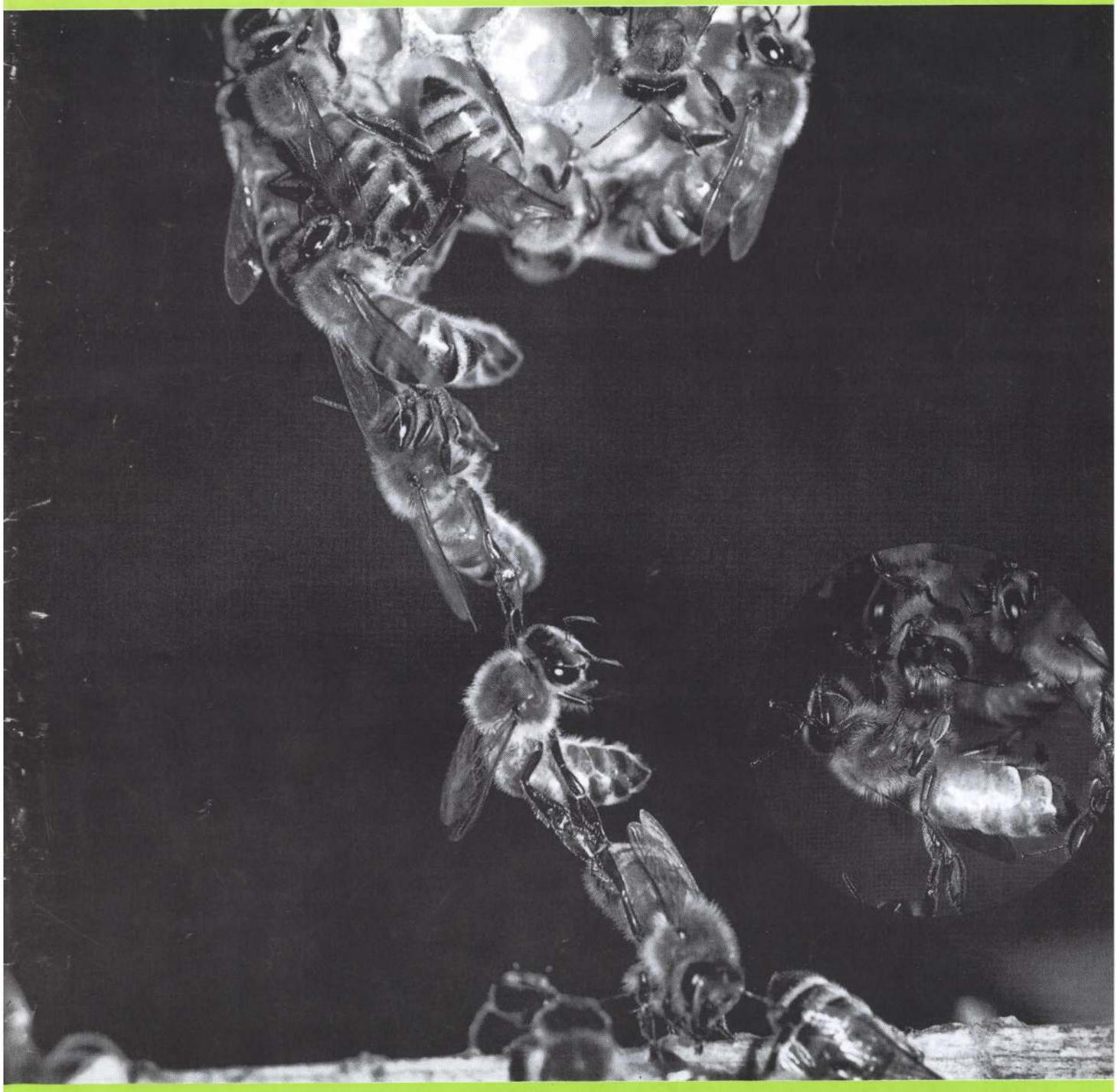
ISSN 09110-6325

The New Zealand Bee Keeper

JUNE 1995
VOL 2. No. 5

The Official Journal of the National Beekeepers Association of New Zealand (Inc.), 211 Market Street South, Hastings, New Zealand. Tel. (06) 878-5385, Fax (06) 878-6007.



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The NZ 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.

Annual Subscriptions available from the Editor are:
New Zealand ($30) plus gst. Overseas rates to be advised.

Notes from the President

Decision on Australian honey imports released

During the last week of May the MAF Regulatory Authority released the Health Standard for the Importation of Honey from Australia. Beekeepers who made submissions on the draft will have received a copy. While not going entirely 'our way', I believe the decision is both technically sound and impartial in the application of free trade principles. For an industry such as ours, depending on good access to overseas markets, it is important that we play fair when it comes to another country trying to obtain access to what we perceive as 'our market'.

The document concludes that two areas of research require more work before the proposal could go ahead as originally described. The Australian honey was to be heated to certain temperatures for a given amount of time. The MAF RA has agreed with our industry's submissions that the research upon which this was based was too limited in scope. The testing was done on only five types of honey, and there were differences between the samples used in the ability of EFB to survive. This variability led the MAF RA to conclude that more testing would be required before the heat treatments fall within a reasonable margin of safety.

As well, the MAF RA determined that the minimum infective dose for *Melissoccus pluton,* the causative organism of European foulbrood, is unknown. Without this information, there can be no confident assurance that an infective dose of *M pluton* would not be introduced and become established in New Zealand.

For both of these research concerns, the Regulatory Authority has indicated to the Australians that more work is required before heat treatment and subsequent testing of honey for organisms could be relied upon as a means of bringing in honey from Australia.

MAF RA has not closed the door on imports. It has simply complied with our obligations under the GATT sanitary-phytosanitary agreement, providing New Zealand with an "assessment of risk and determination of the appropriate level of sanitary or phytosanitary protection" that we are entitled to, in order to protect the unique bee health status of our country.

There are, however, some regions or States of Australia that claim to be free of EFB, based upon their own surveillance systems. Western Australia could apply to export honey to New Zealand, for instance. When/ if such an application was received, the MAF RA would have to decide whether the claim of 'area freedom' from EFB can be justified.

To some extent, such a decision is easy to arrive at. Surveillance must be statistically sound. That is, one can work out how many samples are required, given the likelihood of finding the disease and the number of hives involved. It is exactly the same sort of process that New Zealand uses to convince other countries that our country is free of EFB.

If MAF RA were to accept that the sampling system was appropriate, they could agree to import honey from that State. Such an importation would not require heat treatment or testing.

One worrying aspect of this would be that New Zealand would be effectively moving our 'border' to the borders of Western Australia. The movement of bees and honey across that border is controlled, but not in the same sense that New Zealand's borders are controlled. The likelihood of Western Australia being infected with EFB must surely be considered greater than New Zealand's risk. If we import honey from Western Australia, we must rely on their surveillance system to ensure that our bees remain free of EFB.

One heartening aspect of the decision is the reference to our Pest Management Strategy. MAF RA has accepted that our desire to eradicate AFB must involve some control over the AFB spore levels of any honey imported to New Zealand. Once our PMS is in place, the health standard will include that there is no infective dose of *Bacillus larvae* in the imported honey.

Similarly, the MAF RA approach to antibiotics fed to bees gives our industry a clear message that they accept our arguments that antibiotic feeding for EFB would make AFB control that much more difficult. Again, they reference our Pest Management Strategy for AFB, and put the onus on Australia to put in place an approved antibiotic residue programme unless it can be shown that antibiotics are not used in regions and States where EFB does not occur.

Some beekeepers may still be unhappy with the decision. An often quoted desire is that "the people most affected, the beekeepers, should make the decision" about importations. This expression, while well meaning, can easily be used against our industry. Some Korean beekeepers, for instance, are not in favour of allowing our package bees into that country. It would be wrong to allow *them* to make the decision, as market considerations would cloud the scientific issues. To allow them a blanket veto on imports to their country would likely lead to a ban on all of our bee shipments. Industries should have input, but the ultimate decision should, properly, be one of a governmental regulatory body that can appropriately evaluate the proposal and give a fair decision that can be scientifically defended.

In the case of Australian honey, I think we have such a fair decision. The beekeeping industry can be proud of the steps it took to ensure the risk analysis was complete and accurate. We can be proud of the communications and lobbying efforts that took place to ensure that the issues were public enough for full accountability.

I look forward to seeing many of you at the Conference in Christchurch!

Nick Wallingford
NBA President
Ph/fax (07) 578 1422

Front cover
Bruce Stanley has kindly supplied a superb range of photographs to use in The Beekeeper.

Marketing

In this month's Marketing column:

★ *We Need Sampling Kits*

★ *Honey $150.00 per kg?!*

★ *New Zealand Honey Food & Ingredient Advisory Service*

★ *Defining Honeys by Variety*

★ *Canterbury Beekeepers on the Job with Good PR*

★ *We need Sampling Kits*

In developing our strategies to get people to appreciate that "honey is not just honey" we are finding ourselves needing samples of different honey types.

Even preparing 20 sets of six different honeys, spooning the honeys into little jars, labelling them and then transporting them to various events, is quite a logistical exercise.

So we are interested in beekeepers registering an interest in supplying the marketing committee's advisory service with sample units of honey that can be used when talking to chefs, to writers, to food retail executives and to consumer groups generally.

Many of you will be aware of the small individual portion units that Arataki puts out. Other companies market small glass jars of honey. I understand that some people have plastic sleeves of honey.

Any beekeeper or packer who has a packaging system that they think could suit our needs, (and that is to be able to provide small samples of different flavoured honeys to large groups), could they please phone, fax or write to us so that we can talk about what we need and allow them to tender for the work.

It's probable that we would be supplying the honey packer with bulk honeys that we feel are representative of that variety and the packer or beekeeper would then be packing it for us. The intention is to use a label on the sampling units that featured the HoneyQual logo, (that's the flower inside the honey cell), plus it would feature the name of the honey variety.

These industry sampling units will not promote any specific beekeeper or honey marketer/packer.

So please contact me by 7 July if you would like the opportunity to tender your system.

* Honey $150.00 per kg?!

The Statistics Department publishes a monthly analysis of exports. In their provisional figures for April we noted the rather fantastic success of a member of the industry who had exported 135kg of natural honey to Japan with an FOB value of $20,185. I phoned the Stats Department to ask whether there had been a mistake and they assured me there hadn't been; but when they checked the return form it was found that the product was actually raw propolis.

The Stats Department are now creating a different place for propolis in their data bank but for one brief moment there I thought someone had really cracked it; and given a totally new dimension to the concept of added value honey.

* Defining Honeys by Variety

A beekeeper telephoned me recently to ask what our policy was on definitions? In their travels they had come across a jar of manuka honey and it didn't look like manuka and it maybe-sort-of almost tasted like manuka; and generally was perhaps doing the industry at large and manuka producers in particular, a disservice.

Manuka is a very good example of the need to create variety definitions so that beekeepers, retailers and consumers are all comparing apples with apples and oranges with oranges and everyone feels happy with what they are paying for.

The beekeeper who found the "manuka" is taking some very positive initiatives himself (and that's Jim Godfrey at Kaikoura). His own manuka packaging will now show the pollen count and the batch number on the retail packs. That's an excellent initiative. It will have people realising that there is a logical scientific basis to honey varietal claims. Jim should develop good brand loyalty with his customers from that initiative.

It means of course he's having to add some extra layers of sophistication to his packaging system, but that will repay itself as consumers will be able to buy his manuka honeys in confidence and appreciate the value that's in them.

This whole question of integrity keeps raising its head. We (me!) have put it in the "too hard" bin for the last year; but this year we will put out a draft paper on honey identification and integrity labelling. We will them ask for comment from the industry before we create a set of definitions.

It should be noted that at no stage does the marketing committee intend to impose a set of such packaging definitions on any beekeeper. If we get a consensus from the industry on definitions we will put those definitions out as a recommendation. We will also make the New Zealand HoneyQual logo available to companies who market honeys to those definitions. Then the consumer will be able to decide whether it goes with companies who are meeting those (voluntary) sets of standards or not.

At the end of the day it's all about adding value to beekeepers and that's an important point of course, we need to add value not just cost. If we can create a situation where customers appreciate that a honey is true to label and that there is a quality mark there to reinforce that, and if those people will pay more for that a honey than they would for a ubiquitous pot-blend, then it's "marketing" and it's working!

It should be noted that the major market research exercise carried out by the industry last year came back with the recommendation that came from consumers themselves. It is something positive that the industry could and should be doing for itself ... and will in 1995.

Continued on page 6

Continued from page 4

* New Zealand Honey Food & Ingredient Advisory Service

An awareness of the Honey Advisory Service is spreading through the New Zealand manufacturing community. We've been able to get good publicity in a number of specialist food and food technology magazines and we are now getting enquiries from manufacturers. These manufacturers have ideas that they would like to pick up on but have not felt confident in using honey; because they haven't understood its uses and how to procure honey that's reliable and that won't change in its taste or functionality from one month to the next.

These sorts of enquiries auger well for the industry. NBA members who attended the 1991 conference in Blenheim will remember that back then we said that a key strategy for an industry as small as the honey industry was to get manufacturers to develop products with honey in them. Not necessarily because of the amount of honey that they would use; but because in promoting the products they developed they in effect generated publicity for honey per se. Publicity that we as an industry certainly could never afford.

That's now starting to happen. It's quite thrilling to wander through the supermarkets and see how often the word "honey" is appearing in packaging and in exciting new products on the shelves.

On the subject of which: It's almost too late to get nominations in for the 1995 Honey Food Innovation Awards, but if you do have a customer or are aware of a product that's been developed that should be considered, please contact me urgently.

We'll be demonstrating leading contenders at the conference in Christchurch. One entry so far is a company whose product range is exceptional; in the formulations, the packaging, the company does New Zealand honey proud. It will be interesting to see what other nominations come in before we make the judging.

Last year the New Zealand Honey Co-op sponsored the awards. We believe that the Honey Food Innovation Awards will grow in stature and value each year and we appreciate the Honey Co-op agreeing to stand down from being sponsor. The awards will be sponsored by the industry at large so that no one honey brand packer or beekeeper company gets an unfair advantage from the concept.

* Canterbury Beekeepers on the Job with Good PR

Canterbury Beekeepers had their latest branch meeting at the Christchurch Polytechnic. Members of the Canterbury Branch spent time talking with Chef Tutors who were involved in the first honey chef training workshops. A very good PR gesture by the Canterbury Branch. I know it was appreciated by the Polytechnic; I understand that they all had a very enjoyable evening.

Dennis Taylor, the head of the Christchurch Polytechnic Chef Training School will be talking to delegates at Conference 95 on the use of honey in cooking.

It was only through Dennis' support that we were able to get the honey workshops started. The results of the Christchurch workshop will make it a lot easier for us to initiate the same sort of exercise in other areas and Dennis' own food skills are very, very good. I look forward to enjoying his presentation at conference along with other delegates.

And that's all for this month, I look forward to seeing many of you at conference. Please make yourself known to me; I'm really keen to get comments and feedback from beekeepers.

The Marketing Committee is very mindful of the fact that our strategies are only successful if they create added value and increased opportunities for beekeepers!

Regards
Bill Floyd

The facts

Personal comments

I respectfully request that contributors to the *New Zealand Beekeeper,* when commenting on personal ideas, not to attack the writer but the ideas put forward.

If you must attack the writer please be sure your facts are correct. It did nothing for the New Zealand Beekeeping Industry, the Journal or in particular for the people who wrote the incorrect statements in the last *New Zealand Beekeeper.*

Thank goodness we live in a country which has freedom of speech, but with the protection of the law courts from damaging lies. I thank you for those constructive comments about my ideas, but I am mystified about such personal attacks immediately prior to a National Beekeepers' Association Executive election.

What motivates people to make such personal attacks with many inaccuracies, which I would expect would be damaging both to my integrity and to my business and reduce my chances of being re-elected? Why are these people trying to lessen my chances of re-election? What is on their agenda?

Honesty, democracy and good sound business ideas should be the driving force behind the NBA and should be able to withstand comment from myself and anybody else.

Let us strive towards our new vision.

THE NBA WILL CREATE THE CLIMATE FOR EXCELLENCE, ENJOYMENT AND PROFITABILITY IN BEEKEEPING.

Russell Berry

Admission of error. In my notes in the May issue, I stated that Russell Berry agreed to develop the standing orders further at the September and December meetings, but nothing was produced. This was, in fact, an error. Through an oversight on my part I did not note that the December minutes referred to a draft that Russell had tabled at the December 1994 meeting. There was no intent to misrepresent the facts, and I apologise for this error of fact.

N. Wallingford.

Letters to the Editor

Dear Sir,

On receiving the May *Beekeeper*, I was quite surprised to see so many letters and articles condemning Russell Berry's letter relating to the AFB Pest Management Strategy.

Perhaps Russell may have presented a case very much in one direction away from that proposed in the AFB Pest Management Strategy, but surely his opposite views needed more consideration than appears in the opposing letters etc.

I get the impression that the AFB Eradication Committee in particular may be suffering from tunnel vision.

What we probably need is a compromise between the old system and the new if we are to make any real progress in eliminating AFB.

What Russell Berry proposes in itself is not a return to the bicycle days of the past although some appear to have a fixation on this aspect.

With an election in the near future I hope the letters etc. were not being used for political advantage.

Being away from the main beekeeping areas, I am not directly involved in beekeeping politics so perhaps can view things from a more detached point of view.

Gary Jeffery
Mountain Beech Apiaries

Dear Sir,

The Auckland Branch wish to know why so much space is allocated to long drawn out, waffly, self gratifying, metabolic waste, posing as the President's Report in the May 1995 *Beekeeper*.

The space wasted by such a misleading report could be constructively used, if not for more advertising, to air articles of some interest to the average beekeeper.

I'm sure some people would rather write in about their experiences in various aspects of beekeeping and their solutions to various problems they have encountered. Subjects that come to mind include, methods used to shake and transport bulk bees by the average beekeeper to the point of sale to the exporters, various individual experiences with two queen systems that they use in their areas, the methods and equipment they use to transport hives whether it be for pollination or other reasons, colony management, wax processing, extracting feeding etc., etc.

A giant tome complete with scientific references, colour photos and concise spelling and punctuation is not required. Just a short note on how they do it, why they do it, what problems they have had doing it and why they think it is worth doing it their way.

To start the ball rolling is included a note about a different approach to queen rearing I personally have used to some success.

News print cell raising

A major hassle with cell raising requires the beekeeper to return the day after introducing a graft to a cell started hive to transfer the cells to a cell finisher hive.

In this area we get the best cell acceptances from queenless cell starters or swarm boxes up to 99%. Due to the timing of cell emergence to get ripe cells due on a Tuesday a graft need be performed on a Saturday and since it is not always possible to return the next day the resulting cells end up stumpy and useless.

After some thought I have found a simple method to remove this requirement and still utilise queenless cell starting conditions and queenright cell raising conditions without the necessity to manipulate the hives in any way after grafting.

Set up the hive with the queen in the bottom brood box. Lay several sheets of newspaper on top on this box, then the queen excluder, then the top brood box into which you have placed plenty of honey and pollen and one frame of uncapped brood. Shake plenty of bees into this box, close up the hive and leave it alone for approx. 15-30 minutes. During this time you can look at other hives in the yard, select some brood of the appropriate age to graft and graft them into 20-30 cups. By this stage the box of bees realise they're queenless, when you bung in the graft, between the uncapped brood and a frame of honey and pollen, the bees immediately seem to accept and start most of the cells. After you have done this you don't need to come back until the cells are ripe to use. The bees after a day or so having chewed through the paper creating the optimum queenright cell raising conditions and so circumventing the necessity for the return of the beekeeper the next day.

P.S. The addition of some capped brood to the top box will tend to hold more bees up should the weather be a trifle chilly.

Shaun Cranfield
Secretary, Auckland Branch,
Waiau Pa.

My Viewpoint

Dear Sir,

The recent issues of the *New Zealand Beekeeper* have contained a series of discussions of interest to all beekeepers.

In my opinion the debate is made up of two groups of people. Those who make their living from beekeeping and those who make their living from beekeepers. I believe there is a world of difference between the attitudes and aspirations of both groups.

I have difficulty in mustering much enthusiasm for the activities of those who make their living from beekeepers. Increased overheads for beekeepers, and more forms to fill in seem to be the hallmark of these people. The comment about the meaness of salary is to me a clear indication of unrealistic expectations. Many small beekeepers would be delighted to receive such an income and their numbers are such they are worth listening to.

I believe this industry should be run by commercial beekeepers for commercial beekeepers. Any other group should be there to lend support, certainly not in a dominant role. Think carefully before you cast your votes.

R. Neckelson
67 Elizabeth St
Taupo

Market Report 1 June 1995

The NBA contributes crop and market information to the International Honey Exporting Organisation (IHEO) and receives information in return. Some of the other honey traders which contribute information are from Argentina, Canada, China, Chile, United States, Mexico, Cuba and Australia. We also receive "National Honey Market News" prepared by the United States Department of Agriculture Marketing Service. This gives a state by state report on honey production, bee diseases and other areas of concern to beekeepers in the USA.

Over the last few months the IHEO reports indicate reduced honey stocks in many of the countries that produce honey for export, and increased prices for the honey that is exported. The increase looks to be about US$200.00 per tonne over the last 12 months in several countries. There are reports that Canadian beekeepers have sold forward, i.e. sold honey before production, subject to production.

The USA is applying a duty on Chinese honey entering the USA. This has reduced the trade with China and the price for bulk honey in the USA has increased, hence the forward purchase of Canadian honey.

This still leaves the question of where and when the Chinese honey will be sold.

The increased prices being paid for honey in some overseas countries is not reflected in the sales of New Zealand honey for export. The present exchange rate of the New Zealand dollar has an influence.

In New Zealand the price for **bulk honey** covers a wide range.

Some examples of current selling price from beekeeper to packer or exporter are:

Some stronger flavoured honeys
$1.80 per kg

Clover type honey
$2.00 per kg

Water white honey 0-9mm
$2.15 per kg

Manuka honey — good lines up to
$4.00 per kg plus

with many lines of manuka selling in a range of $3.00-$3.50 per kg

With good presentation you may be able to better the above indicator prices.

Retail honey prices in New Zealand are influenced by big supermarket chains. If one chain can buy to advantage the other supermarkets work very hard to gain a supply of honey at a similar price. The price difference on the shelf is not necessarily an indication of quality, but sometimes represents efficiency of a producer, efficiency of a supermarket chain, or a producer's need to meet a financial commitment.

Contract extracting has become common in the last decade and the trend is expected to continue. The business which provides the contract extracting service supplies the capital for buildings and plant, and other costs such as insurance, rates and labour have to be met. The business is also responsible for compliance with health certificates for premises and any necessary resource consents.

Some examples of contract extracting charges at present are:

1. 500 box lots: $2.50 — $3.00 per box. Wax returned to beekeeper. Slum gum retained by contractor.
2. 100 box lots: $3.00 per box. Wax returned to beekeeper. Drums and drumming off responsibility of beekeeper.
3. Commercial lots: $3.00 per box.
4. Small lots about twice the price as this involves weighing in and out to determine the weight. Wax retained by contractor.

These prices appear low to the author, but perhaps the contactors are very efficient.

Food for thought — at $2.00 per kg, you need a lot of kgs to meet day to day costs of production and provide a 1995 type income.

It is intended to have further market reports as information comes to hand.

Keith Herron

The Canterbury Branch would like to build a honey mountain of all different brands and types of honey available in New Zealand.

Please assist us by bringing along some of your brands to Conference. This will have a great visual impact and marketing appeal

Library News

Two papers have been received:

NBA Budget 1995 by Nick Wallingford; a copy of material on Carnolian bees as supplied by IBRA at the request of the NBA Executive (to assist in the ongoing debate re importation of the Carnolian bee).

The Otago Branch at their 1994 annual meeting decided to donate $50 towards the library fund. A cheque for that amount has now been banked and it will be used in due course for the purchase of some suitable item. Thank you Otago Branch.

Propolis

Propolis or bee glue

Propolis is that brown black sticky stuff that bees seal up their nest with. In modern times propolis is often thrown away. But times have changed and it is now worth collecting and selling — added value to the honey crop.

What is propolis or bee glue?

Propolis from the Greek meaning Before and POLIS meaning City, literally means DEFENDER OF THE CITY. Collected from trees and plants by the bees, this largely resinous substance is worked on in the hive to produce a glue with which they seal up the hive against infection. Intruders into the hive too large to remove physically are first stung to death then are coated in propolis and can then remain perfectly preserved for years preventing danger of infection. The bees also coat the inside of the cells with propolis.

Propolis keeps the bee colony healthy.

Propolis is the Bee Colony's external immune system.

How it is used

Propolis has been used by man as a natural medicine since Egyptian times. Over the last 50 years modern scientific and medical research has shown that propolis has antibiotic — antiviral — antifungal — anti-inflammatory — antiseptic and analgesic properties and is now used to treat illnesses like arthritis — asthma — skin complaints and fungal infections.

How to collect it

If you use frame hives, you can collect propolis either by scraping it from the frame when you harvest the honey or by inserting screens in the hive containing small holes which the bees fill with propolis again to seal the hive. At the end of the season the screen is removed — frozen ideally — then flexed to release the clean pellets of propolis. There is no standard method for harvesting propolis from traditional hives; perhaps you can invent one!

(Article taken from Beekeeping and Development UK)

1994-95 Pollen Yields & Returns from the Apiculture Unit Telford Rural Polytechnic

		Sites				
OCTOBER		4	10	9	*Nos of Traps:*	*40*
	3	1.08	2.8	2.4	*Pollen Source:*	*Willow*
	6	0.96	4.1	2.7	*Total Prod:*	*48.04kg*
	10	5.6	13.4	8.8	*Prod Per Hive:*	*1.20kg*
	12	1.2	4	1		
	TOTAL	8.84	24.3	14.9		
NOVEMBER		**19**	**16**		*Nos of Traps:*	*37*
	4	2.2	3.1		*Pollen Source:*	*Bush/Clover*
	8	8	10.7		*Total Prod:*	*38. 80kg*
	14	2.4	3.7		*Prod Per Hive:*	*1.05kg*
	22	1.8	6.9			
	TOTAL	14.4	24.4			
DECEMBER		**19**	**16**		*Nos of Traps:*	*37*
	2	11.7	7.7		*Pollen Source:*	*Bush/Clover*
	7	7.2	5.8		*Total Prod:*	*39.00kg*
	16	2.1	3.1		*Prod Per Hive:*	*1.05kg*
	12	0.4	1			
	TOTAL	21.4	17.6			
JANUARY		**19**	**16**		*Nos of Traps:*	*37*
	14	2.8	2.5		*Pollen Source:*	*Bush/Clover*
	23	5.3	2.5		*Total Prod:*	*13.10kg*
	TOTAL	8.1	5		*Prod Per Hive:*	*0.40kg*
FEBRUARY		**19**	**16**		*Nos of Traps:*	*37*
	1	7.2	5		*Pollen Source:*	*Bush/Clover*
	8	7.7	6.8		*Total Prod:*	*48.20kg*
	15	7.7	6.8		*Prod Per Hive:*	*1.30kg*
	21	3.1	2.7			
	27	0.4	0.8			
	TOTAL	26.1	22.1			
MARCH		**19**	**16**		*Nos of Traps:*	*37*
	7	0.2	0.8		*Pollen Source:*	*Bush/Clover*
	15	0	0.1		*Total Prod:*	*1.10kg*
	TOTAL	0.2	0.9		*Prod Per Hive:*	*0.03kg*
					Ave. Monthly Prod:	*31.40kg*
					Ave. Prod Per Hive:	*0. 83kg*

(All values in kilograms)

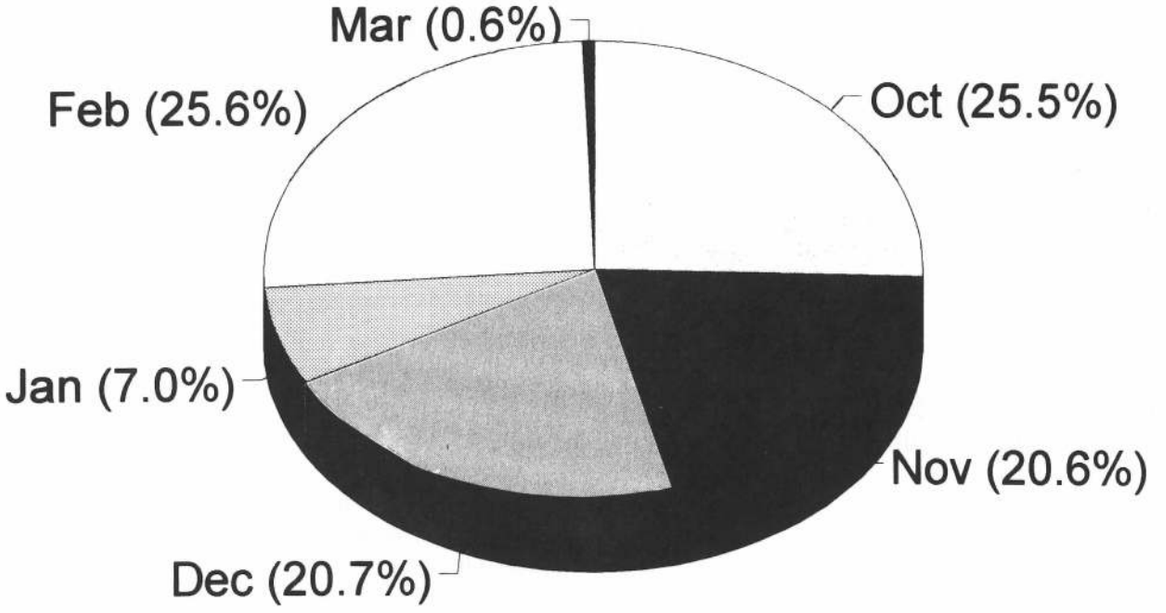
TOTAL	
Oct	***48.04kg***
Nov	***38.8kg***
Dec	***39.0kg***
Jan	***13.1kg***
Feb	***48.2kg***
Mar	***1.1kg***

TOTAL	***188.24kg***
LOSSES	***48.88kg***
TOTAL	***139.36kg***
Returns	***$2,090***
(at $15 per kg)	
PER HIVE RETURNS	
$61.50 per hive unclean	
$73.77 per hive cleaned	

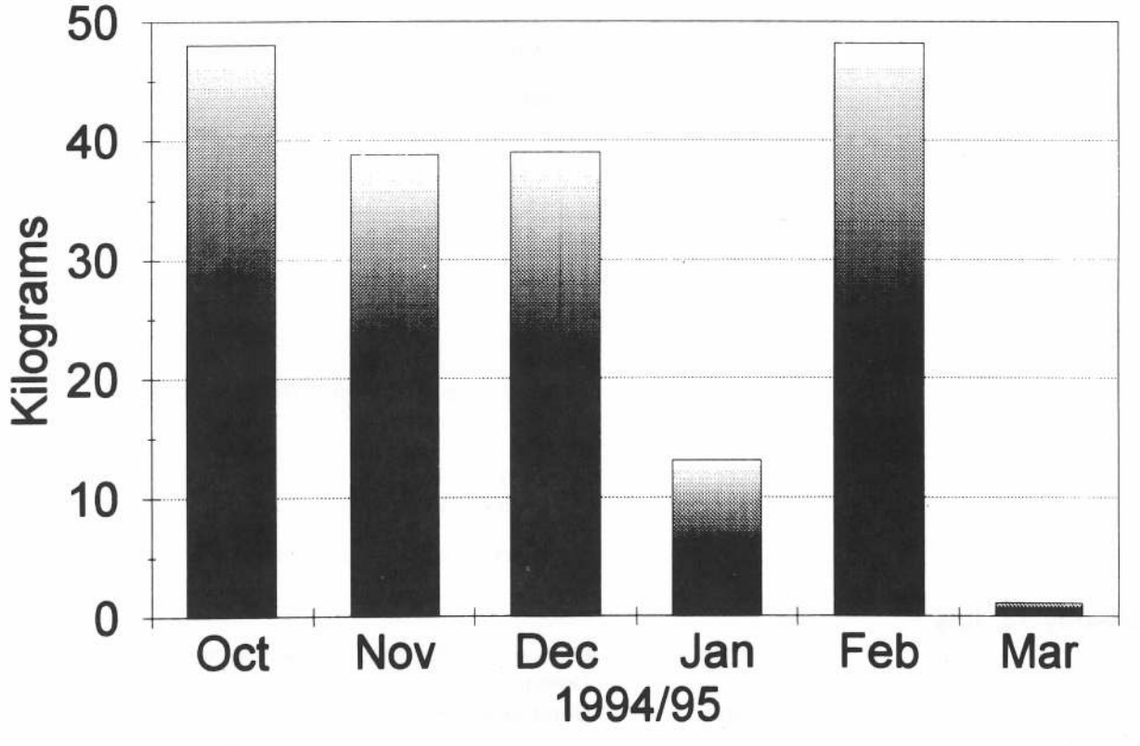
Thanks to the team at Telford Rural Polytechnic for providing this information. Ed.

Total Pollen Yield

(showing monthly contributions)



Total Pollen Yield



National Beekeeper's Association 1995 Conference AGM, Seminar and Conference of Delegates

Christchurch 11-14 July

ACTIVITIES

Tuesday 11 July Speciality Groups
Registration desk opens 9.00am

10.00-11.00	Comb Honey Association
11.00-1.00	Queen Bee Producers' Association
1.00-3.00	Pollination Association
3.00-4.30	Honey Exports Association
4.30-6.00	Honey Packers' Association

Wednesday 12 July Seminar Day
Getting Into Beekeeping

9.00-9.30	Beekeeper's Perspective Topic: Pitfalls and How to Avoid Them **Speaker:** Mr Dale Gifford — Runner-up in Tecpack Beekeeper of the Year
9.30-10.00	Banker's Perspective **Speaker:** Mr Grant Bright, Trust Bank Topic: Rural Lending, Putting a bankable package together and raising finance

Staying Profitable in Beekeeping

10.45-11.15	Tecpak Beekeeper of the Year **Speaker:** Mr Bruce McCusker
11.15-11.45	Setting goals and how to achieve them **Speaker:** Mr Reg Garters, N.Z. Institute of Management
11.45-12.15	**Speaker:** Mr David Penrose Topic: Options available. How to realise your business maximum value
12.15-2.00	Lunch
2.00-2.30	Safety in Beekeeping ACC Perspective
2.30-3.00	Final Presentation of the Pest Management Strategy
3.30-4.00	Labelling and Food Safety Requirements **Speaker:** Health Link South
4.00-4.30	Cooking with Honeys **Speaker:** Chef Tutor — Christchurch Polytechnic
5.00-6.30	Happy Hour and Sponsor Hour

Thursday 13 July

9.00am	Official Opening and Commencement of Conference of Delegates
7.30pm	Banquet Night Theme: Bastille Day

Proposed changes to the NBA Rules to be considered at a special meeting to be held at 8am Friday 14 July 1995

Changes to correct last gender specific references in rules

Rule 12 b), and 12 e).

Replace 'his' with 'the member's'.

Rule 16 i) and 19 e):

Replace 'Chairman' with 'Chairperson' in each instance.

Change to ensure continuity under all conditions (Hive Levy Act still in force, Commodity Levy Order obtained, or no compulsory Levy System in effect)

New Rule 31:

Notwithstanding anything in these Rules the following shall apply from 14 July 1995.

a) (i) In these Rules unless inconsistent with the context "the Act" means the Hive Levy Act 1978 and any amendment thereto until such Act is repealed and thereafter shall mean the Commodity Levies Act 1993 PROVIDED that in the event that the Association obtains an Order pursuant to the Commodity Levies Act 1993 before the Hive Levy Act 1978 is repealed then from the date of such Order shall mean the Commodity Levies Act 1993.

(ii) "Hive Levy" shall mean:—

(1) Until the repeal of the Hive Levy Act 1978 or until a Commodity Levies Order is made pursuant to the Commodity Levies Act 1993 whichever is the sooner, the annual levy payable by Beekeepers to the National Beekeepers Association of New Zealand Incorporated in accordance with the Hive Levy Act 1978.

(2) Upon repeal of the Hive Levy Act 1978 and until any Commodity Levies Order is made under the Commodity Levies Act such levy not greater than the last hive levy payable by members under the Hive Levy Act 1978 and calculated and applied in the same manner.

(3) Upon the making of a Commodity Levies Order pursuant to the provisions of the Commodity Levies Act 1993 that Order.

b) Notwithstanding Rule 16(e) the voting rights of members shall from the date of the making of any Commodity Levies Order be as appear in Rule 32.

c) The voting rights of members in the event of the repeal of the Hive Levy Act 1978 and while any levy fixed pursuant to Rule 31(a)(ii) is in force shall be as appear in Rule 16 just as if the levy fixed was a Hive Levy fixed under the Hive Levy Act 1978.

Changes to objects and powers to allow Levy collection if no compulsory Levy System in effect:

New Rule 4(0).

Upon repeal of the Hive Levy Act 1978 and until a Commodity Levies Order is made pursuant to the Commodity Levies Act 1993 in relation to Beekeepers to levy members an annual payment to be used for the support of Association in the carrying out of all its objects and powers.

Four possible changes to voting entitlements of commercial members if Commodity Levy Order is obtained:

New Rule 32, option 1:

For the purposes of the election an ordinary member shall have one vote and a commercial member one vote for each 10 apiaries or part thereof on which a levy for the current year has been paid, with a maximum of 15 votes. Levy shall be deemed to have been paid for the purposes of this Rule if payment thereof has been deferred in accordance with procedures as decided by the Executive from time to time.

New Rule 32, option 2:

For the purposes of the election an ordinary member shall have one vote and a commercial member one vote for each $250 of levy for the current year which has been paid, with no maximum number of votes. Levy shall be deemed to have been paid for the purposes of this Rule if payment thereof has been deferred in accordance with procedures as decided by the Executive from time to time.

New Rule 32, option 3:

For the purposes of the election an ordinary member shall have one vote and a commercial member one vote for each 10 apiaries or part thereof on which a levy for the current year has been paid, with a maximum of 25 votes. Levy shall be deemed to have been paid for the purposes of this Rule if payment thereof has been deferred in accordance with procedures as decided by the Executive from time to time.

New Rule 32, option 4:

For the purposes of the election an ordinary member shall have one vote and a commercial member one vote for each $250 of levy for the current year which has been paid, with a maximum vote at $6,000. Levy shall be deemed to have been paid for the purposes of this Rule if payment thereof has been deferred in accordance with procedures as decided by the Executive from time to time.

CHB PRINT — 7624

Friday 14 July

9.00am Continuation of Conference of Delegates
3.00pm Conference Closes

Costs: Please include payment with registration. Make cheques payable to:
Canterbury NBA Conference (cross all cheques)

Principal Registration includes
Seminar: $30 per person (Includes lunch, morning and afternoon teas)
Conference: $25 per person (Includes morning and afternoon teas)
Banquet: $45 per person — Dinner and dance with live band

Partner's Registration Includes
Seminar: $30 per person (Includes lunch, morning and afternoon teas)
Conference: $25 per person (Includes morning and afternoon teas or FREE bus trip)
Banquet: $45 per person — Dinner and dance with live band

Partner's Bus Trip — Thursday
This bus tour option is only for registered partners of conference participants.
The bus trip will be going to the scenic Mt. Cavendish Gondola. At the top will be a choice of two delicious lunches and a pass through the historic time tunnel. Following lunch the bus will be going through the Lyttelton tunnel, around the harbour and back to Christchurch via Dyers Pass Road and Sumner.

REGISTRATION

Please assist us by registering before 8 June on the attached form

VENUE

Quality Hotel

cnr Durham and Kilmore Streets, Phone: (03) 365-4699, Fax: (03) 366-6302

Special conference rates are available. To obtain these, you must book direct with the hotel 60 days in advance. Deposit Conference rate is $87 plus GST for standard twin (2 single beds) and standard double (1 queen size bed). Superior Double/Twin is $92 plus GST, 30 days in advance. **The special rates for both bookings is to continue right up to conference. These rates are probably the best available in Christchurch with excellent facilities. No travel costs to conference, excellent meals and free passes to the casino next door.**

The Quality Hotel ensures "A warm and friendly welcome awaits all delegates of the Beekeeper's Association when staying at Quality Hotel, Durham Street, Christchurch, during their annual conference". The Hotel is very centrally located and convenient to attractions such as, The Casino, Tramway, city shopping and only one minute from the Christchurch Town Hall. All the rooms are well appointed with tea/coffee making facilities, TV including "Sky", mini bar and refrigeration and hair dryers.

All are welcome to participate in conference and/or seminar. Whichever you choose, you will be assured of a friendly and informative time.

Travel — There are no group discounts available for air travel — you are advised to book early and gain the "Thrifty" and other reduced fares available. **However** Quote No. MC 10396 will ensure that members travelling to conference with Ansett will get the best possible fares at the time of booking.

National Beekeeper's Association Conference 1995

Please register me/us for the following activities:

Name ..... Partner .....
Address .....
.....
.....
Phone: ..... Fax: .....
Branch/Organisation .....

		Number Attending	Total
Seminar Registration	$30 per head	.....	.....
Conference Registration	$25 per head	.....	.....
Banquet	$45 per head	.....	.....
Please register me for the bus trip ☐		Total	.....

I/We will be staying at the Quality Hotel Yes/No

I/We will be arriving by car/air on: ..... (Date) Flight No. .....

Please return this registration form to: B. Lancanster, Conference Secretary, Haldon Road, R.D. 2, Darfield 8170, Phone: (03) 318-0732

Mt Hutt 1½ hours away for weekend skiing

Carniolans
The Debate Continues

by Mervyn Cloake

The Carniolan is one of the two most important races of bee used in Commercial beekeeping throughout the world. It is undoubtedly a good bee, being very gentle and has good handling abilities. It is a cool climate bee and would be suitable for New Zealand conditions especially in the south.

It is used by some of the best beekeepers in North America and in other parts of the world. It is very suited to some management techniques but not for others. There has been a lot of debate over the last four years as to whether we should have Carniolans in New Zealand, there is good argument for and against importation of Carniolan genetic material. Some arguments for include:—

1) New genetic material
2) Open up market opportunities
3) Opportunity to further improve New Zealand stock

Dr Ben Oldroyd in his report on New Zealand stock claimed we have a narrow Gene pool and even inbreeding of our stock.

Importing new genetic material would increase the variability on the breeding stock thus making it easier to make improvements.

Some exporters say that being able to offer Carniolans would open up new export opportunities by tapping markets that require Carniolan bees, this would be good for our industry and for New Zealand.

Some believe that Carniolans are better honey gatherers and are more suited to our conditions than our Italian stock and by having Carniolans and its crosses we could increase honey production.

Some of the arguments why we shouldn't import Carniolan genetic material include:—

1) Risk of importing bad genetic stock
2) Can increase the difficulty to maintain the stock we have
3) Not being able to maintain pure Carniolan lines
4) Having uncontrolled crosses with unpredictable results

Importation of new genetic material shouldn't take place for the sake of it. It should only take place when new characteristics are required that are not available within the existing stock and must be carefully selected out of the Foreign stock. New Zealand stock already has many characteristics which are by our standards better than any else in the world, especially in areas that impact management e.g. swarming control, temperament, steadiness etc. Other countries place less importance on these factors and it is probable that imported stock would not display these characteristics as well as our own.

Many beekeepers who take pride in their own stock and have the skill to maintain a consistent line would have a lot of difficulty in maintaining these lines. The reason for this is that nearby apiaries containing Carniolans and their crosses will have characteristics which are detrimental to the Italian breeder. So with free range mating these characteristics cannot be kept out.

There are no beekeepers in New Zealand with the facilities to maintain a pure line of Carniolans, there would always be contamination from outside. It has been the experience of many of our beekeepers who have worked Carniolans and their crosses in other countries that F1 Carniolan and Italian is a very good bee but subsequent crosses are unpredictable and will often show the bad qualities of both races.

In New Zealand we have used Italian stock for a very long time and have developed it into stock that is very different to Italian stocks in other countries especially in North America. Many beekeepers here have taken an interest in breeding their own and over a long period of time have developed stock that is very suitable for our climate and conditions, it performs well and also does well in many of the countries that we have exported to.

I have worked Carniolan stock in Australia and North America. There are some reasons why I would be very wary of importing Carniolan genetic material. Firstly among other things, our stock is very gentle and does not show a great tendency to swarm. These with many other characteristics are taken for granted and we accept as normal. In other countries this is not the case and with the exception of one Canadian beekeeper who ran his own Carniolan stock, all Carniolan stock that I have seen leave a lot to be desired. Most of this stock had come from US (and Australian) Queen breeders.

The position I find myself in is that when I ask the question "Can a mixed population of Carniolan and Italian be controlled to retain all the good qualities that we already have?" I cannot find the answer. While I believe that the standards of bee breeding is high in this country and we have clearly defined ideas of what we want in our stock, I find it difficult to believe that the standards are not as high at least with some people in other countries. When the question is asked "Why do Carniolan Italian crosses have such a bad temperament and display other bad characteristics?"

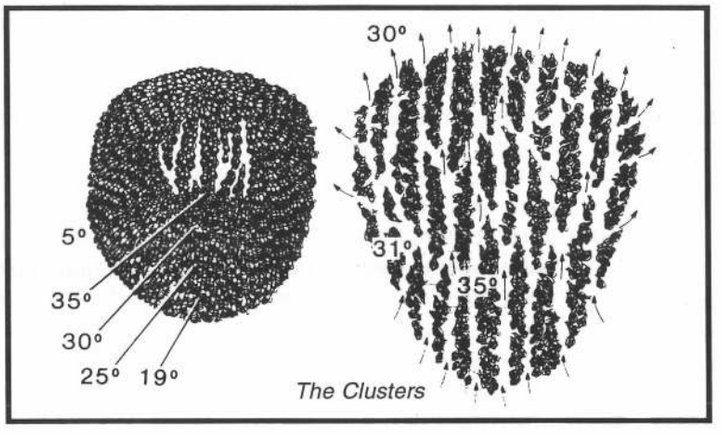
Again there is no answer, is it because the breeders don't have much interest in maintaining those qualities that we believe are important? Or is it because they are difficult to control? The one Canadian beekeeper that I know who has good Carniolan stock breeds his own and his neighbours who also run Carniolans. It is important to know that they are in an area of relative isolation so there is very little chance of contamination from Italian Drones.

It is very easy for us to look at the grass over the fence and want it but before we can have it we must be sure that that grass is good for us.

Notes for Beginners and others

You will be reading this round about the shortest day here in the Southern Hemisphere. That is mid-winter but it does not mean that the coldest part is behind us. Your colonies have hopefully been readied in good time and in the proper manner to face this period with plenty of food in the right place, housed in sound gear etc as has been discussed previously. So you can now sit back with peace of mind, do other things and bide your time till the weather warms up once again.

But what goes on inside the hive? Now I don't advocate that you rush off to open up a hive to have a look-see. That has been done by a good many researchers during the past eight decades or so. A lot about the overwintering of honey-bees is now known but still more research is needed to establish all the facts.



The Clusters

Questions asked by school kids: What do bees do during the winter, are they dormant, do they hibernate, how can they keep warm, do they die etc. The answer to all of these must be: Yes and no.

The first thing to understand is that we are talking about a colony not about individual bees, together they can make it, on their own they perish. The colony inside the hive is a cluster, more or less like a bunch of grapes. Just the same as a swarm in summer time which has settled on a branch except that the winter cluster is much tighter than the one hanging on the tree. If a swarm is left overnight till early next morning it will probably seem to be only half its original size. Not because half the bees have flown away in the meantime or have died off, they have contracted on account of the drop in temperature. The same thing happens inside the hive when winter arrives. If the air temperature surrounding the bees drops to 14°c a dense cluster forms. The bees on the outside huddle close together thus making a mantle or shell covering those further to the centre of the cluster where the density is less. The cluster will continue to contract further when the air temperature lowers. This reduces the surface of the cluster exposed to the cold air which means less heat loss. The bees in the lesser dense centre of the cluster generate heat through muscular activity and this is conducted towards the outside mantle bees. The result is that the outer mantle is kept at about 7°c. The tight packed mantle can be up to 75mm thick under extreme conditions. There is of course a limit to the extent the cluster can contract.

The bees forming the outer shell will very gradually work their way into the centre of the cluster to refuel and warm their feet. While in the outer shell position they can go for a number of days without food intake for they are not active and also carry a reserve of honey in their honey sacs.

When the atmosphere warms up the reverse happens, the cluster will expand, opening up further and further with bees fanning to move cooler air to where it is needed. The cluster thermoregulates itself.

A very essential condition for its survival is that the winter cluster must at all times be able to stay in contact with the food supply.

This is where the beekeeper plays his/her part when wintering down.

Left winter cluster and right the cluster under warmer conditions.

Another essential for life is oxygen. Besides providing this natural thermostat for the cluster, nature has also given the bees the ability to detect and regulate carbon dioxide levels which have to be between 0.1 and 4.3% to maintain the correct environmental conditions for the cluster.

As the winter cluster is able to create and maintain its thermoregulated and air conditioned direct environment with as little heat loss as possible to the outside, it follows that the air surrounding the cluster does not warm to any extent. So the bees do not keep the temperature inside the hive higher than it is on the outside. Extra packing and all kinds of insulation will only slow down the cooling and warming processes. Certainly of little value in our relatively benign New Zealand climate.

A number of bees will fall by the wayside during the winter months. Research has established this to be 15 to 18% of the bees of an average strong colony over a four months period. A fairly strong colony can stand this but it certainly lowers the chances of survival for the weaker one.

So please don't disturb this wonderful winter cluster, a lot of harm could be done.

If you want more info on the subject there is some very good reading:

Old and New Ideas about wintering by G.L. Farrar, Biology of the honey-bee by Mark L. Winston, The Hive and the Honey-bee or ABC-XYZ.

The diagram in this article has been "borrowed" from Dr Mark Winston's book Biology of the honey-bee, page 123.

Preparing hives for winter

We acknowledge the use of this article from the *"NZ Journal of Agriculture"* 1979 — Written by Ian Berry.

As with other livestock, adequate preparations need to be made to ensure bees not only survive the winter but reach the spring in good shape.

Hives which start the spring with plenty of bees, a good queen and ample stores of honey and pollen, are away to a good start for the coming production season. They will also require a lot less work in the spring than hives which have not wintered well.

For the purpose of our apiary records, one season ends and the new season starts the day the apiary is closed down for winter. This time may vary from late January until early May. Late January may seem rather early to winter hives, and in some seasons it is. However, in those seasons when the main flow is over early, there are a lot of advantages in getting the honey off and the bees settled down as soon as possible.

If the honey is left on during February and March, the bees tend to raise a lot of unnecessary brood and can eat up to a box of honey per hive during this period, especially if there is no honey coming in, as for instance during drought conditions. Certainly, beekeepers can finish up with strong numbers of bees for the winter. That is better than having too few — which can happen if you remove too much honey and reduce the breeding too early.

Another advantage of getting the honey off early is the reduction in the wasp problem. The later in the summer, the worse the wasps get, and the risk of hives being robbed out by wasps is much less if the honey is removed early and the hives reduced to two or three boxes. The bees are better able to defend the hive if they don't have too large a hive to look after.

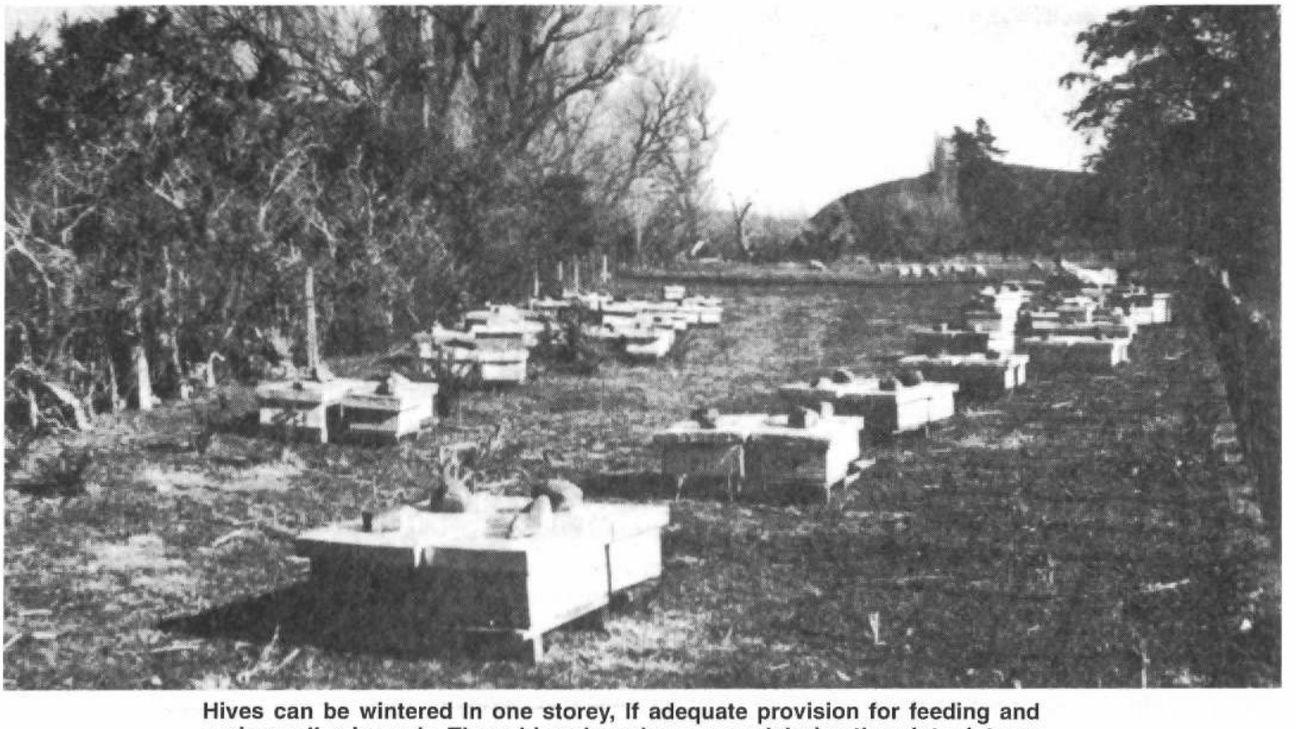
From personal experience, it is disappointing to find six-storey hives which had had four full supers of honey on, completely robbed out by wasps, and the remaining bees starved. Once the wasps manage to overcome one hive they usually seem able to successfully attack further hives, and unless the wasps' nests are destroyed or the hives shifted away, a number of hives will be robbed out and the rest considerably weakened.

If the wasps continue to rob the bees during the winter, the fact that the bees are continually disturbed during the cold weather doesn't do them any good, and they become more susceptible to the disease called nosema. This disease attacks the adult bees and normally occurs when the bees have been subject to stress. Bush apiaries, particularly in pumice country, are especially prone to wasp damage.

If the bees are closed down while there is still a little honey coming in, they can pack the honey and pollen into the combs in the position which they know will be the best for when they form their winter cluster. Should a good flow start unexpectedly after the hives are shut down, it could be necessary to make a further trip to remove some more honey, as hives should not be left so clogged with honey from late flows that they have little room to breed in spring.

If it is a particularly hard autumn, it may be necessary to put in several frames of feed per hive in late autumn, or else feed the hives rather

Continued on page 17



Hives can be wintered In one storey, If adequate provision for feeding and spring pollen is made. These hives have been moved during the winter into an area with a lot of willow trees, which are a valuable source of both nectar and pollen during the spring.

Continued from page 16

earlier than normal in the spring. It is, however, unusual for either of the aforementioned conditions to occur. For example, in 1978, none of the 74 apiaries in Hawke's Bay which we shut down between January and the end of February needed any honey removed later or needed feeding early. It appears they continued to gather a little honey during February and March and finished up with approximately the same amount of feed on the hives at the start of winter as the hives shut down in April.

Robbing can make life difficult when removing honey and wintering hives down — particularly in March. By removing the honey earlier, when there is still some honey coming in, the worst of the robbing can often be avoided. To the uninitiated, bees rob when there is no honey flow on; and in the autumn hives tend to be full of old bees, which are the worst robbers.

When the beekeeper starts working the hives and placing boxes of honey on his truck, unless he carefully covers everything, clouds of robber bees try to remove the honey from the truck and take it back to their hives. They will also attack any hive which the beekeeper has pulled apart and left exposed for too long.

Should robbing become serious, it sometimes helps to place handfuls of green grass in the entrance of the hives being robbed. If things get too bad, it may become necessary to leave the yard unfinished and move on to another apiary, coming back a week or two later to finish the hives when things have settled down. One advantage of shutting hives down in late autumn is that as the weather gets colder the robbing becomes less.

Some parts of Hawke's Bay — particularly the Pourerere-Porangahau area — can become very boggy when wet; some paddocks so much so that in a wet spring even our four-wheel drive vehicle can't get into some apiaries. This means carrying everything by hand from the road, through the mud, to the bees.

It would be a nightmare if, by leaving the closing down of the hives a bit late, combined with an excessively wet autumn, the honey crop had to be carried out to the road. This is just what did happen, some years ago, in a few of our apiaries on the Hauraki Plains — although, admittedly, it was late June, which was far too late to be closing hives down.

Sometimes, when taking off honey late, the top box of honey may be completely free of bees and can be lifted straight off. However, the boxes of honey which do have bees clustered in them are much harder to clear of bees. In fact, we find we just can't clear them with our benzaldehyde boards and have to resort to lots of smoke, with the risk of tainting the honey.

One final point in wintering hives early is the fact the bees kill off the drones earlier once the bulk of the honey has been removed. Hives stacked up with honey until late tend to hold their drones much longer and, unless you are attempting some late-autumn requeening, this is a waste of honey.

The following are a few things to remember when preparing your hives for winter:

1. Check the brood carefully for Bacillus larvae.
2. Make sure the hives are shut down with enough feed to last them until well into the spring.
3. Hives which are queenless, or have an inferior queen, should be united with a good hive. The hives can be made up again with divisions in the spring.
4. It pays to requeen in the autumn, if you can.
5. Do not leave excluders between the boxes, as the queen can be left underneath to die during the winter when the bees move upwards.
6. If you have a large front entrance, reduce it with an entrance block.
7. Make sure the boxes and lids are sound. Holes in the boxes for the cold winds to whistle through, and lids that let the water in are hard on the bees.
8. Hives are normally wintered in two supers, although hives can be wintered in one storey if adequate provision for feeding and spring pollen is made. Hives can also be wintered three or four high, if necessary.
9. All hives should be protected from wind and stock to prevent them being knocked about and exposed to the weather and wasps. Strapping, wire or cord are useful for tying the hives.
10. Rat poison, placed in a suitable position in the apiary, is very helpful in keeping down mouse damage to the combs in the hives.
11. If it is necessary to feed sugar syrup to the hives in the autumn, feed it before the cold weather sets in.
12. Remember, once the hives have been prepared for winter don't disturb them until the spring, unless absolutely necessary.

The foregoing points could provide plenty of topics for discussion in several more articles. Autumn requeening is particularly important, and I feel this is one subject we should cover before next January.

Comvita begins with a bee

In the burgeoning health food and natural remedies market, Bay of Plenty firm Comvita is seen as an innovator.

About five years ago it decided its future lay with processing and developing bee products and apitherapy, the science of using these products to promote good health.

Now 80% of its $5 million a year sales are bee based and the export market, specially to Asia, the UK and US is buzzing.

Founder Claude Stratford — a lifelong apiarist and successful businessman in retirement — began the enterprise in the small Bay of Plenty settlement of Paengaroa, a few kilometres east of the Te Puke, the home of the kiwifruit.

He had been running small scale health food businesses in Otorohanga then Kaitaia before retiring to Paengaroa 21 years ago.

But at 64 Stratford still wanted to work and realised he had a calling to make health foods and remedies readily available to the public and to continue his love affair with bees.

Now, aged 84 and still a minority shareholder in the rapidly developing business, he works six hours a day six days a week and shuns holidays.

The business is now run by Managing Director and 75% shareholder Alan Bougen who came to Comvita for a part time job in 1976 and stayed.

Bougen was only 26 but had come into contact with health food culture in the US and saw it both as a good lifestyle and good business.

For each of the next five years Comvita doubled its sales from $5000 a month, then Stratford handed over the reins and Bougen took over the running of the company. Four years ago he bought out two other shareholders and since then the business has grown between 20 and 25% each year.

As the company developed it expanded around existing buildings in Paengaroa then into a former Ministry of Works depot down the road.

This year it bought the former Paengaroa Tavern. The pub went broke recently and when the property came up for sale in February Bougen saw it as a good opportunity for the rapidly expanding business.

It will take two years to transfer all the company's operations and 25 head office staff, then in time Bougen says it will become a tourist attraction with visitors able to see bees, hives, processing and packaging of products.

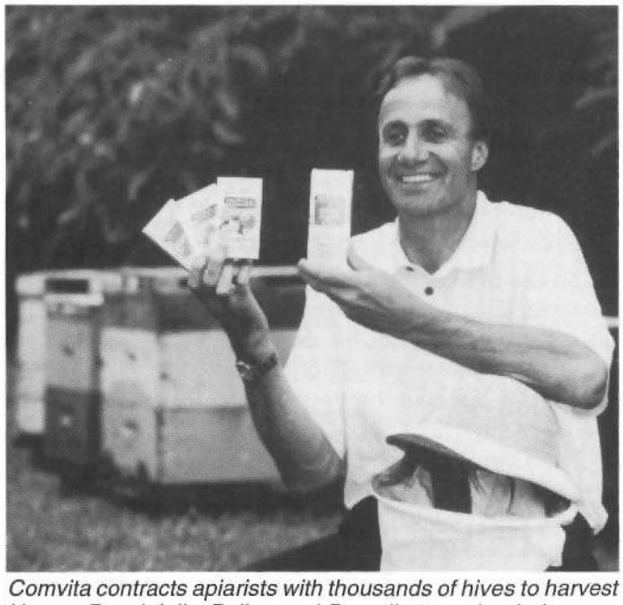
The export market is a strong growth area — current annual sales are $5 million with $2 million of this overseas and this growth sees the company riding in on the backs of its bees.

While Comvita has continued to expand its range of health foods and remedies, almost 80% of its sales in recent years have come from honey and the growing number of products derived from bees and honey.

This move in the market place persuaded Bougen they should focus more attention on the bees that were the foundation of the company 20 years ago.

In New Zealand, in the UK, US, Japan and Taiwan, Comvita is pushing bee products such as honey, Royal Jelly, pollen and propolis to sweeten up the market.

Although Comvita no longer owns any hives, it contracts



Comvita contracts apiarists with thousands of hives to harvest Honey, Royal Jelly, Pollen and Propolis to make their range of health remedies. Managing Director Alan Bougen with the company's winter cold relievers — lozenges and elixir.

collection of 300 tonnes of honey from hives located throughout New Zealand.

This is processed at its Paengaroa factory then packed and sold to 650 outlets throughout New Zealand as well as hundreds of outlets throughout the world.

Quality is vital to a health remedy company's success. Comvita's Technical Manager Angie Higginson checks a sample of Elixir for colour and consistency.

Continued on page 20

The size of a large pinhead — Bee Brains

Each of us has many identities, different aspects of our personalities that are expressed in different situations. We may be one person in church or synagogue, another at work, yet a third person tossing down a beer after work and still another person in the privacy of our home with our family. My colleagues at work may consider me an intellectual, academic type of person, interested in the pursuit of knowledge and study, and someone who behaves in a very "professional" way. They would be surprised to get in my car with me after work when I turn on one of my many country music tapes and listen to Tanya Tucker whine about heartbreak or sing along with Travis Tritt about how the whisky "ain't workin anymore."

I began thinking about this while flying back from Paris in August after attending a meeting of social insect biologists, at which one of the major topics was bee brains. The meeting was held at the Sorbonne, one of the oldest universities in the world. We were surrounded in those hallowed halls by intellectual history, the walls hung with huge oil paintings depicting the great thinkers of old making discoveries and teaching them to their handfuls of pupils. Our lectures were delivered in theatres hundreds of years old, where centuries ago, French scientists were presenting their work without the aid of slide projectors and pointers, with only their brains and their ability to think and speak as tools.

This meeting allowed me to express one of those personalities of mine that beekeepers might find odd, especially any of you who regularly read this column and have figured out that I think scientists should do at least some practical research and should be able to communicate what they do simply and clearly. At this meeting, I listened to talk after talk about basic bee biology with virtually no practical relevance to beekeepers and very little potential for ever leading to a commercially useful application. Even worse, I heard some of the most respected scientists in the world present talks that were so technical and convoluted that it took all of my concentration to even begin to understand them. Nevertheless, I enjoyed myself because I kept thinking about the world from a bee's point of view.

I learned enough at this meeting to know that calling someone a "bee brain" should be considered a major compliment rather than a mild insult. The brain of a worker bee is about the size of a large pinhead, yet bees are able to use their brains to behave differently in different contexts, much as my academic persona quickly shifts to my country music personality when I leave work. I already knew that bees could learn, that they have memories, and that individual bees can make decisions about what work to do depending on colony requirements. At these meetings, I learned that we are beginning to understand, not only what bees can do, but also how bee brains and hormonal systems provide simple mechanisms and rules that can lead to complex behavioral decisions.

One of the most complicated things that worker bees do is make their way to flowers, determine how to extract nectar or pollen and then find their way home. All this comes after the bees have spent their lives until then inside the nest, doing tasks such as brood rearing or comb building that provide little or no information about how to forage. A human analogy to the female worker bee would be to raise a girl inside her home without ever allowing her out of the yard, then suddenly send her out as a teenager to the supermarket a few miles away to find sugar on the shelf, figure out how to buy it and then make her way home.

Foraging requires all sorts of new information for a naive bee to survive outside, find food and successfully return to the nest. The young worker bee brain is fine inside the nest but is not physically adequate to accommodate these new skills. Rather, a worker bee's brain undergoes physical changes to accommodate the new information needed to forage. Recent work conducted here in North America by Susan Fahrbach, Gene Robinson and their student, Ginger Withers at the University of Illinois has shown that bee brains grow prior to foraging, thus providing new "gray matter" to store and process the information needed to forage. Further, the whole brain doesn't expand, but only certain regions enlarge — those that may be important for providing memory space to retain information about flight and foraging.

This research group and others also have determined that the change from hive duties to foraging is mediated by a homone called juvenile hormone. This hormone is low in young bees, then rises prior to their becoming foragers. However, colony conditions can influence the secretion of this hormone within bees, so that a colony can regulate if and when hive workers change to foragers. For example, if you remove most of the older foraging workers from a colony, the level of juvenile hormone will increase in some of the remaining young workers and they will become foragers within a few days. The next step in this research will be to investigate whether the juvenile hormone is responsible for changes in brain configuration associated with foraging. If so, then we will have established a direct link between colony conditions, hormone secretion and brain structure that can explain the mechanism by which a bee not only "knows" when to become a forager, but also how it happens.

However, these types of functional linkages are only a small part of understanding what it means to be a bee. What a bee knows, and indeed if a bee can "know" things at all, was another major topic at these meetings. An entire day-long symposium was devoted to cognition in social insects, mostly bees, and the speakers each attempted in his or her own way to determine whether bees have knowledge and can think. Scientist after scientist got up and described how he or she recorded electrical potentials from bee nerves going to and from the brain, put worker bees into the bee equivalent of rat mazes and watched them try to reason their way out, trained tethered bees to extend their tongues following various signals and painstakingly dissected and mapped bee brains and nerves following applications of various dyes and labels that highlighted active parts of the brain.

Continued on page 20

Continued from page 19

My mind kept drifting away from the talks, connecting to the ghosts of scholars past whose histories filled the room, and I thought I heard the great philosopher Descartes deliver his famous line about whether we humans really exist: "I think, therefore I am." I imagined Descartes and his pupils centuries ago trying to determine whether bees "know" what they're doing, whether an individual bee or a colony has some understanding of thinking and existing. The work I was half listening to in my dreamy daze didn't seem to be providing any answers, nor did the research about bee brains and homones tell me whether cognition in bees exists or not. Even my Descartian hallucinations failed me; the abstract and imagined ramblings of wigged and perfumed philosophers centuries ago didn't seem particularly relevant to bee thought.

I did, though, begin thinking about an experience that all of you have had but may be hesitant to talk about because it might seem flaky. That is, I'm sure you have all felt "tuned in" to your bees as if you were inside the colony, feeling for yourself what it was like to be a bee. Close your eyes and imagine a bright, sunny day in mid-summer. You're not rushed, and you have the time and inclination to go through a colony purely to see what the bees are doing. Now relax, take a few deep breaths and begin to feel the hum of a properly working nest, the bees walking over your bare hands as if they were comb, the sticky feel and smell of honey and propolis and the underlying feeling that all is right with the hive, that you and the bees know your jobs and are focused on what needs to be done, in harmony with the other bees.

Now, come to and think about what you've just experienced. Think about bee brains and bee knowledge. To me, it's a no-brainer; yes, bees 'know' things and understand them from a bee's point of view. The incredibly technical research being conducted today on bee brains and hormones is fascinating because it provides some mechanisms by which we can take bee behaviour apart and learn how an individual bee determines what needs to be done and how to go about it. It does not, however, and never will, take us that final step to understanding what it is to be a bee and what a bee knows and feels. Science is enormously interesting because it tells us how things work, but the underlying meaning of things does not present well at a scientific meeting. Rather, life as a bee sees it can best be felt after a few hours in the beeyard on a sunny day, going through hives. It is ironic that cognition, the most intellectual of topics, is most easily understood by a non-intellectual approach, by feel and touch, by drifting away from details and techniques that make up science and tuning in to the world from the bee's perspective, a world we are only beginning to understand.

Mark Winston is a professor and researcher at Simon Fraser University, Burnaby, B.C. Canada.

Courtesy Bee Culture Magazine.

From Hawke's Bay

Hawke's Bay had an innovative get together in May. At the last minute it became apparent that the expected speakers were not available. With no time to press someone else into this slot it was decided to have a members' meeting. The discussion ranged far and wide as participants commented on programme, ideas, A & P show display and many other topics including the possibility of NBA having a presence at Mystery Creek Fieldays. Telford was there last year.

By the time this appears in the magazine members will have been brought up to date on Public Liability Insurance and Occupational Health and Safety. But it will not be too late to diary 25 June for the Solstice dinner at Windsor Lodge. Just give the secretary a ring for details and a booking phone 844-9493.

Members should also note that 3 July is the date for our next meeting brought forward a week to give our delegate our thoughts on the Conference remits.

We in Hawke's Bay wish Canterbury every success with 1995 Conference.

Continued from page 18

Flavonoids — The Natural Medicine of the Future

A world authority on bee propolis and flavonoids says they can help prevent heart disease and slow the aging process.

Flavonoids are present in all plants or organisms capable of photosynthesis and form 10% of the propolis used by bees to keep their hives healthy and sealed.

Dr Ken Markham of the Institute of Industrial Research and Development in Wellington says propolis, which is used in many Comvita products, has been shown to exhibit antibacterial, anti-fungal, anti-viral and antioxidant properties as well as free radical scavenging capabilities.

Comvita, the Bay of Plenty health foods and natural remedies company, is the largest collector and processor of bee propolis in New Zealand and uses it in nine of its products. These include lozenges and elixir, mouthwash, ointment, toothpaste and soap.

Propolis or bee glue is a resinous mixture gathered from tree buds and bark by bees as a general purpose sealant, draught excluder and antibiotic in their hives.

It is found on many native trees as well as elm, poplar, pine, oak and wattle and collected by bees as part of their daily rounds. Comvita extracts propolis from its 2000 contract hives and concentrates it into a tincture.

Dr Markham says flavonoids in propolis were thought to be the waste product of metabolism in plants but scientists are discovering they perform many vital functions.

Many flavonoids are coloured and provide the pigment in flowers and berries, but the predominant colour is yellow.

They can be extracted from plants by crushing and being dissolved in water, alcohol or either, depending on their type.

However, Comvita doesn't extract them, instead it refines propolis into a tincture with 30% flavonoids.

Dr Markham says because the properties of flavonoids don't change when they are consumed by people, the qualities they have in plants are of equal value to us. Because they have been part of our diet for so long through evolution our systems have learned to cope with them and depend on them.

"They are very good UV absorbers and serve this prime function in plants. They are anti-fungal and antibacterial so protect against infection. They are also an antioxidant and so will help prevent aging which is caused by the body oxidising."

A major study of 900 elderly men in Holland showed that a daily intake of 20mg of flavonoids halved the risk of death from coronary heart disease.

Flavonoids have been known since the late 1800s but it was difficult to extract them for scientific experimentation until the 1950s.

Since then chemists have studied their curative properties while geneticists have become interested in using them to change the colour of flowers and plants.

High quality of New Zealand honey

Honey does not figure prominently in New Zealand's primary exports, but nevertheless the bee has made a useful contribution to the country's national income. From remotest times the bee, due to its singular instincts, its active industry, and the products from its labours, has attracted general attention and interest. A large proportion of these are absorbed by the local market, and those left over for shipment overseas have a high reputation in the English market.

A long dry summer adversely affected last year's output of honey, and the exports for the year ended March 31 were much smaller than they were for the previous year. Quantities in hundredweights and values of honey exported from the Dominion since 1930 are as follows:— 1930, 19 234 cwts., value at £75,623; 1931, 1958 cwts., £7845; 1932, 4749 cwts., £17,606; 1933, 2005 cwts., £7014; 1934, 7342 cwts., £23,784; 1935, 5427, £17,844. Apiaries registered in New Zealand total 7621 comprising 116,050 colonies of bees, and despite the difficulties which have been associated with the industry a number of apiaries have been extended or established.

From: Linda Sutton
Arataki Honey,
Havelock North

New Zealand is admirably adapted to commercial beekeeping, for the rich dairy pastures of both the North and South Islands, the localities where cattle raising is carried on extensively, and the native bush areas afford great possibilities for the apiculturist. Since the passing of the Apiaries Bill in 1908 the industry has been carefully fostered by the State. The quality of honey produced ranges in colour from water white to dark. With the exception of some of the honey gathered by the bees in bush areas, most of the honey produced is of mild flavour and commands a ready sale both here and abroad. It varies with the season according to the weather conditions prevailing. In the main the bush areas of the North Island are responsible for the dark honeys. The rata tree which abounds on the West Coast of the South Island and the coastal districts of Southland yields immense quantities of honey, which is white, mild flavoured, and of the consistency of lard. The main crop, however, is taken by beekeepers located in the clover areas of both islands, and when weather conditions are favourable large returns are netted.

The Dominion
Friday November 29, 1935
(This is not an error)

GOLF

The Annual Golf Tournament between Waikato and the Bay of Plenty branches will be at the Okoroire Golf Course, Thursday 29th June — Tee off 1pm —
NO HOCKEY STICKS ALLOWED

Canterbury Branch Remit Meeting

The next meeting of the Canterbury Branch will be held at the Merivale Rugby Clubrooms, 290 Wooldridge Road, Christchurch, on Tuesday 27th June at 7.30pm.

This meeting will be the remit voting meeting. If you cannot attend, I strongly urge you to return your proxy voting form that you will receive in the mail, to enable your vote to be registered on industry concerns.

Brian Lancaster

Wanted

Employees Wanted

Beekeeper — experienced — required for Central Waikato specialising in fruit pollination, fully palletised commercial operation.
Apply (07) 856 8318

Beekeeper required for Bay of Plenty

Work includes honey production, kiwi-fruit pollination and queen rearing. HT licence essential.

Apply in writing to:
P and A Townsend
Kernow Apiary
Old Coach Road
R.D. 6
Te Puke

Contract Extraction

Reasonable rates
Manuka clover etc
Phone Bill Rodie
(06) 363 6604 after 6pm
FOXTON

Waikato Branch

Remit voting meeting
Green Room, Ruakura.
Friday 30th June — 10am.

For Sale

For Sale

Clover honey 5-15 colour.
Up to 80 tons available.
Please contact:
Glass Bros. Ltd
No. 5 R.D.
Gore
Tel/Fax (03) 207-1866

For Sale

3 Stainless vats on 4ft legs
2 at 3 tonne capacity — $1100.00 plus GST each
1 at 2.5 tonne capacity — $900.00 plus GST each
Phone Bill Rodie
(06) 363 6604 after 6pm

For Sale

800 hives on prime Waikato honey producing sites. Don't miss this great opportunity. Also 2 1600 litre s/s/ honey vats.
Phone (07) 856 8635.

For Sale

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DIARY DATES

July 10 National Executive meeting
July AGM and conference see dates in advertisment in this issue
Sept 5 & 6 National Executive meeting
Dec 5 & 6 National Executive meeting
Apimondia 26th International Beekeepers Conference, Vancouver, Canada, 13-21 September, 1999.

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