating ensured that our concerns were not glossed over in the House of Representatives.

It has been agreed that *Paenibacillus alvei* should be given a proper independent assessment. To this we have added requests that European foulbrood (EFB), *Nosema ceranae* and Israeli Acute Paralysis Virus (IAPV) also be reviewed.

We met with the Director-General of MAF and his officials as the Parliamentary process was drawing to a close. NBA's barrister David Boldt then sent a formal letter to the Director-General and we are awaiting a reply.

We will continue to keep in contact with the Director-General throughout this process to ensure that the industry concerns are properly heard. We expect to be consulted closely on the membership of the panel and also on the procedures that the panel will follow.

- Jim Edwards
Chief Executive Officer

THE NATIONAL BEEKEEPERS ASSOCIATION OF NEW ZEALAND

Notice of 2008 Annual General Meeting

The AGM will be held in Masterton at the Copthorne Solway Hotel on Tuesday 15 July, commencing at 1.00pm

Pursuant to the Rules of the Association:

Notices of Motion and any **Proposals to Alter Rules** must be received by the Chief Executive Officer no later than 5.00pm on Monday 26 May, 2008.

Ward representatives: Nominations for Ward representatives must be received by the Chief Executive Officer no later than 5.00pm on Monday 26 May 2008. Elections for 2008 Ward representatives are required in the Northern, Bay of Plenty, Southern North Island & Central South Island wards.

Please send to 10 Nikau Lane, RD 1, Otaki 5581, or fax to: 06 362 6302.

Jim Edwards
Chief Executive Officer

Control of varroa using organic treatments —part 3

Natalie Page-Weir, Heather McBrydie, Harlan Cox, & Mark Goodwin

HortResearch, with support from the Sustainable Farming Fund (SFF), the National Beekeepers' Association (NBA), contributions from a number of beekeepers, and Zespri, are working with beekeepers to trial the efficacy of organic varroa control products. The purpose of this trial is to establish effective varroa control using organic treatments. The organic products being trialled are Apilife VAR®, Thymovar®, Apiguard®, and thymol crystals. Each of these products is being applied to both single and double brood box hives. This is the third in a series of articles that will be written as a means of sharing the information on use and efficacy of organic varroa control products.

At the start of this trial (September 2007), the beekeepers involved were asked to undertake a sugar shake of their hives to estimate the total number of mites in their hives. This was repeated post-treatment to determine how effective the varroa control treatment has been. At this stage, we recommend that all beekeepers check all their hives after using organic treatments to ensure that they have worked. In this trial, we are re-treating a hive if mite levels reach 40+ varroa per sugar shake of 300 bees. The procedure for doing sugar shakes was outlined in our last article (February 2008).

All the beekeepers in this trial found that mite levels were below 40 mites per 300 bees both before and after treatment with organic products in the spring. In spring, all the organic products worked and were effective at controlling varroa. The beekeepers involved in this trial re-checked mite levels again in December/January. This was to ensure that mite numbers were still at a safe level (below 40 mites in a sugar shake).

Recently the cooperating beekeepers began removing honey from their hives. Each beekeeper recorded the number of full frames worth of honey removed from each hive. This will determine if any of the organic products affects the total honey crop. We will be reporting on the honey production in the next article.

Those beekeepers who have removed their honey boxes have started the autumn treatment of the hives. As with the spring treatment, the threshold of 40 mites per 300 bees is being used to decide if hives should be re-treated with an organic product. Varroa numbers are much higher now than they were in spring; some hives have had over 200 mites/300 bees. Therefore, we have recommended that the cooperating beekeepers treat hives with much more than 40 mites with a synthetic treatment (e.g. Apistan® or Bayvarol®). With the organic products, there is a risk that hives with high levels of mites might collapse if the treatment does not work sufficiently quickly or effectively. In our next article, we will report on how successful the autumn treatment with the organic products has been.

Our thanks go to the beekeepers taking part in this trial, for their generous use of hives, their time for counting mites and applying treatments. Thanks to Reuben Stanley for providing the Apilife VAR®, Stuart Ecroyd of Ecroyd Beekeeping Supplies for providing the Thymovar®, and Trevor Cullen of Ceracell Beekeeping Supplies for providing the Apiguard® used in this trial.

[Editor's note: part 1 of this series was published in November 2007 and part 2 in February 2008.]

Hawke's Bay Lifestyle Block Field Day 2008

Each year the Hawke's Bay Regional Council presents a Lifestyle Block Field Day at Hawke's Bay Showgrounds. This year's field day was held on Saturday 5 April.

As usual, the Branch mounted a display of beekeeping equipment and wasp destruction methods, including identification of various species of wasps. The observation hive that John Berry had set up was of great interest to both children and those not so young. Many and varied were the questions, with one of the most common being how to find and destroy wasp nests. The German wasp nest that John had dug up also was a popular talking point, sparking numerous tales of how people had found and treated nests. How to identify varroa and treat for mites was also high on the agenda.

Our greatest thrill was the number of people asking about setting up a hive or two, how to get in touch with the Branch and how to join the NBA. Many small lifestyle block holders are noticing the absence of honey bees and are wanting to do something to improve the pollination of their fruit trees.

- Ron Morison

Don't use PDB

We advise all beekeepers to avoid the use of PDB (paradichlorobenzene), a similar material to mothballs. PDB is an old-fashioned remedy for wax moth that presents real risks to market access with residues in honey, wax and propolis.

There are alternatives, including:

- heat or cold treatment
- carbon dioxide
- wax moth traps
- sealed storage.

Processors and exporters will require you to confirm that you have not used PDB in your hives. You will find it very difficult to get a buyer if you have used PDB.

For further information please visit:
http://www.nba.org.nz/docs/waxmoth.pdf and
http://www.foodstandards.gov.au/_srcfiles/A602_Paradichlorobenzene_ERL_honey_FAR.pdf

- Dr Jim Edwards
Chairman, Bee Products Standards Council

[Editor's note: This article was inadvertently omitted from the April 2008 issue that was sent to all registered beekeepers. We would appreciate it if you would circulate it to your fellow beekeepers. This article has been sent to NBA branches and representatives of New Zealand hobby clubs.]

Tutu toxins confirmed

Test results have confirmed that the suspected tutu toxins were present in comb honey from the Coromandel Peninsula eaten by 22 people who fell ill.

New Zealand Food Safety Authority (NZFSA) Senior Programme Manager (Animal Products) Jim Sim says the confirmation came after testing of leftover product provided by people who fell ill after eating comb honey from Whangamata at Easter. High levels of both tutin and its derivative hyenanchin were found. He says the test results combined with the symptoms reported were consistent with acute poisoning from tutin and hyenanchin.

There are some 20 packages of potentially toxic comb honey of the Wentworth Valley and Moana Point brands still unaccounted for. Consumers should check if they have any of these brands of Projen Apiaries comb honey and if so to hand it in to their nearest public health unit.

Despite widely distributed messages to consumers and GPs seeking that they report any symptoms associated with the consumption of potentially affected honey, no further cases have emerged since the original cluster.

NZFSA is continuing to sample and test. "NZFSA is testing to further confirm the safety of honey for sale. So far we have found no evidence of tutin in other sources. Hyenanchin at levels well below those that might result in illness has been detected in some of our residue monitoring programme samples. We are now targeting sampling to areas where these positive samples have been obtained with a particular emphasis on checking harvest records and taking late season samples in affected areas as these are more likely to be contaminated. These low levels of hyenanchin did not cause illness in consumers."

Tutin is well known as a natural toxin in honey in some areas of New Zealand. NZFSA is currently working to obtain quantities of tutin and hyenanchin so that studies can be done to determine the exact toxicity of these substances allowing regulatory limits to be established. Once chemical standards are available, commercial testing of honey will also become viable if it is determined that it is needed as part of the ongoing management of these substances.

Mr Sim says NZFSA is also working with the industry to address the problem. "Bee keepers have been reminded of their responsibilities in harvesting honey in accordance with food safety requirements. There are many options for management under consideration but right now what we need is more information about the affected areas and amount of contamination to better inform the decision making process."

A decision on whether to prosecute the beekeeper cannot be made yet as the matter is still under investigation.

http://www.nzfsa.govt.nz/consumers/chemicals-toxins-additives/honey/index.htm

Ends

Further comment: Jim Sim, Senior Programme Manager (Animal Products), 029-894 2609
Further information: Gary Bowering, Manager (Communications), 029-894 2532

New South Wales Apiarists' Association Inc. Conference

The 2008 NSWAA conference will be held at the Nelson Bay Diggers (RSL) Club, 22–23 May 2008. Nelson Bay is 1.5 hours north of Sydney.

I have just received my copy of the *Honeybee News* containing their conference agenda, which looks interesting. A few of their research projects are being reported back.

The NSW Executive is holding a "Honeybee Industry Crisis Meeting" the day before the conference starts to assist beekeepers to work through their present problems.

Apart from poor honey crops due to years of drought, they are facing low internal prices for honey when world honey prices are rising due to a shortage of honey; i.e.. European buyers are paying $A4.00 a kg for Argentinean honey.

Australia's Consumers' Commission has amended the regulations to allow small business to collectively negotiate a contract with large businesses without breaching the Trade Practices Act. Collective bargaining refers to an arrangement under which two or more competitors in an industry come together to negotiate terms and conditions with a supplier or customer, which can include discussions on price.

Conference participants will also hear from the retailer traders association, a major supermarket's point of view (Woolworths) and their honey packers association, plus they will be discussing a new proposed statutory marketing levy.

In association with the conference the local branch holds a field day on the Saturday after conference, where up to 500 beekeepers attend. Can you spare a week off? It should be interesting.

- Frank Lindsay

Proper budgets a must for contract business owners

by Cheyne Waldron, Chartered Accountant, Bailey Ingham Ltd

In the past few years inflation has markedly increased prices for many goods and services throughout New Zealand, particularly for industry. Increased prices are making business people question their costs and how they operate their business.

Four weeks annual holiday leave, the introduction of KiwiSaver and higher ACC costs mean that it has become more expensive to employ labour. Higher fuel costs and interest rates have meant that the cost of using vehicles and machinery has also increased.

Cost of employing labour

On top of an employee's gross remuneration, there are several other costs. These can include eight per cent holiday pay, four per cent statutory holidays, two per cent sick leave, four per cent KiwiSaver and six per cent ACC. All of these costs must be taken into account when employing labour.

Self employed contractors find that when they are employing a staff member for 40 hours per week, it is hard to charge out for 40 hours. In addition to the wage cost, the employee would normally be provided with at least a vehicle and mobile phone.

Vehicle costs

There are several costs involved in utilising machinery and vehicles in a business. While fuel costs have soared, it is the interest and depreciation costs that form the bulk of the vehicle cost. Insurance, registrations, tyres and repairs all add to the overall cost.

The example below shows a $30,000 vehicle, travelling 25,000 kilometres per year. The cost could be somewhere about $17,000 per annum, which works out to 68 cents per kilometre. Obviously the true cost depends on the type of vehicle, type of fuel and actual usage.

The Inland Revenue Department reimbursing rate is 62 cents per kilometre (up to 3000 kms). This has been the same rate for several years and probably needs amending to reflect the fact that prices have increased during the past few years.

Example: Vehicle costs

Interest: $30,000 @ 10% = $3000
Depreciation: $30,000 @ 25% = $7500
Fuel: $100 per week @ 52 = $5200
Insurance, registrations, tyres, repairs = $1300

Total: $17,000
$17,000 ÷ 25,000 kilometres = 68c per kilometre

Administration costs

Administration costs, or overheads, all add to the cost of running a business. A good accounts person can be a saviour for a small business.

Insurance, accountancy and legal fees, bank charges and communication costs are all essential to the business.

The main overhead is the cost of the premises and/or office. Contractors who use a designated part of their home for their office can legitimately claim for these costs.

The Inland Revenue Department lets you claim a portion of the overall house costs, depending on the size of the office in proportion to the overall size of the house.

In the example below, where the office size is 10% of the total size of the house the business can claim $1400 per annum for costs of using a home office.

Example: Home office costs

Rent/Mortgage: $200 x 52 weeks = $10,400
Insurance/Rates = $2000
Electricity = $1500
$14000 @ 10% = $1400.

Charge out rates

Taking the above into account it is easy to see that on top of the extra costs involved in employing labour (holiday pay etc) there are other significant costs that need to be taken into account when deciding charge out rates for both employees and the business owner.

As a general rule, charge out rates should be two-three times the employee's basic hourly rate, depending on the industry. With physical jobs, it is more likely to be closer to two times the hourly rate.

As far as the business owner goes, proper budgets need to be done to get an idea of what the charge out rate needs to be to ensure a certain level of profitability.

[Source: Reprinted from North King Country Farmer, *Waitomo news, February 12, 2008, page 2.]*

An explanation of why the MGO level in manuka honey does not show the antibacterial activity

Professor Peter Molan,
Honey Research Unit, University of Waikato

Editor's note

The following article by Professor Peter Molan is presented for your information. This debate is expected to continue through until this year's annual conference in Masterton. Following are some basic facts about methylgloxal:

1. *Methylglyoxal is one chemical compound found in non-peroxide honey often branded and marketed as Unique Manuka Factor (UMF®)*
2. *Methylglyoxal is one of a number of elements that make up the Unique Manuka Factor.*
3. *The research findings relating to methylgloxal was conducted in Germany, independent of New Zealand companies and in the public domain.*
4. *The measurement of the non-peroxide activity is a measure of an outcome (the action of the honey upon biological subject matter), while the measurement of methylglyoxal quantifies the presence of a chemical compound.*
5. *Methylglyoxal reacts differently to biological matter ('bugs') when in honey than on its own.*
6. *Other elements within the honey change how this chemical works.*

Key points

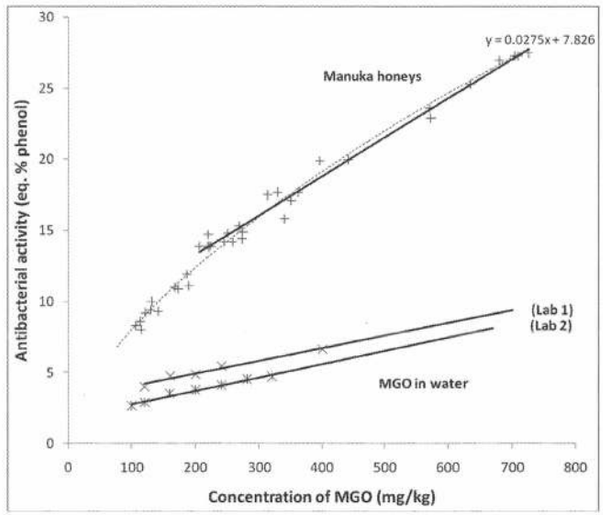
- The antibacterial activity of manuka honey is due to synergy between MGO and non-antibacterial components in the honey. This synergy accounts for half or more of the UMF activity.

- The antibacterial activity of MGO is far less when it is in water than when it is in honey—it has less than half of the antibacterial activity that is seen when the same level is in manuka honey. **This is scientific proof that the MGO present does not by itself account for the non-peroxide (UMF) antibacterial activity of manuka honey.**

- Increased levels of MGO just add to the base level of activity, which is why the antibacterial activity of the honey does not increase in proportion to the level of MGO. **That is why the MGO rating misleads consumers—they may be getting only half of the activity they are expecting from the higher MGO ratings.**

Figure 1: The antibacterial activity associated with various levels of MGO in commercial manuka honeys, and with MGO on its own (i.e. in water).

The activity (non-peroxide) was tested by the standard method used to assay the UMF rating. This data and the data for the level of MGO in manuka honey are as was published in the paper in *Carbohydrate Research* by Dr Merilyn Manley-Harris's group. The data for the activity of MGO on its own was obtained independently by the Honey Research Unit and by NZ Labs.



In March 2008 *The New Zealand Beekeeper* published an article that I wrote explaining why consumers are being misled by it being claimed that displaying the level of the active antibacterial component of manuka honey shows them the antibacterial activity of the honey. But it is still being claimed that the MGO™ Manuka Honey scale will become the standard against which manuka honey will be measured in future: (http://www.manukahealth.co.nz/main.cfm?id=93 [accessed 29/05/08]). Therefore I have written this additional article to explain even more simply why the MGO scale does not show the non-peroxide antibacterial activity.

What is being ignored is a well-established, basic, simple, scientific principle that is very widely known. That is the principle of synergy. *Wikipedia* defines it:

> **Synergy** (from the Greek *syn-ergo*, συνεργός meaning working together, circa 1660) pp refers to the phenomenon in which two or more discrete influences or agents acting together create an effect greater than that predicted by knowing only the separate effects of the individual agents.

Common examples of this are the use of the non-herbicidal penetrant *Pulse* as a synergist to increase the herbicidal potency of *Roundup* on woody weeds, and the use of the non-insecticidal enzyme inhibitor piperonyl butoxide as a synergist to increase the insecticidal strength of pyrethrum against houseflies.

There is no argument about MGO being the only antibacterial compound of any significance in manuka honey, but the level of it present falls far short of accounting for the antibacterial activity of the honey. Something in manuka honey, without any antibacterial activity of its own, acts as a synergist with the MGO to create an effect greater than that predicted by knowing only the separate effect of the MGO.

To illustrate this point, I had the antibacterial activity of various levels of MGO on its own (i.e. in water) assayed. This was done independently in two different laboratories. The results are shown in Figure 1 for comparison with the activity levels found when MGO is in manuka honey. The importance of the synergism in creating the antibacterial activity of the honey is strikingly obvious—**the antibacterial activity of the honey does not correspond with that due to the amount of MGO present.**

This point was missed by the group who first proposed that the non-peroxide antibacterial activity of manuka honey is due to MGO. Much prominence is given in the promotion of MGO™ Manuka Honey to the expertise of Professor Henle at the University of Dresden: (http://www.manukahealth.co.nz/main.cfm?id=54 [accessed 29/05/08]), whose research student discovered by chance the high level of MGO that occurs in manuka honey. But what is not mentioned is that Professor Henle's acclaim as a scientist is as a food chemist specialising in the area of harmful substances formed when foods are spoiled by heating.

The recently published paper by Professor Henle that is referred to is, according to the databases of scientific literature, only the second paper Professor Henle has published on honey and on antibacterial activity, and his first on the antibacterial activity of honey. The Manuka Health website quotes Professor Henle as saying: "In our studies, we found for pure solutions a concentration of around 70 to 100 mg methylglyoxal per kilogram is the minimum concentration needed to inhibit *E. coli* and *S. aureus*." (http://www.manukahealth.co.nz/main.cfm?id=98 [accessed 29/05/08]) But my research, published in the *Journal of the Royal Society of Medicine* in 1999, demonstrated that manuka honey with a UMF rating of 13.2 will inhibit *Staphylococcus aureus* when diluted down to as low a concentration as 2–3%. From the graph in Figure 1, UMF 13.2 is seen to be equivalent to a content of approximately 200 mg of MGO per kg of honey. With the honey diluted to 2–3%, the MGO would be at a concentration of only 6–8 mg per litre. Thus with the synergy involved when MGO is in honey the amount needed to inhibit the bacteria **is about ten times lower** than the 70 to 100 mg per kilogram reported from University of Dresden as being the minimum needed. Similar results for the minimum concentration of manuka honey needed to inhibit bacteria have been published by other researchers. **This clearly demonstrates that MGO alone does not account for the antibacterial activity of honey.** Perhaps it was because Professor Henle was not familiar with the many research papers that have been published on the antibacterial activity of manuka honey that he did not notice the very large discrepancy between his findings for MGO and the published findings for manuka honey.

The amount of the synergistic action varies with the level of MGO in the honey, which explains the curve in the data on the graph of MGO vs UMF. MGO on its own gives a straight line relationship. I have fitted a curve to the data (shown as the dashed line in Figure 1), but this does not fit the data as well as the straight line fits the data for values above UMF 12. (The R^2 values are 0.9833 for the curve cf 0.9859 for the straight line.) The most likely explanation for the data being on a curve for the low values of UMF is that commercial manuka honey with low UMF values will have a low proportion of manuka nectar in them. (See the summary of the findings from the study of Dr. Jon Stephens which was in the March 2008 issue of *The New Zealand BeeKeeper*.) We have found differences in the amount of synergy between honeys of different floral sources, and are currently investigating this more extensively. This would also account for the scatter of the data on the graph of UMF vs MGO, and would make it unlikely that analysis of MGO could be used with an acceptable level of accuracy to estimate the UMF rating from a calibration curve.

Although there is a reasonably good correlation between the levels of MGO and the antibacterial activity at higher UMF values, these levels are far from proportional to each other. Those familiar with regression analysis will note the equation shown for the regression line, $y = 0.0275x + 7.826$. To put it in simple terms:

Antibacterial activity = 0.0275 times MGO plus 7.826

What this means is that in addition to the activity that is due to MGO, there is activity equivalent to 7.8% phenol that is not accounted for by the MGO alone. So, for example, it can be calculated from regression analysis that for MGO 100 honey the activity of the MGO accounts for the equivalent of less than 3% phenol. (That is close to the minimum activity needed to kill some species of microorganisms. Even a small degree of dilution would take that down below the level needed to kill.)

As the level of MGO increases in honey the resultant activity does not increase in proportion to the amount added, as can be seen in Figure 1. The extra MGO is just adding to the base level of activity due to synergy. So, for example, 200 mg/kg

of MGO adds UMF 5.5 to the base level of 7.8, giving UMF 13.3. Twice as much MGO, 400 mg/kg, adds UMF 11 to the base level, giving only UMF 18.8, not an activity of UMF 26.6 (2 x 13.3) as would be expected from having twice the level of "active ingredient". If a consumer purchases MGO 700 they would expect the activity to be seven times higher than if they purchase MGO 100, but it is in fact only three and a half times higher, **i.e. only half of what they think they are getting.** Thus the MGO rating misleads the consumer.

The UMF system is a thoroughly honest way of rating activity, activity being rated relative to a well accepted standard. Thus if the UMF number is twice as big it unarguably means twice the activity. Whereas with MGO the consumer will be getting far less than twice the activity if they purchase honey with twice the level of MGO.

Before Britain joined the EU, there were regulations that required all disinfectants sold to have their activity rated against phenol—the 'Rideal-Walker coefficient'. It is for this reason that I chose phenol as the standard when we first devised the UMF assay. Anyone looking up phenol in Wikipedia will see:

"Phenol has antiseptic properties, and was used by Sir Joseph Lister (1827-1912) in his pioneering technique of antiseptic surgery"

and numerous mentions of its use as a disinfectant. As a result of the very large amount of news media exposure I have had worldwide it has been possible to explain the UMF rating system and it is very well known and easily understood.

Stating just the level of MGO gives no indication at all of the actual antibacterial activity of the honey. To start with, MGO is not a recognised antibacterial substance—anyone looking up MGO in *Wikipedia* will find no mention of antibacterial properties. In fact there is very little mention in the scientific literature of it killing bacteria, and despite extensive literature searching I can find no mention of anyone ever reporting its use as an antibacterial agent. If it is used as a standard against which to rate antibacterial activity then consumers should be told that MGO at a concentration of 700 mg/kg is equivalent in antibacterial activity to 8–9% phenol. (UMF 10 manuka honey is equivalent in antibacterial activity to 10% phenol.)

The notion of measuring MGO in honey to rate the honey's antibacterial activity was conceived without good quantitative microbiological research being done before the system was launched. Now that the research work has been done and the notion has been scientifically proven to be invalid it should be dropped. To continue to use it in the face of the simply explained evidence presented here is to knowingly mislead consumers.

Consumers expect honesty—they need to be told what is the actual antibacterial activity of the honey they are buying, not to be misled.

[Editor's note: The content of this article does not necessarily reflect the views of the National Beekeepers' Association (Inc.) or the publisher.]

Honey sales since the tutin toxin incident

Have you noticed any difference in your honey sales since the tutu incident? I know that most beekeepers have been asked the question, "Does your honey contain tutin?" In conversation with a supermarket shelf filler a week ago, I was told that people are looking at the honey on the shelves but not buying.

We all need to get out and spread the word. By buying from established beekeepers who have a Risk Management Programme, consumers can be confident that food safety audits have been undertaken.

There has been a major change within the beekeeping industry over the last few years. Before 2005, food premises were administered under the Food Act, controlled by local authorities whose interpretation of the requirements varied from district to district.

Now large honey producers are under the Animal Products Act administered by the New Zealand Food Safety Authority, which gives customer and overseas buyers greater assurance that they are getting a quality product.

Let your customers taste your honey. A beautiful product will sell itself.

- Frank Lindsay

Have you registered for the NBA Conference yet? Don't leave it until the last minute!

Refer to the April 2008 issue for the registration form and other information.

From the colonies

Waikato Branch

As I write this (14 April), the forecast is for rain. Beekeepers are preparing by cleaning out water tanks in the hope that we get enough rain to cover the bottom and more. It becomes costly bringing in water with the increases in general cartage. Diesel is now around $1.42 per litre. Mention was made the other day that it is getting harder to purchase items such as tyres. Most New Zealand manufacturers have closed down and our reliance on countries such as China to export to us is under threat, with their own country's demand for usage exceeding supply.

Wasps and mites have knocked the hives around this autumn, or maybe beekeepers themselves have not been vigilant enough. Once upon a time, hives were moved when wasps started to be bothersome, and of course there were no mites. Combined with an increasing workload, beekeepers are stretching to do the things that they used to do. Comments are that hives treated in early spring are showing a lot of mite damage and PMS, if they haven't had strips in for autumn already.

The same old story is rattling the cages of beekeepers at present. Important meetings are being called at a moment's notice, with a lack of lead-in time and not enough time to get there. Whilst living in the rural heartland may be ideal, many of the niceties enjoyed by our city cousins are absent, including reduced (or no) cell phone coverage and slow Internet speeds. When it's windy, Internet speeds can drop to 14 kilobytes per second (kpbs); top speed could be 31 kbps. The other day it took half an hour to download a 1.3MB file containing what was meant to be a joke: instead it became a nightmare.

April is the month of exporting package bees. With direct flights now to Vancouver, life is easier for exporters. At least the weather seems warmer to do packages with good numbers being gathered, providing the opportunity to earn the last squeeze of a dollar out of the hives.

I heard a new saying from a sheep and beef farmer the other day. When discussing how costs are escalating, everyone is out to "clip your ticket". Not a truer word spoken, methinks!

- Fiona O'Brien

Bay of Plenty Branch

As the season draws to a close, most beekeepers in the region seem to be very happy with their crops. Now comes the challenge to sell at a good price, with hopes that the fallout from the recent tutin poisoning will not have too much effect on honey sales and price.

Autumn is very definitely here with cool evening temperatures and nice days after taking a while to warm up. We have at last had some worthwhile rain in most areas, which has been a welcome relief to all.

Mite numbers have been reasonable but building so we've had a busy time putting in miticides. Wasp numbers are rising exponentially and becoming a real problem in many areas. We have put entrance excluders on far more hives this year than is normally the case.

The Field Day programme is still in the development stages; however, the main focus will be centred on tutu and tutin poison. Dr Mark Goodwin will be giving a presentation that I am sure will lead to a very constructive question and answer session. Comvita, the NBA and AsureQuality are also confirmed, so the day will be really interesting. The full programme will be on the website as soon as possible and also emailed on the list. Meanwhile, put aside 14 June in your calendars.

- Barbara Pimm

Hawke's Bay Branch

Most areas of Hawke's Bay have received reasonable rainfall, hopefully in time for some grass growth before winter sets in. Wasps appear to be more of a problem this year than they have been for some time: I have killed five nests within 30 metres of my house.

Tutu honeydew poisoning has been a hot topic in Hawke's Bay and is a prime example of how one ignorant person can damage the whole industry. I was talking to a friend of mine and she told me how in her grandfather's day that they knew honey from wild hives in the bush could be poisonous (in those days they did not know tutu honeydew was the cause of poisonings). So when they found a wild hive in the bush they would save the honey until a tramp came to stay. If the tramp ate his honey and toast in the morning without getting crook, they knew it was safe. It's a pity there's now a shortage of tramps in the Coromandel area: perhaps hippies could be used instead of tourists in the future.

- John Berry

Annual General Meeting
Hawke's Bay Branch,
National Beekeepers' Assn (Inc.)

Monday, 19 May 2008, 7.30pm,
at Arataki Honey, Havelock North

Guest speakers:

Rex Baynes, Manager, AFB NPMS
Frans Laas, President, NBA and Chairman of the AFB NPMS Management Agency

Southern North Island Branch

The Branch has had its AGM and elected the following officers:

Our new President is Peter Ferris.
Secretary: Frank Lindsay
Treasurer: Mary-Ann Lindsay
Delegate: Neil Farrer.

Update on Conference

The Conference Committee is working hard to ensure that 2008 Conference in Masterton will be a great experience for everyone. Three overseas speakers are booked, plus other interesting subjects for the seminars.

The hobby forum on the Sunday is a first and we are looking for a large attendance, with a full day's programme addressing hobbyist needs.

- Neil Farrer

Nelson Branch

This autumn we have had a textbook Indian summer. A few night-time showers have kept the fields and lawn green, probably not enough rain to keep the farmers happy, but there has been some autumn growth in the paddocks too.

Small amounts of nectar and pollen continue to trickle into the hives, resulting in more brood than desirable but the winter stores are good. Wasps are a problem in the honeydew areas this year and mice have never been thicker, as the nights are very cool despite the continuous warm and sunny days. We use prophylactic rat bait, which is being consumed faster than we can put it out!

Beekeepers are reporting a good average year. Sales seem robust enough that most beekeepers are talking of getting away for various winter breaks.

Never a column without mentioning varroa, is there? We are confident that Biosecurity New Zealand will lift the internal varroa control lines (at the Pelorus and Wash Bridges, going into Marlborough from both east and west ends) at the end of the season, which could well be July. Now that most hives have been wintered down, this date will not help us with our operation this year, but it will make the spring work so much easier than a year ago. Although we personally haven't yet seen any varroa in our hives in the Wairau Valley, we have decided to do autumn treatments as it is impossible to do a proper surveillance to find out where it is. Once again, the advice we've received from the North Island beekeepers will probably save lots of hives (those famous words "varroa will turn up where you least expect it"). So as varroa has been seen in the Wairau Valley, you can be certain that it is going into your hives even though you haven't seen it.

The hardest part this year is doing the varroa treatments after all the work has been done. This is very labour intensive, but next year we will be able to do treatments at the same time as we are visiting for the last honey gathering. We can now start fantasising where varroa will next rear its nasty head!

- Merle Moffitt

Southland Branch

It's been a mixed bag for Southland beekeepers this season. This year's hot, dry summer affected us all in different ways. The area from Balclutha to Invercargill and up to 100 kilometres inland from the coastline (normally wet areas) generally did pretty well. The bush in the Catlins and the Longwoods had a very good flowering year and as an added bonus, even the rata flowered well.

It was a different story for many areas further inland; in fact it could be said that the further inland and to the west that hives were located, the worse the drought conditions became and as a result, the smaller the honey crop. The usually reliable Te Anau Basin looked good through spring, but by January paddocks that were usually flush with clover were so dried out that walking across them was like walking on potato crisps!

All in all a bit of a mixed bag and for some of us in the South it was not a memorable year, but roll on next season!

- Doug Lomax

Letters to the editor

Suggestion for tutu research

I remember some years ago being at Wallaceville Research Station when the tutu problem was a relatively fresh problem for the beekeeping industry.

My job was to help dissolve the suspect honey and then centrifuge the resulting liquid, then the scientist in charge would take some of this liquid and administer it to some guinea pigs. If the guinea pigs died, it was concluded that that particular batch of honey contained the tutin toxin.

The idea was good but I did feel concerned about the guinea pigs. A plastic tube was roughly plunged down the throat until it reached the stomach. Some of the liquid was poured into a funnel to administer a measured amount to the guinea pig's stomach. I had the impression that maybe the tube entered the lungs instead of the stomach at times, so perhaps drowning was the cause of death in these instances?

I was reading that ordinary honey tended to rotate polarised light to the left while honeydew rotated it to the left. Perhaps research could look at this. If it applied to tutu honeydew, then suspect honey could be first checked to see if the normal rotation to the left was less than expected; if so, further testing could be done. If no change, then the harvest declaration could be safely signed to the best of the beekeeper's knowledge that there is no tutin present.

- Gary Jeffery

Filipino beekeepers seeking work

I am a Filipino beekeeper who has experienced working in Canada, Australia and New Zealand. I have known some Filipino beekeepers who want to work in your country. I can send their resume to interested beefarm owners in your organisation. I just only want to help my fellow Filipino beekeepers in looking for a job in New Zealand. I have shared my knowledge and experience with them.

In three countries I've worked with I think New Zealand is the best. More power to you and your organisation. Thank you very much.

Yours truly,
Tom I. Sotalbo
Email: sotalbohoneybee@yahoo.com

[Editor's note: please contact Tom Sotalbo directly if you are interested in employing Filipino beekeepers.]

It's the best thing since sliced bread

We have just installed a new extracting plant manufactured by John Bowland (JBee Manufacturing Pty Ltd), Maiden Gully, Victoria, Australia. This plant is completely different from existing extraction setups in New Zealand.

It's a 45-frame horizontal radial extractor with a honey sump, heating coils, baffles and float switch underneath, complete with uncapper stand, feed and discharge racks, and electronic speed control unit. It uses single phase drawing 5 amperes on start up, utilising a three-phase motor to control the speed. Externally you can change the length of extraction period and the speed of the motor in 25-revolution steps. Its maximum speed is 250 revolutions per minute.

We already had a steam boiler (a forerunner to the Simons boiler advertised in this magazine) and an old model BeeQuip uncapper. You can either have a wax reducer or an auger fitted under the uncapper stand. We chose an auger as we already had a cappings spinner and Finlay wax melter; besides, we didn't want to heat the honey to render the wax. This cost us approximately $22,000 imported into New Zealand including shipping, GST and clearance costs.

I'd seen this extraction plant on display in Ballina, New South Wales while attending the local branch field day after the NSW Apiarists Association conference four years ago (500 beekeepers attended the field day). I was really impressed but its length put me off. It's 5.2 metres long, and requires another 1.5 to 2 metres at the discharge end and a couple of metres plus at the uncapper end to work comfortably. We only had a 5 by 3 metre extracting room under our house so couldn't fit it in. (It was only later that we found out we could have modified the unit by reducing the length of the racks. Now there are other models on the market for small-scale beekeepers.)

However, in preparing for my RMP to allow my honey to be exported to the EU (should any packer wish to), I found my two extractors needed upgrading to the new standard as the centre structures were steel and had lost all their protective coating. I tossed up as whether to do this or get a new extractor altogether to speed up our operation. I felt we needed something new as I was only doing 30 supers a day and was spending months extracting. It was becoming a chore and often I gave up extracting as soon as I felt we had enough honey to carry us through the year.

With the RMP requirements, the requirement to get honey off earlier for varroa treatments and the possibility of an incursion of Small Hive Beetle *(Aethina tumida)* on the horizon, a couple of us took an additional five days before last year's NSW conference to visit a number of honey plants on the northern NSW coast, and to compare their BeeQual system with our RMP programmes (which are very similar).

We were lucky as Australia was in a severe drought so beekeepers weren't extracting honey and had time to talk to us. Normally when the flow is on, the supers are coming off hives every five to seven days, extracted and put back on again. Their plants are designed for high output, giving them a quick turnaround. The smaller plants (the JBee's) were capable of putting through 70 boxes an hour on a six-minute cycle, which removed 80 percent of the honey with two people working in the extracting plant.

When we saw the extracting plant at the field day JBee had already manufactured 130 plants, so most of the bugs had been ironed out. We visited an actual plant we had seen at Ballina and were impressed with the setup. It looked as though it had just been installed, shiny and clean. We asked what the faults were with each plant and what they thought would be best for us. One fault was that on immediately opening after the extractor finished, honey drips down on the frames. This can be greatly reduced if the leading edge of the cover is wiped but the cover can also be modified to tilt back further. Another extraction plant had a pump that wasn't keeping up with the extractor. A faster pump would have fixed this I thought. But those were the only minor problems.

Now things aren't that different over here and I thought that this plant would extract manuka as the Australians were, at times, extracting honey with a moisture content in dry years down to 9%. One of the beekeepers extracted jelly bush (similar to our manuka) and got half of it out of the frames without pricking it. What's the difference once you have pricked the honey?

During extraction you hardly get any mess on the floor—just a few wax fragments from the supers. The beekeeper completely cleaned out the plant with high pressure (90°C) hot water after each day's extraction as they didn't want to encourage ants (a problem in Australia). They said they lost only 1.5 kg of honey after draining the sump and emptied their washings on to the lawn, which was healthy and green. Now if you have been around honey for a while, you would have found that honey is an excellent weed killer and when emptied on to the same area, the soil goes sour and stinks. Nothing like this happens using these plants in Australia.

I asked about the bearings. They were washed every day and they hadn't needed changing during four years of operation, as they are triple sealed.

Steam for these plants was mainly provided by 9.5 kilowatt Simons boilers, which ran continuously and was diverted via taps and stream lines to each part of the plant as required ($2.00 an hour running cost). I have a 3.5 kilowatt boiler and only turn it on while uncapping. I felt I could run the same setup I had, already linking in series the uncapper, horizontal sump to another sump on the output of the cappings spinner.

I couldn't understand why the first JBee plant we saw had only one in-line filter between the pump and the honey storage tank (called a "rocket", as it looked like one), manufactured by Capilano some years ago. In my old plant I'd need to change the filter a number of times throughout the day. The beekeeper who had this plant didn't and I can now understand why, having set up my own plant. The bafflers in the sump are very efficient and with steam pipes running under the outlets, small wax particles float up and are held by the baffles.

Anyway we brought a complete unit with an extra 100mm feed rack to allow us to remove frames for pricking. It wasn't until I set up the unit that I realised that this wasn't necessary as I hadn't calculated the additional length of the uncapper stand, which holds five frames before they meet the rack.

The purchase of this unit required us to completely renovate under the house. What was my storage area became my extracting room and my old extracting room because the packing and storage area. We installed new lights, wall covering, power points, additional walls and doors, additions to the filter system and honey tank. I converted my eight-frame extractor into a tank and all this was done during the honey flow. Not the best time to change things around but it arrived just two months after ordering it.

Troubleshooting

It took a week or so of playing with the plant to understand the best timings to use and to sort out a few little problems—all to do with *my* gear.

The first glitch I encountered was that this extractor is designed to push frames in and out in one action. One third of my frames are hand made on my saw bench, and as you know measurements slip a few millimetres when continuously cutting top bars throughout the day. Those extra few millimetres don't matter in a tangential extractor or a vertical radial, but this extractor is manufactured to fit and hold standard-width frames. Half of the frames I made wouldn't go into the extractor without being forced. I have adjusted the extractor to make the frames fit a little better with a push but once extracted, I will either consign them to the meltdown pile or adjust them with a planer to fit.

The second problem was with the auger. It worked too efficiently—crumbling up the cappings to less than 5 mm—so the first lot of wax went through the basket. We had to put in a piece of nylon netting to hold the wax in the spinner. Because the wax particles are so fine, it has reduced the amount of the honey left in the cappings after spinning (normally lost in the melter) by 75%.

My third problem was with the pipe from the cappings spinner to the extractor sump tank. I thought I could do away with a sump and pump by having a pipe run directly from the spinner into the extractor sump tank; however the four-metre long, 35-mm pipe was too small and couldn't empty it quickly enough. I might look at making the outlet bigger to accommodate a larger diameter pipe but that's a winter job. In the meantime I have reverted back to using my old sump and pump to get the honey from the spinner to the extractor sump.

My fourth problem was with manuka. I was extracting early bush and kamahi honey from a manuka apiary to give the bees room to store manuka honey. The flow had already started and I was seeing white wax cappings and tasting a manuka mix all over the frame's surface, but there was only a fist-sized plug of solid manuka left in the middle of the frames after extracting. When I slowed down the extractor I found cells of manuka all over the surface of the frames that were being flung out at high speed. I've just started extracting cold manuka frames using a pricker and can report that the honey comes out cleanly.

My plant isn't up to speed yet with my frame problems but the second plant is going well using plastic frames. They are extracting 25–30 boxes an hour for normal honey on a 10-minute spin. They haven't had one broken frame and there are no drips in the drip trays: the frames come out dry.

For foundation frames I have found that if I slowed the speed of the extractor to 6, I avoided damaging them.

So that's it, and we both have big grins on our faces. If you are looking at replacing your plant, visit Australia and have a look around before you decide, or come to the Masterton conference in July. We hope to have a plant on display, but this really depends upon someone ordering one between now and then. If this doesn't happen, you'll see a video.

- Frank Lindsay

From the Publications Committee

We are endeavouring to change the time you receive your copy of *The New Zealand BeeKeeper* to the beginning of each month.

Hence the deadline for articles and advertising will be gradually brought forward over the course of the year. The deadlines for the next four issues are as follows:

ISSUE	DEADLINE FOR ARTICLES AND ADVERTISING
June	2 May
July	5 June
August	3 July
September	31 July

Keep an eye on page 3 each month for deadline details as the year progresses.

- Frank Lindsay
Chair, Publications Committee

About the Apiary

It's now autumn, with the first snows having arrived in the South Island. Deciduous tree leaves are turning golden and falling but a few plants are still flowering, supplying a dribble of nectar but mostly pollen. Lacebark and the odd koromiko are still flowering on the bush fringes; in the cities there are numerous scrubs flowering in the warmer regions, like the purple sweet pea tree.

Wasp numbers are horrendous in some of my apiaries at the moment. Some idiot pushed over a number of my hives—dead bees and wasps everywhere—but the persistent wasps cleaned out the honey and bees except for one hive, where I found the queen and a few bees sheltering in a corner of a super. With the scent of the colony on their bodies, the wasps went on to attack other hives in the apiary, flying straight in despite the bees guarding the entrances. I got stung along the inside of my arms and the tops of my legs just picking up the supers—there were wasps crawling all over them in their hundreds.

What to do? I reduced the entrances of the surviving hives to a couple of centimetres by plugging the entrances with grass. Those hives that were being robbed by large numbers of wasps were completely blocked off with grass and foam plastic. I was hoping that the remaining bees would deal to the intruders once they found they could defend the hive. In the meantime I thought I'd assist them. When 30 or so wasps were clustered together on the outside trying to find a way in, I repeatedly dusted them with insecticide powder. Very satisfying, but it took a while before I could see a reduction in their numbers.

On inspection I found that hives in several bush apiaries are under attack. The bees were clustered around the entrance and up the front of the hives, defending their precious winter stores. However, hives on farmland where there were no wasps were flying freely, bringing in pollen. There was a remarkable difference.

Anyway, with this problem half solved following jam baiting and the hope for an early frost to kill off the wasps, my thoughts now centre on continuing the extraction and storage of honey supers.

Extracting and storing honey supers

Once the wet or sticky frames have been cleaned out by the bees, I sort them so that old, dark and broken frames are consigned to the melter pile. Some beekeepers do this immediately after the frames come out of the extractor, which saves double handling.

Some scrape the propolis off the frames and supers before they go into storage. This is another form of income which shouldn't be overlooked when times are hard. Store the propolis in the freezer until you get the minimum amount the buyers require.

Honey frames are a precious asset as the bees use a lot of honey to draw them out. It doesn't take long for wax moth to turn them into a silken mess, so protect them. Greater wax moth *(Galeria mellonella)* creates a greater mess than the lesser wax moth *(Achroia grisella)* and will burrow into the woodware to pupate.

PDB (paradichlorobenzene) is no longer registered as it leaves a residue in the wax and honey so now can't be used. *[Editor's note: see related article on page 8.]* This means that beekeepers have to use alternative methods to protect their honey supers and frames when they are in storage.

Some beekeepers are freezing their supers for 24 hours, shrink-wrapping them and putting them into their sheds. Others leave them in open sheds, with plenty of light and air flow to dissuade wax moth from breeding in the combs. Another alternative is to leave the supers on the hives until the first frost and then put them into storage. While on the hives, the bees will look after the frames and after the first frost, not many moths are around so it's safe to store the supers. Not many commercial beekeepers do this as it's too labour intensive, but it's an ideal method for hobbyists. In the old days we put several sheets of newspaper between each super. The paper filled the cracks between supers and the ink tended to kill the

moth larvae if they ate through the paper while trying to get into the supers.

Most ink is now more environmentally friendly, so that this basically leaves freezing as the best alternative for hobbyists. Place supers in large plastic bags, seal with tape and freeze for 24–48 hours. (All that's required is room in the deep freezer.) Immediately after the frames/supers come out of the deep freeze, handle them carefully: foundation frames tend to be very brittle and can fracture if dropped.

Wintering nucleus hives

Some beekeepers will have made nucs to carry through the winter. Place them well off the ground in a sunny sheltered spot. Check them one cold morning to see that there isn't condensation under the roof. My nuc box roofs tend to be close fitting and don't allow the moisture given off by the bees to get away, so need to be raised a little with a matchstick under each corner. Generally a nuc needs to have a population of bees covering three frames but if not, you can assist the bees to maintain their cluster temperature by placing some oven foil directly on top of the top bars. I use enough to cover parts of the three centre frames (about 20 by 12 centimetres). Make a small hole in the centre so moisture can escape. Heat from the bees hits the foil and is reflected down on to the bees.

Things to do this month

Collect your records and count your hives so you can get your Annual Disease Return (ADR) in on time (1 June). Don't forget to amend addresses and the name of the property owner if it has changed hands.

Winter down hives, dispose of your honey crop (for commercial beekeepers), grade and sort combs into brood, extracting or damaged. Check for wasps and control growth around hives. *Do one last check of varroa numbers.* Some of my hives have high mite numbers again.

- Frank Lindsay

Have you registered for the NBA Conference yet? Don't leave it until the last minute!

Refer to the April 2008 issue for the registration form and other information.

Trees and Shrubs of New Zealand

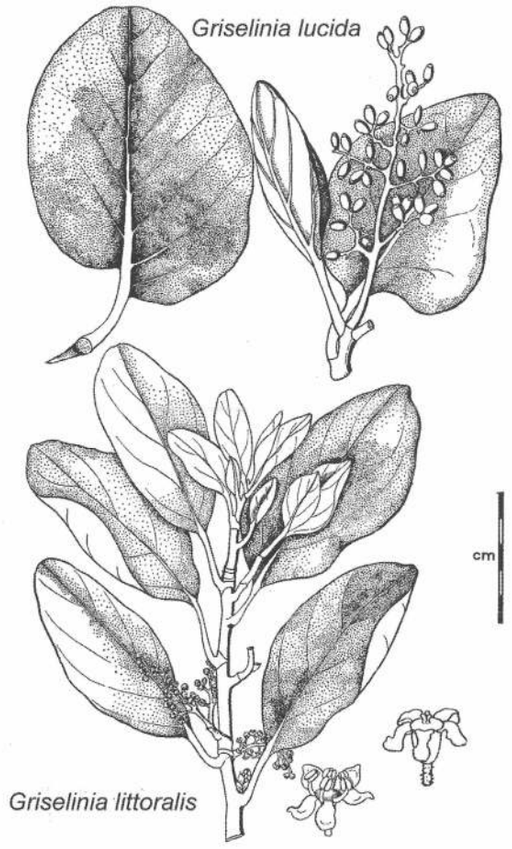
Griselinia littoralis

Maori name: Puka

and *Griselinia lucida*

Maori name: Papauma

Common name: Broadleaf



These two broadleaf trees are endemic to New Zealand.

There are five other species of the Griselinia family growing in Chile, just one of the many examples of related trees growing miles apart but which could have easily have emerged together in the continent of Gondwanaland.

Both of these trees can be found as epiphytes as well as being terrestrial, often reaching 20 metres in height. The epiphyte trees often have roots that decend to the ground, looking like lianes (i.e., vines).

The leaves can be up to 17 centimetres long with unequal sides, giving a lopsided look. They are very shiny, appearing as if they have been polished. The flowers are green–yellow in colour and flower from September to November. They provide a dull yellow pollen and pale nectar.

The timber from the Puka is very durable.

The Maori used to boil the leaves and drink the liquid to treat a sore stomach.

- Tony Lorimer

NIWA's climate outlook: April to June 2008

Average sea level pressures are expected to be higher than normal east of the South Island and lower than normal to the north of New Zealand, with weaker than normal westerlies over the country.

Air temperatures are very likely to be above average in many regions. Rainfall is expected to be near normal in most places, but normal or below in the west of the North Island. Below normal soil moisture levels and stream flows are expected to continue over most of the North Island and northern South Island. Normal soil moisture levels and stream flows are expected in the west, south, and east of the South Island. Two ex-tropical cyclones passed close to New Zealand during the current tropical cyclone season. For the remainder of the season (through to May 2008), there is still a small chance of one more ex-tropical cyclone passing close to the country.

Club Contacts & Beekeeping Specialty Groups

WHANGAREI BEE CLUB
Meets first Saturday each month (except January)
Time: 10.00 am, wet or fine (we are keen)

Contact: Mike Maunder
Phone: 09 437 5847
Arthur Tucker
Phone: 09 438 4283
Kevin & Melissa Wallace
Phone: 09 423 8642 (Wellsford)

AUCKLAND BEEKEEPERS CLUB INC
Meets first Saturday monthly at Unitec, Pt Chevalier, Auckland.

Contact: Carol Downer, President
Phone: 09 376 6376
Email: fairy-angel-peewee@xtra.co.nz

FRANKLIN BEEKEEPERS CLUB
Meets second Sunday of each month at 10.00 am for a cuppa and discussion.
10.30 am open hives.

Contact: Peter Biland
Phone: 09 294 8365

WAIKATO DOMESTIC BEEKEEPERS ASSOCIATION

Meets every third Thursday at Hillcrest High School, Community Room, Masters Ave., Hamilton, 7.30 pm.

Contact: the Secretary
Phone: 07 853 6304
Email: davew@gallagher.co.nz

HAWKE'S BAY BRANCH

Meets at 7.30 pm, Arataki, Havelock North for workshops or meetings as advised to the members
Contact: Mary-Anne Thomason, Branch Secretary
Phone: 06 855 8038
E-mail: kintail_honey@xtra.co.nz

TARANAKI BEEKEEPING CLUB

Contact: Stephen Black
685 Uruti Road RD 48, Urenui
Phone: 06 752 6860
Email: beeclub@beesrus.co.nz

WANGANUI BEEKEEPERS CLUB
Meets on the second Wednesday of the month.

Contact: Neil Farrer
Phone 06 343 6248

MANAWATU BEEKEEPERS CLUB
Meets every fourth Thursday in the month at Newbury Hall, SH3, Palmerston North

Contact: James Gellen
55 Bruce Road
Levin
Phone 06 368 8553
E-mail: james.gellen@paradise.net.nz

WAIRARAPA HOBBYIST BEEKEEPERS CLUB
Meets second Sunday of month (except January) at Norfolk Road, Masterton at 1.30 pm.

Convenors: Diana and Neale Braithwaite
Phone: 06 308 9101
Fax: 06 308 9171
Email: nandd12@xtra.co.nz

WELLINGTON BEEKEEPERS ASSOCIATION
Meets every second Monday of the month (except January) in Johnsonville. All welcome.

Contact: John Burnet
21 Kiwi Cres, Tawa, Wellington 5028
Phone: 04 232 7863
Email: johnburnet@xtra.co.nz

MARLBOROUGH BEEKEEPERS ASSOCIATION

Contacts: Darren Clifford, President
829 Taylor Pass Rd, RD4, Blenheim
Phone: 03 577 6955

Mark Biddington, Secretary
8 Belvue Crescent, Blenheim
Phone: 03 578 9746

NORTH CANTERBURY BEEKEEPERS CLUB
Meets the second Monday of April, June, August and October

Contact: Mrs Hobson
Phone: 03 312 7587
Email: n.hobson@slingshot.co.nz

CHRISTCHURCH HOBBYIST CLUB
Meets on the first Saturday of each month, August to May, except in January for which it is the second Saturday. The site is at 681 Cashmere Road, commencing at 1.30 pm

Contact: Jeff Robinson
64 Cobra Street Christchurch 3.
Phone: 03 322 5392
Email: alpinebee@hotmail.com

SOUTH CANTERBURY REGION

Contact: Peter Lyttle
Phone: 03 693 9189

DUNEDIN BEEKEEPERS CLUB
Meets on the first Saturday in the month September–April, (except January) at 1.30 pm. The venue varies so check phone or email contact below.

Contact Club Secretary: Margaret Storer
Phone: 03 415 7256
Email: flour-mill@xtra.co.nz

ACTIVE MANUKA HONEY ASSOCIATION (INC)

P O Box 19348, Hamilton
Website: www.umf.org.nz

Contact: Moira Haddrell, Chairperson
P O Box 862, Cambridge
Phone: 64 7 827 3286
Email: info@haddrells.co.nz

or

John Rawcliffe, General Manager
St Heliers, Auckland
Phone: 09 575 3127
Cellphone: 027 441 8508
Email: rawcliffe@actrix.co.nz

NZ COMB PRODUCERS ASSOCIATION

Contact: John Wright
Phone: 09 236 0628

NZ HONEY BEE POLLINATION ASSOCIATION

Contact: Russell Berry
Phone: 07 366 6111

NZ HONEY PACKERS AND EXPORTERS ASSOCIATION INC
Contact: Allen McCaw
Phone: 03 417 7198
Contact: Mary-Anne Thomason
Phone: 06 855 8038

NZ QUEEN PRODUCERS ASSOCIATION

Contact: Russell Berry
Phone: 07 366 6111

www.nba.org.nz

Is your group or Branch missing from here? Or have your details changed?
Please contact the National Beekeepers' Association—inside front cover.
Please also send any changes or additions to: editor@nba.org.nz

Closeup of the water hole, where water tracked thru the hillside to emerge cascading down the hill to mix with slip, forming mud mixture.

Continued from the front cover: The water and mud mixture moved pallets and bowled these hives.

Buying food-grade plastic pipe

Did you know that when ordering food-grade plastic pipe, you use the inside diameter but when you are ordering stainless steel tube, you use the outside diameter for quoting the pipe size? I didn't know this when I initially ordered stainless steel tube and had to get another lot made, as the first lot sent to me was too small in diameter to fit my existing pipes.

- Frank Lindsay