ISSN 0110-6325

The New Zealand BeeKeeper

OCTOBER 1999
VOL 6. No 9

The Official Journal of the National Beekeepers' Association of New Zealand (Inc.),
C/- PO Box 21, Waipukurau, Hawke's Bay, New Zealand. Freephone: 0800 42-42-77

Permit Post
New Zealand
Permit No. 384
HASTINGS

If undelivered please return to: **National Beekeepers' Association of New Zealand (Inc.)
PO Box 21, Waipukurau, New Zealand.**

NATIONAL EXECUTIVE BEEKEEPERS' ASSOCIATION OF NZ (Inc.)

President:
Terry Gavin, PDC, Titoki,
Private Bag, Whangarei.
Tel: (09) 433-1893
Fax: (09) 433-1895

Jane Lorimer
RD3
Hamilton
Tel: (07) 856-9625
Fax: (07) 856-9241

Executive:
Tony Taiaroa
43 Princess Street, Waikari 8276.
Tel/Fax: (03) 314-4569

Don Bell
Annat Apiaries,
Frasers Road, Sheffield,
RD, Canterbury 8173.
Tel: (03) 318-3869
Fax: (03) 318-3862

Lin McKenzie
Box 34, Ranfurly
Central Otago.
Tel/Fax: (03) 444-9257
Email:lin.mckenzie@xtra.co.nz
E-mail:natbeeknz@xtra.co.nz

Hon. Librarian: John Heineman
C/- NZ Post Shop,
Milton, Otago.
Tel: (03) 417-7197

New Zealand Honey Food & Ingredient Advisory Service
OF THE NATIONAL BEEKEEPERS' ASSOCIATION OF N.Z. (INC.)
312 Scott Street, PO Box 32, Blenheim, New Zealand.
Tel: (03) 577-6103, Fax: (03) 577-8429, Email: bill.floyd@clear.net.nz

1999 Subscriptions:
NZ $38.00 (GST Incl).
Overseas Airmail US $38.00.
Economy mail US $31.00.

BRANCHES

The first named person is the President/Chairperson. The second is the Secretary.

FAR NORTH
Bob Banks
Taupo Bay, Northland.
Tel: (09) 406-0692
Graham Wilson
Waimate Road, RD 3, Kerikeri.
Tel: (09) 407-9068

NORTHLAND
John Gavin
PDC, Titoki, Private Bag, Whangarei.
Tel: (09) 433-1892
Fax: (09) 433-1895
Edna Hoole
Sheddock Apiaries, RD 1, Paparoa,
Nth Auckland.
Tel: (09) 431-7348

AUCKLAND
Brian Alexander
Woodhaugh Apiaries, RD 3,
Kaukapakapa.
Tel/Fax: (09) 420-5028
Jim Thompson
125 Queen Street, Pukekohe.
Tel: (09) 238-7464
Fax: (09) 232-8429

WAIKATO
Lewis Olsen
Ohaupo Apiaries
Great South Road, RD 3, Ohaupo.
Tel: (07) 823-6706
Tony Lorimer
'Kahurangi-o-Papa', RD 3, Hamilton.
Tel: (07) 856-9625, Fax: (07) 856-9241

BAY OF PLENTY
Gerrit Hyink
271 Lindemann Road,
Katikati.
Tel/Fax: (07) 549-1223
Email: hyink@xtra.co.nz
Ross Carroll
78 Laurel Drive,
RD 6
Tauranga.
Tel: (06) 552-4585

HAWKE'S BAY
Tom Taylor
Box 48, Onga Onga,
Central Hawke's Bay.
Tel: (06) 856-6610
Fax: (06) 856-6611
Ron Morison
6 Totara Street, Taradale.
Tel/Fax: (06) 844-9493
Email:rmorison@clear.net.nz

POVERTY BAY
Peter Burt
27 Murphy Road, Wainui, Gisborne.
Tel: (06) 868-4771
Email:pwburt@clear.net.nz
Barry Foster
695 Aberdeen Road, Gisborne.
Tel/Fax: (06) 867-4591
Email:bjfoster@xtra.co.nz

SOUTHERN NORTH ISLAND
Robin McCammon
Utuwai
RD, Ashurst.
Tel: (06) 329-4861
Frank Lindsay
26 Cunliffe Street, Johnsonville,
Wellington 6004.
Tel/Fax: (04) 478-3367
Email:lindsays.apiaries@xtra.co.nz

SOUTH ISLAND

NELSON
Glenn Kelly
Mickells Road, Brooklyn, RD 3,
Motueka.
Tel/Fax: (03) 528-8149
Michael Wraight
15 Titoki Place, Motueka.
Tel: (03) 528-6010

MARLBOROUGH
Hamish Harper
Mahau Sounds, RD 2, Picton.
Tel: (03) 574-2482
Email:jduncan@voyager.co.nz
Jeff Hook
RD 4, Blenheim.
Tel: (03) 577-5489

WEST COAST
John Glasson
34 Shakespeare Street,
Greymouth, Westland.
Tel/Fax: (03) 768-4793
Sandy Richardson
Napoleon St, Ahaura, Westland.
Tel: (03) 732-3724, Fax: (03) 732-3774

CANTERBURY
Richard Bensemann
13 Spring Place,
Leeston.
Tel/Fax: (03) 324-4410
Trevor Corbett
80 Glenmark Drive, Waipara,
North Canterbury.
Tel/Fax: (03) 314-6836

SOUTH CANTERBURY
Peter Lyttle
NZ Beeswax Ltd
RD 22, Geraldine 8751.
Tel: (03) 693-9189 Fax: (03) 693-9780
Email:beeswax@xtra.co.nz
Peter Smyth
Templer Street, RD 22, Geraldine.
Tel: (03) 693-9889

OTAGO
Blair Dale
PO Box 23, Middlemarch, Otago.
Work Tel/Fax: (03) 464-3796
Home Tel/Fax: (03) 464-3122
Email:blair.dale@clear.net.nz
Mike Vercoe
Box 241, Alexandra.
Tel/Fax: (03) 448-7811
Email:dmvercoe@xtra.co.nz

NORTH OTAGO
Bruce Steffens
RD 2 C, Oamaru.
Tel: (03) 432-4030
Bryan O'Neil
RD 4 K, Oamaru.
Tel: (03) 431-1831

SOUTHLAND
Carne Clissold
113 Waikaka Road, RD 5, Gore.
Tel: (03) 208-0673 Fax: (03) 207-1866
Email:clissold@esi.co.nz
Don Stedman, Catlins Apiaries,
Pine Bush, RD1, Wyndham.
Tel/Fax: (03) 246-9777

The New Zealand BeeKeeper is published eleven times per annum; February to December. All copy should be with the Editor by the 1st day of the month of publication except for December when copy should be received by 20th November.

Notes from the Executive

by Don Bell

There have been some happenings in the Executive environment over the past weeks that are worthy of your attention.

Harry and Janice Brown of Training in Progress who provide management services to our Association, including that of Executive Secretary have decided to relinquish the position from October 15th. This decision, occasioned in no small measure by the state of Harry's health will no doubt satisfy some sectors of the industry. If indeed they can ever be satisfied.

At the September meeting the majority of Executive members definitely were of the opinion we should never again allow the affairs of the Association to be in the hands of one man and that a corporate manager was the only way to go. The committee appointed to deal with the review of management services, and indeed the majority of the Executive had felt in July that there was a strong possibility this situation would arise and had moved into a higher gear. Neither of these matters was minuted, for obvious reasons.

The Executive, through their committee was advised by a consultant that Primary Industry Management Services or Federated Farmers were probably as well fitted as any other organisation in the country to service our management requirements. Both have been approached for proposals and they were in attendance at the September Executive meeting to present their cases. No final decisions have been made.

In the meantime events in the form of TIP's decision caught up with us even earlier than had been anticipated. There are those who feel this was orchestrated by sectors of the Executive If intelligent anticipation can be described as orchestration then.....

Federated Farmers offer to pick up our affairs until New Year at no charge and with no obligation has been accepted by the Executive It would have been irresponsible not to. To those who say we have given the game away, we say no way. We have the opportunity to assess their performance. They have the opportunity to assess our requirements and to give an accurate costing before any commitment. Who has never offered a honey sample to a prospective buyer?

The real strengths they bring, however, are those of advocacy and this is an area we are woefully lacking in. With a policy team of 22 throughout the country Federated Farmers are a well-recognised and respected force in Wellington circles.

There is some question as to whether our concerns would be submerged beneath other viewpoints. A major question members are raising is whether Federated Farmers have the ability to evenly represent opposing points of view. We have been assured this is not an unusual situation for the Federation. One recent example given is that the Federation had represented the Arable Section who are pro Genetic Modified Organisms (GMO'S) and at the same time had effectively represented the Dairy Section who are totally opposed to GMO's.

It is being stated that in the past Federated Farmers did not heed our voice. We had no clout with them, as we were not part of their "association of interest" so why would they heed our voice? Our viewpoint will be respected and presented if we are part of the greater "family of rural interest."

The proposal is that we become an "Industry Group" within the greater Federated Farmers family, retaining our identity and managing our own affairs and retaining always our own identity. Our assets would be "corralled" and would always remain our own. Members would gain full benefits of Federated Farmers membership such as access to policy communication and service networking. Meeting venues are available countrywide which will save Executive costs and extend the range of possible hotel/motel accommodation during meetings, also with possible cost benefits.

Resignations

We also have the unprecedented resignation of two Executive Members.

In Bruce Stevenson's case an issue of confidentiality was the ultimate cause. The underlying reason is far more basic. It is one of "collective responsibility." In any committee situation the individual members have the right and the responsibility to debate their point of view as vigorously as they are able. In the final analysis however the majority will prevail and it is incumbent on the individual to accept this or move on.

The issue of the database analysis is classic stuff. In May it was agreed to commission Nick Wallingford to conduct this analysis in order to establish whether there was agreement between the database maintained by Agriqual as part of their responsibility under the PMS contract, and the database operated by The NBA as part of the management our affairs. Objections to any Association member having access to information about other members' businesses flowed in to Executive members, with the result that in July it was resolved (minutes item 24) "that a review of the data-base should not be carried out by a member of the NBA." In the event Bruce uplifted the database from TIP's office and Nick carried out the analysis. Bruce was not present at the Executive meeting in July when the decision was taken and he claims not to have been aware of that decision. Why then was an Agriqual officer first charged with the task? Only when he realised it would take longer than expected was it passed on to Nick. There is no problem with the quality of the work and no doubt as to the accuracy of the report. The problem is that a decision taken by the Executive was overridden. In an Email posting Bruce says: "This project has been completed and is now before the Executive for their consideration."

Two Executive members have never sighted the report.

Bruce has given the PMS his very best shot and a very good one it has been. He is however so protective of it as to be completely unable to accept any criticism of it. Anyone questioning any part of it, or querying costs is immediately seen as some sort of pariah, labelled as being "against the PMS," a description currently being applied to the three South Island Executive members. Not so, no-one is "against the PMS." It is fully realised the objective of having the country free of AFB is laudable and achievable, the implications on the international marketing scene are fully recognised. There is however some problem when issues such as illustrated by the photographs on display at conference cannot be addressed, even to just establishing whether or not there is a problem. The turmoil experienced in the last twelve months within the PMS Review Committee have been addressed by the dissolution of the committee and the formation of a new committee with firm "Terms of Reference" being drawn up and with the autonomy to elect their own chairman.

On more than one occasion Bruce has threatened to resign if his wishes did not prevail. Why then the surprise when it was accepted?

As Lin McKenzie made his way home after the September meeting he says it became obvious the word about the conditions surrounding TIP's resignation were out there. He took the obvious precaution of advising the Otago Branch committee of what had actually occurred and can probably be accused of breaching confidentiality. Or was he set up?

Gerrit's resignation has us a little non-plussed. No apology is made for quoting from the Email postings he made regarding the subject; it is in the public arena. He says that: "As from today I tendered my resignation from the NBA Executive.

In the current climate I will not be able to have any impact on proceedings and I cannot accept having to stand at the sideline only."

And: "With the current method of decision-making I will not be able to make any difference and therefore do not want to carry on this path. I feel this was not why I was voted on Executive by the membership. If I would stay on and be non-functional, I would be letting down the membership."

Perhaps attendance at two meetings and participation in a telephone conference is time enough to come to a conclusion such as this?

Cover: Photo courtesy Tony Lorimer, Waikato.

The New Zealand **BeeKeeper**

THIS ISSUE

Letters to the Editor

Dear Sir

What on earth is wrong with the NBA?

We seem to have one small vocal sector wanting substantial change, perhaps destroying the NBA in its current form.

This small sector is trying to influence other beekeepers by any and every means possible. For theses people who seem to think they may have jobs in a revamped NBA, the stakes have become too high and they are using strange methods of trying to achieve their aims.

It makes me wonder if there is something more than jobs at stake.

Your non-paid Executive give long hours of free time using their best endeavours. Never before to my knowledge, have we had an executive member resign after being on the Executive for approx two months and another just after a year on Executive. Two months on the Executive hardly gives one time to get the feel of the issues of the day, let alone resigning.

I believe some beekeepers will soon become completely disenchanted if they are not already, with the games of this vocal minority, then in turn, may become disenchanted with the NBA, with dire consequences.

Be Heard, Support your President and Executive.

Russell Berry

Dear Sir

At the Ashburton Conference, I had reason (justified) to criticise a report presented by Don Bell (presented by the unfortunate Lin McKenzie). In his latest offering (Notes from the executive, September 1999) he has once again illustrated that performance and lack of research is not hidden by flowery language.

I refer specifically to his assertion that the Kiwi Fruit Industry is "currently experiencing pain and a considerable number of other ills."

For the benefit of readers and Mr Bell, let me put before you the real picture. In 1988 the Industry did experience some pain which resulted in the establishment of the single desk. In 1992 because of a decision by the Marketing board (KMB) Chairman and his CEO we were shut out of the US market when the European and Japanese markets collapsed. The consequences were painful for growers as the industry made the discussion to pay all the market incurred debit over the next two years.

It is, I will contend the strength of the single desk that saved the industry from serious long financial damage, all producers shared the loss, all growers repaid the debt, and the industry survived to prosper.

Since 1992 however returns to growers for their crops have climbed steadily and more importantly their investments in the industry have escalated, the facts are; in 1992 the net return per tray to growers was $3.05; In the intervening years returns have risen each year and in 1998 the return was $6.01; this year 1999 crop average returns are expected to exceed $6.50/ Tray. In 1992 the industry average production per ha was 3800 trays/ha which has risen to 6800 trays/ha in 1998. The costs to growers producing the average crop reduced from $3.00 per tray (growing, processing and marketing) to around $2.50 /tray in the same period.

Very simple arithmetic will produce a per ha return exceeding $18000 before financial charges, living etc. As a grower producing yields in excess of the industry average my orchard has averaged a 30% return on investment per annum for the 10 years I have owned the property, Don Bell "eat your heart out".

Just as importantly, sale price of orchards have escalated from $7/$8.00 per tray plus buildings in 1992 to $22.00 plus buildings in 1999. In 1998 and 1999 Zespri Gold was launched and this exciting new crop now has over 100 ha available for harvest. In 1999 the Te Puke region alone had 300 ha of new plantings are in ground with considerably more planned, both Zespri Gold and Hayward.

The Industry today is in my view better off than in its golden era of the early eighties.

Mr Bell, do your research properly then just maybe you will add a little credence to your amateur games of blind man's bluff and don't talk to me about "shoulders to the wheel" if this industry (beekeeping) is to grow then evidence of excellence needs to start at the top.

Readers should note that the orchard of Trevor Bryant and Judith Ingram, is named Rishon (Hebrew for the beginning) the first acre of vines were planted in 1937 by the late Jim McLoughlin and the first fruit exported from New Zealand to the UK in 1952 were picked here.

Yours sincerely

Trevor Bryant

NB: The per tray figures provided are from my records, my fruit size is generally industry average, the orchard production is above average.

Dear Sir

Report of Simulated Incursion of European Foulbrood Exercise held at Pukekohe on August 31st, September 1st, 2nd and 3rd.

I attended the exercise at headquarters during the set up on 31st and was impressed by the thorough development of a system to be used in case an incursion should occur. The people are trained to move quickly should the necessity arise. The added difficulty of a beekeeping problem arriving is that beekeepers will be required in the first instance, so these will need to be organised. NBA needs to put some scheme in place to be able to arrange for the correct numbers to be available when required.

September 1st and 2nd were inspection days when, while the incursion was supposed EFB, in fact the inspection teams were targeting AFB with the number of cases, I understand, average. An excellent turnout of beekeepers from the Auckland branch, assisted by some from Waikato, did an outstanding job and NBA is grateful to all those who participated. The organising of these inspection teams was particularly difficult owing to last minute unavailability of some beekeepers. Each group of beekeepers had an Authorised Person, certified under the Biosecurity Act, with them to authorise the inspection of hives.

I also attended the de-briefing session on the morning of the 3rd and the comments made by some of the Authorised Persons were very interesting as they come from laymen as far as bees are concerned. These comments were noted and will be used in the next exercise.

I am grateful and proud at the response of the beekeepers for the efforts they made to make the exercise a success.

Terry Gavin

Letters to the Editor

Dear Sir

Today, 30th September 1999, I tendered my resignation from the NBA Executive. I am aware that after the resigning of Bruce Stevenson last week this could put the NBA in crisis mode.

The description below, titled 'the way I see it', will give some insight and reasoning as to why I came to this decision.

Gerrit Hyink

The way I see it

New Administration Services Provider

Last May a process to appoint a new service provider was adopted. This called for expressions of interest from organisations and individuals to provide these services as described in the June Issue of *The New Zealand Beekeeper.* A consultant was to be appointed to brief/interview/vet the organisations or individuals who submitted applications and the consultant was to make a written report to Executive. There has not been a resolution to change this process.

Instead of this process two South Island Executive members, who were to be reviewing aspects of the current contract only, interviewed two organisations. One of the Executive members was very instrumental in encouraging the current provider to terminate the contract prematurely. This meant the Executive was forced to make a choice quickly.

The decision was made on Sunday 26 September without a single costing figure known to include into the budget for next year.

I voted against this resolution and I feel I cannot carry on with this way of decision making.

Financial Issues

As mentioned above the financial planning is very poor. When bringing up the financial reporting on a monthly basis I hear only that the reporting is shambles. As a newcomer it did not take me long to actually read the report and understand the financial position of the NBA. If the longer serving Executive members think it is shambles, why didn't they change it. Is this just an excuse not to worry about it, or can these members seriously not understand the financial reports being provided to them?

Whatever accounting system is put in place it still has to be understood and the proper financial planning has to be made accordingly.

I have attempted to raise the issue of financial planning repeatedly with respect to a new administration services provider, with particular emphasis on the desperate position of the NBA. My attempts have been treated with disregard and ignorance.

Unless there are major changes on this Executive with proper and careful financial planning put in place, it will not be desirable to spend any money from the Honey Industry Trust Fund on NBA matters to carry it through this difficult period. Trust Fund money should be spent more wisely.

With the current method of decision-making I will not be able to make any difference and therefore do not want to carry on this path. I feel this was not why I was voted on Executive by the membership. If I would stay on and be non-functional, I would be letting down the membership.

Committees

Sub-Committees to the Executive are there to advise Executive. The membership of these committees is very much a recipe for success or failure. Executive should consider in their wisdom what a good harmoniously working committee can be and avoid unnecessary conflict. This very much depends on personalities and the Executive should take that into account.

This was one of the biggest frustrations Bruce Stevenson had to deal with. During the Executive meeting in Wellington in September it was decided to disband the PMS Review Committee, in order to make a fresh start and come up with new names for this committee. I came up with a few new names but all the South Island Executive members could do is come with the old controversial names.

I can also say that the Restructuring Committee with its proposed membership will never work because of a conflict situation. This also will be true in my view for the Export Certification Committee. That means that already three committees from the start are poised to be ineffective. Why bother to have such committees? Why can't we show integrity in the appointments?

It is because I have been unable to bring harmoniously working parties together for these committees that I feel it doesn't serve any purpose to carry on.

Personal Matters

Firstly I have to say that personal matters should not come into it at all. I am deeply ashamed having to address this issue. Executive members should always address the issues. The so often heard remark 'I see where you come from' is a personal remark and has nothing to do with addressing the issues.

The so called 'confidentiality breach' was not researched at all and in my view was not a 'confidentiality breach' at all, but was jumped on by South Island Executive members to firstly insult me and finally to get rid of Bruce. I am appalled that people obviously not plagued by their conscience just bulldoze over talented, hardworking people and show no remorse.

I see myself as an honest person and I would like to keep that honesty intact. Therefore I feel I can't be part any more of this Executive.

I feel by this step that I have let down the membership who voted me in, but I have to argue that as long as the make up of the Executive remains as it is, I will not be able to have any impact on proceedings. Some people thought that the latest election result was a mandate for change but that depends of course on who wants to exercise 'power', leaving the real issues a mockery.

I would like to thank all people who put trust in me and voted me on this Executive. I sincerely apologize for not being able to make a difference. Also I thank for the support I had over the last weeks from the membership.

Gerrit Hyink

Dear Sir

Could someone please inform me, why in this day and age, foundations are not made to fit the full, 3/4, 1/2 frames in their entirety. (Have the manufactures reneged on process) I really purchased 10 plastic foundations and found them more stable and filled the frame completely. If the traditional wax foundations were made to the same size as the plastic, then with a grooved top and bottom bars, the foundation weaved between the wires, would offer a more stable situation. If this works one must surely consider them. One other question, with a fully covered frame, without the gap at the bottom and a closer gap with the sides, would this help to eliminate Queen building internally in the frame a force the construction of these cells to the bottom of the board. Surely the aim must be to get more honey per frame and less time interfering with the combs.

Yours faithfully RW Patterson

Apimondia 99, Vancouver - Canada

Apimondia 99 was a wonderful occasion for meeting fellow beekeepers and traders from throughout the World. This occasion was made all the more enjoyable by the stunning facilities provided, with huge beautiful tourist ships berthed at either side of the Vancouver Trade and Convention Centre. The sounding of the ships horns on departure reverberated throughout the whole building. These ships seemed to be heading up to Alaska daily.

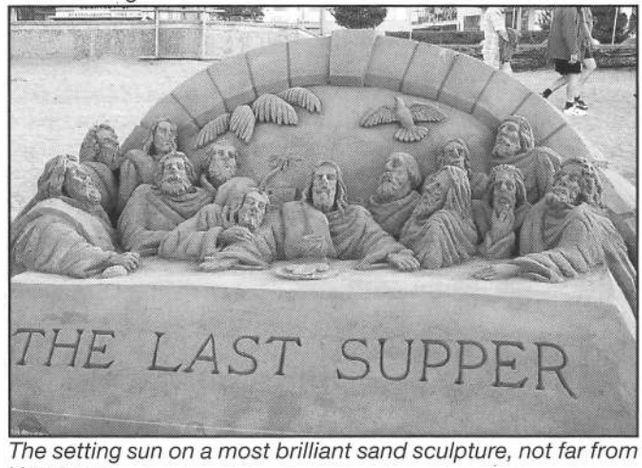
As usual New Zealand beekeepers can hold their heads high in all areas of papers presented and trade displays. We are so fortunate that we realise we are a young, small, isolated country and we look at the rest of the World for inspirational ideas. We then apply Kiwi ingenuity to those ideas because we have so little money, and end up by being some of the most innovative beekeepers in the World. The same applies to our Industry researchers and marketers.

I would like to pass on special thanks to all those who made Apimondia 99 such a wonderful and friendly occasion. An occasion to communicate with people associated with all aspects of beekeeping from throughout the World, often with the only common language - that we are all beekeepers.

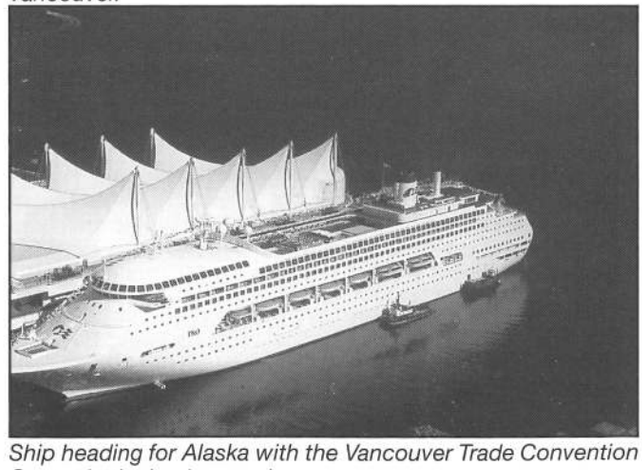
Russell Berry

Entrance to the Exhibition Hall, listing major sponsors.

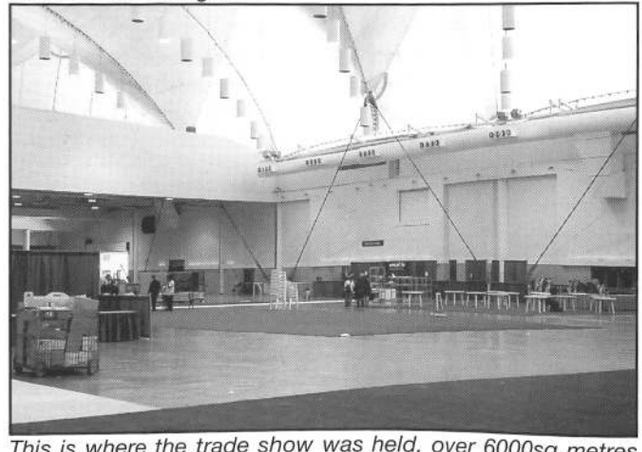
Arataki Honey Limited, Rotorua Divisions display on Arataki Tube Packages.



The setting sun on a most brilliant sand sculpture, not far from Vancouver.



Ship heading for Alaska with the Vancouver Trade Convention Centre in the background.



This is where the trade show was held, over 6000sq metres with translucent sails as the ceiling, part of the Vancouver Trade & Convention Centre.

Library News

No additional material has come to hand this time.

But we have a REQUEST!

We are all familiar with our New Zealand beekeeping magazine: *The New Zealand BeeKeeper.*

No 1 of Vol 1 was published in 1939. For a long time it appeared as a quarterly, more recently 11 x annually. May it see the light for a long time to come. We hold a complete set of The NZ BeeKeeper, neatly bound, no worries there.

The New Zealand BeeKeeper was not the first beekeeping magazine to be published in this country. That was the "*New Zealand BeeKeeping* Journal." This came on the scene in 1914. It carried on till 1922. Luckily we now have also a complete set of this publication. They will be bound in the near future so that they will be better preserved.

Then followed a period when the magazine of the NBA was incorporated with the "NZ Fruitgrower and Apiarist" (1922 - 1927) and the "NZ Smallholder" from 1928 till 1937 (still under the title of "Apiarist").

Over the years we have been able to gather a good number of NZ Fruitgrowers and of the NZ Smallholder. Still there are a number of them missing. It would be great to fill these gaps and then be able to gather the "Apiarist" too in book form. It is the only way to preserve these treasures for the future.

Does any one perhaps know of a source of sources of these old magazines.

We need the following:

	"The NZ Fruitgrower and Apiarist"
1922	Dec
1924	Sep
1925	March, Sep, Dec
1926	Oct, Nov
1927	July, Aug, Sept, Oct, Nov, Dec
	"The NZ Smallholder"
1928	May, June, July, Aug, Nov, Dec
1929	Feb, March, April, May, Nov
1930	Jan, Nov, Dec
1931	Jan, Feb, April
1932	June, Sept
1933	March

If we cannot secure original magazines the next best thing would be to make photo copies if we could borrow originals for that purpose.

PLEASE CONSIDER IF YOU CAN HELP IN SOME WAY OR ANOTHER. THANK YOU.

Sticky problem results in warning for beekeeper

A fisheries officer investigating suspicious behaviour on a Northland beach recently discovered not a shellfish poacher, but a beekeeper burying 200 litres of honey.

The case was one of the more unusual tabled in a list of environmental incidents reported to the Northland Regional Council, and resulted in a telling off for the beekeeper and a warning not to re-offend.

NCR Dargaville centre manager Alan Monigatti said on Friday the honey had been burned somehow, ruining it, and the Kaipara beekeeper had buried it in roughly 50cm deep holes he had dug on Ripiro Beach, south of Glinks Gully.

Mr Monigatti said he was unsure what had prompted the choice of the beach as a dumping ground for the honey. However, he presumed the man could not dump it closer to home because his bees may have eaten it, potentially contaminating the fresh honey they would have made.

NRC staff had spoken to the beekeeper and planned to formally write to him about his actions. He said it was illegal to dispose of waste in a coastal marine area, but it was unlikely the man would be prosecuted.

Acknowledgment, Northern Advocate 8th September

Farewell

Harry and Janice Brown of Training In Progress would like to say farewell to all our readers. This will be the last magazine we produce for the industry. I would like to say a sincere thank you to my wife Janice who has carried the NBA contract (including the magazine) and all our other work over the last few months.

We would like to take this opportunity to wish you all a very good year 2000.

Harry and Janice Brown

Surprising uniformity in New Zealand's nosema disease

by Dr Heather Gatehouse and Dr Louise Malone, Hort Research, Palmerston North and Auckland

Nosema disease is present in about 80% of honey bee colonies in New Zealand (Anderson 1988), making it the country's most common bee disease. It is by no means unique to New Zealand, but afflicts honey bees in almost every beekeeping country world-wide (Bailey and Ball 1991).

The disease is caused by a spore-forming protozoan parasite called Nosema apis (the protozoa form the lowest of the divisions of the animal kingdom). The spores germinate when eaten by adult honey bees and infect the cells of the gut wall. Nosema disease has no visible symptoms, but it affects the strength and productivity of a colony, and under certain conditions can get out of control and cause colony death.

We aimed to learn something about N. apis in New Zealand, and to discover whether "our" nosema is the same as that found in other parts of the world. Because N. apis spores and gut infections all look the same down the microscope, we decided to use a molecular biology method, called DNA fingerprinting, to look for differences.

DNA fingerprinting enables us to search for tiny differences within a genome (the entire DNA of an organism). Within a species (such as humans), the majority of the genome is the same in all individuals, but the things that make each of us physically unique are the small differences that exist in our DNA. Identical twins have identical genomes, which is why they look the same. Similarly, relatives have genomes with many points of similarity, which is why family members frequently look alike. DNA fingerprinting can establish, for example, how closely related, or entirely unrelated, are individuals. This is now widely used in forensic science. We have used DNA fingerprinting to look for differences within the genome of N. apis samples from numerous sites around New Zealand and overseas.

We developed tests (called PCR tests) to examine one particular region of the N. apis genome. These tests looked in detail at different sections of this region of the DNA, and each test produces a DNA fingerprint specific for that part of the DNA.

Our experiments showed that there are marked differences between geographically separated N apis samples from around the world, but that the New Zealand samples were surprisingly similar.

To illustrate the results, let us look at one particular PCR test. The results of this test with some of the New Zealand samples are shown in Figure 1 and with some of the overseas samples are shown in Figure 2. Each vertical track represents the results from one sample, giving a pattern of bands for each one; this is a DNA fingerprint. The source of the sample is given at the top of each track. Size markers are included to help us compare the bands in the sample tracks.

As shown in Figure 1, most of the New Zealand samples had the same DNA fingerprints. A few showed minor variations: for example, the samples from Houghton Bay and Ashburton are both missing a band which is common to all the other samples (arrow A); and the sample from Masterton (b) contains one band (arrow B) which is lower than in the other samples.

Figures 2 shows a different story for the overseas samples. Here, although some samples do have bands in common, the overall fingerprints are entirely different. Most notably, marked differences are seen within countries (eg Finland and Switzerland) as well as between countries.

From these DNA fingerprints we can deduce information about the similarity of the N. apis samples that we have examined. We found that N. apis populations world-wide had very different DNA fingerprints, telling us that they are genetically quite distinct. Even N. apis samples collected from various regions within a single country overseas were shown to possess markedly different DNA fingerprints. Within New Zealand, however, we found little evidence of genetic diversity. The samples tested here had identical or very similar DNA fingerprints.

The honey bee population in New Zealand arose from many importations, largely from Europe, between 1839 and the 1950s, after which the importation of bees was made illegal (Matheson 1997). Even with this lack of new bee imports, the uniformity of the N. apis populations around New Zealand is surprising. It is possible that new imports were transferred into old hives on their arrival in New Zealand and that the pool of N. apis spores present in the wax, frames and boxes of these hives would have diluted out (by sheer volume of numbers) any spores present in the imported bees. Another possible explanation for the lack of variation is that the New Zealand isolate of N. apis might be a very pathogenic of well-adapted ecotype, that is out-competing other N. apis genotypes in New Zealand.

Whatever the explanation, the uniformity of New Zealand's N. apis population is quite remarkable.

While this lack of genetic variation is surprising, it might act to our advantage. A low genetic diversity should reduce the likelihood of N. apis developing resistance to any control methods. This would give us more chance of developing a long-term method for controlling nosema disease in New Zealand and reducing its effects on the beekeeping and horticultural industries.

Literature Cited:

Anderson DL (1998) Pathologist's Report. NZ Beekeeper, vol 199, pp 12-15

Bailey L, Ball BV (1991) Honey bee pathology, 2nd edn. Academic Press, London, UK

Matheson A (1997) Practical Beekeeping in New Zealand. GP Publications, Wellington, NZ.

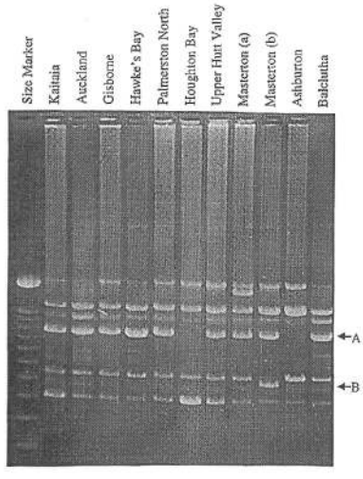


Figure 1. DNA fingerprints from New Zealand *Nosema apis* samples.

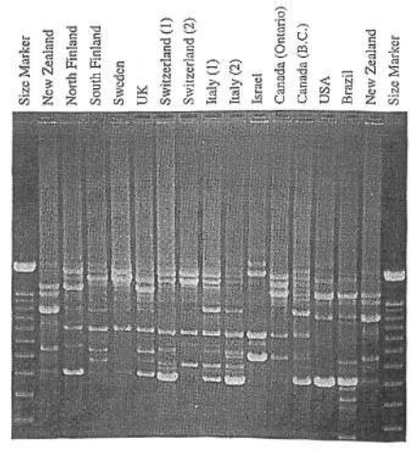


Figure 2. DNA fingerprints from overseas *Nosema apis* samples.

Executive committee and the magazine committee would like to take this opportunity to thank Harry and Janice Brown, for their contribution in the production and growth of 'The BeeKeeper Magazine' over the years.

'The BeeKeeper Magazine' has always been a great publication to read and most importantly inform members of the happenings and comments of beekeepers everywhere!

We take this opportunity to wish you both the best for your future.

Attention Beekeepers ...

All adverts and editorial, photographs, Letters to the Editor, club reports, etc., please forward this material direct to:

Bruce Doran

CHB Print, PO Box 21,

Ruataniwha Street, Waipukurau.

Phone: 0800 42-42-77 • Fax: (06) 858-8959

Email: chbprint@wilsonandhorton.co.nz

Canterbury Branch

October Evening Meeting

Date: Tuesday, 26 October 1999 Time: 7:30pm sharp
Venue: Rumpletums, Avonhead Tavern, 120 Withells Rd, CHRISTCHURCH
Programme: 1. November Field Day 2. General Business.
Supper/cover charge $2 per head.

TW Corbett, Secretary.

The restaurant we are meeting in serves a really good buffet meal, at $13.95 per head. To take advantage of this meal and meet with members before the meeting, you will have to be there an hour before hand.

Attention Canterbury Beekeepers Field Day

Sunday 28 November 1999,
At Ross McCuskers's Place, Heathstock Apiaries, Corner Broxton & Heathstock Roads
Hawarden, North Canterbury
Full details in November *BeeKeeper.*

Biological control of Wasps: Progress and Plans

Dr BJ Donovan, Donovan Scientific Insect Research

Background

Three years ago I outlined progress with attempts to control wasps using biocontrol agents imported from the home range of wasps in the Northern hemisphere (Donovan 1996a, 1996b). Biological control of wasps began in 1979, when as a scientist with the old DSIR I imported the North American wasp parasitoid, Sphecophaga vesparum burra, into quarantine, after an American scientist offered to supply me with live stages of the insect. At that time only the German wasp, Vespula germanica, from Europe was here, so after some success with attempts to propagate the North American parasitoid, we began importing the closely related European wasp parasitoid Sphecophaga vesparum vesparum, as it came from the same area of the world as the German wasp. Therefore there might have been a possibility that it was more adapted to attacking the German wasp than the North American parasitoid, as historically the German wasp has not existed in North America (since then it has immigrated and it is now widely established). More recently I have imported and field-released a third Sphecophaga, from Israel.

The European parasitoid, Sphecophaga vesparum vesparum

During the late 1980's we distributed this parasitoid over much of New Zealand. By 1988 it was established among wasp nests at Pelorus Bridge in Marlborough, and by 1995 was known to be widely established in the Canterbury foothills from around Mt Thomas/Ashley Forest to near Hawarden. Then in 1996 it was recovered from a nest of common wasps in the Christchurch Botanic Gardens.

Three years ago three scientists published a paper in which they calculated that at most the parasitoid would suppress the density of wasp nests by 10%, and the level of parasitism would reach about 25%. They also claimed that at Pelorus Bridge the reproduction rate of the parasitoid from establishment in 1988 up to 1992 was so low that it might not persist (Barlow et al. 1996). However, late last year the same three authors published another paper in which they now said that from 1988 to 1993 the total parasitoid population had increased by about 3 times each year, and that it had spread at about 1-1.5km per year (Barlow et al. 1998). They also said that there was no reason to suppose that its performance would differ elsewhere in New Zealand.

Now if they are right with their second paper, the number of developing wasps being killed annually will also be tripling, as for every parasitoid that grows, one developing wasp is killed (Figs 1 and 2). If one takes a small number and triples it, it is easy to see that for the first several times the product of tripling remains relatively small. However, eventually the numbers become very much larger very very quickly. It is possible that the numbers of wasp parasitoids, although tripling annually, remained apparently low until recently, but now perhaps they are sufficiently large in some areas to be beginning to have a beneficial impact on both numbers of wasp nests and numbers of wasps. During the summer of 1998/99 the number of wasp nests in some areas of the South Island was only one-third to one-fourth that of previous years, but whether the parasitoid was responsible, or perhaps some other factor such as adverse weather, is unknown. In at least one area, the honey crop was

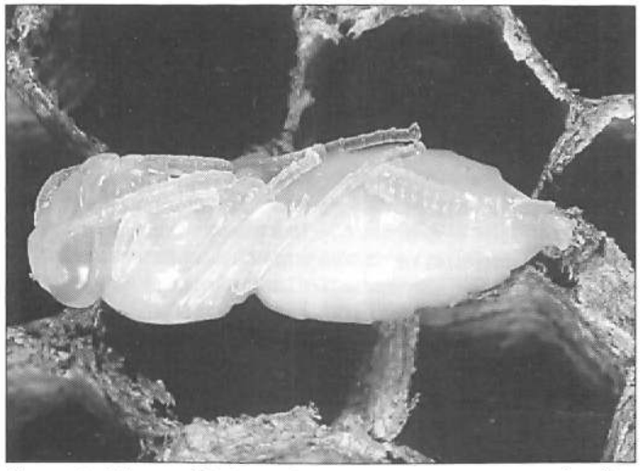


Figure 1. A larva of Sphecophaga vesparum vesparum feeding on the abdomen of a wasp pupae.

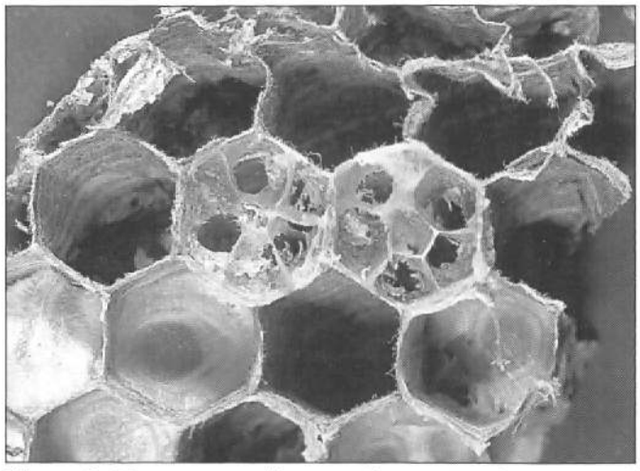


Figure 2. Two wasp cells near the centre show several emergence holes made by wasp parasitoids adults, Sphecophaga vesparum vesparum, which have emerged after devouring their host wasp pupae. Several other cells each contain the resistant 'yellow' overwintering parasitic cocoons from which females (and a few males) will emerge to attack wasp nests each year for up to four years.

the best for many years. Many more years will elapse however before this parasitic can be expected to occur over most of the areas occupied by wasps.

The North American parasitic, Sphecophaga vesparum burra

We re-imported the North American parasitic in late 1991, but the dissolution of the old DSIR at the end of June 1992, and my subsequent redundancy from Landcare Research Ltd, four months later, caused a halt to progress which resulted in a delay of three years before the parasitic was field-released. After the Foundation for Research, Science and Technology funded me to operate independently from Lincoln, I re-imported fresh stocks of the parasitic in late 1993, and so resumed my progress towards propagation and field liberation. Finally, after running the necessary host range and disease tests in co-operation with Landcare Research Ltd., the first liberations were made in late 1996.

Most liberations were of overwintering cocoons from which adult parsitoids would emerge in subsequent years, but Peter Read inoculated some adults, and wasp combs containing parasitic eggs and larvae, directly into wasp nests. Unfortunately the attack rate on the nests from these adults and immatures was quite low, which suggests that this parasitic may not be as successful as the European S. v. vesparum.

Although a lot of adults have already emerged from the overwintering cocoons, many others are yet to sally forth, so it is far too early to expect much new data from the field.

The Israeli Sphecophaga

Havron and Margalith (1995) reported that some nests of the Oriental hornet, Vespa orientalis in Israel, were being killed by a Sphecophaga. The hornet is very similar to our two species of wasps, and particularly to the German wasp, so in December 1996 I imported live specimens of the parasitic to quarantine at Lincoln. Although at that time the parasitic was thought by some authorities to belong to the same species as the parasitic from Europe, measurements showed that it was larger, and under the microscope there were some subtle morphological differences.

The parasitic multiplied extremely rapidly on both the common and German wasps, so that within a short time there were plenty of adults with which to run host range and health tests. Approval from MAF for field release was given on 20 February 1997, and on 28 February 1997 I began inoculating 20 common wasp nests at Murchison. Soon thereafter Dr David Leathwick inoculated several nests of both species of wasp near Palmerston North.

Since then more nests of both species have been inoculated, and to summarise, of 27 nests of the common wasp, not one was attacked, but of eight nests of the German wasp, four were attacked. However, the number of wasps killed per attacked nest from 2-40 were low. So the results to date strongly suggest that large nests of the common wasp will not be attacked, but that some large nests of German wasp might be. This does not mean that this parasitic will be ineffective as a biocontrol agent for both species of wasp. As with the other two parasitoids, it is possible that this parasitic will be able to attack and completely destroy the walnut-sized start to nests which are built by queen wasps in spring. Before the first worker wasps emerge and while the queen is out foraging, a parasitic would be able oviposit into every sealed cell without facing any opposition - until the queen returned.

The future - Metoecus paradoxus

Several months ago I obtained a permit to import the beetle parasitic of wasps, metoecus paradoxus, from Europe. If all goes well, live stages of this insect will be sent to me in October this year by Dr Francis Ratnieks of the University of Sheffield, England.

The biology of this parasitic is quite different from that of the Sphecophaga. In autumn female beetles lay hundreds of very small eggs onto weathered wood where wasps might mine fibres for nest construction in the following year. When wasps are mining fibre, the very small beetle larvae attach themselves to the wasp. Back in the nest a beetle larva finds its way into a cell containing a large wasp larva where eventually it completely consumes the wasp larva. New beetles emerge from the cells, leave the nest and mate, and the females oviposit, as did their mothers.

This parasitic is completely specific to wasps of the type we have here. It has never been found attacking any other insects, and so it is completely safe to all other insects.

Unlike Sphecophaga this beetle does not oviposit within wasp's nests, and so does not increase its population within nests. Because the number of beetles attacking a nest is dependent upon wasps mining fibres where beetles have laid eggs the year before (whether a wasp comes by for a beetle larva to climb onto it is a matter of chance) not more than several score beetles have been found in nests in Europe. However, beetles and Sphecophaga are frequently found together in the same nests. It is thought that this association is mutually beneficial to the two types of parasitoids, with the presence of one upsetting the social structure of the nest to the point where the other parasitic is better able to survive. If this is true, then

the establishment of Metoecus will make our Sphecophaga even more effective than they would otherwise be.

Unfortunately the method by which funding is allocated by the Foundation for Research, Science and Technology, is changing, so funding for this work beyond 30 June next year is uncertain. So whether the beetle parasite of wasps - and other biocontrol agents which could be introduced - are ever released, remains to be seen. To date, Sphecophaga vesparum vesparum is the only agent which is killing wasps, and what is more it is doing so on an increasing scale, and furthermore, at no more cost. The introduction of biocontrol agents is the only approach to wasp control that is showing success. It would be a tragedy for our beleaguered native environment, let alone for beekeepers, if this work was not to continue.

References

Barlow, ND, Moller, H and Beggs, JR 1996: A model for the effect of Sphecophaga vesparum vesparum as a biological control agent of the common wasp in New Zealand. Journal of Applied Ecology 33: 31-44.

Barlow, ND, Beggs, JR and Moller, H 1998: Spread of the wasp parasitic Sphecophaga vesparum vesparum following its release in New Zealand. New Zealand Journal of Ecology 22, 2: 205-208.

Donovan, BJ 1996a: Progress with biological control of wasps Part 1. The New Zealand BeeKeeper 3, 4: 14-15.

-----1996b: Progress with biological control of wasps Part 2. The New Zealand BeeKeeper 3, 5: 12-13.

Havron, A and Margalith, Y. 1995: Parasitization of Vespa orientalis nests by Sphecophaga vesparum Curtis in southern Israel (Hymenoptera: Vespidae, Ichneumonidae). Phytoparasitica 23, 1: 19-25.

Apimondia Vancouver was huge... and hugely successful for New Zealand!

But first!!!

Bill Clinton loved the manuka honey glazed yams served at the APEC dinner (great to see our honey being treated as one of the stars of New Zealand's food larder). Rumour has it the waiter said "would you like manuka glazed yams Mr President", and Bill thought he said Monica-glazed yams and he looked surprised...but I couldn't possibly comment.

Back to Apimondia!

Peter Molan gave not only a keynote address, but also 3 other presentations plus around 12 interviews to Canadian and international media: he was on TV, radio and newspaper... and the one constant message kept coming through everything he said: that New Zealand and manuka honey were at the leading edge of honey research and represented the new wave of community health foods and medicines.

It was great stuff: he was the personality of the world congress!

But Apimondia got more than just Peter. Ten New Zealanders presented papers over the week, on everything from marketing to pest management to nutraceuticals to live bee exports to niche exporting. Congratulations to (in alphabetical order because they all deserved to be mentioned first: Russell Berry; Alan Bougen; Cliff Van Eaton; Mark Goodwin; Ron Laws; Andrew Matheson; Allen McCaw; Peter Molan; Murray Reid...nerves of steel the lot of them... not one sounded like he'd just eaten a dry Weetbix (unlike yours truly)... Made one proud to be a kiwi!!!

Marketing

The World Honey Institute concept explored and launched in an intensive session during Apimondia 99.

The WHI team, in supercharged and positive mood, from left: Sherry Jennings, Asst Exec Dir USA's National Honey Board (NHB); Marcia Cardhetti, Director of Scientific Affairs, NHB; Bob Smith, Exec Dir NHB, Myra Smith; Dr Peter Martin UK Honey Science Advisor to Apimondia; Alison Molan; Dr Peter Molan, NZ Honey Research Unit; Sandee and Bill Floyd, NZ NBA , co-ordinators/instigators of the World Honey Institute.

In my own presentation I presented a case for the development of a World Honey Institute, and it is happening! New Zealand's research and marketing programmes will become world benchmarks: and the value to our own export drive will be quite astonishing.

The Institute's first priority will be Standards: and New Zealand's own experiences and (at time anguishing) explorations in this area will now be picked up by the Institute... and between, at this stage, the USA, UK and New Zealand we will develop concepts that will improve the profit potential for beekeepers. It has to advantage the New Zealand beekeeper: our honeys have so much differentiation potential when compared to other honey producing countries.

My presentation used a little cartoon character, kiwi-bee-box, and friends. He (or is he a she....) will appear in a future issue of *The New Zealand BeeKeeper*.

Delegates are from every country on earth and the cartoon approach seemed to work well... a universal language.

I was so nervous my mouth dried up and my tongue seemed to swell... it was like talking with half a dry Weetbix in my mouth... but no one knew that so keep it quiet!... they thought I was speaking slowly and carefully out of consideration to the simultaneous three language translation service!

The Trade Displays: it was absolutely marvellous to browse the trade displays hope that one day Apimondia is close enough for most New Zealand beekeepers to be able to afford to go..so interesting!

Here's a very brief overview of the hundreds of displays:

The W Stoller Stand: (see photo) one of the USA's largest packers. 20 million pounds of honey a year... from this one company. (But such nice people, especially Dwight Stoller.a very keen supporter of what New Zealand's NBA has been doing.)

The Glorybee Honey Stiks company: a complete promotional range of honeys sold in sealed plastic tubes identical to drinking straws. Great for supplying honey for tea and coffee

sweetening... (although not as good as our own Airborne Honey snap-packs that deserve to become an international success story).

Melaponia: Products of Mexico had a range of honeys and products from their indigenous stingless bees.

From Tanzania: a range of different beekeeping products, from coconut beauty soap, honeys, liniments to beautifully carved bees wax candles in a whole range of different shapes and images. (I've suggested to Peter Lyttle that we have an annual beeswax candle carving competition at the NBA Conference each year... he agrees and is looking at a major prize!... more details to come)

A Nepalese Honey display with a lot of emphasis on digestive harmony: an ayurvedic digestive tonic and a wild jungle honey.

Bartnik of Poland displayed their amazing range of alcoholic drinks and honeys: their staff were in traditional costumes (see photo of Tomasz and Kryszton).

The Bulgarians displayed Sizif bee products, including honeys with pollen, honeys with whole walnuts, Linden honey, dew honey and a range of Acacia honeys. They also had, in surprisingly modern packaging, a range called 'Space food honey', honeys with various fruits chopped and blended in, including peach, melon, strawberries, and blueberries.

There was a lot of pollen on display from various countries. I especially noted that some countries are starting to identify the pollen by colour and floral source.

New Zealand proudly represented by Arataki Rotorua, Canterbury's Ecroyd Beekeeping Supplies (Bee Healthy Ltd), Kintail Honey and Comvita... And, Bryan Clements, who's premium honey, Waikato Gold Line UMF 10+ Active Manuka got a Bronze Medal in the Innovation category. (And we met New Zealand beekeeper Roy Arbon currently working in Canada).

New Zealand's practical manual for beekeepers, written by

Antonin Sima of Czechoslovakia painstakingly creates beautiful hand-iced honey cookies. These gustatory works of art sold like hot cakes (no... like superb cookies) for NZ$15 each!

Mark Goodwin and Cliff Van Eaton, 'Elimination of American Foulbrood without the use of Drugs' was available for sale from Ecroyd Beekeeping Supplies. Stuart Ecroyd told us that there was very good interest in the book. Selling for Canadian $15.00 and US $10.00.

A real hit at Apimondia was the Abbotsford British Columbia stand. It featured Roger Clapham wearing a traditional medieval beekeepers embroidered Guild gown. (See photo of Sandee with Roger: I opted not to have my photo taken with a man in a dress!)

Roger Clapham told Sandee that the smock was made by his mother in 1976. It's a formal beekeepers guild smock. The type worn by men and women for five or six hundred years. In the English country side everybody wore them. The smocking triples the thickness of the material so that it keeps the rain

out, it also has shoulder flaps that keep the rain out. The smocks were fine, except that in the 1860's with the introduction of factory made clothing and also with moving farm equipment they fell into disuse.

USA company Bee Health Ltd promoted propolis chewing gum: dental gum in a spearmint green colour and a not unpleasant flavour.

The Argentinians displayed a range of honeys under the brand name Miss Honey. One of the honeys came from the Alginoso tree. It was a creamed honey with a chewy texture, but coarse granulation. A clover- like base flavour but with an aromatic in the background. The Argentinians stressed that their honey was organic and this is something that our own organic producers are going to have to watch. Whereas in our own country it costs money to be organic, wild areas in South America and other places are being promoted as naturally organic due to poverty (can't afford sprays and drugs) and remoteness (no pollution).

The Australian display came complete with dried gum leaves and Koalas; and some of their superb aromatically intense eucalypt honeys (bit of an acquired taste for a kiwi though!).

A stand from Chile called Apicultura displayed honey in a novel and traditional waxed paper container (folded at the top almost like a brown paper bag but with a round base on it similar to the new style plastic packaging that is used by Watties for their upmarket soups).

Honig - Zangger, a Swiss company, promoted a complete range of honey that included a range of skin care products by both New Zealand's Happy Valley, and Madelaine Richies; a New Zealand Blue Borage honey and a New Zealand Manuka honey. The label for both the blue borage and manuka honeys make reference to 'cold slung' creamy. A reference to the fact that the honey is not heated when it is extracted.

Cona Queen Hawaii. This stand was advertising for beekeepers to come and live in Hawaii, permanent and temporary jobs available. Good benefits. Must have a USA social security number. (Anyone interested?)

The Czechoslovakians displayed products from a company called Simaco: a display of beautiful, hand-iced honey cookies, and honey mead. (See photo of Antonin Sima icing the cookies. The large heart shape cookies were selling for $12.00 Canadian. The small cookie was selling for $4.90 Canadian and tiny slipper type clog cookies were $2.50 Canadian.)

Chilean honey company, Verkruisen, offered tastings of a creamed, very thick honey with a strong flavour to it, hinted of turpentine. A savoury rather than simple sweet flavour.

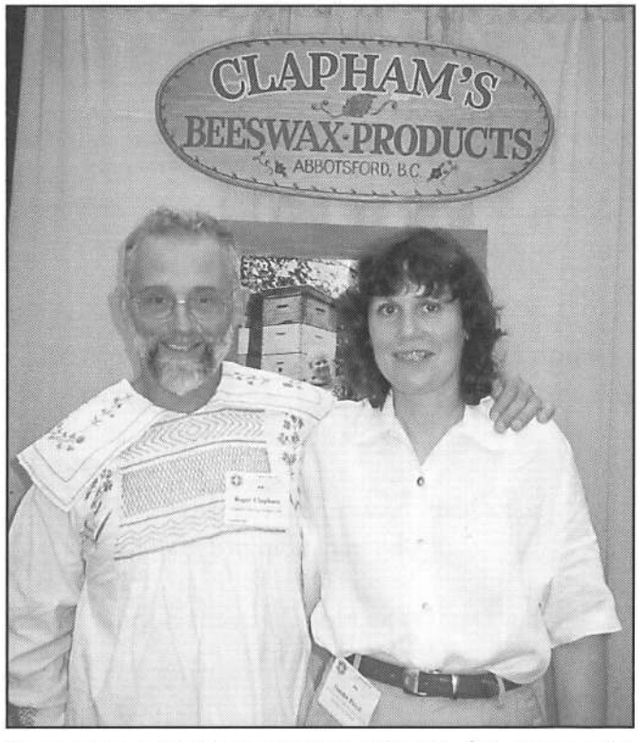
Argentian Company, Reino, displayed a range of prairie honeys... like clover but a much more dominant, savoury, slightly bitter flavour (don't see how it should set the benchmark price for our superb Southland-type clover honey... but in this crazy honey world where commodity traders control price, it seems to!)

The Cubans showed the most beautifully packaged range of toiletries under the brand name Api Queen. It's not until you come to a place like this that you realise how sophisticated some of the hive products are: and how far most of us in New Zealand have to go!. The Cuban display also promoted special honeys for stimulating respiration and preventing asthma especially children. These were all honey propolis based products. Propolis is clearly BIG business.

Many displays of capping and various types of machinery, unfortunately I can't comment on all those as its not where Sandee and I are at. If you want to know more about those you need to talk a real beekeeper who was there.

The Beehive Botanicals Inc. stand featured Honey chews made in the shape of little honey bears made with 50% honey in a natural candy base. The product is a mixture of natural honey, cane syrup, sugar, and pectin. They also featured Ginsemints: pure honey and natural peppermint covered in dark chocolate with 250mg of ginseng. These were absolutely beautiful, and my favourite confection at the Show-detoured past that stand

Tomasz and Kryszton proudly (and seriously) display their national costumes amongst the fine honeys and liqueurs that were part of the Polish display.



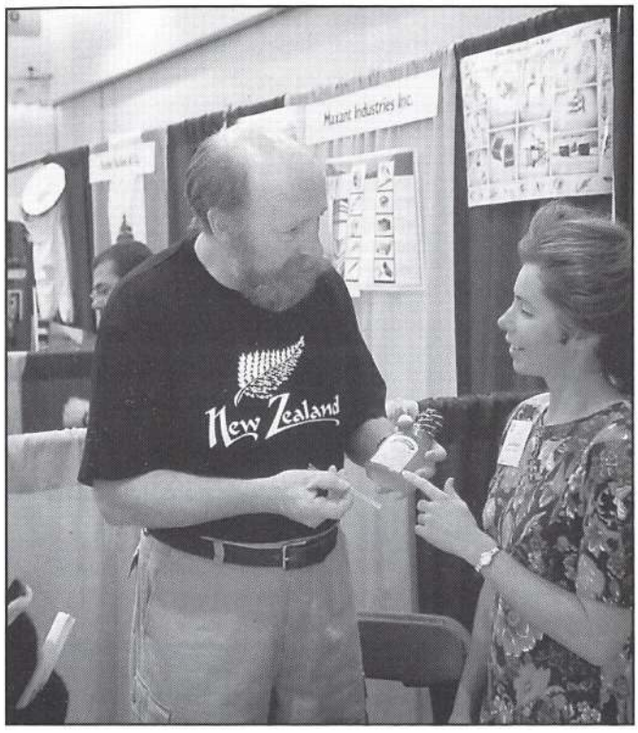
Sandee enjoys talking embroidery with Roger Clapham; a star of the Conference with his replica medieval beekeepers guild frock on. (Beautiful and practical: see notes in article.)

a lot!. A dark rich bitter sweet chocolate that went really well with honey. The ginseng added a extra dimension to it without being noticeable in itself. (Couldn't help thinking that a manuka version of it would go incredibly well in Korea!)

The Canadian Honey display featured a range of alcoholic liqueurs, in different gift bottles, beautifully packaged. The Honey and blueberries was the colour of a lovely rose. La Cuvee Diable is a liquorice honey drink, the La Dame Blanche an hydra mel. My favourite (yes, on behalf of you all I tried them) the Honey and raspberries liqueur. Simply sensational; not too sweet... lovely fruit flavour... yummy!

I also tried the Intermiel mead. It was clean with a 'basic' honey flavour. Not at all dirty or waxy. Very pleasant. The labels themselves on the bottles are worthy of some sort of award.

Chinas Wang's Bee Garden company had a large range of propolis based products, soaps and cosmetics. And small attractive bottles of Honigwein a type of mead. The company,



Bill Floyd talks USA honey flavours with Eileen Stoller of the Stoller company. This one USA company packs around the equivalent of the New Zealand honey crop each year!

a bee medicine manufacture, promotes itself as 'the biggest bee medicine manufacturer in the world'.

Here's a neat idea!!! Liquid bee smoker. Beekeepers use a conventional liquid sprayer, any sort of household or garden sprayer... add a sachet of the liquid smoke to the sprayer and fill with water and use instead of a smoker. (Maybe you kiwi beekeepers already know about it but it sure intrigued me!)

The China Apiculture Science Association (ASAC) displayed a range of products including: mother chrysanthemum honey; goat gall honey (a mixture of 'crude gall of goats, royal jelly, herbs and other crude drugs'), promoted for asthma etc. Wow!

Must say that Comvita's stand was stunningly professional: their new packaging and product range stood up to anything else presented at the Trade Show. (And their snap-pack Propolis Cold remedy is astonishingly 'penetrating'...goes straight to the sinuses like a good wasabi! I reckon it did actually cure a shocker of a head cold I had developing!)

Kashmir Apiaries showed a range of Indian honey's including Honeys with cashews, almonds & pistachios. The nuts all floating freely in the honey. The honey flavours include Litchi, Sunflower, Mountain honey, orange and wild flower.

The Mexican stand featured a range of orange honey, Mexican Mesquite honey and a highland creamy yellow honey. (Unfortunately no tastings-on the subject of which it was good to see Arataki, Bee Healthy and Comvita all offering good samplings of their honeys-especially liked Annette Berry's selection of North Island honeys.)

'Bees for Development' had a major presence at Apimondia. This was a display showing the use of bees in third world countries, showing how bees help communities to develop commercially. A very interesting display of: pharmaceutical type products; skin ointment, liniment, beauty creams; and examples of Last Forest honey from the Nilgiris, collected from the wild combs of the Apis Dorsata bee. The Kurumbas, and Irulas indigenous people of these hills gather the honey from the tropical forest areas in Tamilnadu. Other products produced include a dog mange, flea and tic control soap, coconut beauty soap, nutmeg and mace beauty soap. All the soaps contain honey.

And that was it... whew! Five days of meetings and talk and displays and enjoying the company of the world's beekeepers and honey marketers-it was simply great!

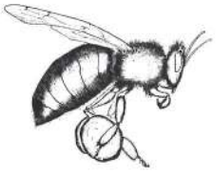
As I think you all know, we went as guests of the USA's National Honey Board: it was a great opportunity to see the world of honey-and to push some initiatives to benefit the New Zealand beekeeper!

And a last note: in the North Vancouver market, a New Zealand manuka honey (not 'active'), 250g, retailing for $13.85. On the shelf along side a pure organic honey from British Vancouver 500g for $5.49.! Wow!

And my honey of the month-actually this time not a honey as such... but a drink! Thanks to Bob-the laconic American who enjoyed my presentation and quietly stopped me in the main corridor and slipped a bottle of 'real stuff' to me-a 30% proof honey wine made from honey and boysenberries-it was so smooth... so delicious...so unctuous and full bodied ... (so easy to drink too much!) It would have been a great after dinner digestif... and even better served instead of Port with the cheeseboard... this 'wine' would be magic with a piercingly sharp and tangy old-socks type cheese. Unfortunately I had no cheese so Sandee and I just enjoyed it... did we what! (Must see if I can import some.)

Regards till next issue!

Bill Floyd



Competency Test under the DECA Scheme for Beekeepers

Introduction

Bruce Stevenson, the PMS Advisor, Introduced the concepts and reasoning behind the competency test requirements under the Disease Elimination and Conformity Agreement (DECA) scheme. For a beekeeper to maintain their DECA they must take a Competency Test designed and administered by the Management Agency, the NBA. The NBA has decided to contract this out to me so that it can be independently administered.

This article informs you how to go about getting your competency test completed as a part of the requirement for your DECA.

Process

The process for completing the competency test is as follows:

1. Decide on where and when you would like to take the test. Many of the NBA branches and local clubs are arranging suitable venues and dates. Also AgriQual and other commercial operations are likely to be offering competency test locations with or without training associated with it.

2. Fill out the form below. The Proctor is an independent person that will administer the exam on the day. Your local branch should be able to assist you with this. Send the form in to me at the address below with a cheque for $25 as fee for the test. Please send the form back 5 days before the intended date of the test.

3. You will then receive confirmation of the exam with a GST receipt.

4. Attend the exam, where the proctor will provide you with all of the materials except a pen! The proctor will return the completed exams to me.

5. Computer will mark the exams and the pass or fail notices automatically generated. This will then be sent to you directly. AgriQual will receive a list regularly of all of the successful candidates.

6. If you fail the test then you will need to take a course approved by the NBA and register to take the exam at $25. The training provider will supply you with a certificate that you must return with the exam papers or the registration. You can take the exam as many times as you wish.

Start Date

Applications can be received from the 1st November 1999. Any received before then will be processed on 1st November.

Confidentiality

All personal information remains confidential and will only be disclosed to AgriQual or other PMS contractor that the NBA determines when the person has passed the exam. Personal Information will be aggregated and depersonalised when reported for any other purpose.

You may request a copy of your personal information held by the Administrator by writing to the address below enclosing a cheque for $5. You can have your information corrected by returning the form with the corrected personal information.

Application Form for Competency Test

Name (full name with family name underlined)	
Title (Mr/Mrs/Miss/Ms/Dr....)	
Beekeeper number if allocated	
Address for all correspondence	
Phone number	
Fax number	
Preferred Exam date	
Preferred location (address and if training provider then their name)	
Proctor name	
Proctor Address	
Fee enclosed (cheque number and bank)	
If a retest then registered training provider certificate enclosed	

Cheques to be made out to Richard Hatfield and crossed with "account payee only". Please send to: Competency Test Administrator, Blue Mountains Apiaries, Sierra Way, RD1, Upper Hutt. You will receive confirmation within 10 days. If you do not please contract the Competency Test Administrator on (04) 528 7780 or fax (04) 528 7380.

Genetically Modified Crops - Issues for Beekeepers

by Dr Louise Malone, Dr Heather Gatehouse and Emma Tregidga, HortResearch, Auckland and Palmerston North

This article summarises the seminar Dr Malone gave on this topic at this year's conference in Ashburton.

The genetic modification of crop plants presents beekeepers with a complex set of issues. The purpose of this article is to cast some light on these issues, particularly on the biological aspects.

What are Genetically Modified Plants?

Strictly speaking, breeders have been 'genetically modifying' plants and animals for centuries. Different varieties or even different species are crossed to introduce new characteristics into our crop plants or stock animals. So far this has been restricted to similar species, not for any ideological or safety reasons, but because that is all that breeders could get to interbreed. With genetic engineering (also called genetic manipulation or genetic modification and abbreviated to GM or GE), breeders can now transfer genes between totally unrelated plants, animals and even microbes. This opens up a huge new range of possibilities for giving plants and animals new and useful characteristics.

How Does Genetic Engineering Work?

First of all, it's necessary to understand a little about how genes work. A gene is simply a segment of DNA. DNA is a molecule that occurs in every living cell and it acts as a blueprint for every plant, animal and microbe. Genes are the units of heredity (we pass our genes on to our children), but they also control the day-to-day functioning of every cell. They do this by producing proteins, as shown in Figure 1. It's the proteins that control the chemical reactions in each cell that give flowers their colour, fruits their flavour, and may make plants resistant to pests or diseases, for example. Genes (DNA) are simply a code, but the proteins made by the genes have biological activity. When talking about genetic engineering, it's very important to make the distinction between the genes themselves and their products, the proteins.

Let us consider the case of two plant species, X and Y (Figure 2). Plant X has a particular characteristic that we'd like plant Y to have. Let's say plant X is resistant to a particular plant disease, because it is capable of producing protein X. It can do this because it possesses gene X. Plant Y does not have gene X, it cannot produce protein X and it is not disease-resistant. With genetic engineering, gene X can be taken out of plant X and put into plant Y. Plant Y can then produce protein X and it too will be resistant to disease.

A real-life example of this is the production of crop plants containing the Bt gene. The Bt gene comes from a common soil-dwelling bacterium called Bacillus thuringiensis. It's been known for decades that this bacterium has a gene that makes a protein which can kill caterpillars, but not bees or mammals. This protein is the active ingredient of Bt sprays which are used in some organic orchards. Bt spray is made by multiplying B. thuringiensis by fermentation and formulating it into a powder or liquid. Bt sprays have a long history of being safe for bees. Using genetic engineering, the gene that codes for the Bt protein has been taken from the bacterium and put into various crop plants, such as cotton and maize. These genetically engineered plants produce the Bt protein in their leaves, and consequently are able to kill the pest caterpillars which feed on them.

Why Has This Technology Been Adopted So Quickly?

Genetic engineering represents a huge technological leap forward in crop improvement, opening up an enormous new range of characteristics for introduction into plants. These include pest and disease resistance, drought tolerance, altered nutritional qualities and better storage properties, for example. This technology is also faster and more precise than conventional breeding as there is no need to back-cross in order to eliminate undesirable characteristics, as is often the case with conventional plant breeding. Finally, even if we only consider pest-resistance, genetic engineering is the first new technology that can rival chemical pesticides in effectiveness for pest control.

What is Happening Worldwide?

Huge areas of genetically modified crops are growing in the US, Canada, Argentina, Australia, Mexico and China. The USA

is known to have 20.5 million hectares, Argentina 4.3, Canada 2.8, Mexico and Australia 0.1 and Spain, France and South Africa 0.1. Genetically modified varieties of all the major commodity crops, such as corn, cotton, soybeans and rice, are now commercially available. Most contain either a Bt gene for insect resistance or a gene that makes the plant resistant to herbicide. Modified varieties of many other plants are also available: for example, oilseed rape (or canola), potato, broccoli, tobacco, tomato, sunflower and sweet potato. The list of GM plants 'under development' is even longer.

In New Zealand, GM plants are grown only for research purposes in containment glasshouses or in small controlled field trials. There has not yet been a general release of a GM crop in New Zealand.

Who Regulates this Technology?

In New Zealand, approval must be sought for every application of genetic engineering technology, whether it be for a laboratory experiment or for a commercial release. The Environmental Risk Management Authority, ERMA, considers every application. ERMA assesses the benefits and risks in each case, determines what risks are acceptable to the NZ public and then makes a decision. ERMA takes into account the views of all stakeholders, including seed companies, growers, neighbours, beekeepers, food consumers and the public.

Issues for Beekeepers

We can divide the issues for beekeepers arising from GM technology into three categories:

Direct effects of GM plants on bees - will my bees be harmed?
Cross-pollination to non-GM plants - movement of pollen.
Consumer concerns and preferences - will GM crops harm people? - will they buy my honey?

We will consider each of these in turn:

1. Effects on bees

We can't make blanket statements about the effects of GM plants on bees that visit them. The effects will depend entirely on the gene in question. However, by knowing the function of the gene and the protein it produces, we can make predictions about effects on bees. Obviously, the gene products most likely to affect bees will be those with insecticidal properties. These include Bt GM plants, such as those already commercially available, and GM plants containing protease inhibitor, or PI, genes.

PI GM plants are not yet commercially available but many varieties are under development in the laboratory. PI genes come from many sources, but they are often taken from plants, such as potatoes or soybeans, where they naturally protect against insect damage. As their name suggests, PIs (protease inhibitors) work by blocking proteases, the enzymes that insects use to digest protein. When the insect eats a PI, it can't get the nutrition that it needs and it dies.

We know that bees must digest protein too and so it is important to ensure that PIs being put into GM plants for protection against pest insects do not inadvertently harm bees.

We can learn a lot about how GM plants might affect bees by performing experiments with the purified proteins that the genes make. This means that we don't have to wait for the GM plants to be produced in order to begin determining their likely effects on bees. The purified proteins are simply powders which can be weighed out and fed to bees kept either in cages or in hives outdoors.

We can also carry out tests with actual GM plants and bees, kept strictly confined within a containment glasshouse.

Bee Tests with Bt Proteins

Recent tests in our laboratory and in the United States have shown that purified Bt proteins have no toxic effects on adult or larval honeybees. Adult bees cannot detect even high concentrations of Bt protein in their food and they consume it readily. In another study, carried out in the US, whole colonies were fed with a Bt protein mixed into sugar syrup. This had no effect on larval survival or pupal weights.

Bee Tests with PI Proteins

Studies in our laboratory and in France have shown that worker bees fed high concentrations of PIs as young adults have slightly shorter lifespans, compared with bees not fed this gene product. This is not surprising, since we know that PIs disrupt protein digestion in insects and we know that young adult bees have a critical need for protein. Bees can't detect PIs in their food and they consume pollen with purified PIs added as readily as they do pollen without additive. Further work is needed to determine the effects of PIs on larvae, queens and drones.

Bee Tests with Bt and PI Proteins in the hive

Last summer we carried out a study where we took young adult worker bees from their hives, tagged them and fed them with either PI or Bt protein for seven days. Then we returned them to their hives and observed them intensively to measure their flight activity and their longevity under these outdoor conditions. Bt had no effect on flight activity or longevity. However, in some colonies, PI-fed bees flew and died three days sooner than bees fed food without PI added. This result fits with what we had learned earlier in laboratory tests about feeding high concentrations of PIs to adult bees. The levels of PIs in GM plants will need to be carefully controlled if they are to be completely safe to bees.

Bee Tests with PI GM plants under containment

We have also carried out an experiment with GM clover plants containing the gene for the PI tested above, within a bee-proof tent within a containment glasshouse. A one-frame nucleus hive was placed in the mesh tent along with some potted, flowering plants. The bees were given the choice of GM or ordinary clover and we watched and recorded how many bees visited each type of plant. We also collected nectar from the plants and measured volumes and sugar concentrations. At the end of the experiment, all the bees were destroyed. The results showed that the bees visited both types of plants with equal frequency and that the flowers produced similar volumes of nectar, with similar sugar concentrations.

Control of genes in pollen

By performing these experiments we are gathering data on which genes might affect bees and how they might be affected. However, in our experiments with purified proteins, we are assuming that in GM plants, the Bt or PI proteins will be produced at the same levels in the pollen as we know they are produced in the leaves. This might not actually be the case.

More studies are needed, but it seems that often there is less of the introduced protein in the pollen than in the rest of the plant. For example, one study with Bt GM cotton plants showed that there was less Bt protein in the pollen than in the petals of cotton flowers 1. In another study, with PI GM oilseed rape plants, the PI protein could be detected in the leaves of the plants but not in the pollen or nectar 2. Research is also under way to develop special 'switches' for genes so that they could be turned 'on' in the leaves but 'off' in pollen. This would mean that bee exposure to gene products would be minimal.

2. Cross-Pollination to Non-GM plants

As keepers of pollinating insects, beekeepers need to be aware of the issue of cross-pollination. Often we hear people voicing concern that genes from GM plants will 'escape' and spread to other plants. The gene doesn't physically leap out of the plant, but under some circumstances, a crop plant may cross-pollinate with a related plant species and hybrid plants may be produced. If the pollen of the GM plant was carrying the gene, then some of these hybrid offspring may also contain the gene.

This is especially of concern when a GM crop plant might cross with a related plant that is a weed. Oilseed rape or canola is an example of this. In some countries this plant has a number of weedy relatives growing in the same locations. If the oilseed rape was engineered with a gene to make it herbicide resistant and it crossed with these related plants, then herbicide-resistant weeds might be created. Fortunately they would still be susceptible to other, older-style herbicides.

This issue of 'gene dispersal' is the subject of much research overseas, where scientists are defining the distances over which a gene can 'travel' by this method. Once again, blanket statements cannot be made; it seems that these distances vary depending on the crop in question, the presence of pollinating insects and even the scale of the area planted.

The current remedy for gene escape from crops such as Bt cotton in the US is to plant a 'buffer zone' or border of non-GM cotton around the perimeter of the GM crop. This then acts as a 'sink', effectively mopping up any pollen from the GM crop. Another remedy being investigated is to make the GM plants male-sterile, so that they cannot out-cross.

3. Consumers of Honey and Other Bee Products

Consumer attitudes to GM foods are influenced by many factors. The most common concern is about human health,

i.e. will honey from GM plants be harmful to humans? To put this into perspective, as far as bee products are concerned, it is useful to remember that humans will probably be exposed to far greater quantities of gene products by consuming the crop itself rather than honey made from nectar. Furthermore, the presence of genes and/or gene products in nectar is debatable. Nectar is a plant secretion, not a plant tissue, and therefore should not contain genes. Also, in the majority of plants, nectar is virtually pure carbohydrate, containing only a few amino acids and no protein. However, pollen does begin as a living plant tissue and it is known as a source of protein. Pollen from GM plants may contain both the gene and its protein product. Since honey always contains some pollen, and also pollen is a human food in itself, then people eating these hive products may be exposed to a gene and/or its product.

Before a new GM plant variety is released, the commercial company producing it carries out extensive tests to ensure that it is not toxic to mammals. It has been said that GM crops are the most thoroughly tested foods ever produced. Most of our foods have never been tested for effects on humans; we base our knowledge about their safety on our history of eating them. New food crops, such as pepinos and kiwifruit, are not subjected to the same exhaustive human safety tests as GM crops. Concerns about the long-term health effects of eating GM foods are addressed by our knowledge of the biochemistry of the protein that each gene produces. Laboratory tests are also conducted to ensure that there are no allergenic or carcinogenic effects.

Another area of concern is the effect of GM crops on the environment. Scientific studies are conducted before GM plant release to determine and quantify any effects on non-target species (including bees). Decomposition of GM plant material is also measured to ensure that the plants will break down normally in the soil. Some people bring other issues to the GM debate. Some have a moral objection in that they feel that this technology is 'unnatural', others are suspicious of the motives of the large multinational companies involved in the commercialisation of GM technology. This technology could also form the basis for creating trade barriers between different countries.

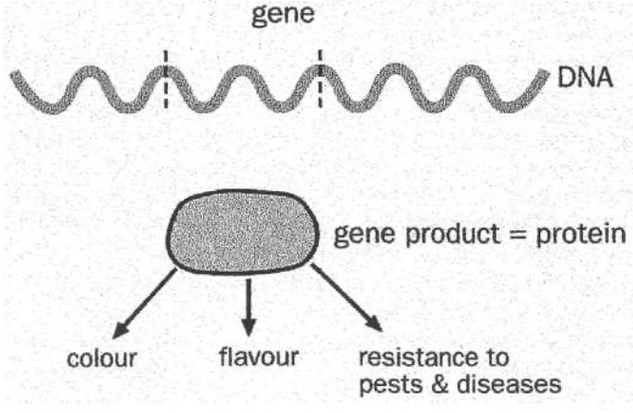


Figure 1: Diagram depicting a gene and the protein it produces (see text for explanation).

What Can You Do?

Equip yourself with the scientific facts. This is a rapidly advancing area of knowledge. Here are some useful publications and their internet sites:

Bee Culture magazine: HYPERLINK http://bee.airoot.com/ http://bee.airoot.com/

APIS (University of Florida): HYPERLINK http://gnv.ifas.ufl.edu http://gnv.ifas.ufl.edu

New Scientist magazine: HYPERLINK http://www.newscientist.com/http://www.newscientist.com/

Keep up to date with public opinion, here and in countries which are your export markets. There are some large scientific surveys that are regularly conducted on consumer attitudes to GM technology in different countries. Results are available at:

European Federation of Biotechnology: HYPERLINK http://www.kluyver.stm.tudelft.nl http://www.kluyver.stm.tudelft.nl

Ensure ERMA consults your industry, understands your business and listens to your views. Their website gives details of up-coming applications for GM use in New Zealand and also gives you the opportunity to make inquiries:

ERMANZ: HYPERLINK http://www.ermanz.govt.nz http://www.ermanz.govt.nz

PO Box 10924

Wellington

Telephone: (04) 496 4826 Fax: (04) 473 8433.

References

Greenplate, J. 1997. Response to reports of early damage in 1996 commercial Bt transgenic cotton (Bollgard) plantings. Society for Invertebrate Pathology Newsletter, 29 (2), 15-18.

Bonad- Bottino, M., Girard, C., Le M-tayer, M., Picard-Nizou, A.L., Sandoz, G., Lerin, J., Pham-Del-gue, M.H. and Jouanin, L. 1998. Effects of transgenic oilseed rape expressing proteinase inhibitors on pest and beneficial insects. Proc. Int. Symp. on Brassicas, Acta Hort., 459, 235-239.

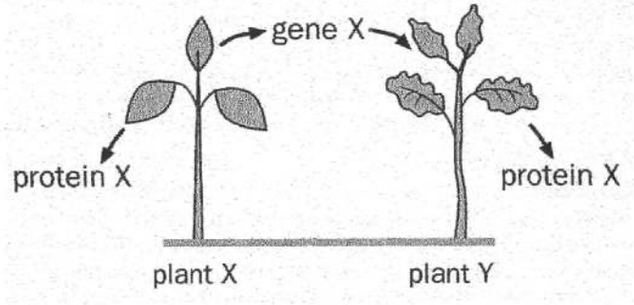


Figure 2: Diagram showing how genetic engineering allows us to give plants new characteristics by transferring genes from one species to another (see text for explanation).

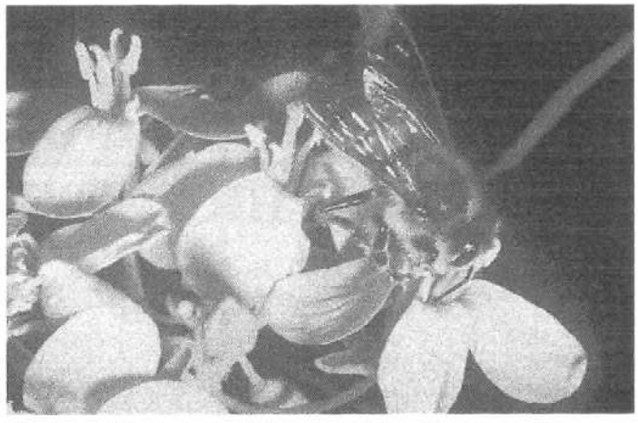


Figure 3: Photograph of a bee visiting oilseed rape flowers.

Frank reflects...

Beekeeping is full on at the moment and I'm a little behind in my schedule. I'm still replacing suppers showing signs of rot, inspecting hives, adding super to give room, feeding the odd hive, cleaning up apiaries and putting out bait hives plus making bottom boards when its raining, where I now should be making splits and requeening. I'm not complaining for it's been a pleasure working the bees as they are hard at work and take very little notice of my intrusion. Occasionally an individual will let you know her displeasure by biting and holding on to your arm (not stinging). A gently puff of smoke soon puts her and the hive back under control again.

When travelling between apiaries, it's interesting to see the contrast in conditions. Areas close to rivers or horticultural blocks have been stimulated by early willow flows. Some hives have collected three frames of honey and now have a full super of stores again. Newly drawn light yellow wax is evident along the top bars of the honey super and I found a hive that had actually drawn out comb in the top feeder (they should have had another super before now). Some have not had this stimulation and are still plodding along building up on reserves and the odd scoop of raw sugar I put in the top feeder as emergency rations. Old queens tend to be flagging now and you can really see the difference between a good and bad hive. (Hives headed by an old queen hives have lots of honey and tons of pollen and the brood is patchy).

The warm, mild conditions have brought the season forward a few weeks judging from the succulents in flower around the house. Around the city (Wellington) there's a profusion of flowers, some native, some ornamentals, and others are still flowering out of season. Apple blossoms should be open in the next few days. Along roadsides and in the bush fringes, Rangiora (Brachyglottis repanda) is going to have a massive flowering. Everywhere I go, I see the light yellow flowering panicles. Unfortunately this plant is restricted to the North Island and although the honey is light coloured and fragrant, it is mostly consumed in the brood nest, (perhaps not this year). All we need now is settled weather to allow the bees to collect it. Doesn't the native clematis (Clematis paniculata) look spectacular with its pearly white flowers pushing through the green of the bush?

October is the most important month in beekeeping. The eggs laid this month produce the bees that will bring in your crop. (+21 days to develop +21 days as house bees then out foraging). Nothing must stop the continuous expansion of the brood nest. If for any reason the hives become congested, swarm preparations are stimulated. This can be triggered when hives reach a population of about 40, 000 bees, (two full depth supers of bees is roughly 50,000 bees) and caused when the queen has very little room in which to lay, (i.e. when the brood nest comes into contact with the honey stores). It is also triggered due to a reduction in queen pheromone (an old queen) not reaching all the bees, disproportion of young bees and many other things coming together.

Solution, before all this happens is to reverse the first and second super so the main part of the brood nest is now against the bottom board. The second super will have brood half way down from the top and lots of spare space below and at the sides.

I also flick off any queen cell buds on the face and edges of the frames leaving those along the bottom. Its then easy to check the hives for swarming by tilting back the second super and looking along the bottom bars for queen cell development. This should be done every ten days from now on until the main flow commences. Once you see cells beginning to grow or an egg in one, swarming is on the way and you must artificially swarm the hive or you will loose your honey crop.

A word of caution. When you come across the first developing queen cell, put this frame aside and continue checking. Lots of time I have cut a cell out only to find it is the only one - a supersedure cell.

An easy method to reduce congestion is to swap the strong hive for a weak one, changing their positions in the apiary during the day. The field bees will go straight into the new hive without any fighting.

Some beekeepers equalise hives early in the season by removing one or two frames of brood and adding these to weak hives to give them a boost. Just make sure you inspect both hives before doing this. It can be the quickest way of spreading disease.

Another method to reduce bee numbers is by creating a nucleus hive and putting this on top of the original / parent hive. (I use my crown boards to separate the colonies as this saves extra bases and lids). Once established, work both hives as separate units and combined them back together when the flow starts (a two-queen variation).

How do you make a Nuc? (Nucleus Hive). How good are you at finding the queen? If she is marked, it's easy.

Take two frames of emerging brood (with abhering bees - without the queen) and two frames of honey and pollen and put these in the centre of a spare super (drawn frames on the outside of these) or a nuc box. Gently shake the bees off another one or two frames into the nuc so that there is a good covering of bees and pop in a new caged queen (candy end upwards or the best developed cell) into the middle of the brood. Compact the brood in the parent hive into the centre of the super. Add replacement frames to the outside of these and close up. Move the nuc to a different apiary or plug with grass so they are blocked in for a day or two. Leave alone for ten days so the queen settles into laying.

Note: If the hive doesn't have sufficient bees to add to the nuc, select some from and adjacent hive and shake them in. The field bees will fly off and the rest will united together ok. Watch for the queen and check for disease before hand.

If you can't find the queen it's a little more time consuming. Again take two frames of emerging bees and honey but this time; gently shake most of the bees off the frames into the parent hive so you know that the queen is not on the frames. Compact the broodnest in the parent hive and add replacement frames to the outside of it. Put a queen excluder on top and place the super with the four frames on top and cover.

Leave for an hour or so and the bees will come up from below to look after the brood. Replace the excluder with a division / crown board (or a base) add a new queen or cell and plug the entrance with grass. Sounds simple and it is the safest way to introduce a new queen into a colony. This is because the

field bees know their queen and can detect a stranger. Younger bees accept a new queen more readily. Its also allows continuous brood rearing (no break) and if anything goes wrong with the nuc, you still have the old queen laying in the original hive as insurance.

After she is laying, kill the old queen (one of the hardest things you have to do) and unite the nuc and parent colony together by placing two sheets of newspaper between them. The bees will slowly eat away the paper and unit without fighting. (A little sugar syrup over the bees in both hives helps with uniting).

If you have to replace the queen in a strong hive the procedure is a little different. Kill the old and leave queenless for a day. Introduce the new queen but leave the candy closed off so she can't get out. In three days open the hive and look at the bees attending to the queen. If they are feeding and generally hanging around the queen, she can be hand released straight on to the brood comb. Keep and eye on her and see that the bees around her don't attack her or if your not sure then uncover the candy cap and let the bees release her. Before doing this go through the hive and destroy any emergency queen cells on the face of the comb adjacent new larvae, (those full of royal jelly). Close the hive and don't disturb until she is laying.

There are numerous ways of introducing queens:
Newly emerged virgins can be chased in at the entrance with a little smoke and will proceed to kill the old queen but this causes a break in brood rearing. (Good method for dark bees).

Queen laying at the same rate can be swapped between hives without them being killed. Brother Adam used to do this by swapping old queens with that of a nuc by simply placing them on the frame adjacent to where the old queen was - the colony must have a minimum of disturbance and little or no smoke used.

Beekeepers in this area used the "paper bag" method for a number of years. Use the small white sweet bags. Prick a dozen pinholes in it. Find and remove the old queen. Scoop a quarter cup of bees off the brood frames and tip into the bag, close and shake. Drop in the new queen and shake for another 30 seconds. (This distributes the hive smell all over the queen and confuses the bees). Turn over the top of the bag to seal in the bees and gently place this in the middle of the brood nest between two frames. The bees will eat their way out in an hour or so and will accept the queen.

The safest way of introducing a valuable queen is to use a push-in cage. This is a screen wire cage (or a bit of pollen trap mesh bees can't get through) about 100 mm square with the edges folded at 90 degrees. Move most of the bees off a patch of emerging brood and empty cells, (push then away with your finger) put the queen on the surface and push the cage thus enclosing the queen. As the bees emerge they will look after the queen and once she is laying, the cage can be removed.

Tips. Always remove the escorts when you are about to introduce a new queen. Do this inside a room or vehicle against a window. The attendants will fly out. If the queen moves to get out cover the cage with your thumb until she moves away.

You have a better acceptance rate if there is a flow on. The bees are busy. Create one yourself by sprinkling sugar syrup over the top bars of the nuc or hive. The bees are often too busy cleaning up the mess to notice the queen straight off.

Always recheck for queen cells after a hives has been queenless, for once started, they will not be pulled down and there goes your new queen. You make have to shake all the bees off the frames to find them all.

It's quite hard to requeen a black vicious hive (mellifera mellifera) with a golden queen as they are different races (well basically as one lot is the remains of early hybridization of the original imports and the lighter ones are the result of later imports).

Can't find the queen when you want to kill her on the second look through. Put a queen excluder between the supers and leave for four days. The super with eggs will have the queen. Move this away from the hive stand and leave covered for ten minutes. The field bees will fly back to the hive thus reducing numbers making her easier to find. Works well for vicious bees also.

If you requeen later in the season, be on the lookout for two queens in a hive. It happens a lot if the bees have a propensity to supercede.

When do you add another super? When you open the hive and find the bees covering all the frames in the top super, tilt back the hive and have a look along the bottom bars of the bottom super. If they are covering all but the outside frames and are down on to the baseboard, add another super on top. If they are not quite that strong but soon could be, (most hives have four to five full frames of capped brood) add another super anyway just to be safe.

If you only have foundation, take two outer frames from the top super and put these between a foundation frame in the middle of the new super. Move the next outer frames to the outside (providing they don't contain brood) and drop your new frames into the space provided. As an alternative, if the centre frames in the top super contain wet or capped honey, move these up and place you foundation frames in the centre, (inter-spaced between a drawn frame).

If you experience and early flow put on two supers.

Things to Do this month: Check feed (don't let the stores go below three full frames honey) and pollen (no drones or eaten out drone larvae indicates a pollen shortage). Check for disease and return you declaration. Requeen into nucs, practice swarm control measures, cull old frames and checked stored supers.

Reference material - Some Important operations in Bee Management by JSK & MP Johansson.

Any questions to Frank Lindsay email -
lindsays.apiaries@xtra.co.nz

AGRIQUALITY NZ LTD, REPORT TO THE ANNUAL CONFERENCE OF THE NATIONAL BEEKEEPERS' ASSOCIATION OF NEW ZEALAND: ASHBURTON, 14-15 JULY 1999

1.0 Organisation and Personnel

MAF Quality Management became a State Owned Enterprise (SOE) on November 1 1998 and was renamed AgriQuality NZ Ltd There has been a lot of restructuring within the new organisation accompanied by 'right sizing', but AgriQuality still has a staff of around 600 and a turnover of $60 million As an SOE, AgriQuality has all the trappings of a commercial entity including a Corporate Board, a Chief Executive Officer and General Managers for the four main businesses within the organisation.

The four main business units, headed by a General Manager, are Assurance Services, Farm Network, Emergency Response and Lab Network The apiculture unit is in Assurance Services as a stand alone business along with Forestry, Food Quality, Horticulture and Plants, the Plant Protection Centre, Proficiency Services, a Seeds Business and Training. There are 17 businesses altogether within AgriQuality plus the usual service units like Finance, Marketing, Human Resources and Information Technology. The apiculture unit contracts to deliver services to the Emergency Response Business which also includes Surveillance.

There have been no changes in apiculture personnel during the year (for a change) except that Paul Bolger, currently based in Pukekohe, and James Driscoll from Palmerston North, will be swopping regions. This move is designed to meet the personal circumstances of the two officers concerned, but the opportunity is also being taken to re locate an officer in Tauranga. The apiculture business employs the services of seven staff which equates to four full time equivalent positions.

2.0 Beekeeping Statistics

2.1 Beekeepers, Apiaries and Hives (1998-99 figures in brackets)

There were 4918 (5,356) registered beekeepers owning 302,988 (287,458) hives on 21793 (23,027) apiaries, as at 30 June 1999 (Table 4).

2.2 Honey Production

The total saleable crop was assessed at 9069 tonnes (29.9 kg/hive) which is an increase on last years crop of 8,081 tonnes (27.0 kg/hive). The six year average is 9,027 tonnes or 30.8 kg per hive (Table 5). Per hive honey production figures are taken over all registered hives not just the productive ones.

3.0 Exotic Disease and Pest Response (EDPR) Capability

Funding for a joint exercise involving beekeepers and AgriQuality NZ staff has been approved by MAF Regulatory Authority for the 99/2000 financial year. This is planned to be run from Pukekohe this spring, with the cooperation of the Auckland Branch, from 31 August to 3 September. This will follow the format of previous successful joint exercises which combined teams of AgriQuality staff and beekeepers to inspect apiaries for AFB. This model will be used for a response to a European foulbrood outbreak.

Activity in the 98/99 year has concentrated on re establishing systems after the split off of AgriQuality NZ from MAF and a reorganisation of the way in which MAF manages exotic disease responses. An AgriQuality NZ exotic bee disease workshop, attended by Peter Beny and Frank Lindsay of the NBA Exotic Disease Lm estigation Committee and MAF Reg staff, was held in Wellington in April this year. One of the outcomes of this workshop was the decision to call a meeting to discuss exotic bee disease issues at this conference.

MAF Reg are looking for an increase in primary industry involvement in all exotic disease response decision making and is seeking to clearly define responsibility for response activity, including funding, by developing Pest Management Strategies. The only exotic bee disease on their list is European foulbrood Work on a PMS for EFB has already begun. The agreed process involves submitting the draft PMS to overseas experts to see if it is technically feasible and then doing a cost benefit analysis to determine if the benefit to the country as a whole would be greater than the cost of eradication. This work is being done through a Technical Focus Group set up by MAF.

The NBA needs to be actively involved in this decision making process if it wants a positive outcome. This should also include contingency planning for other exotic diseases such as Varroa, which MAF Reg has decided not to include on the list of diseases under consideration for a PMS at this stage.

4.0 Surveillance

An exotic disease recognition brochure with coloured photographs was produced and sent to all beekeepers in the mail out containing an application to take up a Disease Elimination Conformity Agreement (DECA). The DECA also included a section on exotic disease recognition and reporting.

As part of the restructuring of the Ministry of Agriculture and Forestry, MAF took over responsibility for official diagnosis of suspect exotic diseases. There were some initial problems with turnaround time and reporting under this new regime but hopefully these have now been resolved.

Twelve cases of suspect European foulbrood were reported by beekeepers and investigated by AgriQuality staff, by inspection and/or having samples sent to the MAF laboratory at Wallaceville for culturing. Samples were also taken from a suspected pesticide poisoning episode and tested for exotic mites. A mite infestation can show symptoms similar to pesticide poisoning. Suspect mite samples are tested at the MAF lab at Lincoln. All of the suspect cases were negative

All samples of honey and bees collected from beekeepers for testing for AFB under the PMS are sent to the MAF labs to be examined for exotic bee diseases after they have been tested for AFB by Hort and Research at Ruakura. To date 91 samples of honey have been tested for EFB and 79 adult bee samples tested for internal and external mites. In addition, 301 samples of bees submitted by beekeepers, mainly as part of the live bee export business, have been tested for mites. All results were negative .

It should be noted that although the surveillance programme is closely linked to the PMS for the efficiencies to be gained, all of the costs of the exotic disease surveillance programme, including the exotic disease brochure, the cost of the mail out containing the DECA and brochure, a contribution toward the operation of the apiary register and all of the laboratory testing for exotics, was funded from the MAF surveillance budget not the NBA PMS budget

5.0 AFB Pest Management Strategy

5.1 Apiary Register

The Register costs an estimated $40,550 to operate for a year, although the true costs of hardware maintenance and upgrading and programming costs are not fully covered The cost of $40,550 was to be recovered as follows:

- $21,250 from the NBA
- $16,000 MAF Surveillance and EDPR
- $3,300 from an additional fee on export apiary clearances

There have been a number of allegations of an inaccurate database and AgriQuality is working hard to correct these. It was expected, that a move to an apiary levy and a conformity

management scheme involving all beekeepers, would cause more problems than in the past and this has proven to be the case. Conflicts have arisen where information, allegedly supplied to AgriQuality by beekeepers, is different to what is recorded in the database. We are working with the NBA and beekeepers - resolve these issues.

5.2 Annual Disease Returns (ADR's)

These were mailed to every beekeeper on April 20th this year. The completed ADR's were to be returned by 1st June but of the 5,200 mailed out, reminder notices bad to be sent to 2,738 beekeepers. The small number of returns by the due date was disappointing given the number of reminders put in the New Zealand Beekeeper magazine, on the Beekeeper Homepage and given at MBA field days and meetings etc. The NBA has to decide on a policy, whether to send a notice to beekeepers who have failed to comply by 15th July, and what actions to take if beekeepers are in default of the notice conditions.

5.3 PMS Inspection and Audit Services

AgriQuality was able to warrant beekeepers up to 1st November, but on becoming an SOE, it lost this authority and no beekeepers were engaged by AgriQuality after this date to inspect hives. The Ministry of Agriculture & Forestry (MAF) is now responsible for issuing warrants to both~ AgriQuality staff as Authorised Persons and to beekeepers as Approved Persons. The accreditation and training requirements for beekeepers to become Approved Persons is still being developed by the NBA and MAF.

5.3.1 Field Inspections

AgriQuality was contracted to inspect up to 280 apiaries as well as organise or supervise Diseaseathons. The results of the inspection programme are in Table 3. AgriQuality inspected 289 apiaries and 1482 hives and found 48 hives of AFB in 26 apiaries. Beekeepers inspected a further 927 hives in 90 apiaries and found 19 hives of AFB

5.3.2 Honey & Bee Sampling Programme

AgriQuality was required to arrange for the collection of 500 honey samples from commercial beekeepers (Table 1) and 500 bee samples from non-commercial beekeepers (Table 2). The number of samples per Apiary District was allocated on the number of beekeepers who had had AFB colonies the previous season. Beekeepers were selected within each district on the basis of previous AFB history or geographic location. 1069 jars were sent to 482 beekeepers.

Reminder notices were published in *The New Zealand BeeKeeper* and the Beekeeper Homepage and further requests were made at field days and NBA meetings and by individual contact and a personal letter to defaulters. Despite all this, only 300 beekeepers (60%) sent in the requested samples. Some samples are still trickling in but as at 30th June 1999, 664 samples (62%) out of 1,069 had been received and tested at the Hort & Research laboratory at Ruakura An additional 22 samples of suspect larvae or comb have also been sent in by AgriQuality or beekeepers as approved samples and there are 38 samples on hand waiting to be tested.

Of the 375 samples of honey that have been tested, 12 were positive but only three showed moderate numbers of AFB colonies on the culture plates (range 1-40). Of the 289 samples of bees tested, 23 were positive (range 1-1000), with 9 showing levels of AFB colonies that should indicate a visible infection in the field Seven cases of visible AFB have so far been found or reported.

A number of these cases were inspected in the late summer (February-March), but no signs of AFB were found In other instances the hives were found to have visible AFB on subsequent inspections during late April and May. These apiaries will be marked for further inspection in the spring.

In addition to the samples above, 22 suspect larvae or comb samples were submitted to the lab and 6 of these (27%) were positive with 2-1000+ AFB colonies.

5.4 Total AFB Reports

The total number of hives and apiaries with AFB continued to fall but it is difficult to say how significant this is. The figures are likely to be understated as more than 2000 ADR's are still outstanding. Also the ADR process has been moved from the spring to the autumn and many AFB colonies from the late summer of 1998 may not have been officially reported These infections would normally have been recorded with the old Statements of Inspection sent to beekeepers in September each year.

Table: 1 Summary of Testing Honey Samples for AFB to 30th June 1999

No. beekeepers sent jars	No. jars sent	Beekeepers returning samples		Samples returned		* No. samples positive on culture	No. AFB hives in field
		No.	%	No.	%		
162	579	108	67	375	65	12	1

Table: 2 Summary of Testing Honey Samples for AFB to 30th June 1999

No. beekeepers sent jars	No. jars sent	Beekeepers returning samples		Samples returned		** No. samples positive on culture	No. AFB hives in field
		No.	%	No.	%		
320	490	192	60	289	59	23	7

** The No. of AFB colonies on the "honey" plates ranged from 1-40*

*** The No. of AFB colonies on the "bee" plates ranged from 1-1000*

Table 3: AFB Reported by Beekeepers or Found by Inspectors to June 30 1999

Apiary District	Apiaries AFB		Hives AFB	
	98/99	97/98	98/99	97/98
Whangarei	56	61	103	101
Hamilton	165	153	307	266
Tauranga	112	138	184	228
Palmerston North	57	62	93	109
Blenheim	59	86	88	177
Canterbury	46	52	66	93
Invermay	62	104	97	171
Total	557 (2.6%)	656 (2.8%)	938 (0.31%)	1145 (0.38%)

Table 4 New Zealand Beekeeper, Apiary and Hive Statistics by Apiary District as at 30 June 1999

	Category 0-5 Hives		
Location	Beekeepers	Apiaries	Hives
Blenheim	295	341	598
Canterbury	487	572	957
Hamilton	307	359	711
Otago/Southland	290	334	683
Palmerston North	866	949	1914
Tauranga	271	306	656
Whangarei	740	808	1518
New Zealand	3256	3669	7037

	Category 6-10 Hives		
Location	Beekeepers	Apiaries	Hives
Blenheim	54	91	419
Canterbury	89	176	697
Hamilton	73	123	592
Otago/Southland	67	97	502
Palmerston North	229	326	1773
Tauranga	70	106	543
Whangarei	121	183	933
New Zealand	703	1102	5459

	Category 11-50 Hives		
Location	Beekeepers	Apiaries	Hives
Blenheim	39	102	884
Canterbury	54	158	1318
Hamilton	43	107	916
Otago/Southland	52	139	1310
Palmerston North	113	308	2718
Tauranga	54	130	1451
Whangarei	70	143	1647
New Zealand	425	1087	10244

	Category 51-250 Hives		
Location	Beekeepers	Apiaries	Hives
Blenheim	28	186	3505
Canterbury	40	493	4942
Hamilton	21	215	3300
Otago/Southland	36	351	4308
Palmerston North	50	464	5865
Tauranga	44	292	4773
Whangarei	41	338	4712
New Zealand	260	2339	31405

	Category 251-500 Hives		
Location	Beekeepers	Apiaries	Hives
Blenheim	13	265	4847
Canterbury	18	387	6051
Hamilton	8	200	3329
Otago/Southland	16	410	5346
Palmerston North	9	248	4176
Tauranga	15	252	4710
Whangarei	7	96	2198
New Zealand	86	1858	30657

	Category 501-1000 Hives		
Location	Beekeepers	Apiaries	Hives
Blenheim	13	479	8371
Canterbury	25	1253	17968
Hamilton	13	510	10340
Otago/Southland	22	1052	15413
Palmerston North	7	337	5388
Tauranga	17	550	12475
Whangarei	9	272	6115
New Zealand	106	4453	76070

	Category 1001+ Hives		
Location	Beekeepers	Apiaries	Hives
Blenheim	5	282	6781
Canterbury	16	1797	28046
Hamilton	10	1197	27904
Otago/Southland	14	1185	21030
Palmerston North	8	1087	19689
Tauranga	17	1218	25284
Whangarei	8	519	13382
New Zealand	78	7285	142116

	Category 0-9999		Total
Location	Beekeepers	Apiaries	Hives
Blenheim	447	1746	25405
Canterbury	729	4836	59979
Hamilton	475	2711	47092
Otago/Southland	497	3568	48592
Palmerston North	1282	3719	41523
Tauranga	488	2854	49892
Whangarei	996	2359	30505
New Zealand	**4914**	**21793**	**302988**

Table 5 NEW ZEALAND HONEY PRODUCTION, IN TONNES AS AT 30 JUNE ANNUALLY

YEAR	Northland, Auckland, Hauraki Plains	Waikato, King Country, Taupo	Bay of Plenty, Coromandel, Poverty Bay	Hawkes Bay, Taranaki, Manawatu, Wairarapa	NORTH ISLAND	Marlborough, Nelson, Westland	Canterbury*, North Otago	South & Central Otago, Southland	SOUTH ISLAND	NEW ZEALAND	Yield per Hive (kgs)**
1994	1295	1946	1524	1442	6207	493	2883	2236	5612	11819	40.8
1995	354	962	1426	1200	3942	499	1685	1921	4105	8047	27.5
1996	829	1639	1077	1367	4912	607	1287	1804	3698	8610	30.0
1997	766	829	933	1112	3640	919	2339	1639	4897	8537	29.7
1998	1014	1404	1314	1230	4962	598	1238	1283	3119	8081	27.0
1999	615	1617	1800	1416	5448	770	1782	1069	3621	9069	29.9
6 yr ave	812	1400	1346	1295	4852	648	1869	1659	4175	9027	30.8

* Includes honeydew

** Total estimated production available for extraction divided by total number of registered hives

Hives 1994 289875
Hives 1995 293080
Hives 1996 286806
Hives 1997 287458
Hives 1998 298921
Hives 1999 302998

RECIPES

Farmers' Market Chicken Salad

Makes 4 servings

Chicken: **No-stick cooking spray**

1 1/2 cups toasted wheat germ
1 tsp salt
1/2 tsp freshly ground black pepper
3 egg whites
2 tsp water
1 pound boneless skinless chicken breast, cut into 1-inch wide strips.

Salad:

6 cups mixed salad greens, torn into bite-size pieces.
2 cups red or yellow cherry tomatoes, halved.
1 1/2 cups small thin green beans, blanched snow or sugar snap peas, sliced bell peppers or cucumbers or any combination.

Heat oven to 400°F. Spray a large baking sheet with cooking spray. For chicken, combine wheat germ, garlic powder, salt and pepper in a shallow dish; mix well. In another shallow dish, beat egg whites and water until frothy. Dip chicken strips into egg mixture then in wheat germ mixture. Dip and coat chicken again, coating thoroughly; place on baking sheet. Lightly spray with cooking spray. Bake 12 to 15 minutes or until chicken is no longer pink in centre. To assemble salad, arrange greens, tomatoes and green beans on serving plater; top with warm chicken. Drizzle Honey Dijon Dressing over salad.

Honey-Dijon Dressing

Makes 4 servings

1/4 cup honey
1/4 cup balsamic vinegar
3 tbsp Dijon-style mustard
1 tbsp chopped fresh thyme
1 tbsp vegetable oil
1/4 tsp freshly ground black pepper.

Combine all ingredients in a small bowl; mix well. Set aside.

Grilled Vegetable Flatbread

Makes 4 servings

Grilled Vegetables:

1/4 cup honey
3 tbsp white wine vinegar
1 tbsp finely chopped fresh thyme or basil.
3/4 pound small zucchini or yellow summer squash, cut lengthwise in half
2 large red, yellow, orange or green bell peppers, halved, seeded.

Crust:

No-stick cooking spray
2 tbsp + 1/2 cup toasted wheat germ
1 1/2 cups reduced-fat baking mix
2/3 cup fat-free or low-fat milk
1 cup seeded chopped tomatoes
1 4-oz. package crumbled feta cheese.

In a small bowl, combine honey, vinegar and thyme; mix well. Place zucchini slices and bell peppers on oiled grid. Grill over medium-hot coals 20-25 minutes, turning and brushing with honey mixture every 7 to 8 minutes. Remove from grill; cool to room temperature. Coarsely chop. Heat oven to 425°F. Lightly spray a cookie sheet or jelly-roll pan with cooking spray; sprinkle with 2 tablespoons wheat germ. In a large bowl, combine baking mix, 1/2 cup wheat germ and milk; stir with fork until thoroughly combined (mixture will be moist.) Turn dough out onto a floured surface. Knead, adding additional flour as needed, until dough is no longer sticky. Pat into a 12x8 - inch rectangle on a cookie sheet. Top with chopped grilled vegetables, tomatoes and cheese. Bake 18 to 20 minutes or until crust is golden brown. Cut into squares. Serve immediately.

Sweet Summer Fruit Smoothie

Makes 2 servings

1 8-oz container vanilla low-fat yoghurt
1 1/2 cups peeled, sliced ripe peaches, nectarines or other fruits
2 tbsp honey
1/4 cup wheat germ

Place all ingredients in blender container; cover. Blend or process on high speed about 1 minute or until smooth. Pour smoothie into 2 glasses and, if desired, sprinkle with additional wheat germ. Note: For a thicker, frosty smoothie, freeze fruit overnight. Use frozen fruit as directed above.

Upside Down Peach Berry Pie

Makes 8 servings

Pastry:

1 1/4 cups all-purpose flour
1/3 cup wheat germ, any flavour
1 tsp freshly grated lemon peel
1/4 pound (1 stick) butter, chilled and cut into 10 pieces
3 tbsp honey
1 egg

Filling:

4 cups peeled, sliced ripe peaches or nectarines
2 cups blueberries, raspberries, blackberries or any combination
1/3 cup honey
2 tbsp fresh lemon juice
1 tbsp cornstarch

For pastry, combine flour, wheat germ and lemon peel in a large bowl. Cut in butter with two knifes until mixture resembles coarse crumbs. In a small bowl, beat honey with egg. Add to dry ingredients all at once; stir with fork just until dough starts to hold together. Gather dough into a ball; place on waxed paper or plastic wrap and flatten to 3/4-inch thick dish. Wrap tightly; chill at least 1 hour or overnight. Heat oven to 400°F. Remove pastry from refrigerator. For filling, combine peaches and berries in a large bow. In a small bowl, combine honey, lemon juice and cornstarch; mix well. Add to fruit; stir gently until fruit is evenly coated. Spoon into 11x7-inch baking dish. On a sheet of lightly floured waxed paper, roll pastry into 11x7-inch rectangle. Cut 6 to 8 slits in rectangle. Invert onto the baking dish; peel off paper. Bake 10 minutes. Reduce oven temperature to 350°F. Continue baking 25 to 30 minutes or until fruit is bubbly and pastry is golden brown. If pastry begins to brown too quickly, cover loosely with foil. Serve warm or at room temperature.

Acknowledgment, American Bee Journal

IMPORTANT DATES FOR 1999

BRANCHES SEND YOUR MEETING DATES IN FOR 1999. NO CHARGE.
MAGAZINE Copy/advertising deadline 1st of month. EXCEPT for DECEMBER issue. DEADLINE 25 NOVEMBER

COMING EVENTS...

EXECUTIVE MEETING DATES
6-9th December

★ ★ ★ *BRANCHES...PUT YOUR MEETING DATE IN HERE...FREE* ★ ★ ★

NZ QUEEN PRODUCERS ASSN
Call: Mary-Anne (06) 855-8038

AUCKLAND BRANCH
Call: Jim (09) 238-7464

AUCKLAND BEEKEEPERS CLUB INC
Editor: Colin Bell
Phone: (09) 818-4325

NORTH CANTERBURY BRANCH
Meet the second Monday of every month
March to November inclusive.
Contact: Mrs Hobson
Phone: (03) 312-7587

SOUTH CANTERBURY BRANCH
Peter Lyttle
Phone: (03) 693-9189

CANTERBURY BRANCH
Meet the last Tuesday of every month.
February to October.
Field Day November
Contact: Trevor Corbett
Phone: (03) 314-6836

CHRISTCHURCH HOBBYIST CLUB
These are held on the first Saturday each month, August to May, except for January on which the second Saturday is applicable.
The site is at 681 Cashmere Road,
Commencing at 1.30pm.
Contact: Mr Lindsay Moir
33 Shackleton St,
Sth Brighton, Christchurch
Phone: (03) 388-3313

DUNEDIN BEEKEEPERS CLUB
We meet on the first Saturday in the month September - April, (execpt January) at 1.30pm. The venue is at our Club hive in Roslyn, Dunedin.
Enquires welcome to Club Secretary, Dorothy, phone: (03) 488-4390.

FRANKLIN BEEKEEPERS CLUB
Meet second Sunday of each month at 10.00am for cuppa and discussion.
Secretary - Yvonne Hodges,
Box 309, Drury.
Phone: (09) 294-7015
All welcome - Ring for venue.

HAWKE'S BAY BRANCH
Meets on the second Monday of the Month at 7.30pm,
Arataki Cottage, Havelock North.
Phone: Ron (06) 844-9493

MARLBOROUGH BRANCH
Meets every second Thursday in every second month.
Call Jeff on: (03) 577-5489

MANAWATU BEEKEEPERS CLUB
Meets every 4th Thursday in the month at Newbury Hall, SH 3,
Palmerston North.
Contact: Andrew MacKinnon
Phone: (06) 323-4346

NELSON BRANCH
Phone: Michael
(03) 528-6010

NELSON BEEKEEPERS CLUB
Contact: Kevin
Phone: (03) 545-0122

OTAGO BRANCH
Phone: Mike (03) 448-7811

NORTH OTAGO BRANCH
Bryan O'Neil
Phone: (03) 431-1831

POVERTY BAY BRANCH
Contact: Barry (06) 867-4591

SOUTHERN NORTH ISLAND BRANCH
Contact: Frank
Phone: (04) 478-3367

SOUTHLAND BRANCH
Contact: Don Stedman,
Ph/Fax: (03) 246-9777

TARANAKI AMATEUR BEEKEEPING CLUB
Phone: (06) 753-3320

WAIKATO BRANCH
Call Tony: (07) 856-9625

WAIRARAPA HOBBYIST BEEKEEPERS CLUB
Meet 3rd Sunday each month (except January) at Kites Woolstore, Norfolk Road, Masterton at 1.30pm.
Convener Arnold Esler.
Phone: (06) 379-8648

WELLINGTON BEEKEEPERS ASSOCIATION
Meets every second Monday of the month (except January) in Johnsonville. All welcome.
Contact: James Scott, 280 Major Drive, Kelson, Lower Hutt.
E-mail: JLscott@clear.net.nz

CHB PRINT, Waipukurau (Freephone: 0800 42-42-77) - 6203