ISSN 09110-6325

The New Zealand Bee Keeper

DECEMBER 1995
VOL 2. No. 11

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.

A Very Happy Christmas to all our readers

and Every Good Wish for 1996

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The New Zealand Bee Keeper 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

Nick Wallingford

In the last issue of the *New Zealand Bee Keeper*, I indicated that we were reasonably confident of an amendment to the Commodity Levies Act and a one year extension to the Hive Levy Act. Though the process is not complete, the legislative changes requested appear to be underway.

Hon Denis Marshall, Associate Minister of Agriculture, is introducing a bill that includes our two requirements into the House. With less than a month of parliamentary sittings left in the year the time frames are tight, but realistic.

This means the NBA will be using the Hive Levy Act for yet another year. Though there have been problems with the Act in the past, the last few years of work by the Executive have resulted in better compliance by those few beekeepers who have attempted to avoid their responsibilities. Clarification by the NBA solicitors on some aspects that had been challenged is now resulting is payment of some back levies that should give us all confidence in the fairness of the Hive Levy Act's appication. The introduction of 'spread payments' introduced several years ago has helped other beekeepers with cash flow planning.

The other legislative change, an amendment to the Commodity Levies Act, is required to enable us to put forward a levy order based on the number of apiary sites a beekeeper has. The industry has discussed the general and specific requirements for a fair, simple and practical levy for over five years now. Assuming no more hold-ups to our planning, we would anticipate a ballot to measure support early in the coming year.

The date for a ballot has been set back a number of times over the last few years. Let me assure you that there are no 'secret agendas' in place (at least within the NBA...). At a branch meeting recently one member made it sound like there was a conspiracy to get the Pest Management Strategy in place before conducting any ballot to measure support. The requirement to carry on with the PMS developments is driven by the loss of almost all of the Apiaries Act provisions in the middle of the coming year. The Executive has never tried to slow down the Commodity Levies process. There have always been other agencies — legislative, legal and advisory — that have caused delays in the ballot.

The coming year is an incredibly important one for the future of our industry and our association. The loss of most of the Apiaries Act (brought about by the Biosecurity Act) and the loss of the Hive Levy Act (brought about by the Commodity Levies Act) will, without doubt, create considerable changes for beekeeping and for our organisation. We've been talking about these issues for a number of years — past issues of *Buzzwords* and the *New Zealand Bee Keeper* have numerous articles discussing the effects we could expect. I believe we have prepared ourselves as best we can, but the impact will still be substantial.

I wish you well for a settled production season, with hopes for a good crop and festive season for you all!

APPENDIX 1 —

1995 MARKETING BUDGET REVIEW

		1995 BUDGET	Actual 30 Oct	Nov/Dec	* Projects Est x* over 96	TOTAL for 95 including x* overs
H1	HRU	18,000	11,600	2500	7000	21,100
H2	FOOD	18,000	14,769	1000	2500	18,259
H3	QUALITY	10,000	1509	2000	2500	6009
H4	MNFG	22,000	12,688	2000	2000	16,688
H5	GEN PR	12,000	7376	2000	-	9376
H6 PR	INTERNAL (FIELD)	15,000	19,832	2500	-	22,332
H7	MIS	7000	633	5000	-	5633
H8	GENERIC PROMO	6000	564	1000	4000	5564
H9	MARKETING SERVICES (CORPORATE)	-	-	-	-	-
H10	MARKETING COMMITTEE COSTS	-	-	-	-	-
		$108,000	$68,961	$18,000	$18,000	$108,000

* These are projects commenced in 1995 but where the task will complete and payment will fall due in 1996.

** Variance between budget of $108,000 and total for 1996 year of $105,000 is explained by:

i the allowance in our activities for cost recovery of $2500: being sale of customer kits etc. This was an estimate: but those sales did not eventuate.

ii planned underspending to ensure budget not exceeded for any reason.

Cover photo
Wild hive on limestone bluff — Waikoau Gorge, Tutira.
This is just the excess comb sticking out of a small cave. There are over a dozen hives on this cliff.

The New Zealand **Bee Keeper**

THIS ISSUE

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ALL EMPLOYERS MUST READ THIS

PUBLIC HOLIDAYS

In a recent Employment Court case, a number of issues relating to public holidays were clarified:

* If an employee is rostered or requested to work on a public holiday and their employment contract does not expressly provide for that holiday to be taken at some other time, the employee may choose **not** to work.
* The amount employees are to receive for working on a public holiday must not be less than if a full normal day had been worked. (The parties may however negotiate more). (See note).
* If the public holiday is worked, a paid day in lieu must be allowed. Firstly, a day may be agreed upon between the parties. If agreement cannot be reached the employee may choose the day to be taken.
* When an employee's employment ends before they have had the benefit of a paid day off in lieu owed to them, they should receive monetary compensation for the day in lieu owed. When an employee is working out their notice period they should take any lieu days owed to them during this time.

Note: What this means is that if a contract is silent regarding these matters, the employee may negotiate a higher rate, or the employer may have to pay a higher rate to get the employee to agree to work.

Hold your tickets though — this decision may be appealed!

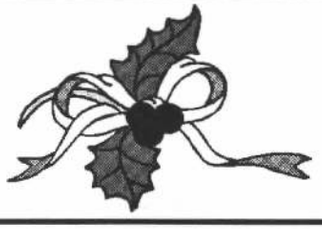
Bytes and Stings: NBA on Disk

Nick Wallingford, NBA President and erstwhile 'computer jockey', has developed a disk of information about the NBA for use by beekeepers and to distribute to other organisations. It contains such things as a comprehensive telephone/fax list of beekeepers and related organisations, committee memberships, the NBA rules, compilations of remits on specific subjects and even an electronic version of *New Zealand Beekeeping — An Industry Profile*. The disk is full of interesting reading and reference material.

The disk requires an IBM-type computer using the Windows operating system (sorry, 'Apple' not spoken here!). It uses the Windows Help system and is designed to be easy to install and useful for virtually any computer-using beekeeper.

To get your copy, send a disk (MF2-HD or MF2-DD. That is, 1.44Mb High Density or 720kb Double Density IBM type disk) to: Nick Wallingford, 55 Watling Street, Tauranga.

If you pack the disk with just a bit of cardboard, you can post it in an ordinary envelope for 40 cents!



Christmas Wishes

On behalf of all the team here at Hawke's Bay Agriculture and Commerce Centre we wish you all a very happy Christmas and may your dreams come true for 1996.

To all the people out there who helped me come to grips with the industry and learn what a super was amongst a million other things, gave me my own beehive complete with bees, encouraged me, taught me how to take ten stings and not flinch (real beekeepers don't let on they have been stung Harry!) and they have queens in places other than K Road, Especially to my local branch, my new and previous executive team, my sincerest thanks to you all, we have a wonderful industry and a great future.

If you have a question over the holiday period my home number is (06) 843-8930.

Kind regards
Harry Brown
Executive Secretary

Inspection Day in the Hawke's Bay

Saturday 4th November
I woke up at 6.00am and it's raining. Yahoo! No inspection today, too wet. Thank you God. I think, saved from an experience worse than death. (Inspection day by a newcomer to the industry).

Unfortunately, it eased off, so away I go to the meeting area, Robinson's Apiaries. The weather clears a little more (oh boy, I think). We are all briefed by Colin McLean, our President, on what the procedures were and how to wash up after finding suspect brood etc.

Away we went, still quite cold — I might get out of this yet, alas no! We arrive at our first hive and apiary and the sun comes out, the first hive we inspected is immaculate, freshly painted and well looked after. On we go to the next apiary on a 6 hectare block. No queen and bees look hungry. No one was home so we leave a note as we are under instruction not to change anything or remove queen cells or anything else that we don't agree with.

On to the next and find very bad chalk brood. No queen, bees look weak but no apparent problems.

I guess the eye opener for me after seeing three 6 hectare blocks, is that most people had a dream but work reality got in the road of that dream and the lifestyle block is too big to handle and too small to do anything productive on.

On to the next apiary, right at the back of the orchard. I open up the first hive and start the inspection while our team leader talks to the orchardist. Suddenly I get excited and call out to Bob Wotherspoon, our leader, to come and look. I suspect AFB and Bob gets out his matches and confirms it. A sample is taken.

Harry had done it! He was on cloud nine! The only sample taken for the day from our team. Indeed a magic day, with 10 warrant holders leading teams.

We had 35 beekeepers involved and 57 apiaries inspected comprising 246 hives in all. Two AFB hives were found and burnt and one suspect sample found.

The same exercise carried out the previous day with one warrant holder and one beekeeper inspecting 13 apiaries comprising of 86 hives, produced five AFB hives found and burnt.

Special thanks to all those people who gave their time so freely and an extra big thank you to Laine Robinson who cooked and served an excellent lunch (assisted by Chris, so I am told).

Again thanks to everyone. A great day.

Harry Brown
Executive Secretary

! STOP PRESS !

SEE FEBRUARY ISSUE FOR DETAILS OF CLEAR COMMUNICATION RATES TO MEMBERS OF THE N.B.A.

Member Benefits

One of the things your executive has tried to achieve is "member benefits" for the people who belong to the NBA.

There are valuable rewards for belonging to the Association.

Whitcoulls Office Products have agreed to give us a whopping **30% discount** on all stationery.

See the advertisement in this issue.

If you want to take advantage of this offer you will find a form in this magazine to open an account with Whitcoulls and then the 30% discount is yours!

More benefits coming for NBA members in the future.

Letters to the Editor

Plastic Frames

Dear Sir,

In about 1964 Morty Foreman of Plastic Products, Hamilton gave me six full-size plastic frames to try. They were made of a mottled blue plastic which felt like a very hard rubber. The manufacturer may have been standard telephones and cables. No instructions accompanied the frames so I just put them in six different colonies. At the end of the first season the bees had done nothing at all with them.

For the second season I brush painted the "foundation" with hot beeswax and replaced the plastic frames in six hives. The result was excellent, the bees pulled out the wax into worker comb and filled the combs with the usual brood, honey and pollen. These combs are still in use somewhere in my apiaries, I saw one last week like Sonny Jim of my youth "still going strong". I have on occasions washed off the old brood comb with hot water, recoated with wax and started again. They had one major fault, the lugs were very brittle and soon fell off and I had to replace them with long screws.

Soon after my present of the plastic frames I was given some Jonel wooden frames and plastic foundation. The clear plastic foundation had a metal picture frame round the edges and fitted into grooves in the wooden frame. The clear plastic was covered in beeswax. The bees drew out combs very well and this again could be removed with hot water when necessary. The wooden frames have long since died but the foundations are still hidden somewhere in my hives.

Yours sincerely
George Nichols

STOP PRESS

Dear Editor

I would like to acknowledge through your columns my very sincere appreciation and thanks to the NBA Executive, and to all the beekeepers who formed a guard of honour at Stanley's funeral and to those who sent cards and messages to me and my family in our recent sudden and sad loss of a loved one.

Without the support of such kindness it is very difficult to bear. A very special thank you to Chris and Margaret Bromell, my brother, Gordon Smith from Kaiapoi, and to Ted Roberts for guidance and encouragement to resolve what needs to be done.

On behalf of Jenni, Ralph and Brad, and families, thank you all.

Joyce Young

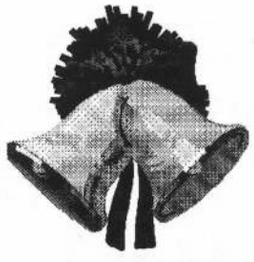
Dear Sir

Now that the orchardists have stopped spraying our bees on the apple flowers we are urging the scientists to find an effective method of thinning apples without the use of a carbaryl based spray. The plains have such intensive orchards of differing varieties that it is becoming impossible to find a spray free yard

By the time this appears in print, hives will have been in and out of the kiwi-fruit and we are hoping for a good set.

Hive inspections turned up more AFB than we would have liked but we put this down to targeting suspect areas together with a good turnout of volunteers. Five locals also went over the top to help with the EDPS in the Manawatu. We had to go over the top as the Manawatu gorge was closed again.

Ron Morrison



From the Colonies

It had to happen

A site has been located
A hive has been donated
A tool has been created
A veil has been cons' crated
The gloves have been thrown down
The wife looks on with frown
Let all who live in town
Meet beekeeper Harry Brown

Anon

E.D.P.R. EXERCISE

Exotic Disease Response Exercise for European Foul Brood (EFB).

I was very privileged to be able to attend the MAF Exercise in Palmerston North on the 7 and 8 November. What was I to expect?

I arrived at 8.00am (left home at 5.30am). Headquarters (H.Q.) was well signed-posted and at 8am we were briefed on what areas we were to cover and what we had to do. e.g. if we found anything suspicious we must take a sample, number the hive and ensure we washed up after each apiary, or after finding foul brood disease in a hive before we opened the next hive. Hygiene was very important, with all being requested to wear gloves as in a true outbreak all people would have to wear them.

Day one

Well, it was under way, three to a team with a MAF person as the recorder, driver etc. With MAF's major restructuring, staff are in reasonably short supply, with people from Whangarei to Invermay being flown in to assist in this exercise and to get some experience with bees as well. In a real outbreak this would happen as there are not dozens of MAF staff experienced in beefarming.

We drove off to inspect our first hive on the outskirts of Levin, and no real problems were encountered with this hive, although two hives later we found suspect American Foul Brood (AFB). So an sample was taken for further analysis at the laboratory.

What really amazed me was the conditions of some of the hives, where several units at some apiaries had died out from disease and no winter supplies. In one hive even the wax moths had died. On the third site for the day we struck a real humdinger of a hive — just what us new people to the industry had hoped not to find! The bees came out to meet us, about 50 metres out, a real warm welcome! They continued to dive bomb throughout the whole inspection (disease couldn't stand a chance with this hive). Nine stings later we had completed this site. Thank goodness.

How had the Executive Secretary been stupid enough to be conned in to this was going through my mind.

MAF had supplied us with an excellent lunch which was finished on the side of the road between apiaries.

On to the next apiary, instructions being "go past the house with a wooden fence on the left hand side, past the orchard, hives are at the back of the property under a cabbage tree, past the chicken rearing shed. "Yes", they were there. I guess one of the amazing things was the instructions on where the hives were - on a concrete pad in an almost hedgeless field.

We found two more apiaries from which we took samples for the laboratory to check, and home to H.Q. When we arrived back our team leader was debriefed as to how the day had gone, problems encountered, samples correctly marked etc. Very full analysis. We were pleased it was the MAF staff team leaders because as they were doing all this we could have a well earned cold beer. (Thanks to MAF).

Day one was certainly an eye-opener as to how some people, who had got out of kiwifruit and apiaries were left to fend for themselves A real worry for Disease Control. All the importance of grid references for hive location was very obvious. I guess as the Ground Positioning Satellite (G.P.S.) units become cheaper, currently $1500, MAF personnel will have these available and grid referencing will be so easy.

Day Two

I was based at H.Q. to see how the operation ran in the event of a disease outbreak. I have only one word to describe the whole operation — Professional.

Yes, a real credit to the team.

Computers, data bases, maps with pins and grid references all over them, black coloured pins showed apiaries still to be inspected, yellow pins showed inspected apiaries, red were suspected disease sites and pink were for unregistered hives. There was a full debrief on how the previous day had gone with everyone

Continued on page 9

Some of the team that attended the E.D.P.R. Thanks to MAF.

Continued from page 8

encouraged to have an input. Systems that needed improving were noted and people allocated to ensure it happened. A real continuous improvement environment. There was even an internal newsletter, produced to ensure that everyone knew what was going on.

I guess there is very little else that I can say about the H.Q. operation other than repeat the word "Professional".

Even with the huge staff reductions that MAF have had over the past two or so years I can only guess at the effort that went on behind the scenes to make this exercise a success. From the staff who called all beekeepers in the area to advise them of the exercise and to check that the information that MAF had on hive locations was correct through to ensuring that someone was available and trained to talk to the news media. It took me a while to adjust to the industry jargon e.g. EDB04, TAGO and RRCM (oh boy!).

My Conclusions:

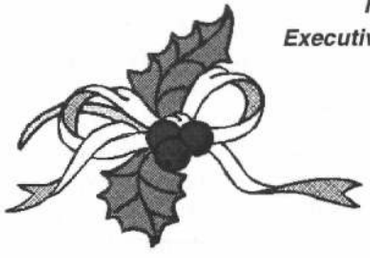
An excellent two days which gave me a lot of confidence should we ever have an outbreak of Exotic Disease in New Zealand. (Bees or cattle). We must encourage all rural people to get an identification on their mail boxes.

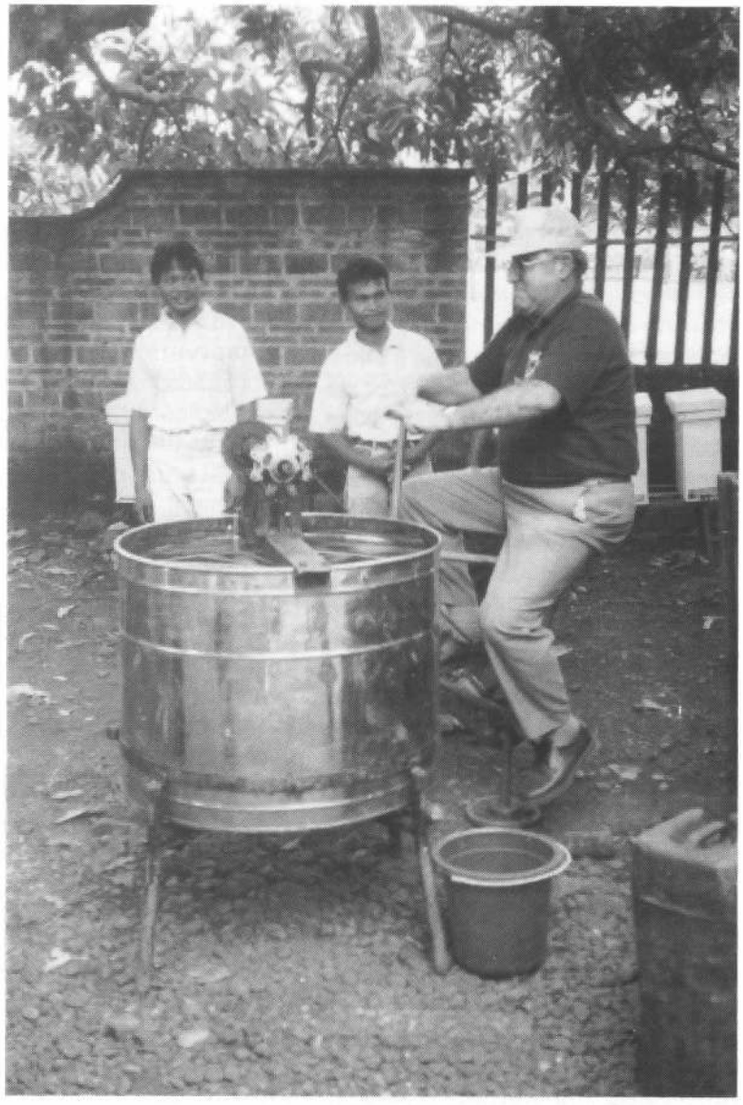
Numbers of apiaries inspected	215
Numbers of hives inspected	1066
Numbers of samples taken	50
Numbers of suspect samples	25

To all the Beekeepers who willingly gave their time free for one and two days, a very sincere thank you.

To the MAF team, you made me very proud to work with such dedicated people.

Kind regards
Harry Brown
Executive Secretary





Malcolm Haines at the 1995 Asian Bee Conference trying out some new equipment to extract Manuka Honey. Orders are being taken. (Is this the equipment he talked about at the Hawke's Bay Field day where he said he was going to extract in the paddock and not bring all the boxes home? (Hmm) Good luck Malcolm. ***Ed***

Importing commercial beekeeping equipment from the United Kingdom

The British Consulate-General in Auckland provide a range of free services to New Zealand companies interested in importing products from the United Kingdom. As many readers will know, beekeeping is an enormous pastime in the UK with some 40,000 beekeepers enjoying the challenges and rewards of apiarist activities. However, approximately 400 beekeepers belong to the British Bee Keeper's Association located at the National Agricultural Centre in. Stoneleigh Park, Warwickshire.

Many of these beekeepers are either semi-commercial or fully commercial operators relying on beekeeping to provide a significant part of their income or their entire income respectively.

Honey-bees play an integral role in the pollination of many plants, and commercial crops such as field beans, soft and top fruit, and are of indirect benefit to many others. Indeed, Borneck and Merle (1989) estimate that approximately 85% of insect pollination of major crops and wild plants in the UK is done by honey-bees and that the value of the crops pollinated in the entire European Community (EC) is 65,000 million ECU (European Currency Units).

In the UK, honey-bees contribute to the pollination of 30,000 hectares of top fruit (apples and pears), 11,000 hectares of soft fruit (e.g. strawberries), 165,000 hectares of field beans, 145,000 hectares of linseed and 400,000 hectares of oil seed rape. Farmers and growers hire honey-bee colonies for pollination work at up to £22.00 or more per hive for a short period and regular contract work makes a significant contribution to some businesses.

With a large amateur section of the industry comes a ready market for the sale of honey-bee colonies and queen bees. It must be remembered that at least 180,000 colonies of bees are operated by hobbyist beekeepers, a market that generates a considerable market in replacement stock. On average approximately 4000 queen bees are imported to the UK each year, mostly from New Zealand.

The magnitude of the beekeeping industry in the UK, both at commercial and hobbyist levels, has precipitated a steady growth in suppliers of beekeeping equipment, several of whom have experience with exporting their products. These suppliers manufacture and supply a very wide range of equipment, from hive parts to extraction and bottling plant.

If your business is considering importing opportunities from the UK and would like to receive information on suitable suppliers of specialised equipment, call the Consulate and enquire about the free services we provide to assist you. If you are at all interested in receiving a list of UK apiary equipment suppliers, please call the British Consulate-General on (09) 303 2973 (extension 827).

Ian Roy

References

Borneck, R., Merle, B., **Trial to Evaluate the Economic Incidence of the Pollinating Honey-Bee in European Agriculture**, 1989.

Central Science Laboratory, National Bee Unit (MAFF), **Commercial BeeKeeping in Britain**, Ludington, 1995.

Wither wild bees?

That most wild bees are in decline is of no doubt[12], and their plight is attracting growing attention and concern. To address this and related issues, IBRA, jointly with the Linnean Society of London, organized a 2-day meeting in London earlier this year'. Entitled, Conserving Europe's bees, the meeting provided a forum for the presentation of current views and the state of knowledge of bees and their conservation. The 17 lectures were divided into four half-day sessions, namely: 'Habitats for bees', 'Do plants need bees?', 'Competition in bee-plant and bee-bee interactions', and 'Grappling with bee diversity'. With additional posters and computer displays, the programme was full and varied, and generated much lively discussion and debate amongst the 100+ delegates.

Confusion often arises over the definition of bees in the context of conservation, particularly when prefixed with the adjectives 'wild' or 'native'. Specifically, are honey-bees (Apis mellifera) to be considered in a discussion of bee conservation, particularly for those areas of the world where they are indigenous (Africa, Asia, Europe)? For Europe at least, probably most honey-bee colonies are managed to a greater or lesser extent and, unless specifically defined, generally the meeting implicitly used a non-Apis definition of 'bee'. This is appropriate when considering the conservation of Europe's bees, but maybe not when considering the conservation of other fauna and flora within a world already much influenced by the effects of humans. Clarification and formalization of terminology would certainly be helpful.

Habitats for wild bees

Habitat destruction by man has been central to the demise of wild bees, a view echoed in numerous presentations at the meeting (Westrich, Institut für Wildbienenkunde, Tübingen; Petanidou & Ellis, University of Thessaloniki and University of Amsterdam). But although aspects of the biology of some wild bee species are known[12], the majority remain unstudied and, moreover, there is a poor knowledge of the specific habitat requirements of any of them. Indeed, Klemm (Bioplan GbR, Tübingen) argued that many of the putative original habitats of Europe's wild bees, such as sand and gravel banks of rivers, no longer exist, and efforts should concentrate on enhancing the conservation value of human substitutes, river levees and sand pits or quarries. It is interesting to note that the features of these natural habitats used by wild bees are ephemeral, suggesting that wild bees may be good colonizers[4]; more data to support such a contention are sorely needed.

Nowadays, the highest European bee diversity is to be found in semi-natural habitats such as meadows and Mediterranean garrigue (Westrich; Petanidou & Ellis). Saure (Berlin) showed that abandoned and disused industrial and residential areas within Berlin also provide suitable habitats for a surprisingly high diversity of bee species, a situation mirrored in other central European cities (Bischoff, Museum Alexander Koening, Bonn)[6]. Green-fingered English folk take notel. The suburban garden has a role to play in wild bee conservation, too (Halstead, Royal Horticultural Society, Surrey)[9]. These ruderal sites, be they garden, roadside verge or disused airport, with a fragmented 'patchwork' distribution around our towns and cities, may act as reservoirs for wild bees (Saure), though critical evaluation of their importance will depend upon the analysis of wild bee populations within the framework of appropriate metapopulation models.

An interesting concept put forward by Westrich was that of the 'partial habitat'. Bees may require resources from more than one discrete habitat to complete their life cycles; they may require:

- Nesting material.
- Food (pollen, nectar, flora oils).
- A site at which to build a nest.

These three needs may not be available within one habitat, but rather in two or more geographically isolated partial habitats **(fig. 1)**. Conservation of individual species may therefore necessitate careful preservation or generation of appropriate partial habitats within the flight range of an individual bee (though knowledge of the flight range of any wild bee species is poorly known[3]. Edwards (Midhurst) provided a number of salient points worthy of consideration in the management of habitats for wild bees which clearly reflected first-hand experiences. Such specific comments are a valuable complement to the

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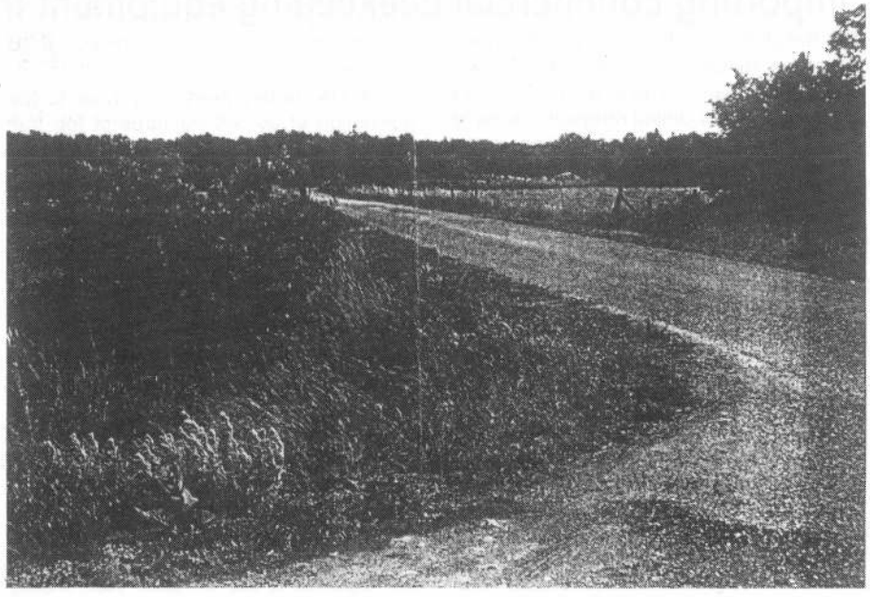

(Fig 1). *Partial habitat? The European wild bee Andrena jacobi nests within roadside banks like this one in SE Sweden, but requires pollen and nectar from shrubs of the Rosaceae and other plant families within its flight range with which to provision offspring.*

Continued from page 10

numerous publications, which give a more general overview of recommendations for wild bee conservation.

Competition with honey-bees

The impact of honey-bees on wild bees has generated much heated debate in beekeeping and more esoteric academic circles alike, and one of the four sessions at the meeting was entirely devoted to presentations addressing this issue. Competition between honey-bees and wild bees is notoriously difficult to demonstrate in the field (Roubik, Smithsonian Tropical Research Institute, Panama), possibly, Thorp (University of California) suggested, because of the past elimination of those wild bee species most sensitive to such competition.

However, a view prevailed that honey bees (Buchmann, USDA Tucson), or even *Bombus terrestris* (Dafni & Schmida, University of Haifa and University of Jerusalem), are likely to compete with other bee species under some situations, and recent empirical evidence has demonstrated a negative impact of honey-bees on the foraging and reproduction of wild bees in Germany[3], where honey-bees are themselves indigenous. In a more constructive vein, Sugden *et al.*suggest that we should aim to define the conditions under which interspecific competition exist, and Corbet's (University of Cambridge) 'competition box' provides a novel and potentially useful experimental paradigm by which to do so.

Wild bees and pollination

But what effect will a reduction in wild bee numbers have on the wider wildlife, particularly given the role of bees as principal pollinators (Kwak, University of Groningen), ensuring successful plant reproduction in most terrestrial ecosystems? Where there is a tightly coevolved relationship between a bee species and a flower species, loss of either will be catastrophic, particularly for the former (Kwak).

Most plant-bee relationships are, however, diffuse, and therefore it may be more difficult to define the effects of the loss of one component of an ecosystem, plant or bee, on others. Richards' (Agriculture and Agri-Food Canada) and Vaissiere's (INRA, Avignon) papers in the pollination session provided a useful contribution of how to assess those interactions, and highlight the need for empirical field-based studies of the dynamics of wild flower pollination by wild bees (Kozuharova, University of Sofia). A diversity of pollinators seems desirable from the perspective of crop pollination (Williams, IACR Rothamsted).

Taxonomy

In the final session of the meeting, O'Toole (University of Oxford) highlighted the lamentable position of bee systematics in Europe, and how a lack of species identification can hinder conservation efforts. In contrast, on the other side of the Atlantic, public money has been provided to support joint US-Mexican taxonomic and faunistic studies of the Mexican bee fauna (Michener, University of Kansas) and the generation of identification keys[7]. Indeed, a poster at the meeting (Echazarreta *et al.*, University of Yucatan) describes ongoing research into the distribution and abundance of wild bees in a variety of disturbed habitats in the SE Mexican Yucatan Peninsula, and testifies to the positive benefits of basic taxonomically-oriented research.

The future

A major aim of the meeting was to bring together scientists and practitioners working within disparate areas of bee conservation, and to engender further discussion and collaboration, which I feel it amply succeeded in achieving. For example, the first gathering of the FAO's European 'Working group on pollinator diversity management' was convened immediately after the meeting. As Reinhardt Klein (EU-Nature Conservation) indicated in his brief overview, what is now needed is for politicians who make decisions over land management and conservation to be persuaded of the importance of wild bees and their role in natural and agro-ecosystems, and to be presented with generalized rules for wild bee conservation and management.

Proceedings from 'Conserving Europe's bees' will be published jointly by IBRA, the Linnean Society and Academic Press in 1996. They will provide a summary of the current state of knowledge of wild bee conservation across a gamut of subject areas, and should be indispensable reading for all with an interest, direct or indirect, in wild bee conservation.

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Robert Paxton
Uppsala University, Sweden

To bee or not to bee...

Rather than nobly suffer the stings of outraged honeymakers, we can learn to live with them in harmony.

Robin Neillands commends the art of beekeeping

BEEKEEPING, like training sheepdogs and laying hedges, is one of those country mysteries I have always wanted to try. The snag is that as I live in London, a far cry from the bee-loud glades, I had always imagined that beekeeping was an impossibility. Just the other day, I discovered I was wrong.

According to Adrian Waring, Secretary of the British Beekeepers' Association, townsfolk have some advantages over country-dwellers when it comes to bees and honey.

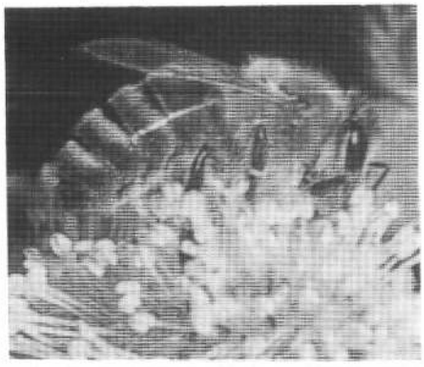
'It really comes down to a matter of forage — or flowers for the bees to visit. The great source of nectar used to be wild white clover and fruit trees, so country beekeeping was seasonal, depending on the crops. Town people have a far greater range of forage plants in gardens and their sources are available over a longer period.

'Once the oil-seed rape has gone, our gathering season is over by mid-July, but bees in London or Manchester could go on gathering nectar for another month if there are flowers.'

Cities can be good for bees, since they are perceptibly warmer than the countryside. That warm air extends the flying season. Towns, especially British towns, are also full of parks and flower-filled gardens, each one a possible mecca for the nectar-gathering bee. In the countryside, too, insecticides are used on most crops nowadays, though thanks to less toxic sprays and more careful spraying by farmers the problem of bee deaths is declining. The farmers have realised that they, too, need bees.

Then there is the question of flavour; city bees, it transpires, produce varied, well-flavoured honeys because they have a more varied flora, while the country bee has to be content with an overdose of oilseed rape. When all that is taken into consideration, keeping bees in town can be a very good idea and more and more city-dwellers are taking it up, discovering in the process the curious world of bees.

Bees similar to ours have been around for about 40 million years and have been kept by mankind for at least 7,000 years.



A worker honey-bee on the comb

According to James Havill, who runs The Hive, a bee shop in the unlikely setting of Battersea, south London, 'Without bees we would be sunk. Without bees there would be no pollination and no crops... we would all starve. We should not worry about the nuclear threat, we should worry about no bees and the loss of their habitat.'

In the 1930s a disease affected the bees of Britain and many colonies were lost. Eventually the bees adapted and that disease, acarine, is no longer the problem it was. There are seven races of bees in the world, all divided into different types to suit their localities.

The bee flies at a cruising speed of 15mph, about seven to 10 feet from the ground, ranging up to three miles from the hive and visiting up to 10,000 flowers a day in search of pollen. The result of all this labour is enough nectar for about a small teaspoonful of honey. A pound of honey is collected by bees that have flown the equivalent of three times around the world to get it.

However, the bee should not be regarded as an individual but as part of a colony, a hive, for bees work together, even in gathering nectar, using a system of communication known as dancing.

There are about 60,000 bees in the typical hive and there are three sorts of bee: the queen, one per hive, who lays all the eggs and maintains the colony, the drones, who do very little but hang around the queen, and the workers. Only about half the bees are engaged in collecting nectar - the rest care for the bee larvae and the queen - and they only forage when middle-aged, about three weeks old.

One per cent of the flying bees are 'scouts', who look for new sources of honey. If a bee goes out and finds a good source of nectar, say an orchard or a new patch of flowers, she — all the worker bees are female (of course) — gathers all the nectar she can carry and hurries back to the hive. When she arrives back at the hive with the good news she communicates the information by way of a dance (the 'waggle' dance is one example), which not only alerts the other bees to the existence of this new flower patch but actually tells them where it is... and off they fly to find it.

The result of all this effort is about 60 to 100lbs of honey in a typical summer season from April to August or early September. This amount of honey can make beekeeping a self-financing hobby, for the honey would cost between £200 and £300 if bought in a shop and that sum will equip the beginner with the basic kit. That apart, beekeeping is a fascinating hobby, even for amateurs.

'I don't like to call them amateurs,' says Adrian Waring, 'for most beekeepers end up with far more honey than they can possibly consume and have to sell it on. Let us call them small scale producers. We reckon there are between 30,000 and 35,000 beekeepers in the UK. The typical beekeeper has between one and 10 hives and finds that more than sufficient.

'The big fascination is the bees, but there are a lot of advantages too. To begin with, the bees don't need constant attention; you can go on holiday and the bees will look after themselves. Beekeeping is different and a challenge; it is not easy to do

Continued on page 13

ABOVE: honey-bee colonies on the oilseed rape
INSET: a swarm amongst runner beans
FAR LEFT: gathering nectar from a pussy-willow

Continued from page 12

and a challenge; it is not easy to do well, but it is certainly an absorbing hobby.

As with all hobbies, though, it does not pay to cut corners, says James Hamill. 'You need a hive, honey boxes and frames, wax, a queen and about 50,000 bees. You will also need a veil and smock, gloves and a "smoker" to tranquillise the bees for handling.

'A "smoker" is just that: it produces smoke which makes the bees think that the hive is on fire. Their response is to save as much honey as possible, so they gorge themselves on it and become tranquil, so the beekeeper can get in and either clean up the hive, which is important, or extract the honey trays.'

Handling the bees can be tricky, for in large numbers they can be dangerous if you don't know what you are doing, but that, too, is part of the fascination of beekeeping. Bees are not naturally aggressive. They are far too busy to waste energy attacking humans. They also have a barbed sting, and as a result, they cannot extract it from our elastic skin. The sting is pulled out of the bee instead and the resulting damage will eventually kill it. The bees know that and will not sting unless provoked.

People who are interested in beekeeping but are nervous about bees should take a course. Most English counties have a Beekeepers' Association and most run courses for new beekeepers. A typical three-day course will cover all the necessary basic instruction, including some hands-on experience in the apiary. Swarm control should form a major part of any properly conducted course.

Swarming usually takes place from May to July. As bees reproduce they create more colonies, which may get overcrowded so that some bees have to move. Honey-bees only live about six weeks, so the queen has to lay a lot of eggs to keep the hive up to strength. An average queen will lay about 2000 eggs a day to keep the colony going, but the bees multiply and during June and July, unless the beekeeper prevents it, they will swarm.

Learning about bees can take a lifetime, but anyone can do it. About eight years of age would be a good time to start — with adult help and supervision — but at any age beekeeping can be a wonderfully relaxing hobby, endlessly fascinating, with the great bonus of an annual crop of honey.

So why not buzz off now and buy a hive?

Bee-lines

• A basic set of beekeeping equipment as described above will cost about £250, including hive and a colony of bees.

• A list of centres offering information and short beekeeping courses can be found in *Time To Learn* (£425), available from NIACE, the National Institute for Adult Continuing Education, 21 De Montfort Street, Leicester LE1 7GE.

A basic course aimed at people with no knowledge of bees will cost from £75.

Further information on courses from The Chain Bridge Honey Farm, Berwick-on-Tweed, (01289 382498) or James Hamill, The Hive, 53 Webbs Road, Battersea, London SWII 6RX (0171-924 6233) or from Adrian Waring at the British Beekeepers' Association (see below).

• It is even possible to take bee-keeping holidays. Inntravel of Hovingham in Yorkshire offers beekeeping holidays in the Pyrenees each summer at prices from £240: call 01653 628862.

• The fascinating history of bees is explained in some detail at the Bee Museum at Hornecliffe near Berwick-on-Tweed (01289 382498). This museum is part of the Visitors Centre at the Chain Bridge Honey Farm and contains all manner of beekeeping equipment. You can watch the bees at work and the honey being produced.

• British Beekeepers' Association, National Agriculture Centre, Stoneleigh, Warwickshire CV8 2LZ (01203 696679).

New Invention

If you have a problem in your beekeeping area with propolis gumming up your frames, well here is a new device to collect it in commercial quantities. Propolis in recent years is being keenly sought after worldwide, where it is used in the ever-increasing Natural Health Product Markets, especially in Asian countries.

Propolis is used in toothpaste, chewing gum, propolis and herb throat spray, lip balm, propolis capsules, throat lozenges, propolis tinture, propolis tablets, propolis royal jelly and pollen tablets. There are endless possibilities for propolis with its natural antibiotic and therapeutic benefits. It is possible, depending upon your beekeeping area for a financial return per hive, the equivalent of 1½ supers of honey per season at present prices.

New Zealand with our clean green image overseas, we are obtaining world top prices for our propolis. Best prices are obtained if propolis is freshly collected and stored between the plastic plates of this new device called Gera Propolmats — propolis collecting plates.

Trialed last summer through autumn proved very successful with production exceeding expectations. The main features are the easy removal and much larger quantities of propolis from the plates after cooling. Easy resembled for installing back into the hive.

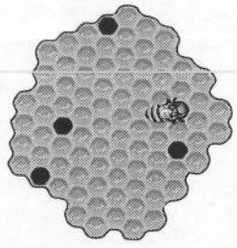
One Propolmat set per hive consists of a plastic frame the same as and takes the place of the inner cover, with the height space filled with 4 plastic plates with rows of holes.

The Propolmat can be inserted under the bottom super, between the broodnest (where the bees fill with propolis very quickly) above the second super (can be used as a queen baffle) or under the hive lid in place of the inner cover.

The Propolmats must be in constant contact with the bees for quick filling. Propolis is harvested four to six times over six months, or more often if necessary.

Bees carry on collecting propolis long after the honey flow has finished, hence the greater production in the autumn, and seems to not be affected by changeable weather conditions. Researchers have found that bees collect propolis from a young age, and carry on doing so for the rest of their working life.

There are many thousands of dollars of beekeeping equipment, standing out on farmland, going rotten each year: beekeepers should try to obtain maximum returns per hive, and diversify to survive and help pay for replacement of gear. Now there is a commercial way to help do so, Gera Propolmats have been patented to protect the inventor's investment. (See advertisement).



A Beekeeper's Impressions

By Peter Berry, Hawke's Bay.

Taniatua, black hills, black clouds, black bees, bush bees brought in to work the Rewa Rewa and Kamahi. Wild drones from the bush fastnesses of Tu Hoe, flying from their tree houses through wax polished doors, have spurned their little black German sisters and flown down to the valleys to mingle their seed with the fat yellow Italian buzzing quietly and industriously in their hives. These winged sex drives leave behind a hybrid vigour coupled with more than a hint of the warrior spirit native to these misty hills. High and fast they fly to catch the golden virgin. Then fall spent and lifeless to the valley floor.

Whether they died for lust or love is unsure but what is sure is that they have left many daughters. These daughters have worked hard through the golden days of spring, supping nector from the bush flowers, filling the combs and boxes with rich dark Rewa Rewa honey. Sated, the flowers have set seed, the cycle goes on and the trees withhold their bounty for another year, another spring.

Two weeks have passed without the calming business of the honey flow. The unemployed daughters of the lowland Queens and mountain Princes become restless and irritable. A cold misty drizzle blows in from the south. An empty honey truck drives in from the west.

Taniutua, bush clad hills, cow clad valleys. A marae every few miles and a pub where the plumbing works well enough to keep you awake all night but refuses to let its shower heads dispense anything but a miserable stream of frigid water. As cold and miserable as the day. We light our smokers, the warming scent of burning pine needles drives back the mist a little. I lift a lid, puffin a little smoke and BATTLE commences.

Gone is the reasonably peaceful symbiosis where the bees make honey, we remove it and return to look after the bees, feeding them in the spring and moving them to fresh fields and forests of honey through the summer.

Bees swarm around in their thousands and most seem to have my number tattooed on their rumps. Veils, gloves and heaps of smoke keep most of them and the outside. They swarm all around the hives, clump on trees, land on the truck, crawl back into the boxes of honey we have just chased them out of. The day drags on with victories on both sides.

Five yards of bee later we head off back to base. The soaking legs of my overalls are white with thousands of stings. Some dozens of bees have made it through my defences. We are tired and sore, unsure if there is justice in the world as we drive homeward.

We drive on, woops a traffic cop, he waves us into a weigh bridge. A wave of angry bees follows us in, he WAVES us out again with a sort of a smile on his face and an obvious desire to see the last of us as quickly as possible. We disappear into the sunset, over the only road bridge I have ever seen that has railway lines running down the middle of it.

There is justice in the world.

Requeening

By Peter Berry, Hawke's Bay

First, find your Queen.

Sitting here this evening my eyes feel like they have been flicked by a piece of scrub. Not painful exactly, but bigger than they should be. The reason for this is the biannual requeening of my 56 hives. At 9.15am I started looking for Queens and by 12.15pm, three yards later, I had killed 54 Queens and made 10 divisions. Putting in 48 two-day cells and leaving the 19 best hives to raise their own. (One hive was Queenless and I had a young Queen). I must say at this point that I probably have two major advantages over some of you reading this. Lots of practice and because all my hives are requeening every second year, none of my Queens are over two years old. I should also add that I am only of average ability at finding Queens, some people that I work with being atleast half as fast again.

So how do I find them? Years ago when we decided to requeen all our hives every second year, I had to start almost from scratch. I devised or perhaps evolved through desperation, a system for methodically going through the hives and finding the Queen reasonably quickly without missing too many. This system was developed for autumn requeening but would obviously work in the spring as well. When you take the honey off, leave the hives two high with a Queen excluder between the boxes. After four days there will only be eggs in one box (after two days the eggs lay down but I find that trick hard on the eyes). When you return, open the hive using a minimum of smoke, split the boxes and place the second box on the ground squarely on top of a division board so that the bees cannot escape around the bottom. Leave the excluder on the top on the bottom box, move the frames slightly to the side from either side of where you think the middle of the brood nest is likely to be in the second box, then carefully bring the middle frame of the brood nest out. Look carefully for eggs. If you see some, the Queen is in that box. If you don't see any, think about whether you have the right frame and either check another frame for eggs or go to the bottom box.

If you find eggs, stop looking for them, refocus your eyes and carefully check the frame for the Queen. I often miss the Queen on the first frame and have to go back through because I fail to do this properly. Then work away from yourself, looking reasonably quickly over both sides of each frame then leaning it against the box in front of you. Work back towards yourself until the box is empty. Now look inside the box and on the division board if they are clustered up, make them run with a bit of smoke. Drive your hive tool into the ground next to the frames and quite quickly flick through them like the leaves of a book, looking down from the top and the chances are you will find her. If you don't, go through the procedure quickly, in reverse, and then go on to the next hive if there is not too much robbing. Come back a few minutes later and try again, this gives her a chance to come out of hiding. If that doesn't work, try shaking half the bees off on to the excluder from each frame and if she is under a clump of bees you will pick her up. Alternatively, and for the purist, this is like trout fishing with a spinner, you can use a sieve box. This is a super with an excluder nailed on the bottom and lightly oiled tin nailed on the inside so the Queen can't climb the sides. You simply knock all the bees into the sieve box which is placed on top of the box that you are not looking in, and smoke hell out of them. You either spot the Queen in the bottom or knock out the last few bees on the ground and stomp on them hoping to get the Queen. The bees do not take kindly to being sieved and we no longer bother doing it, simply putting a cell in the hive, marking it and checking it next time.

When we first started however, we often used to sieve hives and it is valuable tool for getting rid of that five year old black vicious mongrel Queen that is full of chalkbrood and smaller than a worker. If there are no eggs in the top, remove the excluder, knocking the bees from it onto their respective boxes and start checking from the outside of the broodnest nearest you, basically using the same technique. When putting a frame out, look over to the next one as the Queens often run ahead of you, which is why it is important to work fairly quickly.

And what do Queens look like? Look at them and study them when you see them at other times of the year or go out for the day with someone who is an expert at finding them. Work at it methodically and gently and you'll soon catch on. Oh, and when you find one kill it and throw it away from the hive straight off. If you try to show it to your mate you'll find it has jumped off the frame and you won't ever see it again.

JASONS STORY

Jason, the younger child of a King Country family who keeps bees, was 18 months old when he was stung by a bee and suffered a violent reaction. It was only the quick thinking of his parents and their proximity to a doctor that saved his life. Stings from bees and wasps are a relatively common occurrence for most people in this country. Children often play outdoors bare footed and many people have outdoor occupations or leisure pursuits. For a small proportion of the population however a single sting can cause such an adverse reaction their life is at risk as in Jason's case. Jason was at home with his father when he was stung on the neck. Within seven minutes, he turned bright red, started coughing, gasping for breath and finally vomiting. Jason's mother, a nurse, was at work but when told recognised the symptoms of Jason's attack as an anaphylactic shock. He was rushed the three kilometres to a doctor and adrenaline was administered.

Deaths from stinging insects are rare, 40 or 50 cases are reported each year in the United States. Australia has one or two deaths a year and New Zealand perhaps one every three years. It is not a 20th century phenomenon. The first recorded fatality from a stinging insect was in Egypt in 2621 BC. The victim was King Menes, the first King of the first Dynasty, founder of the city of Memphis and diverter of the Nile. The account of his death from a wasp sting is written in hieroglyphics on the walls of his tomb.

Stinging insects belong to the order Hymenoptera or membranous winged insects which includes bees and wasps. Bees sting only once then die. But multiple stings can occur if a hive is attacked or upset. Chemicals released in the sting are recognised by the other bees who then go on the attack.

Wasps can administer multiple stings and their predilection for sweet food causes them to be a nuisance at school lunchtimes, picnics and barbecues. The venom of wasps and bees contains a large number of biologically potent components which product transient pain, swelling and redness at the sting site. These reactions will occur to some extent in all people and are known as local reactions; at their worst they last 2-3 days and can be debilitating but not life threatening.

With a systemic reaction the reaction does not involve the sting site. Reactions vary from patient to patient but are generally heralded by itching, burning and flushing. These may progress to a generalised rash, swelling of the upper airways, abdominal cramps with vomiting or diarrhoea, chest pain and circulatory collapse. Many fatalities occur in the over 40 age group, suggesting underlying disease such as hardening of the arteries may have contributed. The other major cause of death in a systemic reaction is asphyxia from swelling of the airways. Therefore the risk is exceptionally high for asthmatics. In all allergic disease, the treatment of choice is avoidance of the causative substance (allergen). With stinging insects however this is very difficult especially for people who have occupational exposure such as farmers, orchardists, beekeepers and their families, gardeners, drivers etc. To keep children indoors is unacceptable in New Zealand's climate.

People who experience a systemic allergic reaction to stings find it a terrifying experience and the majority seek some form of treatment from their doctor. One form is to learn self injection and always carry a syringe loaded with adrenaline. This is obviously not suitable for children and although used by at risk people who work in isolation it is clumsy. There is always the risk the syringe is left in a vehicle or at the campsite and not carried at all times.

Immunotherapy with pure venom from the causative insect offers protection against severe reactions in more than 90% of cases. The principle is very simple. Skin tests determine to which stinging insect the patient is allergic. Then starting with very low doses of the appropriate venom, increasing amounts of venom are injected at regular intervals until the patient is able to tolerate a dose considerably in excess of that encountered in real life. In insect venom immunotherapy the top dose is equivalent to two stings.

Jason began immunotherapy after his second severe reaction when he was only two years old. Within seven minutes of being stung he had started gasping, coughing and asking for the "doctor". Although he was one of the youngest patients ever to be tested in New Zealand, Jason's parents decided the risk of leaving him untreated was too great. They also considered leaving their rural lifestyle and giving up the bees but Jason would still be vulnerable, unlike his older sister who had been stung at least 15 times at the same age and had no adverse reactions. Jason was diagnosed as being allergic to the honey-bee only.

Weekly injections under the skin were started with diluted bee venom. This involved travelling the 80 kilometres to Hamilton every week for three months. The interval between injections was gradually increased and now Jason is seven years old and needs a yearly booster only. Jason's parents are in no doubt the decision to have treatment and the effort involved was worthwhile. He is a happy, confident seven year old as immune to bee stings as his older sister is. They have peace of mind without the need to always have a syringe loaded with adrenaline at hand, and the family can continue with the country living they enjoy.

Thanks to Gail Morrison, Auckland

Things To Learn From Bees

Howard Scott

Every decade has its book of simple wisdoms. In the 70s, Robert Pirsig's *Zen and the Art of Motorcycle Maintenance* became an indispensable handbook. The 80s saw Robert Fulghum's *All I Really Need to Know, I Learned in Kindergarten* rise to best-selling stardom. I have in front of me the 90s offering: *Life's Little Instruction Book,* which offers 108 guides to living sensibly. Well, how about Bee Homilies'? Can we learn anything from the bees that we can apply to our lives'? Okay, here goes:

- ☆ Little drops add up to great stores.
- ☆ One who only loafs and eats makes many enemies.
- ☆ When love calls, it's not always best to arrive first.
- ☆ Leave it to mother nature to provide the best and the healthiest nourishment. Only fools eat junk food.
- ☆ When the sun is shining it's time to make hay.
- ☆ When you are the queen, you can't sit around resting on your laurels.
- ☆ Often it's the ugliest flower that gives the greatest yield.
- ☆ If you're the leader, and another younger, stronger leader comes along, it's time to go. But take friends with you.
- ☆ Any box with a roof can be a perfectly good home. All you need is company.
- ☆ When the heat gets to you, fan.
- ☆ Remember, the only real purpose of your life is to see that things continue: Take care of the children.
- ☆ Hard work is a good way to get through life.
- ☆ There is nothing like being part of a big family.
- ☆ When it's cold out, huddle.
- ☆ When someone says you're ugly or stupid or fat, remember, viewed from above, we all look pretty much the same.
- ☆ In a feminist society, it's a good thing to be female.
- ☆ In running a country or a beehive, decision by democracy is never as good as decision by instinct.
- ☆ Learn to be versatile, for in your long life, you will do many jobs.
- ☆ Don't use your secret powers unless it's a matter of life and death.
- ☆ A real hero is someone who gives up his/her life for his country.
- ☆ When it rains, stay inside.
- ☆ Take care of your leader and your leader will take care of you.
- ☆ Who needs a king when a queen does so well by herself.
- ☆ On hot summer nights hang out with friends.
- ☆ If a revolution comes, be among the group that stays, rather than the group that leaves.
- ☆ Of all the jobs there are, it's great to work around the flowers.
- ☆ What you learn in life is everyone has a role to play, and every role is important.
- ☆ When you soar you will see the big picture. Soar often.
- ☆ One's personal opinion doesn't really matter much, in the face of disease, famine, pestilence, and starvation.
- ☆ The first rule of housekeeping is, don't let the dead lie around.
- ☆ As your group prospers, so will you.
- ☆ There is no more beautiful music in the whole world than the buzz of a hard-working organization.
- ☆ Above all, make Mother happy.
- ☆ If you're lost check out the sun and eventually, you'll find home.
- ☆ The most beautiful colour in the world is translucent gold, the colour of honey.
- ☆ Nothing works like cooperation.
- ☆ Give away half of whatever you create. Be charitable.
- ☆ Never harm a beekeeper. They have your best interests at heart.

Any help'?

Acknowledgement BEE CULTURE

OBITUARY

NORMAN H KEANNE 13.4.38 — 9. 11.95

It is with deep regret I report the passing of my great friend Norm Keanne.

Another man who will be sadly missed by the Southern North Island Branch.

Norm started working for Ted Field of Fields Apiaries in 1958 as I remember. His previous occupation was as a builder's labourer at Waioru.

He took to beekeeping with a determination to learn as quickly as possible and I have to say he was a very apt pupil, making every post a winning post. Norm worked with a will for Fields Apiaries until he resigned to set up his own business Sunnyvale Apiaries, which with typical grit he made a success. During his years as a Beekeeper he was very active at the local Branch level and all of us knew him and will remember him for his honest forthrightness and strength of character.

A modest man, the only time he blew his own trumpet was as a member of

Foxton Salvation Army Band. As an active member of both the Church and the band he must of been a tower of strength and a great role model for members of the congregation.

Norm might have left us before his three score years and ten, but he paved all of that into his very active fifty seven years. I never knew Norm to waste time, he was always with his family, at work, or with his Church. There is of course one exception, our discussion time either on the phone or my frequent visits to Foxton.

Married to Nancy Gray in 1961. Norm and Nancy became proud parents of four children.

All of his family, friends and associates will truly miss him. The Branch and I extend our deepest sympathy to you Nancy, Geoffrey, Peter, and Chrystelle, we know you will get the deserved support from your family, faith, and friends.

Finally I can only say if I am the peer of Norm Keanne, then I am a much better guy than I thought I was.

Don Gibson

Thanks to Mary-Ann Lindsay for the photo

... And Pollen, Too?

Frunjo Goluza

Bee pollen is one of mankind's most nutritious food sources. Athletes from all over the world have used it for decades to reduce degenerative conditions and boost athletic performance. Remember Mohammed Ali? Well, that former heavyweight boxing champion of the world took pollen pellets during his illustrious career. He knew bee pollen packed a punch. Whamm!

Bee pollen has at least, "...96 active nutrients, including 22 amino acids, 27 mineral salts, 16 vitamins (including B-12), trace elements, fatty acids, hormones and enzymes..."

U.S.-born track star Steve Riddick certainly knew that, and he took advantage of it. "The fastest man on earth," as he came to be known, dropped bee pollen in milkshakes and vegetable juice to help him win the most coveted prize in sports: the Olympic Gold Medal (1976).

Harry McCarthy, author of "How Bee Pollen Slows Aging" says, "Pollen boosts an athlete's performance further and much more safely than any "pep pill" in existence." (And, because it's all-natural, it won't get you sent home in disgrace. If only Ben Johnson, the Canadian track star stripped of his Gold Medal for steroid use in the 1988 Olympics knew that!). Other well-known athletes, like Finland's Lasse Viren, Gold Medallist in the 5000 and 10,000 metre track event at the 1972 Munich Olympics, ate pollen pellets regularly. In fact, he'd pop them into his mouth an hour before an event or practice, throw them into fruit juice spread them with honey on bread and even sprinkle them on his morning cereal.

Wherever Lasse went, his pollen was sure to follow. And best of all, adds Finnish Track Coach, Antti Lananaki, "There have been no negative results since we have been supplying pollen to our athletes."

Francis Huber, renowned German Naturalist, once said that bee pollen 'was the greatest body-builder on earth. In fact, honey bee pollens should be the cornerstone for every diet ...," he added.

Of course, he's right you know. Claduia Hoehne is managing editor of Country Health Magazine. She writes, "One pound of pollen is comparable in its nutritional value to about 15 pounds of fresh vegetables, salads and fruits or in regard to its proteins with about five pounds of beef. Thirty-two grams, or two flat tablespoons of pollen would cover the daily requirements of a person in regard to essential proteins." Smile now if you're a vegetarian.

Anyway you shake it (allergics aside), whether it's over cereal on a dreary, rain-soaked morning, or into 'a cool drink after a hard day's work in the bee yard, honey-bee pollen pellets will invigorate and strengthen you, perhaps, even change your life! Who is to say? You may, as has been rumoured, live to 150 years of age like the Georgian beekeepers of the former U.S.S.R. Now these people know the power of pollen.

Frunjo Goluza keeps bees and collects pollen from his home in Victoria, B.C. Canada.

Thanks to BEE CULTURE

"One pound of pollen is comparable to 15 pounds of fruits and veggies ...

STOP PRESS

"Hive Levy Act" has been extended to the 31st of December 1996 and Coms Levy to the 1st of January 1997. Full report in the February Bee Keeper

Musso muscles in on market

THE new Musso 4WD has been quick to make an impact on the New Zealand market.

In its first five months here the Korean-built Ssang Yong Musso - powered by a 2.9 litre Mercedes diesel — has been taking 10 percent of its market sector (4WD diesels priced between $50,000 and $100,000).

Ssang Yong marketing manager Martyn Dawson says that progress so far, for a new brand up against old established names, is excellent.

"The Musso has quickly gained a following in several private sectors — city businessmen and women, rural professionals and younger urban family buyers," he says.

"With diesel at about 50 cents a litre, the Musso's outstanding economy, its interior comfort and sheer space, are what seems to be winning them over."

Musso dealers will shortly introduce the second model in the range, the budget-minded Classic, powered by the same motor but equipped with a split front bench seat for extra capacity, selling for less than $50,000.

Warm welcome for Cruiser

By Bernard Carpinter

BEING both fast and frugal is a difficult feat for any vehicle to achieve, but it's harder still for a big 4WD wagon.

With more than two tonnes to shift, and unhelpful aerodynamics, it's hard enough for such vehicles to be quick, without trying to save fuel as well.

That's why the new turbo-diesel engine in Toyota's Landcruiser has been attracting a lot of favourable comment — it gives the Cruiser really strong performance and, running on diesel, spares wallet shocks at service stations.

The new motor, fitted to three models in the Series 80 wagon range, is a 4.2 litre V6 with four valves per cylinder — a rare setup for a diesel.

The introduction of the V6 has bumped power up from 113kW to a 125kW, and torque from 357Nm to 380Nm. That torque figure is impressive, and the on-the-road behaviour of the engine is even more so.

Before they lowered the speed limit on the Ngauranga Gorge road, the test Landcruiser GX breezed up at 100kmh without needing to change out of fifth gear. Overtaking from say 80kmh on the open road — still in top gear — brings swift, safe acceleration that can continue well past the speed limit if the driver is not careful. Between about 1800rpm and 3600rpm - with 100kmh using about 2600rpm — the engine is just awesome. As well, it's notably smooth and quiet for a diesel, and with low wind noise as well, the Cruiser' does indeed cruise well.

That's partly because the coil spring suspension is nicely set up for road use, able to absorb bumps neatly without lurching or wallowing about. It handles the corners capably too, responding obediently to steering inputs and staying level even at higher speeds.

On a fairly rough gravel road the suspension continued to keep the bumps away from the cabin, while the solid construction of the Landcruiser was evident as the vehicle stayed rigid and rattle-free over some quite big bumps.

The full-time four-wheel-drive is backed up by a limited-slip rear differential, low-range and a centre diff lock for when things really get sticky. And the Landcruiser is certainly able to handle really rough stuff, its rigid axles giving it the axle articulation needed to overcome awkward obstacles.

The car-like interior offers plenty of room in the first two rows of seats, while the centre seats fold flat into the floor to extend an already big cargo space complete with tie-down hooks. Two extra rear seats fold back into the side of the wagon.

The Landcruiser 80 range received a new instrument panel and seating materials earlier this year, plus a big front bumper that makes the vehicle 40mm longer.

A new grille incorporating the Toyota logo distinguishes the updated range.

The GX now has standard air-conditioning, along with central, locking, power windows, cruise control and a good Alpine stereo. Rear-seat passengers get their own adjustable ventilation and heating outlets in the roof.

An optional four-speed automatic transmission would probably work very well with the turbo-diesel engine, and anti-lock brakes are another useful option.

The Landcruiser is 4820mm long, weighs 2420kg (kerb weight) and can tow 750kg (unbraked) or 2500kg (braked). Its steel wheels are 16 inches in diameter with 8-inch rims, carrying 275/70 R16 tyres. The 95-litre fuel tank gives the vehicle a big range between top-ups.

The Landcruiser GX turbo-diesel costs $100,000. All Landcruisers come with a three-year, 100,000km warranty, and free servicing for the first year.

The Landcruiser GX Diesel — notably smooth and quiet for a diesel
Overtaking from say 80kmh on the open road — still in top gear — brings swift, safe acceleration

Honey in our cooking

Ever since the Romans added honey to snow and thus made the first known ices: Frozen confections have been popular. Ice-creams are either made with cream and or milk.

Did you know that New Zealand's favourite top selling ice-cream flavour is made from honey? The hokey-pokey is made from Honey Dew. And because our Honey Dew is unique to New Zealand. This is why when we are abroad and eat the local hokey-pokey ice-cream, and we are disappointed as it never tastes quite like hokey-pokey of home.

Home-made ice-creams are easy to make. Different flavoured honeys will give you different flavoured ice-cream — so much variety and dimension in this one product of ours.

Recipes

Ginger — Honey Ice-cream

Use a sheer such as Viper's Bugloss, Nodding Thistle, Blue Borage or a sheer honey such as Rata, North Island Clover. This is not such a rich ice-cream like those made totally with cream and the preserved ginger adds a little tang to it.

1 teaspoon gelatine

1 tablespoon cold water

1 cup milk

¼ cup finely chopped preserved ginger

¼ to 1/3 cup honey

pinch salt

250mls whipped cream

Soften the gelatine in cold water. Dissolve over hot water, add milk slowly, then add preserved ginger, honey and salt. Warm over gentle heat until dissolved. Chill. Beat gelatine, milk and honey mixture thoroughly, then fold in the whipped cream. Freeze.

Serve with fresh fruit. *(serves 6).*

Honey, Brandy Ice-cream

A most delicious ice-cream, with a warm, velvety flavour. Best using a sheer honey — Vipers Bugloss, Nodding Thistle, Blue Borage, South Island Clover or Tawari.

4 eggs separated

4 tablespoons warmed liquid honey

3 tablespoons brandy

450ml whipped cream

In a bowl beat the egg yolks until light and pale. Gradually add the honey, beating well after each addition. Beat in the brandy. Whip the cream, then lightly fold into the egg mixture. Whisk the egg whites until stiff, then lightly fold into the mixture. Pour into a lidded plastic or aluminium container and freeze for two hours. Remove from the freezer 15 minutes before serving. Serve with a rich chocolate fudge sauce and brandy snaps.

Sue Jenkins

UNFORGETTABLE CHRISTMAS CAKE

In keeping with the time of year, here's a recipe with a Christmas angle! It may be a little late for this year's Christmas cake but you can add it to your recipe selection for next year.

500g sultanas

250g raisins, chopped

125g ginger in syrup, chopped

125g currants

125g glazed cherries, chopped

125g glazed apricots, chopped

125g glazed figs, chopped

125g mixed peel

¾ cup overproof rum

250g butter

1 cup honey

1 teaspoon vanilla essence

4 large eggs

250g dark chocolate, melted

2½ cups plain flour

1 teaspoon each ground nutmeg, cinnamon and allspice

1 cup chopped nuts

Blanched almonds, halves for decoration

1. Place prepared fruit in a large earthenware bowl, mix through rum, cover and allow to stand for 24 hours.
2. Beat butter and honey together until light and creamy. Beat in vanilla essence then eggs, one at a time. Beat in melted chocolate then fold in prepared fruit with rum, sifted dry ingredients and walnuts.
3. Spoon mixture into a brown paperlined deep 20cm round or square cake pan. Decorate top with almond halves then bake at 140 degrees Celsius for four hours.
4. Remove cake from oven, wrap in towel and allow to cool in pan.
5. Store wrapped in an airtight container.

Rich flavours in the cake means that a mild or full-flavoured varietal honey could be used. At the Honey Advisory Service we are interested in developing information on the way different honeys work in different recipes and so as a beekeeper we'd like you to try the recipe with your flavoured honey and tell us whether it worked well or not.

Sandee and Cherryl at Floyd Marketing are trying it with honeydew or rewa rewa honey, but we'd be interested to find out what you did.

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Have a happy Christmas and New Year. Good health to you, your family and friends, and your hives and see you in 1996.

Regards
Bill Floyd
Marketing Committee

Future Thoughts

Steve Taber

Predicting New Developments in Beekeeping

A recent article by my friend Dr Mark Winston (May 1995) concerning three needed developments about bees brought out some ideas I have had for many years. Some of these ideas will be developed in the next few years because they will make beekeeping simpler, more enjoyable, and produce colonies that make more honey.

Breeding bees for disease and mite resistance is one idea that will help. The early work that Dr Walter Rothenbuhler did on breeding for resistance to American Foulbrood (AFB) resulted in bees that were resistant to the disease, but they were also very fierce. One start to a tricky problem.

However, in the 20 or so years I have been involved in breeding bees for AFB resistance, I've found no relationship between resistance and temperament. The resistant bees I produced during the mid-80's were extremely gentle. This indicated, at least to me, that the genes for temperament and resistance were not closely related. However, bees have many genes that confer resistance. Moreover, there are as many mechanisms to disease resistance as there are genes that result in undesirable temperament. I am sure some of these are "linked" which Rothenbuhler ran into. This is easy to avoid in a logical breeding programme. All a breeder has to do is to consider positive results, throwing away those queens which show any negative characteristics. For most beekeepers, the most logical, and broad based breeding programme is to select for superb hygienic behaviour (HYG) in the queen's offspring.

To review, this is an easy selection procedure. Insert freeze-killed brood samples (two inch by two inch squares) into the brood nest. Removal of the dead brood by the bees in 48 hours or less indicates HYG bees. Bees that have the HYG genes will remove all dead brood from the brood nest regardless of how it dies-chalkbrood, EFB, stonebrood or anything else. Non-removal in four days or more indicates highly susceptible bees, or non-HYG.

Queens that produce non-HYG bees should be removed from the programme. No artificial insemination is necessary, only queen rearing, and queen replacement.

I ran into an interesting situation while breeding bees resistant to chalkbrood. To inoculate a colony with this disease, macerate some chalkbrood mummies and add them to a pollen cake. Place this cake over the brood nest. In susceptible colonies there will appear, in five to 10 days from 20 to 50 chalkbrood mummies in one comb, where formerly there were none. One colony, however, reacted very differently. Every larvae in the hive was dead. All had been infected with the disease and the comb contained hundreds of chalkbrood mummies. This happened just five days after placing the contaminated pollen cake on the brood cluster. It was by far the worst infection I had ever seen.

I took photographs of the comb to document the work and went about my business. Two days later I decided I should take some more photos, got my camera, opened the hive and low and behold — no chalkbrood! None at all!

What happened? The larvae carried the genes for extreme susceptibility to the disease, but the adult bees were extremely hygienic and had removed all of the chalkbrood mummies. It was now a clean hive. In this case resistance was the physiological non-resistance by the larvae as well as hygienic behaviour by the adult bees. One without the other didn't work.

The second point raised by Dr Winston was finding a queen. I am sure, at least in my own mind, that it won't be long before beekeepers rarely have to find queens. Why? Because bee breeders will develop queens that can be introduced that will be accepted by the bees, will lay eggs, and eventually take over the colony. Most likely the new queen will not kill the old one, they will both lay eggs side by side.

I think this because I have seen many cases of multiple queens in colonies. For some reason or other they tolerated each other. The trick is to discover "why." Then, after we learn why, figure out how to convince the bees that it's the right thing to do. Although all the cases I have seen where there were two laying queens in the same brood nest were mother-daughter situations, I don't think that had anything to do with it.

So, Dr Winston, that's what I think about future improvements in beekeeping. We can look forward to a bright future I think. Granted, it will take some imaginative research to solve these problems, but that's what you who do scientific bee research are hired for, isn't it'?

Steve Taber is a retired USDA honey-bee researcher now living, and breeding disease resistant bees in France. You can reach him at this address: Steve Taber, Goudous, 82370 Villebrumer, France.

Thanks to Bee Culture

Telford Course Going Strong

By Mark Wright

It used to be said the ideal beekeeper should have a strong back and no brains, but courses like Telford Rural Polytechnic's Certificate in Apiculture are giving the vocation the status it deserves.

Thousands of dollars and hours have been put into the further development of the course, the only one of its kind in New Zealand, so it provides a unique blend of skills and knowledge.

Students have the option of doing the course in one year at the Telford Campus near Balclutha in South Otago, or they can complete the modules by correspondence over two years.

Head Tutor Gavin McKenzie points out that by doing it in-house a student can also earn an advanced certificate by covering topics such as queen breeding.

"Otherwise they can do the correspondence course and then later come to us to do a competency based course."

Gavin draws on more than 40 years experience in the industry taking on his first hives when he was just 10 years old, and at one stage ran one of the country's largest honey producing operations with his brother.

He has also worked with MAF, and has had considerable experience in tropical beekeeping, skills he often passes on to overseas students.

His assistant Nick McKenzie is a Telford graduate who has returned to teach after time working in the industry.

Each course module comes with background reading and an assignment which is then sent in to get marked.

"It is self-paced and completely driven by the student," says Gavin "it's competency-based not exam-based, which means you work until you know the answers and once you do you pass that module."

There are currently 40 students doing it by correspondence, and several other full-time students.

"The full-time numbers vary a bit, because we have an intake each term," Gavin explains.

"The best time to start and finish is spring because that is the time when employers are looking for staff.

"It also means you get to work through the seasonal progression from spring production, through to processing and then on to wintering down."

The 25 hours a week teaching programme is skill- based, with students spending half their time working on the learning modules, and the other half of their time getting hands-on experience with Telford's 400 hive commercial production unit.

"This way they are subject to the stresses and strains of any beekeeping operation."

"That's what is missing with a correspondence course," he admits. "But we encourage correspondence students to at least do weekend work with a beekeeper."

Gavin refuses to characterise the perfect beekeeper saying successful beekeepers can be "science nuts, breeding nuts, carpentry nuts, or into the mechanical/engineering side of the industry."

"They all have a part to play in developing the industry."

He stresses they do need a fundamental knowledge of the biological and financial aspects, because they are the areas where beekeepers are most likely to fail.

"A lot of students are not university material - they are skills-based, practical people who learn best by doing."

Gavin says there are plenty of job opportunities in the industry, with beekeepers diversifying into specialised areas such as Manuka honey, royal jelly, propolis, pollen and queen bee production.

"These are high value products, but they are also labour intensive, and this is increasing the demand for skilled competent labour."

At the same time there is a large Asian market developing for high quality New Zealand products, and Gavin firmly believes this country is in a strong position because of clean green image and high profile in the industry.

"Our bees and products are of high standing, and so are our beekeepers. They are highly sought after overseas.

"If you are trained in New Zealand you are well equipped for anywhere in the world."

Enrolments are now being taken for the course which will start in January and enquiries can be directed to Private Box 6 Balclutha, or by calling freephone 0800-805-657.

Hive theft results in prosecution

Having two bee hives buzz off into thin air during 1993 has had a bright side for Te Kuiti apiarist Roger King.

Mr King reported he had two of his hives stolen from an Aria property during August 1993.

At the time he thought that would be the end of the matter, but earlier this year another keeper phoned him and said he knew where they were.

Mr King went to the police and shortly a warrant was issued and the hives uplifted.

This week, Mr King had the final satisfaction of seeing the court convict another keeper, Bob Smith of Ohura, for the theft.

Smith was convicted and ordered to pay $500 reparation.

For Mr King the satisfaction comes from the conviction rather than any money he might get back on his original $200 loss.

There is also a message for other keepers, he said.

Mr King's hives were branded and made in an unusual design, and this allowed him to positively identify them.

"I was very pleased to get a result.

"There have been a lot of other court cases but few have come to anything because they have been lacking evidence."

Getting a resource consent

Our previous two articles discussed how to find out if a resource consent is needed for particular activities, and to whom an application should be made. Once this has been sorted out the application can be proceeded with.

Specific forms are available from city and district councils to apply for a re- source consent. Consent authorities usually provide useful material on the detail to be contained in the resource consent application.

In most cases, a careful assessment of environmental effects is required. This includes consideration of effects such as — noise, traffic, impact on the visual amenities, odour, effect on water quality, etc.

The RMA focuses on the avoidance, remedying and mitigation of adverse effects. Accordingly, the assessment of environmental effects is crucial to understanding whether or not the purpose and principles of the RMA can be achieved.

It is worth doing this meticulously. If in doubt, it is sensible to retain professional assistance in preparing the application. The need for professional assistance increases with the scale and complexity of the project, and probably also with the degree of opposition anticipated in response to an application.

An application fee is payable to the consent authority. The extent of these fees varies throughout the country, and also fluctuates according to the nature of the consent sought. For instance, if an application requires public notification, then more expensive fees are payable.

Furthermore, the consent authority is able to apply additional charges for extra costs. One example is, if the consent authority retained a storm water expert to assess the impact of storm water created by a subdivision proposal. It is well worth the fees payable, to avoid what can sometimes be a very nasty surprise.

Upon receipt of the application, the authority must then determine whether it requires public notification — a very controversial issue. Once an application is publicly notified then any person can make a submission in support or in opposition. If the application is not publicly notified then that opportunity to make a submission does not arise.

The rules relating to notification vary according to the classification of an activity, and according to the rules in a regional and/or district plan. Generally, many controlled activities will proceed as a non-notified application. In some instances, the consent of all adversely affected parties will also be required.

In respect of discretionary non-complying activities, the application will not be notified if the consent authority is satisfied that the effects on the environment are minor and, further, that written approval has been obtained from all parties likely to be adversely affected by the application procedure.

Obviously there is a major benefit to the applicant if the application can proceed without notification. The process is streamlined and the opportunity for any person to make a negative submission is removed.

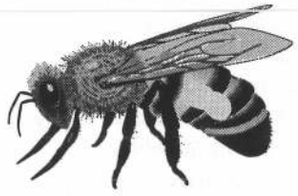
Recently there has been speculation that consents can be "bought" by way of applicants paying off other parties in return for consent. Nevertheless, as protection, a consent authority in respect of non-complying and discretionary activities retains the discretion to notify. The authority is required to assess whether or not the impact of the activity on the environment would be minor or not.

It would seem that many consent authorities deal with the issue of notification pretty cautiously, due to the very dramatic results which non-notification can have on the rights of interested parties.

This is the third in a series of four articles written by Phippa Wallace for Straight Furrow on the resource consent procedure set out under the Resource Management Act, 1991.

In the fourth and final article in this series, we will discuss making submissions on resource consents and the hearings procedure.

Acknowledgement to Straight Furrow



THIRD ASIAN APICULTURAL ASSOCIATION CONFERENCE

6-10 October 1996

HANOI-VIETNAM

Contact address:

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RESEARCH REVIEW

Roger Morse, Cornell University, Ithaca ny

"Better living through chemistry — using honey, naturally."

Within the past five years, we have seen an explosion of interest in the use of honey in a variety of food products and in making alcoholic and non-alcoholic drinks. By far the greatest new use is in the beer industry. Several breweries are using honey both for its positive effect on flavour and as a source of sugar for the fermentation.

At the same time, we have seen a number of new wineries making mead (honey wine). Much of this interest is a result of investigations by Robert Kime of the Cornell University Agricultural Experiment Station in Geneva, New York. Kime is also a beekeeper. Only a few years ago, when he was making wine, he noticed that honey clarified the fruit juice to which it was added. This observation led him to make further studies to develop better methods for making honey wine (mead) and also to study honey's antioxidizing qualities.

Experiments that are underway indicate that honey has a future in making hard cider and in the manufacture of old-fashioned, nonalcoholic summer refresher that is a mixture of honey, vinegar and water. A honey-vinegar mixture was widely sold in the 1950s and 1960s under the name of honeygar. Unfortunately, honeygar had a cloudy appearance and as a result, a poor eye appeal. A few weeks ago, I had an opportunity to taste a new honey-vinegar refresher that is clear, tasty and has great eye appeal.

Yet another use for honey that has appeared recently is the addition of two to three percent honey to grape wine in the place of sulphur dioxide as an antioxidant. The honey is added at the time the grapes are crushed and negates the need to add sulphur dioxide. Tests at the Cornell University Agricultural Experiment Station in Geneva, New York indicate that even after five years, a pinot noir wine to which honey had been added was not oxidized and still had a good flavour.

However, it is not just the alcohol industry that is interested in honey's special qualities. A recent report by McLellan et al. (1995) states that honey may be used in place of a sulphite solution to treat Thompson Seedless grapes in the drying-preserving process to make raisins. Grapes treated with a 10 or 20 percent honey solution, under pressure, "produced lighter and yellower raisins than the commercial and pressure-infused sulphite solution treatments."

Honey has two special qualities whose chemistry remains unknown. It has been found to aid in the clarification of fruit juice without the precipitin of pectin. This is covered in U.S. Patent No. 4,327,115, *Clarification of Fruit Juice with Honey*, given to Robert Kime of the Cornell University Agricultural Experiment Station in Geneva, New York in 1982. A second patent, to C.Y. Lee and Robert Kime, is *Stabilization of Wine with Honey and* SO^2, U.S. Patent No. 4,900,564, dated February 13, 1990.

The Ultrafiltration of Honey for Mead Making

Separate from all of the above, but again as a result of promotion by Kime, has been the special treatment of honey for mead making. Honey wine has been a favourite drink for hundreds of years. However, new, clear honey wine usually becomes cloudy, which causes it to lose its eye appeal. No one wants to drink a muddy-looking, murky wine. The cloudiness is a result of a protein precipitate.

Old-fashioned mead makers learned that if they boiled the honey-water mixture prior to the fermentation and carefully skimmed the material that rose to the surface, the product would be clear and brilliant. Still, mead fermentations often became stuck, that is, they would stop before they were finished without an apparent reason. The problem appeared to be that the boiled, skimmed honey-water mixture did not provide an adequate diet for the yeast cells. We found we could circumvent this problem with the addition of yeast food. However, the boiling process had an adverse effect on the delicate sugars in honey and was objected to by several people. Kime and his associates have found that ultrafiltration will remove the proteins that cause the haze. This eliminates the need for the boiling process and results in a much better honey wine.

New studies needed

How and why honey acts as an antioxidant and clarifying agent (two separate features) is unknown. I hope these few comments, in addition to pointing to some new products, might stimulate interest among those of you versed in physics and chemistry. It is a fertile field for study.

Dr Nick Calderone of the United States Department of Agriculture's honey-bee laboratory in Beltsville, MD, has found that some natural plant oils, especially those from thyme and eucalyptus, are effective in controlling *Varroa* mites. They appear to be an alternative to Apistan strips. According to a USDA news release, the oils are currently being tested in four states. While it is much too early to make recommendations or predictions, the preliminary results are reported to be favourable.

Laboratory tests in Switzerland with several similar plant oils also show good results (Imdorf et. al, 1995). Thymol is again reported as being especially effective.

All this comes at a good time since the present *Varroa* treatments are expensive, and beekeepers in at least one European country report that their mites are showing some resistance to fluvalinate, the chemical found in Apistan strips.

New Farm Legislation

"The current agricultural policy environment of restrictive budgets favours policies that require little net cost to the federal government." This statement, from the USDA Economic Research Service, is one of many indicating that major changes are in the works as regarding agricultural policy, and of course, policy that affects the beekeeping industry.

Subsidy for the beekeeping industry through the price support programme has already changed greatly. For those interested in economics, a new

Continued on page 25

Continued from page 24

paper on the status of beekeeping in the U.S. has just appeared as is cited below. It starts by reviewing the history and purpose of the price support programme since 1950. One graph shows that while the number of colonies in the country has been cut about in half since 1945, honey production is almost the same. Several interesting facts are brought to light. For example, 15 packers account for 80 percent to 95 percent of the honey sold through wholesale and industrial channels. Data are presented concerning the value of pollination to the overall economy.

Copies of this paper are available by phoning 1-800-999-6779. The cost is $9.00 postpaid, which is a bit much for a 31-page paper.

How the Dance Language Works

Honey-bees learn the distance and direction of a food source by using the time and work used to fly back and forth between their hive and the food. This new information was discovered by forcing the bees visiting a food source to fly in a wind tunnel on their way to and from the food. There was a steady flow of air in the wind tunnel that indicated to the bees that they had gone farther than they actually had flown.

Forcing the bees to fly in a wind tunnel was done in an ingenious way. A magnet weighing less than 10 percent of its body weight was glued to the top of each bee's thorax. A small magnetic rod was used to capture the bees as they approached the food and again when they left. The bees were then placed in the nearby wind tunnel for varying periods of time that would make them use energy and behave as though they had flown farther than they really had. The difference caused by being forced to fly in the wind tunnel could be seen in the way the bees danced. They indicated the food was farther away than it really was.

References:

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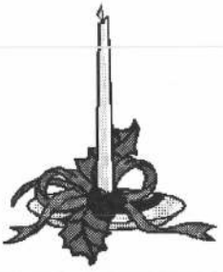
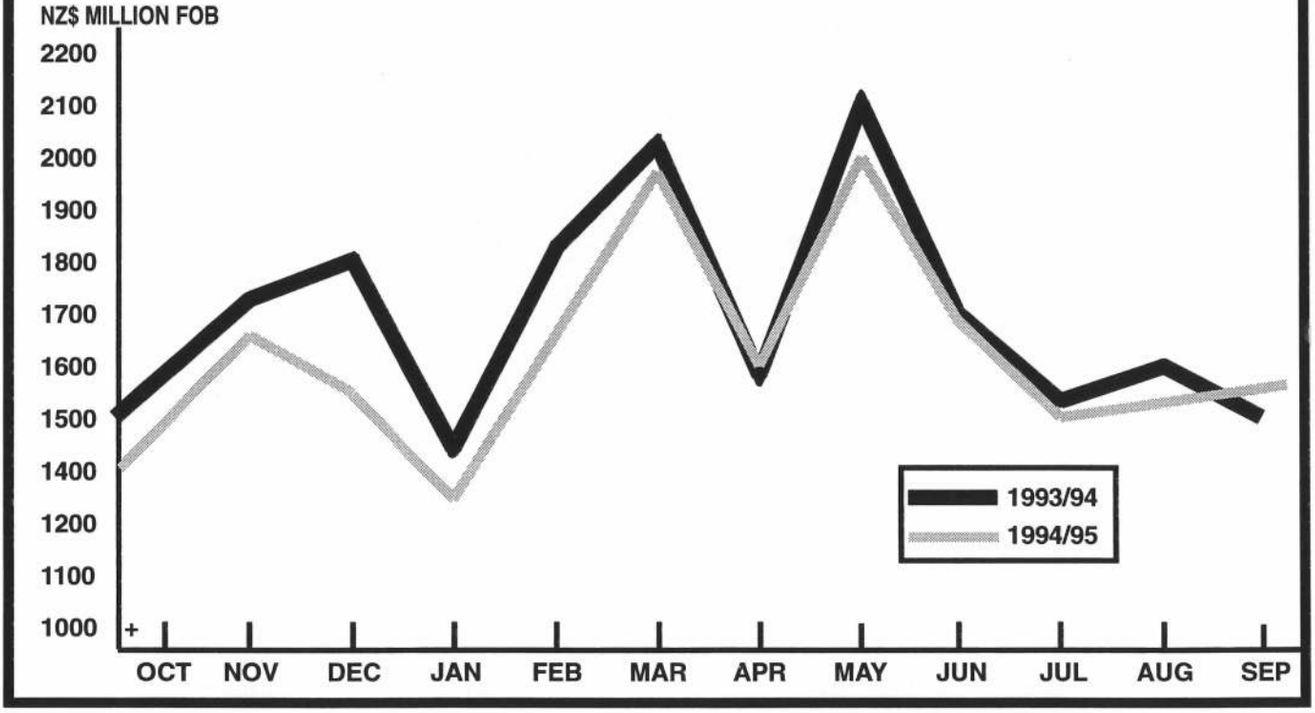


EXPORT ECONOMICS

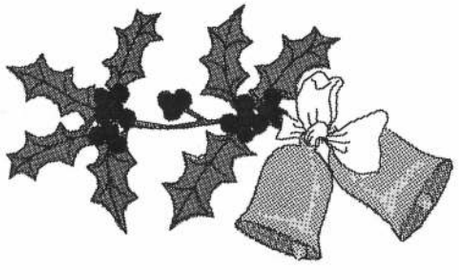
TOTAL TRADE BY MONTH

	IMPORTS $NZm (CIF)			EXPORTS $NZm (FOB)		
	1993/94	1994/95	% CHANGE	1993/94	1994/95	% CHANGE
OCTOBER	1495.0	1917.7	28.27	1407.0	1499.6	6.58
NOVEMBER	1722.2	2297.7	33.41	1605.0	1712.5	6.70
DECEMBER	1485.7	1662.2	11.88	1532.8	1746.2	13.93
JANUARY	1233.4	1420.8	15.19	1269.1	1417.6	11.70
FEBRUARY	1368.6	1583.5	15.71	1616.2	1800.9	11.42
MARCH	1593.4	1857.9	16.60	1947.3	1973.6	1.35
APRIL	1375.6	1529.0	11.15	1672.9	1643.4	1.76
MAY	1699.1	2048.8	20.58	2014.3	2035.1	1.04
JUNE	1516.3	1628.2	7.38	1686.2	1715.8	1.76
JULY	1720.7	1789.7	4.01	1517.0	1539.1	1.46
AUGUST	1795.7	1712.8	-4.61	1547.7	1646.1	6.36
SEPTEMBER	1800.2	1843.4	2.40	1590.4	1523.3	4.22
TOTAL	18806.0	21291.8	13.22	19405.9	20253.2	4.37

NEW ZEALAND'S EXPORTS BY MONTH



SOURCE: Statistics
EXPORT NEWS, 13 NOVEMBER, 1995



Helping hand for exporters

Exporters targeting Viet Nam can use the existing networks such as Tradenz and the Viet Nam/New Zealand Business Council to help in this complex market.

The Viet Nam/New Zealand Business Council was launched at Hanoi on 28 February 1994 and there are now 35 export members.

The many new positive linkages with New Zealand which get New Zealand companies headed in the right direction in dealings with Vietnamese are also helped by the fact many Colombo Plan students were from Viet Nam, the presence of 'Viet Kieu' (overseas Vietnamese) in New Zealand and a mutual respect for pragmatism and innovation.

These linkages have contributed to the sharp rise in trade. New Zealand exports to Viet Nam ran at only NZ$17m in 1993 but rose to almost $30m in 1994 and a figure close to $40m is projected for the current year.

This can be compared favourably with USA exports to Viet Nam in 1994 totalling US$172m. American businesses have shown considerable interest in Viet Nam and the USA is the eighth largest investor country in Viet Nam with US$540m invested in 34 projects as at mid-1995.

However, Viet Nam still does not enjoy most-favoured-nation trading status with the USA which means that the USA assesses customs duties at the high rates of the Tariff Act 1930.

Export News, November 1995

Pocket cartoon

I don't want you lying there worrying about your job - so I'm giving you a week's notice

ENVIRONMENT

Environmental strategies for smaller businesses

The recently launched Tradenz Environmental Integrity Programme is part of a growing body of initiatives and advice sources aimed at helping businesses improve their environmental performance.

The Tradenz Programme got under way with introductory seminars about Environmental Management Systems and the new international standard ISO 14001 designed to monitor their effectiveness.

Two-day workshops will be held in Christchurch from 21-22 November and Nelson on 23-24 November. These are practical workshops, aimed at food and beverage companies initially, giving guidelines for implementing EMS to ISO 14001 standards.

Some initial feedback to the programme raises the issue about whether it is feasible for small companies to go through the rigmarole and cost involved in reviewing their systems, preparing an environmental policy and plan, implementing the plan throughout their operation and then monitoring it on a continuous basis.

For companies which have already put ISO 9000 quality systems in place, expanding systems to embrace environmental practices should be easier than for companies starting from scratch.

No matter where companies have reached in quality and environmental practice, they should consider the "pros" and "cons" of ISO 14001. Exporters particularly will have many advantages to gain from formalising and documenting their systems to the standard.

Dr Judith Collins, general manager of ESR: Environmental (a Crown Research Institute), advises companies to take a realistic approach. The first reason to upgrade and monitor your environmental performance is to avoid risk. Basically, there are laws and regulations in New Zealand that are being applied with progressive toughness.

The first concern, says Collins, should be to put in a "barebones" system to identify and fix any outstanding problems.

"You don't get an EMS operating overnight," she reassures, "so start at the meaty end, where there are real problems, where you're actually going to see real benefits."

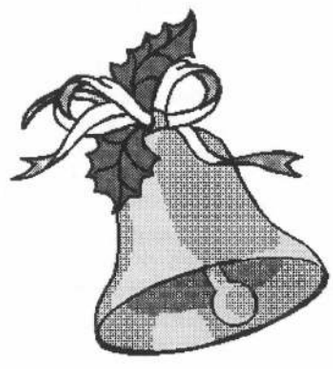
There are companies that think they have no environmental problems, but have the managers consulted operational staff specifically about such concerns? If not, they could be surprised suggests Collins.

Issues that relate to operational faults, (eg leaking storage bunds), or occupational safety, (eg air quality inside the factory), often have an environmental aspect.

Looking at all systems afresh by seeking out broadly defined "environmental" problems could improve the overall quality of workplace and business operations.

An experienced environmental manager and consultant, Collins has shepherded a number of companies, large and small, through environmental audits as a first step towards getting their houses in order. While not intending to be alarmist, she points out that, on average, a company can receive between 20 to 70 recommendations per site.

In the 1990s, choosing to not want to know about your environmental problems is poor business strategy, Collins concludes. "If you do breach resource-use consents or have an environmental accident, being a small company is no excuse before the regulatory authorities."



Calla council to tackle Disease control research

By Marta Steeman

The New Zealand Calla Council plans a $3m disease control research programme over four years to tackle soft rot, which destroys around $2m worth of potential calla lily sales each year, if funding applications are successful.

The council, the national body representing calla lily growers, is seeking funding from the Foundation for Research, Science and Technology which administers the Public Good Science Fund, and from the Technology for Business Growth scheme. It should know by the New Year if it has gained funding.

The council has been working with consultants from Agriculture New Zealand (formerly the Ministry of Agriculture) to produce a research programme and funding applications.

Council chairperson Simon Ensor says research aims to more clearly understand the relationship between soft rot, stress on plants and the pathogen erwinia carotovora, which is consistently identified in laboratory testing with soft rot.

Little scientific data exists to indicate how the three are interrelated but it is believed that erwinia carotovora is not the primary cause of soft rot but a secondary disease which results after the plant is stressed.

Ensor says many things in the commercial production of calla lilies induce stress — lifting, dividing, dipping in growth hormone, storing. Callas left alone in a garden do not usually get soft rot.

There is an impression that the more growers push their production of calla lilies the more soft rot seems to occur. It is not occurring uniformly across the country. Some growers with very good management techniques may only lose 10% of their crop to soft rot while others lose as much as 50%-60%. The bulk of growers are somewhere in between.

The $2m estimated loss to the industry a year is a substantial proportion when seen against the total worth of the Calla crop of $6.6m a year, 60% of which is exported to Japan.

Callas are a difficult crop to grow, Ensor says, so it is unlikely there will be a simple solution to soft rot. Controlling and minimising the problem is likely to require complex and careful management of the growing, harvesting and storing processes.

The planned research programme has three parts which will bring in information progressively over the short, medium and longer term.

The first part will be a detailed monitoring programme of about 100 calla growers (about one third of the industry) to identify the differences in management techniques of those experiencing few and those experiencing big problems with soft rot. That monitoring is likely to be undertaken by consultants from Agriculture New Zealand if the funding applications are successful.

From that the industry will be able to develop better techniques for growing and quality control systems.

The second part will be a longer study into basic husbandry and agrinomic practices.

Calla lillies... soft rot is destroying $2m worth of product a year.

Popular new silicone may replace black rubberware

The days of black rubberware in farm dairies may be numbered if a new silicone product proves as popular in New Zealand as it has in the UK.

Silclear is manufactured from a high quality medical grade silicone to produce a range of dairy tubing and pipeline fittings that provide a more hygienic and cost-effective alternative to traditional rubberware.

It has a number of advantages over rubber in that it does not crack, erode or perish and its smooth internal and external surfaces do not support bacterial growth.

The use of transparent silicone tubing and fittings means farmers can monitor milk flow and watch for possible causes of contamination such as a buildup of milkstone or fats.

Silclear is resistant to a broad range of chemicals including those cleaning chemicals that, when combined with natural ageing and decay, lead to the breakdown of natural rubber products.

Dave Clarke (Kerry Industries) examines a sample of the new silicon milk and pulsing tubing with Susan Flett who has been trailing Silclear in her Northope dairy farm.

The physical properties of the silicon used in Silclear products means they can withstand UV light and ozone, and retain their properties in a wide range of temperatures — from below freezing to above boiling. And as Silclear maintains its elasticity, a larger bore can be used to improve milk flow and vacuum.

Silclear products are available in New Zealand through Christchurch based Kerry Industries. Farmers can obtain a free sample pack by phoning 0800-929-298.

Acknowledgement
Straight Furrow

* Putting the intelligence into Marketing
* Manuka: where did it all come from; or, what is Manuka?
* New Zealand Honey Research Unit a world first: and what would you like researched!
* Comb Honey looks set for a roller coaster ride
* We ask you to create a cake with a difference: and tell us about it

*** Putting the Intelligence into Marketing**

People who produce commodity products are (said to be) at the whim of market forces. So does that mean beekeepers can't create their own future?; does a beekeeper producing "ordinary honey" have to just take what he or she is offered?

They certainly do if they don't know what's happening!

I've asked Peter Bray of Airborne Honey if I can repeat information from his Circular Number 29.

It should be compulsory reading for every beekeeper!

It's the sort of information that can let a beekeeper have a good year instead of a poor one, or a great year instead of a good one!

THE EXPORT MARKET

At present we are in a very volatile situation in the world market with rapidly increasing prices. There have been a number of factors bringing this about. These include:

US Dumping Duty on Chinese Honey

Over the last year or so there has been an ongoing case brought by the US honey producers to introduce a dumping duty on Chinese honey. This was finally awarded at an average rate of 141%. The USA imports around 50,000 tonnes of honey per year and half of this (representing 10% of World Trade in Honey) has in recent years come from China. With the dumping duty awarded, China was effectively shut out of the US market. Immediately the price of honey from the USA's other main suppliers (Argentina, Canada and Mexico) increased dramatically. In the case of Argentina, this was from around US $0.50 per pound to US $0.70-0.80 per pound. Canadian clover rose in price just as quickly with increases of Can $0.05 per week for some time. Just as everyone was wondering where all the excluded Chinese honey was going to go, two things happened.

The first was a poor crop in the USA and Canada. The US crop has initially been estimated at 72,000-80,000 tonnes down from their average of 90,000 tonnes (between 11 and 20% below normal). The Canadian crop is looking at around 25,000 tonnes, down from last year's 33,000 tonnes. Some Canadian producers are indicating they have never seen so few honey stocks in Canada.

The second thing was the allowance of around 20,000 tonnes of Chinese honey into the US with no dumping duty but at minimum prices ranging from US $1,285-1,330 per tonne, up from around US $800 before the dumping duty was imposed. With the poor crops in North America, it would appear to be a heaven sent gift to the Chinese — and no Chinese honey floating around the world market looking for an outlet. There is even talk now of the US having difficulty in sourcing honey from China with severe shortages in the USA arising out of this development. Recent information in the US "Honey Market News" indicates that production is falling in China (176,000 tonnes in 1993, 170,000 for 1994, and estimated 165,000 for 1995).

The effect on the world market has certainly been noticed in New Zealand with enquiries flooding in from all over the world. The German market has certainly been very active with most of the major German packers looking to secure honey stocks. The thing to remember here is that they are experts in the honey trade. Germany imports ***25% of all world trade in honey*** *(80,000 tonnes) - it would be surprising if they weren't good at it when they have such a significant influence. The large movement of honey to Germany just before Apimondia (when much market information is swapped by producers) shows how good their intelligence is. At present the Germans are actively looking for clover type honeys from New Zealand and wanting to contract forward for the coming season.*

When the market is going up, the buyers want to contract forward. When the price is going down, the sellers want to contract forward.

Current prices being offered by European importers equate to around NZ $2.50-$2.60 per kilo FOB for clover honeys of greater than 60% clover pollen.

THE DOMESTIC MARKET

For the early part of this year, the domestic market has been stable, but with a high New Zealand dollar and low buying interest from offshore up until June, the domestic "around $2.00 in tank" price was not achievable on the export market. This put a lot of pressure on the domestic market as producers that had not made sales tried to quit product. The result was a few lower priced branded products showing up around August onwards and finally made its way to some of the house brands just as the real interest was showing up on the export market. The effect of this will be limited as the firm prices on the export market will be the determining factor on prices to the producer for the coming season's honey crop.

I've emphasised before that I'm employed by beekeepers, not packers (or export agents).

The Honey Marketing Plan has the objective of "creating an environment where beekeepers can succeed or fail on their own endeavours".

Some will read the article above and sell their crop for last year's price - that's their right: good luck to them.

But more from Peter Bray on manuka.

Manuka Honey

The outlook for the manuka market is not as rosy as it was five years ago, manuka was a honey that was difficult to market. The price to the producer was often less than $1.50 per kilo if it

Continued on page 30

Continued from page 29

was even offered for sale. If a beekeeper produced manuka, it was offered as any other product possible (honeydew, rewa rewa, etc) or purposely mixed with one of these honey types to "get rid" of it. It was only identified as manuka if it was so pure that it could not possibly be called anything else. Along came the manuka publicity and the price for manuka doubled and tripled. Suddenly every obscure honey in the country that was either dark and strongly flavoured or happened to be produced in sight of a manuka plant was considered to be "manuka".

With our laboratory at Airborne we are able to determine whether a sample of honey offered to us is in fact good quality manuka, medium quality manuka or is just a wanna be. The number of "manuka" samples we receive for testing has grown at the same rate as the price. Without our laboratory and the vast amount of experience generated from the results going back more than 10 years, it would be almost impossible to accurately identify manuka in all cases. Because of:

- *The demand in the market*
- *The lack of any analytical procedures by packers*
- *The price inducing producers to offer any honey as manuka and*
- *The lack of any standards or methods of enforcing these*

the manuka market is now totally out of hand. Recently we purchased a number of "manuka" packs from the market in the Christchurch area. These included all the leading brands around the country. The results were very concerning to say the least. Only one other company's product other than our own consistently came up to an acceptable standard. Approximately 25% of the remainder had some manuka flavour but were poor quality. The remaining product ranged from flagrantly fraudulent (light coloured almost zero manuka) to dark pasture type honey with some manuka pollen but almost no manuka taste.

The mechanics of this situation are this. The "manuka" supply (product labelled as manuka) has increased at least fourfold. The variability of packs in the retail market is huge, consistency of product offered to the consumers to wonder why they are paying a high price for unassured quality. Producers flogging off poor quality manuka are prepared (gladly) to accept a lesser price than top quality manuka. Those packers using this material can offer lower prices into the domestic market.

In a nutshell, supply has gone up, quality has gone down, customers are suspicious and packers with low quality product are selling at low prices.

At Airborne we will continue to do the following:

Only pay high prices for manuka meeting our minimum standards, reject any product that does not meet these standards, maintain these standards on the shelf, continue to monitor other "manuka" products on the market.

We believe that the manuka market is on the brink of a downfall, mostly brought about by the lack of standards in the market and the willingness of some producers and packers to place poor quality product in front of consumers. If you are a genuine producer of quality manuka, you ***will be affected****. If you feel strongly about this, you should contact Bill Floyd at the NBA Marketing Committee and express your support for industry standards for manuka honey.*

We are happy to offer the services of our laboratory to assess the quality of any manuka submitted to us. We are also happy to discuss the issue with any member of the industry, particularly if you have a helpful idea.

I think Peter's right. Do you think any brownish honey should be called manuka?

It would be good to get an idea of whether the industry at large wants simple, commonsense standards. If you have strong thoughts either way, please send me your comments: New Zealand Honey Food and Ingredient Advisory Service, PO Box 32, Blenheim.

And lastly, can history repeat itself? Remember the last honey comb boom (and bust!)

Well, last year some people produced superb, classy, high quality, well presented, comb honey.... it sold for a very good price!

And if half the people who say they're producing comb this year, do so, two things will probably happen: an awful lot of comb will be looking for customers and a lot of customers will think that a lot of it is awful.

Good prices were the result of making the comb to meet a market need. A market need for QUALITY by the customer's definition, not the beekeeper's.

But one of the advantages of the free market is people are free to succeed or fail by their own endeavours; over to you.

******

I've borrowed heavily from Peter's newsletter this month but I thought they were excellent, well considered articles.

If predictions of a good crop are realised, the year could be an exceptional one for New Zealand honey - but whether the profit goes to the beekeeper, the packer, the retailer, the exporter, the overseas buyer, - that's probably going to depend on (market) intelligence.

*** Honey Research Unit**

The Waikato University Honey Research Unit is up and running!

Funding from the New Zealand Honey Trust has helped establish the Unit: possibly the first of its kind in the world! The unit will enable world class scientists and their students to research commercial opportunities for New Zealand's honeys.

Early next year the Honey Research Unit's Liaison Committee will be selecting concepts to create research projects.

Do you have a concept, an idea, about a use for honey, that you think should be investigated? An idea that could benefit the honey industry at large?

If so, send a brief explanation to: New Zealand Honey Research Unit, P O Box 32, Blenheim. Fax No: 03 577 8429.

Please include your own contact details: i.e. Name, Address, Telephone Number, Fax Number.

******

Honeycomb Happenings and Classifieds

Various headings will be used within this directory as required by advertisers and will include: Branch notices (*no cost*) — Used plant, situations vacant. Beeswax, Honey, Bee Products, Woodware, Beekeepers supplies/accessories, Queens & packaging bees, Packaging Materials, FMG Insurance, Extracting services, laboratory services; Sugar supplies. The cost will be $15 per comb, per issue.

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Hybrids need not apply

Will supply candied cage to send her in, and will replace her with a young yellow queen.

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(09) 408-5895

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Metal containers with wing openers suitable for polish etc . . .

Outside dimensions 32mm high x 110mm diameter.

Contains 170ml

Please contact:

Jan van Hoof
Phone: (03) 693-9760

★ Advertisers ★

February Issue

Don't forget close off date for this issue is
1st February
So please send those ads through to me...

Harry Brown
Fax: (06) 878-6007
Ph: (06) 878-5385
Box 307
Hastings

This space available for your message to the commercial and domestic sectors of the industry.

Please ring (06) 878-5385 for details.

Mr Eric Swan of The Woodlands, 104 Broughton Lane, Wistaston, CREWE C W 2 8 J R, England will be visiting New Zealand early next year and is looking for beekeepers interested in exchange visits. Mr and Mrs Swan are due in Auckland on the 16th of January 1996.

Any enquiries direct to the Swans please.

Organic Honey Supplies

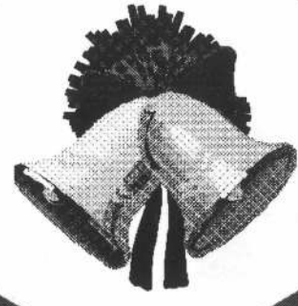
Where are you???

I have an interested party who wants to be able to Market Organic Honey overseas. As this is in a very early stage the organisation has asked all enquiries come to myself initially.

So please send your details to me to collate

Harry Brown
Executive Secretary

Box 307, Hastings.
Fax: (06) 878-6007
Ph: (06) 878-5385



NZ BEESWAX LTD

BEESWAX COMB FOUNDATION PRICE LIST

Foundation	Dimensions mm	Sheets per kg approx	Kg per carton	Prices per Kg Conversion	Ex stock
Medium Brood Full Depth	422 x 200	17.5	12.5	$2.17	$9.94
Medium Brood ¾ Depth	422 x 145	21	15	$2.17	$9.94
Seven Sheet Special	422 x 200	15.5	13.5	$1.99	$9.81
Extra Heavy Brood	422 x 200	13.25	16	$1.79	$9.65
Thin Super Full Depth	422 x 200	25	12.5	$2.99	$10.53
Thin Super ¾ Depth	422 x 145	35	12.5	$3.40	$11.16
Thin Super ½ Depth Std	394 x 98	57-61	12.5	$4.11	$11.68
Thin Super ½ Depth	422 x 98	53-57	12.5	$4.11	$11.68
Thin Super ½ Depth 108	422 x 108	45	12.5	$4.11	$11.68

All prices GST exclusive. Cartons $4.00 each. Cartons in good condition, complete with layers and dividers, net-returnable at $3.00 each. Incomplete cartons without layers and dividers $2.50 each. For less than carton lots 30% surcharge applies.

contact us at

NEW ZEALAND BEESWAX LTD, Opuha Street, ORARI, South Canterbury.
Ph (03) 693-9189, Fax (03) 693-9780, A/H Peter Lyttle (03) 693-9080

or one of our agents

AUCKLAND AGENT
The Bee Shop
850 Dominion Road
Mt Roskill
Ph (09) 620-6551

HAMILTON AGENT
Phil Reed
Tuhikaramea Road
Frankton
Ph (07) 825-2632

TAURANGA AGENT
The Hive & Honey Centre
298 Cameron Road
Ph (07) 577-0481

CHRISTCHURCH AGENT
Ecroyd Beekeeping Supplies
26B Sheffield Crescent
Ph (03) 358-7498

BEESWAX WANTED

YES!! we are always wanting to buy beeswax. If you have 100kgs or more of any grade of wax for sale, please phone me for the latest prices.
Peter Lyttle, work (03) 693-9189, home (03) 693-9080.

Seasons greetings

We wish everyone good health and happiness (and a good honey crop) for Christmas and the New Year. Thanks for your business over the past year. We will be closing on Friday 22 December at 4pm and re-opening again on Monday 15 January. Our message minder will be operating on the factory number (03) 693-9189 for urgent orders.

CHB PRINT — 8711