July 2013, Volume 21 No. 6

The NEW ZEALAND BeeKeeper

Celebrating 100 Years SINCE 1913 NATIONAL BEEKEEPERS ASSOCIATION

- Farewell from Barry
- Kiwifruit Psa NPMP

The New Zealand BeeKeeper is the official journal of the National Beekeepers' Association of New Zealand (Inc.)

ISSN 0110-6325

Printed by South City Print, PO Box 2494, Dunedin 9013, New Zealand

NBA website: www.nba.org.nz

CHIEF EXECUTIVE OFFICER:
Daniel Paul
PO Box 10792
Wellington 6143
Ph: 04 471 6254
Fax: 04 499 0876
Email: ceo@nba.org.nz

EXECUTIVE SECRETARY
(including NBA Membership & Journal Subscriptions)
Miriam Nicholson
PO Box 10792
Wellington 6143
Ph: 04 471 6254
Fax: 04 499 0876
Email: secretary@nba.org.nz

EXECUTIVE COUNCIL:
Ricki Leahy (President/Upper South Island)
Stephen Black (Vice President/Waikato)
Neil Stuckey (Northern)
Deanna Corbett (East Coast)
Dennis Crowley (Bay of Plenty)
Mary-Ann Lindsay (Southern North Island)
Roger Bray (Central South Island)
Russell Berry (Lower South Island)

EDITORIAL/PUBLICATION:
Nancy Fithian
8A Awa Road, Miramar
Wellington 6022
Ph: 04 380 8801 Fax: 04 380 7197
Mobile: 027 238 2915
Email: editor@nba.org.nz

PUBLICATIONS COMMITTEE:
Frank Lindsay
26 Cunliffe Street
Johnsonville
Wellington 6037
Ph: 04 478 3367
Email: lindsays.apiaries@clear.net.nz

JOURNAL SUBSCRIPTIONS:
— 11 Issues —
NZ $140.00 GST inc - incl P&P
Australia $165 .00+ NZ $25.00 TT fees and incl P&P
Rest of the World $176.00 + NZ $25.00 TT fees and incl P&P
Subject to review if postage charges increase

DEADLINES FOR ADVERTISING AND ARTICLES:
Due on the 6th of the month prior to publication
All articles/letters/photos to be with the Editor via fax, email or post to Nancy Fithian (see details above).
Please direct advertising inquiries to:
South City Print Ltd, PO Box 2494, Dunedin 9044.
Phone: 03 455 4486, Fax: 03 455 7286
Email: sales@southcityprint.co.nz

CONTACTS TO THE NEW ZEALAND BEEKEEPING INDUSTRY:
Rex Baynes, AFB NPMP Manager
PO Box 44282, Lower Hutt 5040
Email: rbaynes@ihug.co.nz
Phone: 04 566 0773

American Foulbrood Management Plan
www.afb.org.nz

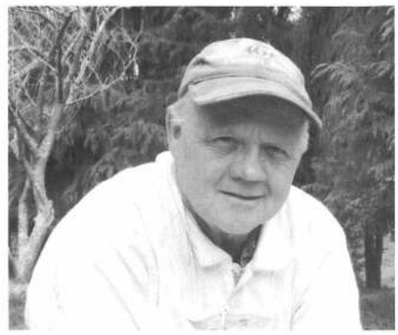
AsureQuality Limited
Ph: 0508 00 11 22
www.asurequality.com

Exotic Disease and Pest Emergency Hotline 0800 80 99 66
www.biosecurity.govt.nz

Contents

Front cover: New Zealand Post creates a buzz with honey bee stamps. The five gummed stamps in this stamp issue aim to raise awareness of the role the honey bee plays in New Zealand, and tell the story of how the precious honey bee makes its honey.

What will next century bring?



By Barry Foster, NBA President

We have celebrated our centenary in style, so what will the next century bring? One thing is certain: 100 years from now will be as completely different as 1913 is from the present day.

This is my last President's report, as you now have a newly elected President. The end of my presidency and the celebrations of our 100th year have given me cause to reflect, not only on the time I have been in office, but also on the future of beekeeping in New Zealand and the National Beekeepers' Association following our centenary conference.

I have been a member of the NBA executive for some 11 years now, including eight years on the AFB NPMP. During that time I have served two years as your President.

I have felt honoured to be elected as your President and I have done my best to fulfil the demands of the office. It is often casually termed the 'hot seat' (and indeed at times it fits that description), but through it all I can look back on the experience with great satisfaction and one I have found to be personally very rewarding.

Past President Frans Laas advised me before I took on the presidency that it is a role in which you will grow as a person. That is indeed true, and the reason I mention it is because at times as a people we show a self-depreciating attitude for such roles, even though we may inwardly know that we could fulfil the demands of the position. We are poorer as a people and organisation for that trait. There are many wonderfully talented people in the NBA and I've often seen the hobbyist sector as our greatest source of untapped human resource for the skills and experience they possess.

We need to encourage all members—including hobbyist members—to stand for office, either on a committee, branch or national executive. The future demands on our association will require an increasingly diverse range of skills, experience and professionalism in order to provide the best outcomes for our members.

Reflecting on where we would like our industry, our hobbies and our business to go in the future, I wonder about the problems we will encounter along the way and how we can mitigate their worst effects. Many a sage has said, "Those who forget the past are condemned to repeat it".

Indeed one only has to look at the reason for the original introduction of honey bees from England in 1839 to see that the real reasons were not just for the production of bee products but for pollination. We need to constantly remind ourselves and those in power of this message because there will always be a need for healthy populations of pollinators in New Zealand including our main one, the honey bee. Yet our bees' health on its current declining pathway is simply not sustainable.

> "... there is no overarching view ... on the many diverse issues facing our industry."

The Government has set a goal of lifting exports from 30 percent to 40 percent of GDP by 2025, including much of this increase from the farming sector. This would be a totally unrealistic goal if the decline in our bee health were to accelerate even further; on the present pathway, that is likely to happen. We all know that without these pollinators our economy and livelihoods would be greatly diminished. So why is there an apparent disconnect in putting greater resources towards the health of our honey bees?

In past President's reports I have always emphasised the idea of the need for more research because of the increasing threats to our bees, as I detailed in the spreadsheet in the December 2012 and April 2013 issues of the journal. The four areas of decline relate to varroa, other pathogens, pesticides and nutrition and are no longer considered separate from each other but acting in concert, each enhancing the adverse effects of the other.

If anything will unify our industry, it will be scientific research and the need for more of it. As a country we spend only 1.2% of GDP on R&D: well behind the OECD average of 2.24% per annum. As a sector, the beekeeping/honey industry has received around $1.1 million in R&D funding from the Sustainable Farming Fund over recent years, with a further $447,000 pledged for 2013 (Ministry for Primary Industries, 2012).

The R&D expenditure in all sectors of the industry, from both private and public sources, is estimated at around $1 million annually, yet the industry is estimated to be worth $5 billion annually to the economy and is directly responsible for some $120 million in bee product exports.

There is a distinct lack of equity in funding research in our industry, with a large number of businesses not contributing while gaining advantage from the results of research. A commodity levy would be one way of addressing this imbalance.

An even greater disadvantage is the lack of unity and co-ordination within and between all sectors of our industry—from beekeepers through to packers, exporters, researchers and regulators—on the issue of research. Taking such a 'bigger-picture' view, encompassing all sectors and their needs in relation to each other, would be a gigantic leap forward in working towards finding solutions to

Continued on page 6

Continued from page 4

the major issues we face. As I said in May 2012, 'there is no overarching view from Government or within the industry, let alone action, on the many diverse issues facing our industry'.

The bee industry summit I proposed at conference may begin the process of making this happen but this process will require collaboration and may also require some soul searching. Because the issues are so immediate and critical, we need to work together and look towards the future. Can we afford to delay further?

Finally, I wish to thank present and past members of the various executive councils that I have served with for their voluntary work on behalf of the NBA. I want to give special thanks to members of the various committees who support the executive and perform the various functions they are tasked with. In particular, thank you to Dr John McLean and Don MacLeod for your work and expertise in the Technical & Submissions Committee. I believe that the work you do is of immense value and has often been understated.

I want to give special thanks to our editor Nancy Fithian and the Publications Committee for their help in bringing my President's reports to you over the past two years.

Last, and by no means least, I want to give sincere thanks to our secretariat, those past and present in what is now the PR Company, for the professionalism and support you have given me over the time I have worked with you.

I wish you all well.

Source

Ministry for Primary Industries (2012, July). Government fund tops $1 million for bees. *The New Zealand BeeKeeper, 20*(6), 8.

[Editor's note: Thank you, Barry, for your punctuality and your thought-provoking columns over the past two years. We wish you all the best with your newfound 'free time'.]

NZ Post creates a buzz

Provided by New Zealand Post

They may be declining in numbers across the country, but honey bees may soon be filling up your letter box, as they take centre stage on New Zealand Post's latest stamp issue.

The honey bee plays a crucial role in New Zealand's primary industry, and is responsible for much more than just honey production. Roughly one-third of everything we eat is pollinated by bees, and many of New Zealand's crops would not be viable without bee pollination.

It seems fitting then, that this busy little creature has made its way onto New Zealand stamps—raising awareness of the important role it plays, and the need to rally for its survival.

The idea for the stamp issue came about as 2013 is the 100th anniversary of the National Beekeepers' Association of New Zealand (NBA). New Zealand Post worked closely with the NBA to ensure that the stamps correctly told the story of how the honey bee makes its honey. The five stamps cover five steps in the process, from the collection of the nectar, to honey in its finished form.

The creation of a stamp issue is not a simple process and it goes through many stages before the final stamps are printed. After the theme and approach were decided, the Honey Bees stamp issue was designed by Strategy Design and Advertising in Wellington. It went through many draft stages before the final look was achieved, at which point the files were sent to Southern Colour Print in Dunedin to produce the finished stamps.

The *Honey Bees* stamp issue includes a set of five gummed stamps, two first day covers, a miniature sheet and the ultimate collectable—a presentation pack. As well as containing a range of stamp products, the presentation pack provides insights into beekeeping in New Zealand.

All products are available from 3 July 2013 at New Zealand PostShops, REAL Aotearoa stores in Wellington and Auckland, the Whanganui Collectables and Solutions Centre and online at www.nzpost.co.nz/honeybees.

NPMP for Psa in kiwifruit

By Lara Harrison, Kiwifruit Vine Health Inc (KVH)

In May 2013, the Minister for Primary Industries, Nathan Guy, and the Cabinet, formally approved the National Psa-V Pest Management Plan (NPMP) for the New Zealand kiwifruit industry.

The NPMP came into force on Friday 17 May 2013 and sets out the future strategy for managing Psa-V on kiwifruit in New Zealand.

Kiwifruit Vine Health (KVH) is responsible for the plan and its implementation, and has started preparing for its implementation on behalf of the New Zealand kiwifruit industry.

The NPMP for Psa-V is one of only three Pest Management Plans in New Zealand—the other two being American foulbrood (AFB) for the bee industry; and bovine tuberculosis (TB) in cattle and deer.

Bee foraging on a kiwifruit flower.

What is Psa-V?

Pseudomonas syringae pv. actinidiae (Psa) is a bacterial disease that affects kiwifruit vines. Its virulent form, Psa-V, can result in the death of kiwifruit vines. Infected vines can result in symptoms such as leaf spotting, cane/leader dieback, the production of exudate and, in extreme cases, vine death.

Leaf spot symptom of Psa.

Since it was first detected in a Te Puke kiwifruit orchard in November 2010, it has had a devastating impact on growers' livelihoods and the production of commercial kiwifruit. A KVH-commissioned report into the impact of Psa-V on the kiwifruit industry and wider community, conservatively estimated industry-wide costs of up to $885 million over the next 15 years, not taking into account equity losses.

> "KVH has developed a set of protocols for beekeepers."

How does Psa-V spread?

Psa-V can spread through weather, namely wind and rain, and it thrives in wet, cold conditions. However, it is also easily spread through the movement of infected plant material and contaminated orchard machinery, pruning tools, equipment, clothes and vehicles. Therefore orchard-hygiene practices and movement controls are very important to help prevent the disease spreading between orchards and regions.

How does the NPMP affect beekeepers?

Pollination is one of the most important activities in the orchard calendar. Kiwifruit orchards rely on the introduction of bees to ensure effective pollination takes place. Therefore, kiwifruit growers are required to manage their orchards responsibly to support a thriving and profitable beekeeping industry.

Movement controls are a key aspect of the plan, and complying with movement controls will be the most prominent aspect of the NPMP for most associated industries, such as beekeeping.

The movement of beehives, and equipment associated with beekeeping, between orchards and regions must be managed to minimise the risk of Psa-V spread. Hygiene protocols must also be in place to reduce the risk of transferring Psa-V.

Shoot dieback symptom.

KVH has developed a set of protocols for beekeepers. These are designed to mitigate the potential for contamination of orchards through the use of pollination hives. These protocols contain best practice for beekeepers and apply to the movement, feeding and removal of pollination hives in all regions.

Red/orange exudate symptom.

They also contain best practice for kiwifruit growers when it comes to activities such as responsible orchard spraying, and the use of spray products, to protect the bee industry.

These protocols are available for the KVH website at www.kvh.org.nz/beekeepers. KVH will continually review these protocols

Continued on page 9

Ceracell Beekeeping Supplies Ltd

www.ceracell.co.nz

Manufacturers and Suppliers of Quality Beekeeping Goods. For All Your Beekeeping Needs.
Please contact us for competitive pricing! Just some of the items we supply:

Hiveware • Foundation • Plastic Frames • Protective Wear • Tools
Varroa Treatments • Extractors • Packaging and Much More!

Contact Us For Competitive Pricing

JULY SPECIAL
20% off all Emlocks and Strapping

Stainless Steel 100mm Standard Smokers
Dome Top or Funnel Top

Offer expires end of July or while stocks last (Special applies to items pictured only)

35% OFF

Yellow bellow ~~$40.00~~ +gst **$26.00 + gst**

Green & Yellow Plastic Bellow ~~$52.00~~ **$33.80+ gst**

Bare Emlocks

~~$7.95~~ *ea + gst* **$6.36 + gst**
~~$7.47~~ *ea + gst* ***50+*** **$5.98 + gst**
~~$6.74~~ *ea + gst* ***100+*** **$5.39 + gst**

Galvanised Strapping 3.5 metre

~~$2.25~~*ea +gst* **$1.80 + gst**
(pre cut)

Hive Strappers Emlock + 3.5m Galv band
(Complete and ready to go)

~~$11.55~~ *ea + gst*
$9.24 + gst

Trading Hours: Monday to Friday 9am—5pm Saturdays 10am—2pm (from September—end of February
Please contact us before collecting

Contact: Ceracell Beekeeping Supplies Ltd | PH 09 274 7236 | FAX 09 274 0368 | info@ceracell.co.nz
Physical address: 24 Andromeda Crescent, East Tamaki, Auckland.
PO Box 204184, Highbrook, Manukau 21631, Auckland.
Prices Exclude GST and Freight. Subject To Change Without Prior Notice. Goods subject to availability

Continued from page 7
to align them with the objectives of the NPMP, and any major changes will be communicated to the bee industry.

A mature male kiwifruit flower
Photos supplied by Kiwifruit Vine Health Inc.

As the status and impacts of Psa-V differ across regions, the NPMP identifies specific objectives (including beehive movement control) for three different categories of region. This is to ensure the best disease management approach is taken in each region. These are referred to as 'Exclusion', 'Containment' and 'Recovery' regions.

To comply with regional objectives, beekeepers can establish the status of the region they are in on the maps and regional information page of the KVH website www.kvh.org.nz/maps_regional. They can also confirm the status of regions they need to go to, through or from, on this website page.

Benefits of the NPMP

Managing the impacts and spread of Psa-V over the last two-and-a-half years has largely depended on growers and the industry voluntarily applying best-practice management approaches recommended by KVH. Hygiene protocols, monitoring and reporting Psa-V symptoms, protective spray programmes, movement controls and managing diseased orchards have been core areas of focus.

The approval of the NPMP means the kiwifruit industry, and all those associated with it—including beekeepers—can now work collectively at an orchard, regional and national level to best manage Psa-V and its impacts.

A full version of the NPMP, along with a short summary document for the industry, and other relevant documents are available on the KVH website at www.kvh.org.nz/NPMP

We want your photos!

The Publications Committee welcomes photos for the journal. Please provide a caption and the name of the photographer so we can credit them. High-resolution photos preferred.

Chelifers and varroa in southern Africa

By Dr Barry J Donovan, Donovan Scientific Insect Research, Canterbury Agriculture and Science Centre, Lincoln, Private Bag 4704 Christchurch 8140
Email: Barry.Donovan@Plantandfood.co.nz

In 2000 I asked the question: Could pseudoscorpions from South African beehives control our varroa? (Donovan, 2000).

This was because after the detection of varroa in South Africa in 1997, several beekeepers reported that when pseudoscorpions (also known as chelifers) were abundant in their beehives, varroa numbers were greatly reduced.

Chelifers in southern Africa

Two species of chelifers have long been known to be present in South African beehives, *Ellingsenius sculpturatus*, and *E. fulleri*. Unfortunately the only research I can find on their biology is a short item published in 1922, in which *E. sculpturatus* was said to be "very common in South Africa and is familiar to all beekeepers. Eggs were never found in hives, but on two occasions clusters of eggs were found in the underground nests of wild colonies of bees". The chelifers were generally said to feed on mites and to be harmless to bees. (Whyte, 1922). Note that varroa was not present in South Africa in 1922. Also, chelifers were observed to cling to swarming bees. So chelifers seemed to be living intimately with bees without harming them, and according to several beekeepers were eating and so controlling varroa.

However, following my article in 2000, a survey of beehives in South Africa by Allsopp et al. (2003) found only 39 chelifers in 432 bee colonies, and the conclusion was that it was inconceivable that such low numbers of chelifers could be acting as significant predators on varroa. Further, when three chelifers were placed in a small cage with live and dead varroa, and live bees infested with varroa (no numbers given), after 24 hours no varroa were fed upon.

Because of the disparity between the reports from beekeepers on the one hand and Allsopp et al. on the other, the C. Alma Baker Trust funded me to visit Zimbabwe and South Africa for nearly four weeks to investigate the reality in person because of the possibility that if the chelifers were controlling varroa, they could be introduced to New Zealand.

Chelifer/varroa tests in Zimbabwe

On 28 August 2012, I visited Mike and Winkie Schmolke at their semi-rural property in the north-east of Harare, the capital city of Zimbabwe. Mike was a government advisory apiarist for many years, and since retiring he and his wife Winkie maintain a number of both Kenya top-bar hives and Langstroth hives of *Apis mellifera scutellata* on their property. Because of the dangers of disturbed bees stinging passersby over the surrounding security fences, hives are opened only after dark.

Mike had already captured one chelifer for me, and by torchlight we soon captured three more in three top-bar hives, but missed another three. All chelifers were in the small gaps between the sides of the top bars where blobs of propolis and wax prevented total closure. These gaps were too small for bees to get into. Chelifers were not seen in half a dozen frame hives. Three of the captured chelifers were *E. sculpturatus*, and the other, which was smaller, appeared to be *E. fulleri*. All colonies harboured numerous small hive beetles, and varroa were seen on some bees. Mike said that they never treated for varroa, and never had varroa-related problems.

The next day I recovered live varroa from drone pupae at the rate of one per 17 cells, and from worker pupae at one per 97 cells. Each of the four chelifers was placed in a 35-milliltre vial. Three of these vials were also stocked with one to three varroa and at least one white bee prepupa (Figure 1), and the fourth was stocked with a honey bee worker with a varroa clinging to it. As controls, two other vials were stocked with three varroa each but no chelifers. Chelifer and mite behaviour and survival were observed regularly several times each day to 1 September, and again from 11–14 September.

Figure 1. An African chelifer in a vial with a bee pupa and a varroa mite. Both the chelifer and varroa were still alive after 11 days. Photograph courtesy of Dr Barry Donovan.

Chelifers were never seen to attack mites. On one occasion an *E. sculpturatus* used its clasping 'fingers' to seize a varroa, but dropped it almost immediately without attempting to move the varroa to its mouthparts. Chelifers otherwise never moved close to varroa, but to be sure they came into contact I rotated the vials to tumble the two together, but immediately the chelifers distanced themselves from the varroa. Indeed, chelifers seemed to be afraid of varroa, showing avoidance movements if ever varroa came close. Varroa remained alive in vials as long as did varroa in vials with no chelifers, which was up to at least 11 days. I concluded that African chelifers do not eat varroa.

Chelifers in South Africa

Eddy Lear, one of the commercial beekeepers who reported that the presence of numerous chelifers in colonies of *A. m. scutellata* was associated with a reduction in numbers of varroa, is based about 50 kilometres south-east of Pretoria, South Africa. Eddy graciously showed me around his establishment where he has set up an educational and training facility for beginning beekeepers. We inspected several top-bar hives but saw no chelifers. Eddy said he had seen a chelifer in an observation hive seize a varroa off an incoming bee.

Professor Robin Crewe at the University of Pretoria said that varroa were no longer a problem in South Africa, but he didn't know why. He said there is no obvious reason why varroa now do not multiply to excess and kill bee colonies, but there is no doubt that the bees are tolerating varroa, and are not suffering because of their presence. He said that a comparison of a group of hives treated with Apistan to kill varroa with a non-treated group showed no difference in productivity. Last year a student of Professor Crewe's presented a thesis based on a survey of the occurrence of viruses in hives within the vicinity of Pretoria, in which only two of about 15 known from bee colonies worldwide were found, and at very low levels (11 are known from New Zealand). Very few chelifers were seen in their hives.

Mr Mike Allsopp of the Honey Bee Research Section of the Plant Protection Institute at Stellenbosch near Cape Town, said that most bee viruses were indeed present in South Africa, but at very low levels. He said that both subspecies of bees, the widespread *A. m. scutellata,* and the Cape bee *A. m. capensis* which is restricted to the southernmost part of South Africa, were both now tolerant to varroa. He thought that tolerance is multi-factorial, and might have developed because selection for this trait has been intense, and also that because the feral population of bees is huge, genetic diversity may also be very large, and that by sheer chance a tolerance trait was pre-existing and has been rapidly selected for. The size of the feral population in Mike's area is indicated by the immigration each year of up to a mean of eight swarms into a stack of several hundred supers under a roof outdoors. The maximum has been 34. We inspected colonies of the Cape bee but varroa were not seen. Mike said that although his bees tolerated varroa, when he treated apiaries for varroa they have been better than untreated apiaries, but not dramatically better.

Mike said he had placed 40 chelifers in a small container with several dozen varroa, and not one varroa was eaten, while a number of chelifers died, he thought, from starvation. This information has not yet been published.

Temper of African bees

The tendency of African bees to attack savagely and en masse is often reported, but the bees I was exposed to did not display this behaviour. When inspecting colonies of *A. m. scutellata* after dark with torches, many bees took to the air and landed on our bee suits, but few attempted to sting. Also, I observed four wild colonies in Zimbabwe, three of which were in hollow trees and one in a car tyre on the edge of a lake. I was able to approach and study the entrances closely to within a metre without any response from the bees at all. I had heard that bees would 'bump' intruders as a warning, and indeed a gecko that lurked right at the entrance to a colony in a tree received this treatment, and eventually it retreated. Mike Allsopp said that sometimes colonies of *A. m. scutellata* opened for inspection will abandon their hives and hang in large clusters, but they don't attack en masse. All half dozen colonies of Cape bees worked by Mike at Stellenbosch remained calm and non-aggressive.

Discussion

So it seems that southern African chelifers are not controlling varroa. However, because the data are very few, caution must be exercised. A major point is that finding chelifers among the mass of bees and honeycomb is very difficult, so there could be many more in hives than is thought. Also, varroa populations might be able to be controlled by a relatively small number of chelifers: our research with native New Zealand chelifers showed that 25 could prevent 1,000 varroa from multiplying (Fagan et al., 2012). The apparent non-predation of southern African chelifers on varroa might perhaps be linked to the presence of the wingless fly or bee louse, *Braula coeca.* This fly, which is not present in New Zealand, is about the same size as varroa, so one might speculate that perhaps chelifers encountering a prey of the right size and shape might be repelled by unexpected new characteristics such as odour and/or behaviour?

Conclusions and recommendations

So the factor(s) that underlie the ability of the two subspecies of bees in southern Africa to tolerate varroa remain uncertain. Considering the threat posed to our bees by the developing resistance of our varroa to chemical controls, perhaps the African bees should be studied in depth in the hope that their resistance mechanism(s) can be discovered and eventually incorporated into our bees—with, of course, appropriate steps to exclude their reputed aggressive characteristics. Also, if the possibility of controlling varroa with foreign chelifers is to be further explored, the available information suggests that attention should be turned to India where we know that species of chelifers found there do readily eat varroa (Donovan & Paul, 2005).

References

Donovan, B. J., & Paul, F. (2005). Pseudoscorpions: the forgotten beneficials inside beehives and their potential for management for control of varroa and other arthropod pests. *Bee World 86*(4), 83–87.

Fagan, L. L., Nelson, W. R., Meenken, E. D., Howlett, B. G., Walker, M. K., & Donovan, B. J. (2012). Varroa management in small bites. *Journal of Applied Entomology 136*: 473–475.

Allsopp, M. H., Kassimatis, E. J., Swart, D. J. & Dippenaar-Schoeman, A.S. (2003). No evidence that pseudoscorpions are controlling varroa mites in South African honeybee colonies. *The South African Bee Journal 75*(2), 61–66.

Donovan, B. J. (2000). Could pseudoscorpions from South African beehives control our varroa? *The New Zealand Beekeeper 7*(6), 22–23.

Whyte, R. (1922, July). The false scorpion. *Bee World, 37.*

Acknowledgements

I thank the C. Alma Baker Trust for funding my visit to Africa. Also I thank Mr Mike Schmolke and his wife Winkie, Mr Rene Fischer, President of the Mashonaland Beekeepers Association of Zimbabwe and members of the Association, Mr Eddy Lear, Professor Robin Crewe and Mr Mike Allsopp of South Africa, for their very generous co-operation and for imparting very valuable information, without which I would have been unable to become as well informed about beekeeping in southern Africa. Also, special thanks are due to Mrs S Tarr for a huge amount of local information including contacts with beekeepers, and assistance with travel and accommodation, which was of enormous benefit in what can be a challenging environment.

Sugar syrup effect on honey harvests

By Jonathan Stephens, Comvita Innovation, IIB, SBS, University of Auckland; Yorick Paperey, KiwiBee Medical, Kerikeri; Corey Fulop, Dept of Chemistry, University of Otago; David Jones, Comvita NZ Ltd, Paengaroa; Kiri McComb, Dept of Chemistry, University of Otago

Over the last two years, it has become apparent that manuka honey harvested in New Zealand often fails the standard method for the detection of sugarcane sugar.

The standard method (Stable Carbon Isotope Ratio Analysis (SCIRA) AOAC 991.41) allows up to 7% contamination with sugars from sugarcane. This has led to a number of proposed solutions or outright dismissal of the standard method; ranging from reviews of AOAC 991.41, claims that many of the honeys that fail the standard test should have passed, and statements such as the absence of sucrose in the harvested honey proves there was no sugarcane contamination. However, a review of an AOAC method requires substantial data, modifications to the standard method may improve the pass rate for the New Zealand manuka honey crop, and sucrose is not expected to be predominant in honey solutions due to the activity of the enzyme invertase in the ripening honey solution.

A summary of the data from testing drums of manuka honey under AOAC 991.41 protocol is provided in Figure 1, and illustrates the level of sugarcane contamination that may be encountered in the manuka honey crop in general. Around one quarter of the drums passed the standard test, about half were contaminated with 7-11% sugarcane sugar, and remaining quarter was significantly worse.

To examine this contamination, we chose to replicate standard beekeeping practices on 14 sites employing around 60 hives using a range of feed types. The honey from each hive was directly sampled from the combs throughout the early season, extracted separately through muslin cloth, homogenised, and analysed separately. The risk of hive robbing was minimised by the reduction of entrance size. Later, the honey boxes from hives subjected to the various treatments were extracted together and a homogenised split stream sample was analysed. The samples were analysed using SCIRA. Additionally, the protein component of the honeys was further analysed after removing pollen. Furthermore, we have completed SCIRA of nectar collected directly from manuka (*Leptospermum scoparium*) flowers and incoming pollen collected in pollen traps on the trial sites.

The first sample collected represented residual honey in the brood box at the start of the season prior to feeding. The hives in the trial had all received an autumn feed of up to 10 litres sugarcane sugar syrup. Clear evidence of this autumn feeding was still present in the hives. Virtually all samples of residual honey taken from the brood box failed the standard test and the mean contamination of sugarcane sugar was 31% (Figure 2).

Following the first sampling from the brood box of residual honey, each hive in the trial received an early spring feed except for 'no-feed' control hives. Feeding regimes were up to 10 litres of standard 75°Brix sugarcane sugar syrup, up to 10 kilograms dry sugarcane sugar crystals, a combination of wet and dry sugarcane sugars in similar amounts, and up to 10 litres of standard sugarcane syrup diluted by half with water.

The second sample was collected two weeks after spring feeding and represented honey laid down in the brood box following the spring feed. The fresh honey was identified in the brood box by significantly paler and cleaner wax cappings. These samples invariably failed the standard test with from 10% to 70% sugarcane sugar contamination (Figure 2). All three feeding regimes that used liquid syrup in some form produced fresh honey in the brood box that contained very similar levels of around 60% sugarcane sugar. The dry sugar treatment

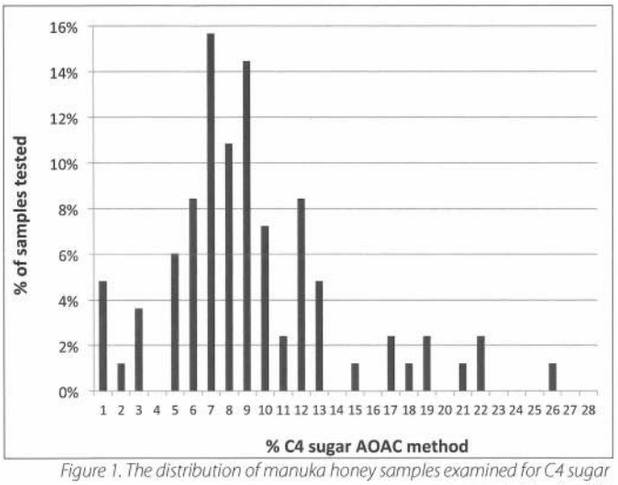


Figure 1. The distribution of manuka honey samples examined for C4 sugar contamination (n=83).

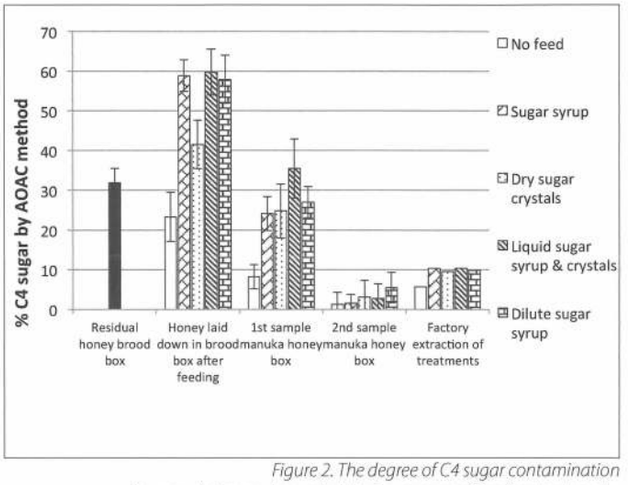


Figure 2. The degree of C4 sugar contamination in manuka honey harvested during a range of feeding treatments.

was not processed by the bees as readily as the syrups and consequently there is less contamination in the honey laid down in the brood box. Interestingly, the 'no-feed' hives also displayed a level of contamination in this fresh brood box honey, and is most probably due to the bees relocating contaminated autumn honey in the brood box as the brood expanded in size.

The colony was excluded from the feeders at this stage and shortly afterwards, the first honey box was added to the beehives.

The third sample represented honey laid down in the first quarter to one-third of this first honey box (Figure 2). In all cases there was a significant movement of the honey from the brood box into the honey box and this led to the early honey in the first honey box containing significant amounts of sugarcane sugar. Virtually all samples taken off hives that had been fed failed, and about two-thirds of the 'no-feed' hives also failed. A similar level of contamination, around 25% sugarcane sugar, was seen in the hives that had been fed. However the 'no-feed' hives samples' contained around 8% sugar contamination.

> "...we chose to replicate standard beekeeping practices on 14 sites employing around 60 hives using a range of feed types."

About 10 days later, the fourth sample was taken from the first honey boxes and represented the honey that had been laid down since the third sample (above). These honey samples were considerably better (Figure 2) in that only around one-fifth of the samples failed the standard test; however, in some cases relocation of brood box honey was still occurring.

On completion of the trial the honey boxes from each treatment were extracted together in the factory facility, and samples were taken by split stream and homogenised. Analysis of these samples demonstrated the level of sugarcane contamination in all the honey harvested under each treatment regime averaged the earlier sampling directly from the honey box. The honey representing all the hives for each feeding treatment failed the standard test (Figure 2); only the bulked 'no-feed' extraction had less than 7% sugar contamination.

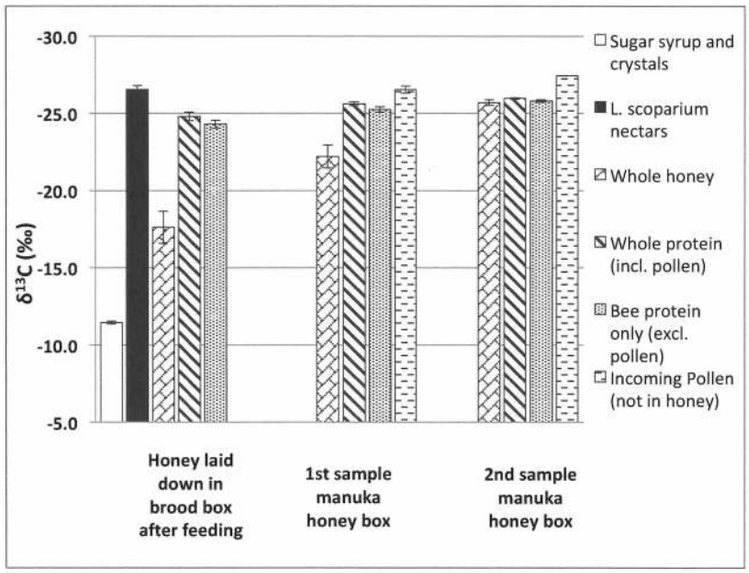


Figure 3. The $\delta^{13}C$ values of the feed employed, Leptospermum scoparium *nectars (n=20), and whole honey, and whole protein and bee protein only in the harvested honeys.*

Additionally, we examined *L. scoparium* nectar and incoming pollen during the honey harvest. Figure 3 demonstrates the $\delta^{13}C$ values of the various fractions of honeys examined in this study and also the feeds employed; *L. scoparium* nectar, and the incoming pollen. The $\delta^{13}C$ value for the feeds employed in this study reflects the sugarcane source, all being around $\delta^{13}C$ -11.5, the C4 plant signature. *L. scoparium* nectar has a $\delta^{13}C$ value that is analogous to other flowering plants, mean $\delta^{13}C$ -26.55.

As the season progressed, the amount of contamination in the whole honey decreased and consequently the whole honey $\delta^{13}C$ value moved closer to that of the whole protein value and the bee protein-only values (Figure 3). The $\delta^{13}C$ values of the whole protein (including pollen) are within one $\delta^{13}C$ unit of *L. scoparium* nectar. However, bee protein in honey is less negative, and it is likely that this reflects the amount of sugarcane sugar that remains in the colony. Interestingly as the season progresses, this skewing effect reduces and the bee protein in the honey becomes more negative and begins to align better with incoming pollen and the plant nectar.

Therefore in all probability, the reason that a considerable number of manuka honeys fail the standard AOAC method is due to relocation of stored sugarcane sugar syrup from the brood box into the honey box as the brood size expands in early spring.

The effect of this phenomenon is multiplied by a range of factors which can be summarised as follows: climatically difficult early seasons bring about smaller harvests; manuka honey is the first honey crop in many regions and it is the first honey laid down that receives most relocated feed; beekeepers endeavour to increase brood strength with feeding practices to collect early crops; and manuka honey is often extracted separately and consequently, contamination is not diluted by later honey boxes.

Acknowledgement

The Ministry of Business, Innovation & Employment, Science + Innovation (MSI) provided funding for the summer internship for Corey Fulop.

Carbon stable isotope ratio analysis of *L. scoparium* nectars was completed by Dr K Rogers, GNS Science.

Contributions

Jonathan Stephens planned and managed the study and prepared the manuscript; Yorick Paperey conducted field collections; Corey Fulop and Kiri McComb completed stable isotope analysis.

Plant for your bees

By Frank Lindsay, NBA Life Member

Providing adequate bee nutrition is becoming more important, especially as *Nosema ceranae* spreads.

The current Trees for Bees project should go some way to providing alternative sources, but as Barry Foster noted in his March President's report, the Trees for Bees project is focusing only on protein analysis in pollen. I believe further analysis is needed on levels of amino acids to pick the best non-weedy candidates but we also need to know the protein and amino acid content of our weed species so we can compare them with suggested replacements.

I have a good idea of what my bees feed on and when, thanks to a Department of Scientific and Industrial Research (DSIR) study by Rosemary Webby (2002). Beekeepers who assisted in this study supplied pollen samples through the year and in turn, we received a report of the results.

Beekeepers can generally tell when good pollen is coming in as the bees only produce drones when there is an excess of good pollen. A surprise finding of Rosemary Webby's report was that bees collect lots of plantain pollen in the autumn but in Australia it only has a crude protein of 17%. Perhaps it was the only good pasture source available to the bees.

Dr Doug Somerville of the New South Wales Department of Primary Industries has examined 183 species found in Australia for protein and amino acid content. The amino acid content is important as the correct balance gives longer-lived bees. Any pollen with a crude protein content of above 25% is considered to be a good pollen but the bees may need several different types of pollen to give the correct balance of amino acids.

As beekeepers we need this knowledge to see our hives thrive or we have to resort to artificial pollens during periods of dearth. Bees need access to good pollens all through the year, especially in spring and autumn.

Benefits of willows

I'm a fan of willows. Willows can be pruned into a nicely shaped tree although some tend to spread sideways. Willows are deemed to be a poor pollen source as their protein content is between 15 and 21 percent, but their amino acid content is high and balanced. All the bees have to do is consume twice as much to get the crude protein content up. Perhaps that's why bees do so well on early willow flows.

> "It pays to know the protein content of the pollen in the areas you are targeting..."

Thirty years ago the National Plant Materials Centre in Palmerston North (now disestablished) put out the following information on willow clones for beekeepers. I'm not sure whether they are still available, but some of the older beekeepers may still have these trees. Incidentally, male willows produce both nectar and pollen whereas females produce only pollen.

With permission, plant the different clones within 100 metres of the hives along a fence line. Thirty years ago, hives remained permanently on their sites all year so were active and healthy.

Nowadays, commercial beekeepers tend to move hives to pollination and into manuka areas where often there are poor pollen sources. The bees produced in these areas may look OK but internally, they do not have the stored fat and mineral content. Bees can produce a generation of bees from their stored fat but the next generation is not long lived, causing bee numbers in the hives to decline. It pays to know the protein content of the pollen in the areas you are targeting as this could affect how you treat your hives when they return to their home apiary.

The take-home message

Look around your garden. Educate yourselves about which species produce good pollens and when they flower. Then start planting. Not sure what flower to plant in your garden? Visit a garden centre and see what the bees are working.

Ask somebody growing rosemary, flax, tree lucerne, *Ceanothus* and perhaps a few willows if you can take cuttings or seeds and get them established in pots. (Tip: use honey as a rooting hormone or cut willow branches in 25-millimetre pieces and leave in water. The willow chips will produce the rooting hormone to stimulate root growth

Clone No.	Species	Sex	Average flowering period
229	*Salix medemii*	M	15 Jul–17 Aug
215	*S. discolour*	M	14 Aug–9 Sep
227	*S. matsudana*	F	2–21 Sep
1130	*S. matsudana x alba* 'Hiwinui'	M	29 Aug–27 Sep
220	*S. viminalis* 'Gigantea'	M	4 Sep–1 Oct
249	*S. purpurea* 'Booth'	F	7 Sep–5 Oct
248	*S. vitellina pendula*	M	7 Sep–1 Oct
1040	*S. matsudana x alba* 'Tangoio'	F	18 Sep–8 Oct
717	*S. triandra* 'Semperflorens'	M	1 Oct–7 Apr
230	*S. meyeriana*	M	30 Oct–21 Nov

Table 1: Historical information on willow clones for beekeepers from the National Plant Materials Centre.

for cuttings). Once they have established a good root mass in the pots, they have a better chance of survival when they are planted out.

Could planting a flowering species overcome our tutin problems?

I was in the USA in August last year and noticed the massive flowering of goldenrod during their autumn (fall). All sorts of insects were collecting both the pollen and nectar. This year in the Waikato during the drought, I noticed 30 bees on a few plants of goldenrod in a farmer's flower garden.

What would the Coromandel look like with yellow flowers up each valley late in the season? Unfortunately, it wouldn't work as goldenrod needs winter chilling to produce flowers and I'm also not recommending that we spread a weed species. But perhaps there is something out there that could provide a little nectar where there is now none. This could be an add-on to the current Trees for Bees research project.

References

Somerville, D. (2005). *Fat Bees, Skinny Bees, A manual on honey bee nutrition for beekeepers.* Report for the Rural Industries Research and Development Corporation, Australian Government RIRDC Publication Number 05/054. Available from www.rirdc.gov.au

Webby, R. (2002, October). *The identification from flavonoid profiles, of floral pollens collected by the honeybee* (Apis mellifera L.) *from hives sited throughout New Zealand.* Industrial Research Limited Report No. 1122.

Congratulations to the UMF® Honey Association, which won an award from the New Zealand China Trade Association (NZCTA) at the HSBC NZCTA China Business Awards 2013, Auckland, 30 May. The award, sponsored by KPMG, was for creating leverage opportunities through Chinese/NZ business to benefit of NZ Inc. This award recognises organisations whose Chinese/NZ business relationships have created leverage opportunities for others.

UMF HA Executive with the PM: Left to right: Sir Wira Gardiner (Executive); Prime Minister Rt Hon John Key; Moira Haddrell (Executive Chairperson); John Rawcliffe (General Manager); Tony Wright (Executive). Photo supplied and reprinted with permission.

FROM THE COLONIES

Auckland Branch

We note with regret that two well-known beekeepers in our region have recently lost their wives. Brian Lipscombe's wife, Christine, passed away in late April. Bob Blair's wife, Joan, passed away on 6 June. Our thoughts and condolences go to both Brian and Bob and their families.

The crop is now in, and a great crop it has been, with reports of a strong kanuka yield in the region along with the usual variety of sources.

The long, hot, dry summer was a boon for the bees, and it has also been very advantageous to the wasps. Several beekeepers have reported serious predation by wasps. It is said that wasps generally fly only about 500 metres from their nest, so if you can find the nest and destroy it, you are doing not only your bees a favour but also many other insects.

Several years ago we had a wasp nest on our property. It was built into a bank and was so large you could have dropped a wheelbarrow into it. We sprinkled carbaryl at the entrance one afternoon, and it was completely dead the next morning. The wasp population in the area almost disappeared.

I guess now that the bulk of the hard work is done, we can consider taking a winter holiday, preferably somewhere with no rain!

- Helen Sinnock

Waikato Branch

Most of us are in the final stages of last extractions, getting strips out and bedding down the hives for winter. We have had rain and cold and the queens have quit laying. There seems to be few varroa: long may that last.

All are looking forward to the conference—sounds like it's going to be a beauty!

And ALL are looking forward to a well-earned holiday.

- Barb Cahalane

Poverty Bay Branch

With the hives all wintered down for another season, it is time to reflect on the past season and plan for the future. This area has just had both extremes with the worst season for decades followed by one of the best. Hopefully there will be a few average seasons to follow.

With a bit of extra cash in the budget, it is a good time to keep up the maintenance and replace a bit of gear.

Conference

I am extremely disappointed to see that we are not having a combined conference with the Bee Industry Group in Ashburton this year. With all the talk last year at Napier about inviting them to our centenary year conference when we are on their home patch, we seem to be having the same split as usual. Let's hope our leaders can bridge this gap in the near future.

Trees for Bees project

The tree lucerne planted in May is off to a good start. We are presently going through the list of high-protein, pollen-bearing plants, looking for draught-tolerant ones to try replanting.

- Paul Badger, Branch President

Hawke's Bay Branch

Autumn rainfall has been sporadic but most places have had enough to make the grass grow. Coupled with some of the warmest, nicest autumn weather anyone can remember, grass growth has been better than normal for this time of year.

The main concern people seem to have this autumn is wasps. I am hearing reports of whole apiaries being destroyed by them. They are certainly back with a vengeance this year; we destroyed 10 nests at one apiary and there is still a wasp problem there.

Hives generally look in better condition than they did last year but we will have to wait until spring to see just how well they have done.

On 17 August I will be running a an AFB course at Arataki Honey, Havelock North, starting at 10 am. If anyone is interested in doing this course, please contact either me or the secretary, preferably by e-mail. Both our addresses are in the journal.

- John Berry, Branch President

Southern North Island Branch

At our branch meeting on 5 June, details were finalised for our 'Camp Rangi' weekend educational seminar. It begins on the evening of Friday 6 September and concludes on Sunday 8 September.

This event is geared to small beekeepers (hobbyists) and small commercial operators, but there will be something for everyone. Accommodation is limited to 50 beds on site but day attendances will be possible.

Applications are now available and will be sent to hobbyist clubs within our area. Enquiries can be addressed to Mary-Ann Lindsay, email lindsays.apiaries@clear.net.nz

The previous Camp Rangi seminars in 1998 and 2001 were very successful and bookings for attendees were limited only to catering and accommodation facilities. This is a wonderful opportunity for hobbyists and small commercial beekeepers to attend and learn about all aspects of beekeeping.

- Neil Farrer, NBA Life Member

Nelson Branch

Things have been pretty quiet on the beekeeping front, with one beekeeper even mentioning that mythical beast: recreation time.

The Nelson Branch held our AGM on 15 May. Voting and discussion occurred around the various Notices of Motion, and branch officers were chosen. Murray Elwood was reappointed as Branch President, along with his wife Nicky in the role of Secretary. Ricki Leahy and I were also reappointed as Vice President and Treasurer respectively.

Plans were also made for Murray to speak at the next meeting of the Nelson Beekeeping Club, covering the role of the NBA, and how it works on behalf of all beekeepers, great and small. Undoubtedly some useful ideas will also be brainstormed for Bee Aware Month in August.

Ricki Leahy will also continue his good work as representative for the Upper South Island Ward.

- Nahum Kelly

Continued on page 19

The industry is a buzz. Are you keeping up?

Whether you are new to the industry or have years of experience, AsureQuality's Honey Food Safety and RMP Awareness training course will equip you with the up to date knowledge and skills you need to succeed.

Our industry experts have developed this course specifically to meet the needs of the honey industry. All courses are delivered by our Apicultural Officers and RMP Verifiers.

What is covered?

- Food poisoning and food safety
- Food safety under the Code of Practice for Risk Management Programmes (RMPs)
- Background to RMPs
- Food safety and RMP legal obligations
- HACCP
- Becoming familiar with the COP
- Understanding OAP & EU OMAR
- Tutin in Honey Standard
- Transport of bee products
- Eligibility Declarations (E-cert)

Who should attend?

- RMP operators
- Those planning to set up a processing plant
- Those currently working in the industry needing a refresher
- Those new to the industry

Course dates (2013)

- Christchurch: Tuesday 16 July
- Gore: Wednesday 17 July
- Nelson: Friday 19 July
- Tauranga: Tuesday 23 July
- Hamilton: Wednesday 31 July

Cost

$305.00 per person + GST
(including morning and afternoon tea and lunch)

To register contact

Training Services
Freephone 0508 00 11 22
training@asurequality.com

freephone 0508 00 11 22
www.asurequalitytraining.co.nz

AsureQuality

Continued from page 17

Canterbury Branch

After a long, dry, warm autumn, winter has finally arrived in Canterbury. The amount of rain we have had, while not excessive, is propelling us towards our yearly average. Beekeepers have had plenty of good weather to finish off wintering down. All the same, there always seems to be a little more that needs attention!

With all the work behind you (and hopefully a winter holiday), it could well be worth the time to take an analytical look on how your business is going, where it is going and, maybe most importantly, what you hope to achieve with/from it.

I heard a presentation that Dr Mark Goodwin gave to a plant breeders' meeting in Christchurch earlier on in the year. The point Mark made that hit home with me was that the difference between a beekeeper with varroa and one without was (in distance) a few metres apart. The difference between a beekeeper with resistance and one without was a kilometre. It got me thinking that this is only round one in a 14-round bout and the bell hasn't even sounded yet.

It is vital for your business to survive that you know exactly what the true costs and the real income is for a particular enterprise. The advent of varroa should have been a catalyst for change but very few people recognise the problem for what it is, so it is business as usual. Do you really want to do that small pollination contract for a smaller fee 'just so no one else will'? Do you really need to hold down every farm in a given area even when some produce at half the rate of others?

It may be worth a few moments' thought before you dismiss these thoughts as ludicrous. Keep in mind that once resistance arrives, the guy on your left and the guy on your right will most likely not be there in the long run.

Best be preparing now so it is not you because, rest assured, resistance will travel the length of New Zealand quicker than varroa did.

- Brian Lancaster, Branch President

Otago Branch

My apologies for the very late report of the Otago season. A warm December saw good colonies prosper up until Christmas, but cooler weather and plenty of rain in early January slowed things down. Two weeks of very hot weather later in the month saw hives shift up a gear again and two months of hot and dry conditions followed. While it burnt off in Central, for most a good crop was now in the bag.

Beekeepers further south had a late flow more similar to years ago when February crops were not so uncommon. Thyme and some bush flows did well and a modest amount of manuka was produced in the few areas it is available. For beekeepers willing to take the gamble, clover comb production did well and is producing good returns.

Safe from tutin here, we are encouraging more to try comb production as a way to improve their income off hives in pastoral country. A well-cut comb box, comb and "waste" together, results in somewhat more than double the return compared with just extracted honey.

Two consecutive years of good harvests and good prices have seen a few new vehicles, honey sheds and other improvements probably well overdue for beekeepers in the south. With varroa now in its invasion phase, this economic improvement could not have come at a better time.

Now, as expected, it is wet and wetter and that is seldom a bad thing this time of year as it sets up the country again for another season. There's some snow in them there hills already too, which makes me happy.

- Peter Sales, Branch President

Southland Branch

Winter has arrived in Southland and the perfect autumn has come to an end. Snow covers the hills and for two days lay around our house.

The local Branch meeting convened in the last week of May, with a good turnout of members. The hot topics discussed were the Southern Ward representative nominations and the first load of packaged bees from the province to Canada.

Most hives have wintered down well and are generally heavy in honey, but especially pollen. Most of Southland's honey has been sold to very keen buyers and seems destined for the export market. When I began beekeeping, a significant proportion of the Southland crop was sold locally. Nowadays, the supermarket shelves are stocked with honey from around the country and Pitcairn Island!

- John Stevenson, Branch Secretary

Aslan a teenager

At last year's NBA Conference in Hawke's Bay, NBA members donated nearly $12,000 at the annual auction held at the Conference dinner. This sum was donated to the Royal New Zealand Foundation for the Blind towards the considerable cost of breeding and training a guide dog.

Here is a photo of Aslan, now a teenager. Photo courtesy of the Royal New Zealand Foundation for the Blind.

NBA archives 1963–1973

By Apiarius Antiquary

With the decade beginning in 1963 we find ourselves looking back over the previous 50 years—a time quite a few still in the industry will remember.

The NBA appeared to be involved in a wide range of activities. It is no wonder that every so often the association found itself short of finances.

The conference of 1963, held in Oamaru over three days, had no fewer than 40 remits and five notices of motion. A number of reports were presented from the President, the director of the Horticulture Division of the Department of Agriculture, the chairman of the Honey Marketing Authority, and the NBA representative to the Agricultural Chemicals Board. Over 100 delegates attended and the numbers swelled to 200 for the social evening and film evening.

Visitors were catered for with trips to see the Benmore Dam under construction and, as recorded in the journal:

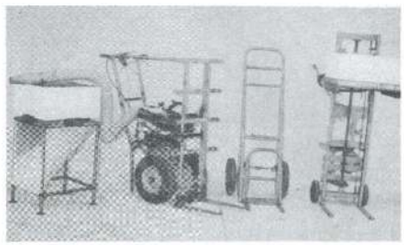
> *Additional attractions arranged especially for the ladies included a visit to Waitaki Boys High School, an illustrated talk on the poultry industry round the world, and believe it or not, an inspection of a mashed potato factory. Some delegates also visited Gillies' Foundry in Oamaru, one of the largest in the country.*

I guess that if the same conference were to be held today the order of the 'visits' would be reversed, with the 'ladies' visiting the potato factory, followed by a visit to the poultry farm to gather the ingredients to present KFC to the 'boys' of Waitaki Boys High. One would wonder what would impress the boys most: KFC or the 'ladies'.

On the practical side, there were demonstrations of hive loaders. Mr A Ward of Hawea Flat demonstrated his new boom loader (presumably a 'Kelly'), described as *"a quite spectacular development in loading equipment. With a 19-foot boom which moves in a complete circle it can load or unload an entire apiary from one position, with fingertip control."*

The other loader was a 'Ward' motorised hive barrow, which

> *went through its paces in workmanlike style. The crowd almost had heart failure when John de Wit tried the machine out, forgot how to change gear (the simplest thing in the world), marched easily up the ramp, straight across the deck, and nearly dropped over the other side!*



The 'Ward' blower, loader, hand barrow and honey hoist, as advertised in the May 1969 journal.

Diploma in Apiculture

The Diploma in Apiculture was introduced to acknowledge those who attained a standard of beekeeping knowledge through study and passing examinations. It was customary when establishing new diplomas to grant exemptions to those who had passed the age when anyone would expect a man to sit an examination. Many fell into the category of being over 40 years of age and had 20 years' beekeeping experience. These people received an 'honorary diploma'.

Honey Marketing Authority (HMA)

The HMA, set up to stabilise honey marketing, had entered into an agreement with Kimpton Bros, London to be sole agents for New Zealand honey. The HMA also had exclusive export rights for the majority of honey produced. From comparison of New Zealand honey and honey from other countries sold on the international market, New Zealand honey has commanded a higher price because it has been recognised as a premium honey with unique floral varieties and quality of product.

As an indication of returns for honey in 1962–1964, 617 tons were exported at an average of 10.64 pence per pound, with 377 tons supplied to the local market at 11.44 pence per pound.

By the early 1970s, returns for exported honey were significantly above the local market returns. The government of the day controlled prices of many items by regulation to benefit consumers. The Minister limited the amount of HMA payout to suppliers, at levels considerably less than what was considered reasonable by the HMA, NBA and the suppliers.

At the close of this decade, there appeared to be the beginnings of a period where the 'collective' funding and marketing would be under scrutiny.

Tutin issue

Tutin reared its head again with a case of suspected tutin poisoning. The Department of Health seized a considerable amount of honey suspected to be toxic. It would appear that the Department of Health had previously seized suspected honey and destroyed the honey; however, on this occasion the testing of toxicity came under scrutiny. Testing was done by feeding honey to guinea pigs. Apparently it was found that although the amount of honey fed to the guinea pigs was fatal, it did not need to have tutin dew to be fatal. As the journal recorded:

> *Headlines in newspapers throughout the country in September informed the public that the Health Department was wrong in its allegation that certain honey stocks were toxic and unfit for human consumption … In substance and fact, however, the expert's findings were proved to be far from factual. Under cross examination in a competent*

court of jurisdiction, the agricultural scientist on whose expert advice both government and industry have relied admitted, through counsel, that on further investigation he found his whole basis of testing to be unreliable, and that he could not, in fact, produce any evidence of toxicity whatever!

The £22,000 worth of honey was released for sale and the beekeeper was later awarded £8563 in damages and costs of £2449. The whole process took three years for the beekeeper to receive some compensation for his inconvenience; however, he thought a public apology would also have been appropriate for the damage caused to his business.

Honey Packers Association (HPA)

As a result of a remit passed at the Whangarei conference calling for the setting up of an annual meeting of honey packers to stabilise honey prices, a meeting of interested honey packers was convened in 1967. At the meeting several resolutions were passed; most importantly, that an organisation of honey packers would be formed within the NBA, and that the members would adhere to the price guide issued by the Honey Marketing Authority. At a subsequent NBA executive meeting it was accepted that the association could accommodate the packers to meet and consider items of common interest. A meeting of packers would be convened for Tuesday evening prior to the opening of conference. The remits passed at the AGM of the HPA in 1971 were:

That the Health Department be asked to formulate a standard of hygiene under which honey may be packed for sale.
That this Association pursue the unrestricted export of honey and that all exports be free from levies.

Honey Week

The conference of 1967 promised something a little different with Honey Week being promoted. Eighteen observation hives were stocked with bees and displayed along with honey in shops around Christchurch. The journal reported, "The highest class fashion store devoted a complete window on their main frontage to a simulated scene of a beekeeper working at his hive."

A Honey Queen was crowned at the social evening festivities, which concluded at 1 am with the singing of Auld Lang Syne.

Cover of the August 1967 journal.

State of the industry

There appeared to be some dissatisfaction over much of this decade regarding the levy and how funds were spent, as well as the restrictions on private exports of honey. Some wished that the levy system be 'overhauled', but it would appear that there was no agreement between the various factions of the industry that would produce a better 'industry funding'.

In 1971 the Government announced its intention to carry out an investigation into all aspects of honey marketing and the industry in general.

The President (I. Dickinson, Otago) reported that the association had suffered a deficit of $1658. He went on to say:

The so-called independence of beekeepers is fast fading away, and more and more of the bigger retailers and supermarkets now dominate the market. Our only answer to this, is in a sense, co-operative marketing. Instead of squabbling over who is going to get the biggest piece of cake, we should get down to producing a bigger cake for all to share. In brief, specialised packers, supplying the local market, your Marketing Authority exporting and more beekeepers getting on with the job of production.

Perhaps it would be timely to suggest that many of our problems could be overcome if we adopted as our management policy, one similarly used by our bees. We spend our lives dealing with such methodical insects as bees and yet cannot seem to evolve a marketing system which gives the maximum return for all sections. The bee colony is ruled by a mastermind, the Queen Bee. Efficiency is the keynote and every member co-operates to produce a surplus. They are highly organised, every bee has a job to do, and gets on with it under the direction of the Sovereign Ruler.

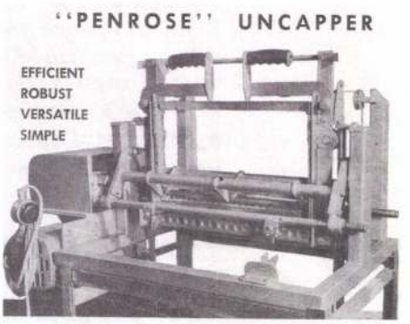
Mr Dickinson then commented on the HPA:

This organisation formed in 1967, has also had its problems. I really think that, acting independently as they do, their likelihood of prosperity is about as slim as that of the NBA. Our industry is too small to be fragmented into two administrative bodies and I appeal to the Packers' Association to consider amalgamation with the National Body. Some packers and beekeepers have resigned; others signify their intention to do so. This simply weakens all sections, and it would be more beneficial for everybody to rejoin the NBA and strive to overcome the existing crisis.

The Caucus Committee investigation was forwarded to beekeepers in 1972, notwithstanding that it had been 'leaked' to some industry persons. The committee made a number of points regarding marketing and possibly the one that would create the most discussion was, "There seems to be an inconsistency in the Authority, as sole exporter, having the sole right to decide whether a producer packer should export honey".

The industry was set for much discussion for the years ahead.

Office holders in 1973 were: President: I. J. Dickinson; Vice-President: D. Penrose; Executive: J. de Wit, M. Cloake, J. D. Lorimer, M. D. Haines; General Secretary: E. R. Neal; Editor: N. S. Stanton; Librarian: C. Dawson.



Penrose Uncapper as advertised in the August 1968 journal.

Sources

The New Zealand Beekeeper 1963–1973.

Ceracell Beekeeping Supplies Ltd

24 Andromeda Crescent, East Tamaki, Auckland, New Zealand
PH 64 9 274 7236 Fax 64 9 274 0368 E-mail: info@ceracell.co.nz www.ceracell.co.nz

Looking for a TOTALLY ALTERNATIVE treatment in the warmer months then try APIGUARD ®

NEW!!
Coming August 13
Apiguard
25 gram sachets

Apiguard ®

Registered as an input for Organic Honey Production with AsureQuality New Zealand

For more information ask for a brochure or refer to Vita Europe website http://www.vita-europe.com

- Up to 93% efficiency rate
- Works best in warmer temperatures
- Thymol based treatment. Thymol is a natural constituent found in thyme and some honeys such as lime.
- Withdrawal period for honey: 0 days
- Easy to use foil trays, sold in carton of 10 x 50g trays. 2 trays per treatment per hive. Also available in 3kg tubs.
- Registered in over 36 countries worldwide including such countries as Germany, France, Italy, Switzerland, UK and USA.

Apistan ®

The most effective Varroa Treatment
The most reliable Varroa Treatment

The standard against which other treatments are measured
Registered bee medication in over 50 countries worldwide

Resistance to Synthetic Pyrethroids has now been scientifically confirmed in a yard of beehives in Northland. This may not be an isolated instance. Please ALTERNATE your treatments!

- Still a viable treatment option where there is no resistance
- Eliminates up to 100% of all mites in a hive
- Strips can be used in a hive for up to 8 weeks
- Will not give sub-lethal dose during 8 week period - controlled release combined with therapeutic dosage, used correctly will not promote resistance in mites.
- Proven efficiency from beginning to end of treatment period
- Apistan is that effective that it will resurrect hives that are collapsing from parasitic mite syndrome
- Economic to use only two strips per brood nest required
- Long shelf life, For current stock expiry date please enquire
- Apistan is not affected by removal from its packaging and can be repacked for use if necessary.
- Packed 10 to sealed foil pouch, 10 pouches per carton=100

Now Back in Stock !!!
American Foul Brood Test Kit (AFB)

Woodworking safety considerations

By Frank Lindsay, NBA Life Member

Inside work mostly consists of making up gear.

Some prefer to purchase their woodware ready to assemble while others make it from scratch. In selecting timber, I prefer old pine with plenty of resin in it—although it's a little heavier, it lasts longer in the field. Most of the sawmills send this type of tree for firewood as the band-saw blades they use these days snap when they get clogged with resin. Luckily, a few beekeepers in our district have mills that cut timber using old technology: round saw blades.

If you are a hobbyist and have only a few hives, it's best to purchase all your gear ready to assemble. If, however, you are contemplating becoming a commercial beekeeper one day, acquiring woodworking skills and setting up a workshop is a necessity.

> "Safety is paramount when working with saws, as the blade can't tell the difference between a piece of wood and a finger."

To make beekeeping woodware you need a good saw bench (or if you have the space, a rip and a draw saw, and perhaps a router and a buzzer). It's quite expensive if you purchase everything brand new but if you are not in a hurry, there's plenty of second-hand equipment around. Just get someone experienced to check the saw to make sure it cuts true.

Viewed in a strictly commercial light, it's cheaper in the long run to purchase all your new gear as replacements are tax deductible. However, if you are starting at the bottom with very little capital, making your own gear initially and then replacing it with commercially produced product when it needs replacing is the best way to go. This approach can save you a lot of money. I got 12–15 years of use out of boxes made from pallet timber. If you are not confident with saws, look up "mastering a table saw" on the Internet—there are also DVDs available to teach you.

Safety is paramount when working with saws, as the blade can't tell the difference between a piece of wood and a finger. You will need earmuffs, safety glasses, a heavy apron, push sticks, a good steel ruler, clamps and plenty of space around the saws. There are many different types of saw blade on the market; each does a separate job. I use ripping blades and finishing blades that have more teeth to give a cleaner finish. Always work to the side of the blade, as sticks left on the top of the bench can catch the blade and suddenly flick back at high speed. Hence the apron: apart from protecting your clothing, it saves having a sore stomach for a few days if a piece of wood flicks back and hits you at high speed. Push sticks are a must. The only time I don't use them is when I am continuously feeding timber into the saw, using the next piece in as a push stick.

Here are a few of my rules when working a saw bench.

Rule 1: Never force timber through a saw. It should be a smooth easy operation at its own pace. As the blade gets duller, it will cut more slowly. I sometimes only get a few continuous days out of a blade before it needs sharpening again. It also depends on the timber and the cleanliness of the saw blade. You may need to clean the resin off the side of the blade using kerosene. A good tip is to polish all the surfaces of the saw bench with beeswax to reduce friction.

Rule 2: Don't work on a saw when you are tired. You have to concentrate all the time. I found out the hard way that seven hours of continuous work is my limit. I cut my thumb as I was moving my hand across the saw blade to turn the machine off at the end of the day. After working all day, I couldn't

believe I had done it. One momentary lapse and it took months before I had full use of my hand again, even using a plastic pipe over the thumb as a protector.

Rule 3: Always use the guards. Some of the cutting will require you to remove the guard from over the blade; however, there are devices you can make and clamp to the bench to enhance your safety. Look up some woodworking books to get ideas.

Rule 4: Don't use the fence as a width guide as small pieces of timber can kick up as they leave the blade while still against the fence. Clamp a small piece of wood to the fence so that the cutting piece is free of the fence once it has passed the blade.

Rule 5: Continually check your measurements. Repeated operations can cause the clamps to move a smidgen each time they are banged, which will put out your measurements over time. If you use a template to set the cut, only use this one to recheck the measurements. I ended up with 1000 top bars whose side bar cut became over-length because I didn't check the measurements regularly. It didn't matter when I used an extractor that the frames dropped into, but they stuck going into the extractor when I upgraded to a horizontal radial "push through" model.

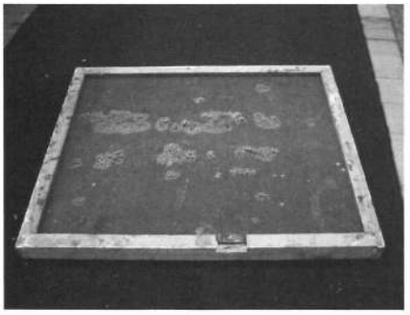
Split boards

Once you have the machinery to make them, split boards are one of the most versatile pieces of equipment I use in my beekeeping. They are basically a crown board, made from four pieces of timber deep enough to give a bee space on one side and deeper on the other, as this forms a base and gives rigidity to the board. The bee space side also has an entrance at one end. I use a hardboard centre. With these there's no need to carry around additional bases and roofs when →

making splits. I have a split board under the roof on each hive.

I started off using sacks or a bit of carpet under the roof as hive mats. My bees at that time were a great deal more defensive than today, and ripping up the sealed mat caused an instant defensive reaction. I then used regular crown boards but ventilation became an issue: something to do with our wet, windy climate and hives placed close to or in bush areas. I found by spring I had wet, mouldy outside frames and the frame lugs would rot in a few years. I needed more top ventilation than a matchstick in each corner.

It took a couple of winters to work out the amount of top ventilation required to prevent moisture build-up using a split board. The entrance needs to be big enough to allow a regular change of air but small enough to stop the bees consuming extra stores in order to maintain a tight cluster when faced with too great an airflow. I settled on a 25 mm x 7 mm entrance/ventilation hole. However, the crown boards weren't durable when I cut the entrance in one side. They soon broke under normal working conditions so I started making them from rough sawn timber. (I changed the inside measurements so they fit flush with a super.)



Split board.

My crown boards are now 33-mm wide and 23-mm thick. They are durable and easy to staple together. I have a groove 7 mm (the bee space) in from one edge in which to fit the hardboard. This groove is cut in one operation. I have a 10-inch blade and a smaller ripping blade with a wood spacer between the blades to give me my correct width. I found that the thicker 5-mm hardboard wouldn't fit into a normal saw cut. Dado blades are now illegal, so to get a wider cut I used a tooth setting tool to make the small blade cut a 5-mm groove. (Two fine blades together will give the same effect.)

To accommodate two blades, you need to make a new throat plate. This can be made out of an old cutting board: something with a smooth surface that won't chip. Cut this to shape and bevel the edges (I used a wood file) so that it fits flush into the throat. Clamp a piece of timber across the saw so that it covers the throat, turn on the saw and then gradually raise the blades slowly to the top of the adjustment. You now have a throat plate with two cuts in it.

Then it's just a matter of setting up the guides, setting the width of the cut, adjusting the height of the smaller blade (7 mm) and pushing the timber through. The small blade(s) cuts the groove for the hardboard while the larger blade cuts the timber to size all in one operation. You get rigidity by cutting the hardboard so that it fits fully into the groove all the way around. Assemble and put a staple in each corner. Wax dip to preserve it, but be very careful as the hardboard contains oils and takes time to heat up. Add only five split boards to the dipper and wait a minute or so until the bubbling wax starts to wane, then add a few more and wait. If you add 10 or more at a time into the dipper, the wax suddenly bubbles up and all over the sides of the dipper. Once the timber has cooled you can add another staple to each corner. The hot wax sometimes loosens the existing staple's hold—it depends upon the timber.

For those without access to a dipper, Metalex (Copper Napthanate: 1 to 5 of turps) works just fine and will not leave a residue in the wax if allowed to fully dry over the winter months. Fully submerging the wooden parts for a few hours (or until the tiny air bubbles stop) will give far better protection than just painting it on. Some of my supers have lasted 30 years. If you are concerned about the Metalex residue, paint the inside of the boards and supers as the Australians do. They also repair and repaint their supers every five years.

Top hive feeders are made the same way. Just make the overall cut a little wider, about 50–60 mm (depending upon how many cuts you can get out of the width of a piece of timber), and drill a 25-mm hole in the middle to allow bees to come up into it. I find these quite useful, apart from having a dispenser for raw sugar used for emergency feeding of strong hives. The bees will come up into the feeder when the supers below get overcrowded, which tells me the hive needs another super. The bees will also store honey in the feeder if I fail to put enough supers on the hives during the flow. Most beekeepers don't bother with this type of feeder, preferring frame feeders that take sugar syrup. I hardly ever feed my hives sugar syrup.

Bees in the feeder. Photos: Frank Lindsay.

Recycling frames

We are now recycling brood frames through our hives every three to four years to keep the pathogens and residues down so that our bees are healthier. This also means that we have a larger number of frames to melt out. I used to have a melter copied from Tweeddale's in Taihape, which consisted of two insulated 44-gallon drums welded together with a steel frame to slide supers in and out. From memory, Tweeddale's have two very long stainless units (no insulation required) into which steam is fed, making the operation more viable. Mine used to hold three supers: each super had a queen excluder nailed to the bottom of the super to stop the old black cocoons from dropping through. It was set up on a slight angle, the opening covered with a sack, a steam hose put in and wax and water would run out into a bucket. However, we had to make room so that went to the dump and now I'm going to stack up a number of supers on top of each other and just keep poking steam in at the bottom. A hive lid and bits of foam plastic should be all that's needed to keep the steam from escaping. (Another alternative is to leave the old dark brood frames out in the summer sun for an hour, which completely softens the wax, making it easy to push out).

I remove the frames from the supers after an hour, upend the supers to get rid of the residue and whack the side bars of the frames with a hive tool to test their structural integrity (for rot). This also removes most of

the wax residue left on the bars. Frames that break are used as fire starters and the ones that pass are reused. The wax and residue are put in muslin bags and weighted down in a tank of hot water. The wax rises to the surface and is poured off into moulds while the residue is held in the bags, ready for composting. It makes excellent compost.

Beekeepers who regularly clean up their old brood frames in this way have noticed a drop in disease levels. Bees on new gear are happy bees and if they are continually building new wax, they tend not to swarm.

Of course there are other methods. One Australian beekeeper now places all his frames and old supers on the truck, takes them to the local dump and burns them all in one pile. He then purchases all new woodware and makes it up. This beekeeper can't leave old frames around the honey house any more as hive beetle gets into it and totally slimes out the gear.

Biosecurity caution: If you visit or stay with Australian beekeepers in small hive beetle (SHB) areas, check that all your gear is free of them before you head for home. Use fly spray on your gear if you are not sure. SHB like to hide in dark places, in bags and shoes and we certainly don't want them here in New Zealand.

Things to do this month

Make up and prepare gear for replacement or hive increase. Check hives after storms. Those with hives in the 'acute' phase' of varroa (the first three years) should check mite fall. If your bees have been robbing dying ferals, they could be starting to break down with PMS. Additional treatments may be required. Those with top bar hives should check that the cluster is against a frame of honey.

[Editor's note: this article was originally published in July 2010 with the title 'Gearing up for spring,' and has been updated.]

LETTER TO THE EDITOR

Landcare Research responds

By Dr David Whitehead, Chief Scientist, Landcare Research

I would like to reassure your readers that the concerns expressed in the May edition by Brian Lancaster, in which he stated that Landcare Research has withheld useful information on nutrition sources for bees because of a potential conflict with our gorse and broom biocontrol research, are completely groundless.

Our Research Associate Dr Linda Newstrom-Lloyd has been leading research to identify high-protein pollen-bearing plants to address the problem of pollen dearth.

The work is exciting but the current project will not be complete for another six months. Dr Newstrom-Lloyd has been discussing the preliminary results with members of the bee industry, for example, at the recent Eastwoodhill Trees for Bees and NBA conferences.

The main goal of the research is to find replacement species to the noxious weeds that have been traditional floral resources and are now being controlled by councils. Other goals are to fill in pollen supply gaps such as those that occur on farms after willows finish flowering and before clover starts, and to improve pollen supply in autumn when bees are preparing for winter.

To date, 120 species have been found that flower during these pollen dearth times and many have high-protein pollen. These plant lists are being confirmed for accuracy and suitability, and will be published by the end of November. Early indications reveal that the identification of species that produce pollen during the dearth time in autumn is the most difficult, so this is the focus of current field and lab work.

Mr Lancaster does raise a good point. Many of New Zealand's serious environmental issues are complex and can involve trade-offs. For example, broom and gorse both provide good pollen but there are serious trade-offs associated with increased spread of these weed species.

At present, broom occupies about 15% of its potential range in New Zealand and its spread in parts of North Canterbury and the central North Island, for example, is a concern. Recent Landcare Research biocontrol research has shown that broom flowers must be triggered to open for pollination to occur and that can only be done by introduced large-bodied bees (both honey bees and bumblebees). Gorse has a similar pollination system to broom, so we need to find alternative, 'non-weedy' pollen sources for bees.

Biological control is not expected to eradicate broom and gorse, but has the potential to reduce the population densities of the weeds and make them easier to manage. Indeed, our recent research has shown that even a major reduction in broom abundance may not lead to a significant reduction in pollen availability to bees because the majority of broom flowers are never visited by pollinators.

Beyond our most productive farmland, biocontrol appears the only viable control option for broom. It will take decades for biocontrol agents to become established and reduce the rates of invasion of these species. It is likely that better sources of bee nutrition will be developed over shorter or similar timeframes.

At Landcare Research, the trade-offs in addressing environmental issues like the shortage of pollen for bee nutrition and the spread of weeds will never be a reason to suppress key research findings. On the contrary, our intention is to inform and encourage public discussion about these significant environmental challenges.

BAYVAROL®

NZ's No 1 VARROA TREATMENT

Why?

- it's highly effective (up to over 99% efficacy)
- it's the easiest to use (rigid strips - no curling)
- it's very safe to use (very important - especially for staff)
- it has twice the contact area (4 strips per brood chamber)
- very kind to beeswax, propolis & comb honey
- very gentle on queen bees & nucs
- it can be used during the honey flow if required
- strips have a 5 year expiry date from date of manufacture

Resistance?

We are still selling over one million strips per year with over 99% of all customers totally happy with efficacy, however it's now more important than ever before to ensure that you use the correct dosage – being 4 strips per full depth single brood chamber - and to test their effectiveness after the treatment has been completed. Further, to our knowledge, not one hive has ever been lost due to Bayvarol resistance – which is a better record than any other treatment, with or without resistance!!!

We'd strongly recommend that you use Bayvarol® as one of your alternate treatments.

Bayvarol is New Zealand's most popular Varroa treatment, for **very** good reason.

Current prices as at 1st April 2013

20 to 80 strips	$2.09 + GST each
100 to 780 strips	$1.96 + GST each
800 to 8800 strips	$1.59 + GST each
9600 plus strips	$1.54 + GST each

Packets contain 20 strips, cartons contain 800 strips. For orders of up to 100 strips please add $7 incl. GST for freight. Orders of 100 strips or more are despatched freight free to anywhere in New Zealand. Payment is required prior to despatch by Visa, M/Card, Cheque or Electronic Banking.

For any enquiries or orders, please phone 03 358 7498 or email: ecroyd@beehealthy.co.nz

Bayvarol ® - Registered trademark of Bayer AG Germany - Approved under the Animal Products (Ancillary and Transitional Provisions) Act 1999

www.beehealthy.co.nz

Ecroyd Beekeeping Supplies Ltd

Distributors, Exporters & Importers (since 1913) of Beekeeping Equipment

Distributors of Bee Healthy & Beeway Honey & Bee Products

www.ecroyd.com

P.O. Box 5056 Papanui, Christchurch 8542, New Zealand • 6A Sheffield Crescent, Burnside, Christchurch

Phone: (03) 358-7498 • Fax: (03) 358-8789 • Email: ecroyd@beehealthy.co.nz

NATIONAL BEEKEEPERS' ASSN OF NZ (Inc.) EXECUTIVE COUNCIL

East Coast Ward
Deanna Corbett
420 Massey Street
Hastings 4120
Ph: 06 876 8852 (home: evenings)
Email: djcorbett@xtra.co.nz

Northern Ward
Neil Stuckey
PO Box 303251
North Harbour
Auckland 0751
Ph: 09 415 5931 (w)
Email: neil@whoney.co.nz

Southern North Island Ward
Mary-Ann Lindsay
26 Cunliffe Street
Johnsonville
Wellington 6037
Ph: 04 478 3367
Email: lindsays.apiaries@clear.net.nz

Central South Island Ward
Roger Bray
Braesby Farm, RD 1,
Ashburton 7771
Ph/Fax: 03 308 4964
Email: birdsnbees@xtra.co.nz

Waikato Ward
Stephen Black (Vice President)
Bees-R-Us
685 Uruti Road, RD48
Urenui 4378, Taranaki
Ph: 06 752 6860
Email: bees@beesrus.co.nz

Bay of Plenty Ward
Dennis Crowley
PO Box 16156, Bethlehem
Tauranga 3147
Ph: 07 579 2554
Email: crowleys@slingshot.co.nz

Upper South Island Ward
Ricki Leahy (President)
151 Mangles Valley Road
Murchison
Ph/Fax: 03 523 9354
Email: beechdew@farmside.co.nz

Lower South Island Ward
Russell Berry
2488 State Highway 5, RD 3
Rotorua
Ph: 07 366 6111
Mobile: 021 741 690
Email: russell@arataki-honey-rotorua.co.nz

NBA Branches: First named is President/Chairperson. The second named is Secretary.

NORTHLAND
Interested parties wishing to start this branch up again, please contact Neil Stuckey 09 415 5931 (wk) or neil@whoney.co.nz

AUCKLAND
Graham Cammell
20 Thorps Quarry Road
Clevedon, RD 2 Papakura 2582
Ph: 09 275 6457
Email: graham@cammellshoney.co.nz

Bob Russell
101 Kern Rd
RD 3, Drury 2579
Home Ph: 09 294 8656
Work Mobile: 027 284 8951
Email: bob.russell@xtra.co.nz

WAIKATO
Cameron Martin
Haumea Road
RD 1, Galatea 3079
Ph: 07 366 4804
Fax: 07 366 4804
Email: busy-bee@xtra.co.nz

Jane Lorimer
Hillcrest Apiaries 'Kahurangi-o-Papa'
RD 3, Hamilton 3283
Ph: 07 856 9625
Fax: 07 856 9241
Mobile: 027 294 6559
Email: hunnybee_wave@ihug.co.nz

BAY OF PLENTY
Dennis Crowley
PO Box 16156, Bethlehem
Tauranga 3147
Ph: 07 579 2554
Email: crowleys@slingshot.co.nz

Barbara Pimm
448 Woodlands Road
RD 2, Opotiki 3198
Ph: 07 315 7650
Email:hikuhoney@xtra.co.nz

POVERTY BAY
Paul Badger
19A Pine St
Gisborne 4010
Ph: 06 868 4785
Email p-mbadger@xtra.co.nz

Tim McAneney
11 Oak St
Gisborne 4010
Ph 06 868 9446
Email: tim@mcaneney.gen.nz

HAWKE'S BAY
John Berry
46 Arataki Rd
Havelock North 4130
Ph: 06 877 6205
Email: jrberry@ihug.co.nz

Deanna Corbett
Home Ph: 06 876 8852
Email: djcorbett@xtra.co.nz

SOUTHERN NORTH ISLAND
Allan Richards
14 Bastia Avenue
Wanganui
Ph: 06 343 5039
Email: allan.serena@xtra.co.nz

Frank Lindsay
26 Cunliffe Street
Johnsonville
Wellington 6037
Ph: 04 478 3367
Email: lindsays.apiaries@clear.net.nz

NELSON
Murray Elwood
10 Whiting Drive
Wakefield
Nelson
Ph: 03 541 8929
Email: muzzbuzz@ts.co.nz

Nicky Elwood
10 Whiting Drive
Wakefield
Nelson
Ph: 03 541 8929
Email: muzzbuzz@ts.co.nz

CANTERBURY
Brian Lancaster
1133 Coaltrack Road
RD 1
Christchurch 7671
Ph: 03 318 7989
Email: be.lancaster@xtra.co.nz

Linda Bray
Braesby Farm, RD 1,
Ashburton 7771
Ph/Fax: 03 308 4964
Email: birdsnbees@xtra.co.nz

OTAGO
Peter Sales
"Te Ora"
RD 1, Port Chalmers
Dunedin 9081
Ph: 03 472 7220
Email: foxglove@paradise.net.nz

Tudor Caradoc-Davies
779 Portobello Road
Dunedin 9014
Mobile: 027 208 5133
Email: brightwaterbees@gmail.com

SOUTHLAND
Doug Lomax
15 William Stephen Rd
Te Anau
Ph: 03 249 9099
Fax: 03 249 9068
Mobile: 027 245 3384
Email: dougandbarbara@xtra.co.nz

John Stevenson
Southern Lakes Honey
PO Box 163, Te Anau 9640
Ph: 03 249 7954
Email: sl.honey@gmail.com

NBA LIBRARIANS
Roger and Linda Bray
Braesby Farm, RD 1, Ashburton 7771
Ph/Fax: 03 308 4964
Email: birdsnbees@xtra.co.nz

APIMONDIA OCEANIA COMMISSION
Maureen Maxwell, President
Ph: 09 411 7065
Mobile: 021 956 349
Email: maureen@wildforage.co.nz

If your details have changed, please email editor@nba.org.nz and secretary@nba.org.nz so that we can update your details in the journal and on the NBA website www.nba.org.nz.

360ml Round Pot

500gm Round Jar

340gm Round Jar
(coming soon)

250gm Round Jar

2kg Hex Jar

1kg Hex Jar

500gm Hex Jar

250gm Hex Jar

2kg Square Jar

1kg Square Jar

500gm Square Jar

250gm Square Jar

NEW ZEALAND'S MOST EXTENSIVE RANGE OF HONEY PACKAGING

Pharmapac's range of export quality packaging for honey has now expanded to contain square, hex & round jars. Sizes range from 250gm - 2kg.

Pharmapac is a New Zealand owned company, with more than 30 years in the business of designing, manufacturing and producing plastic packaging solutions for not only local, but an ever growing list of international clients.

All of our products are manufactured in our ISO9001-2008 accredited facility in Auckland, New Zealand.

No supply contracts are required.

Pharmapac follows well defined parameters of quality, conforming to various national and international standards. As these standards change, we work with our suppliers to continue to meet these requirements.

For more information or product samples please contact us at:

Pharmapac Limited
88 Wairau Road
Glenfield
Auckland 0627

+ 64 9 444 9631
sales@pharmapac.co.nz

100% NEW ZEALAND OWNED & OPERATED

TELARC REGISTERED ™
Quality
ISO 9001

* Our stock jar colours are amber & clear. Stock closure colours are white, blue, gold, green & black. For your own custom coloured closures, a minimum order of 5000 units will apply.

PHARMAPAC

PPAC

NEW ZEALAND MADE

www.pharmapac.co.nz