

ISSN 0110-6325



The New Zealand **BeeKeeper**

MARCH 1998
VOL 5. No. 2

The Official Journal of the National Beekeepers' Association of New Zealand (Inc.),
P.O. Box 3079, Napier, New Zealand. Tel. (06) 843-3446, Fax: (06) 843-4845.



If undelivered please return to:

National Beekeepers' Association of New Zealand (Inc.)
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384
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Tel: (03) 417-7197

1998 Subscriptions: N.Z. \$38.00 (GST Incl). Overseas Airmail US \$38.00. Economy mail US \$31.00.

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

Notes from the Executive

Hi fellow beekeepers

It is the time of the year when hopefully we all will have a little time for reflecting on the past season and thinking, how could we have done better? Did we make the best of the season? Did we shift the hives at the right time and to the right place? Did we have them up to strength at the right time? Was it wise to kill those queens in the Spring? Or should we have two-queened the hives instead? Or perhaps we should have re-queened them last Autumn? Was it a good season for producing cut comb or should we have stuck to extracting our honey at high speed and put the wets back into hives? Probably something that is facing us now is, did we produce something that is saleable? These times of reflection and our accounting system is what helps us decide what we will do next year.

According to the person Brian Edwards was interviewing on radio this morning, the part of the brain which is capable of making choices is very well developed in the human mind. Perhaps this is why we love beekeeping. We love to make many important choices every hour of the day with our beehives. These choices normally only affect us and our bees. Some of our choices have to be controlled because they could affect other people. Sometimes our society finds it easier to restrict other peoples choices unnecessarily. This can make us mad, quite rightly so I believe.

I made the choice this morning while lying in the bath (which does not require as much water to fill any more), that this space for a long time has had little in it about beekeeping and far too much in it over the years of political point scoring. This has in particular been drawn to my attention by overseas readers. I will try to reflect on some thoughts about the season just past and comment on the future seasons and likewise on the executive's activities.

El Nino! It is surprising how many people in Canada do not realise the effect El Nino is having on countries like New Zealand. It is having such a dramatic effect on their weather, no white Christmas and Spring is now arriving with the snow about thawed. What effect is it going to have on the over-wintering of their bees and their honey crop with so little snow during their winter?

Well, how did it affect you? In this area things were looking great - it looked as if we were just about to catch that huge crop which has so effectively evaded us for so many years. Everything was looking good until Friday 9th January 1998 when, late in the afternoon we had a short, very cold front pass over with snow and hail, (I hear it came up all the

way from Gore). Yes, in January! This was followed by frosts, some areas had a 2 degree C frost, followed by a 5 degree and a 3 degree C frost. That was about the end of the honey flow for the year in the central north island area.

After these frosts we had incredibly hot, dry, but very humid conditions for weeks on end. Some areas had lots of very thin nectar in the hives, but hives were robbing madly if given the chance. Also heaps of dead drones outside the hives after the frosts. Most strange for January. We certainly got caught with too much cut comb on the hives, but what do we do? Put cut comb boxes on in December and fill them up with Kamahi (great flow this year), or put them on in January and have them filled up with cold air? I guess in areas with uncertain flows and with such uncertain world weather conditions, we should leave the cut comb boxes in the shed.

One recurring thought of what we have done wrong appears each year - if only we had taken the boxes off as soon as possible, got them extracted and back onto the hives again, how much more honey we would have produced. If only we had forgotten about that cut comb and concentrated on the complete removal of nearly all the honey, including full frames out of the bottom and second box, several times during the honey flow. This has a tremendous effect on the total crop. If this is not being done, try some sites, do this to half a yard of bees and leave the other half for the whole season without removing the honey and just put empty boxes on when required. You will be surprised at the difference in your crop. You will probably produce up to 50% more honey by removing most of the honey several times during the honey flow, but remember you will have to feed sugar soon after the honey flow has ended.

El Nino has caused severe droughts in many areas in New Zealand creating a shortage of nectar bearing plants for bees to work, so I believe this season it will be very easy to starve hives before autumn arrives. There is nothing worse than going round during Autumn to find some hives have starved before they could be sugar fed.

Your Executive believes our Industry has a great future, providing bee diseases and pests such as Varroa Mite, Tracheal Mite, European Foulbrood, Africanised bees and other pests are kept out of New Zealand. On Monday we are visiting the Border Control facility at the Auckland Airport, to help reinforce on our Border Control people, just how important a job they are carrying out.

The Executive visited this facility a few

years ago and we are sure that this had a beneficial effect on our beekeeping industry. Border control has always been very important, but even more so now that Varroa Mites in the US are developing resistance to Fluvallinate strips and American Foulbrood is possibly developing a resistance to Terramycin in the US also. We are holding our Executive meeting in Auckland to make it possible for us to inspect the new Border Control Facility and to meet the Quarantine personnel, as well as meeting with the Auckland branch members, who I am sure will give us an interesting and enjoyable time at their barbecue.

Last week your Industry representatives met with New Zealand's chief veterinary officer and other high ranking personnel at Wellington, for an update from the CVO on government policy as regarding the beekeeping industry. The government thrust was that the beekeeping industry should pay for the service it requires. It is not only fairly difficult for the beekeeping industry at this stage, it is also difficult for MAF as government is still uncertain of MAF's future.

Rest assured, your Executive will do its very best to look after your interests in a time of rapid change. A well respected person in the industry at Wellington said to me, 'Russell, the next six months are going to be the most important in the New Zealand beekeeping industry's history.' I think he may well be correct. Time will tell. We are certainly going to go through a period of great change.

You currently have an executive and secretary who really know how to work together as a team and I feel very privileged and proud to be part of that team.

**Russell Berry,
President**

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Letters to the Editor

Dear Sir

In a letter to the Editor in the February issue of the *New Zealand BeeKeeper*, B Peterson refers to me as having "presented the deficit budget for 1997".

I presented the NBA Executive with a draft budget for 1997 that would have resulted in a net surplus of \$1500.

The NBA Executive in December 1996 agreed to increase the contract amount for administrative services from \$45,000 to \$60,000. I spoke against that increase, as I did not feel it appropriate in light of the quality of services we had received to date.

In March 1997, the Publications Committee proposed changes to the budget to allow for additional net expenditure of \$21,500 for the *New Zealand BeeKeeper* magazine. Please see the letter published in the November 1997 issue for further details related to cost of the journal.

These two changes resulted in the \$30,000 net deficit budget to which B Peterson refers. The Executive of the NBA sets the budget. I was a member of that committee so I share in that accountability, while I did not individually feel the extra expenditure was desirable or necessary.

In my three years as NBA President, I acted with financial responsibility and awareness. I will openly discuss the financial history and current position of the NBA with any member who contacts me.

Finally, as a member of the NBA, I appreciate the opportunity for my letters to be published in our industry journal. They may be critical of specific aspects of the NBA, but they remain reasonable, considered, polite and as accurate as I can make them I hope they assist members to think seriously about the administration and management of their Association.

Yours faithfully

Nick Wallingford

Dear Sir

Recently, I was surprised to learn that a dog trainer in Canterbury was experimentally training a dog to smell out AFB in beehives. Apparently, he has a bee box containing AFB which is placed amongst empty beehives and then the dog is encouraged to sniff out the AFB. I was also told that he had MAF approval for this experimentation.

While in principle I believe that this could be a very useful tool for the industry, I was shocked to learn that this experimentation was occurring within 200 metres of an 80 hive honey dew site that I have. Furthermore, within two kms of the dog training area, there are close

to 1000 hives and at least five other beekeepers.

I decided to contact the Timaru office of MAF for clarification because I was surprised that MAF would allow this to occur in an area so densely populated with beehives. I was also surprised that MAF would release AFB to individuals outside the industry with next to no beekeeping knowledge.

My initial contact with MAF elicited a surprise reaction with the inspector stating that he had no knowledge that this was happening. Furthermore, he agreed that such research was good in principle, but only if carried out in a quarantine type situation. (Surely AgResearch at Lincoln would be a more appropriate venue for such an experiment where AFB samples could be securely stored while not in use).

Upon subsequent discussion with the MAF Timaru inspector, he said that he had learned that some MAF personnel associated with the industry were "unofficially" aware of what was occurring and that they thought the risk to my operation would be low, especially compared to the possible gains. I am afraid that, to me, low risk is still not good enough when my livelihood is at stake. (Any AFB risk is very serious considering the MAF informed me some years ago that AFB incidence exceeding 5% within five kms of a honey dew apiary would mean that the product could not be exported to many parts of Europe.)

However, I was informed that MAF would not officially endorse such an experiment carried out in this was because they could not guarantee to me that there would be no risk and furthermore, it is against the law. I was also told that upon my insistence, MAF would issue notice that the AFB being used must be destroyed but that they were worried that this course of action would "piss off" some "major" beekeepers who had a vested interest in the project.

I believe that the Pest Management Strategy created by the NBA is very clear and has the intention of levelling the playing field so that neither small nor "major" beekeepers are exempt from their responsibilities pertaining to AFB.

In light of this, I took my concerns to Russell Berry who assures me that the matter will be discussed by the executive.

I would ask the Executive to consider;

(a) Who has the right to decide if such an experiment is acceptable - is it the NBA or the MAF? After all, the Pest Management Strategy clearly states that all AFB is to be destroyed within seven days. If stored, it must be in a bee-tight shed until burnt and then

only under the direction of an inspector.

(b) If the NBA would support such an experiment, do they believe that those handling AFB should be assessed for competence and that guidelines be put in place for the safety of the industry?

(c) Assuming (b) would the NBA ensure that everyone is kept fully informed, especially the beekeepers whose hives are in areas where such experimentation is carried out, and given the opportunity to object to the risks?

(d) If the NBA was to support such a project, carried out in an area densely populated with hives and AFB was inadvertently released, who would accept liability and compensate beekeepers for hives destroyed and subsequent loss of income?

In conclusion, I would like to re-iterate that I have no objection to such a project if the industry benefits, but I believe that any experimentation with AFB should be carried out, or overseen, by competent people in facilities available such as Ruakura, Lincoln or Invermay etc.

After all, no doubt those "major" beekeepers expect part-time beekeepers to comply to the letter of the law with the Apiaries Act and the Pest Management Strategy. Perhaps they should show some integrity and lead by example.

Yours faithfully

BA Wardle

This following letter has been printed on behalf of B Peterson.

Dear Sir

Before I begin, I'll apologise to the list (you can tell it will be a doozy when the apology comes at the front!!!).

I just received my latest *NZ BeeKeeper* magazine, with a second letter from B Peterson, Nelson. Mr Peterson is a member of this list, but I am not sure what his email address is.

First off, Mr Peterson, this mailing list is "not" my, or even 'a', home page. I maintain pages of information about NZ Beekeeping at <http://www.beekeeping.co.nz> - you do not 'subscribe' to my home page, you simply go and look at it, along with about 10,000 other people from around the world. I created the pages to promote and enhance the image of the professionalism of New Zealand beekeepers and the products produced. The NBA has never been willing to contribute the *NZ Beekeeping* pages I provide. When I offered the pages to them (approx \$4000 development work) for free, with them to pay the cost of

maintenance at \$30/month, they declined to take up the offer. So the things I write on "my" pages or allow to be distributed on "my" list are my concern, Mr Peterson - I don't have to ask the NBA's permission.

This is a charge distribution list that I have set up and maintain. You are here (1) because you want to be and (2) because I am paying all of the fees to provide the service to you and (3) because I am using my expertise to set up and manage the list for the use of NZ Beekeepers. I have done it all at my expense because I believe that this medium, in a few years time, will be capable of providing a great service in terms of dissemination of information and timely communication for beekeepers in New Zealand. The NBA has not seen the opportunity it presents, so I am developing it as an individual until the light dawns on them (the one coming down the tunnel...).

The NBA prints your letters and mine because we both are members of the NBA; it is a long standing policy of the NBA that so long as letters from members are not libellous, they will be printed. My letters have been critical of the current Executive in a number of regards, because I feel they have done things that deserve criticism. We differ in our opinions, obviously.

You are correct in that I was President of the NBA for three years. I served on the NBA Executive for seven years. I would mention that the 'Allen McCaw' you refer to in your letter was NBA President for four years; he was on the Executive for eight years.

You are not correct that I presented a deficit budget for the 1997 year. I prepared a budget with a \$5000 surplus that was presented to the NBA Executive in December 1996. "Subsequent" to the presentation of that budget, the Executive voted to increase the payment for administration services from \$45,000/year to \$60,000/year.

In March 1997, the Publication Committee proposed that the magazine cost centre be rebudgeted dramatically (to the bad!!!), with these changes resulting in a net budget deficit.

You can be assured that both Allen and I raised our concerns about the non-distribution of the minutes with more than one Executive member. To suggest that course of action to Allen is a bit patronising, Mr Peterson. Maybe if "you" were to ring one of them and suggest that the minutes distribution revert to the way it was done for the last 30 or 40 years, they would action it from "your" suggestion. They didn't when Allen and I spoke with them.

I have specifically invited Harry Brown for the NBA Executive to join this list, so as to keep the NBA Executive informed and so he could perhaps provide answers to questions on their behalf. To

date, he has not sent in the (free) subscription message to get himself added to this means of communicating to and with other NZ beekeepers.

You are right that I did not succeed in all my hopes to shape the NBA for the future. I am extremely proud of the things I did manage to accomplish as President during that time, and I don't feel good about the things that didn't happen the way I thought they should.

Mr Peterson, with the greatest of respect, I would suggest that you ask around some of the beekeepers in your area to find out what the NBA is really about, the people who were/are involved in it and its past/current effectiveness as an industry representative organisation. Ask them who I am, and of my involvement. You'll find some who don't like me personally - I can almost assure you of that - but you will find that I am

"reasonably" respected for being damn good at the things I try to do for beekeepers...

You would find few people with "less" to gain from the NBA being successful than me (I'm a hobbyist!!!) nor few who have willing, voluntarily and at considerable expense from my pocket and the goodwill of my family contributed to it over the last 25 years.

Listen, ask, investigate, question - then come back and ask what my problem is, OK?

Nick Wallingford

The pages were not offered for free. Refer July 97 minutes. The President is prepared to supply a copy of the Web site information to the NBA for \$400 a page. It was agreed to leave this issue to the incoming Executive.

Ed

END OF SEASON STOCKTAKING SPECIALS ON HONEY HOUSE EQUIPMENT

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Beequip Chainfeed Uncapper	1	\$4500	\$4410
Lega 400kg/hr packing machine	2	\$4590	\$4360
Maxant Cappings Spinner	1	\$3650	\$3577
Pollen Dryer, 20 drawer, (approx \$2500 new)	1	\$1000	\$ 900
Superior Cappings Melter, 200 litre	1	\$1150	\$1120
Honey Extractors, motorised:			
Lega 5 frame, variable speed	1	\$1530	\$1400
Maxant 4 frame, reversible	2	\$1689	\$1550
SAF 4 frame, auto rev, var speed	3	\$1773	\$1730
SAF 6 frame, auto rev, var speed	2	\$3000	\$2800
Honey and Cappings Pumps:			
Lega 1 1/4" 1000kg/hr bare shaft	2	\$ 610	\$ 595
Lega 1 1/4" 1000kg/hr motor and gearbox	1	\$1480	\$1450
Lega 1 1/2" 2000kg/hr bare shaft	3	\$ 780	\$ 760
Lega 1 1/2" 2000kg/hr complete on trolley	3	\$1790	\$1590
Lega 1 1/2" 2000kg/hr motor and gearbox	1	\$1930	\$1890
Lega 1 1/2" 2000kg/hr var speed, DC motor	1	\$2890	\$2820
Lega 2" 5000kg/hr bare shaft	1	\$ 950	\$ 930
Mono CP1600 Cappings, 3" inlet, bare	2	\$1690	\$1500
Mono CP1600 Cappings, 3" var speed	1	\$3450	\$3260

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Marketing

And we have good news and bad news.

So first, the bad: for the last two years I've been warning beekeepers (and brands) about the need to find differentiated positions for their own products in the retail sector. As the food retail groups have become more centralised with their buying, regional brands are facing (at times brutish) competition from other brands.

Unfortunately it's 'normal' in that it's an inevitable part of the nationalisation of the retail groups and the development of national honey brands. (That doesn't mean we have to like it: but you and I can't stop it.)

This year you can expect some very aggressive behaviour from retailers: and if you are a brand and want to stay on the shelf you have to find a reason: and it won't be easy! It's interesting to look back at how the dairy industry has evolved: remember when there were dairy factories (and cheese brands) for virtually every community?

The present situation will drive some honey packers to come up with innovative new products, well see mergers of packers with like-minded business philosophies create lean and effective new brand entities, and we'll see some pack up the cartons and revert back to being a bulk producer.

I like the first two options: it is in fact vital for the beekeeping industry that we have a number of successful brands competing for our production. At least the below average production this season (and the small level of stocks in NZ) will stop any dumb behaviour at the brand level... wellllllll... maybe!

Did you hear about the honeypacker who has a successful export business for bulk drum honey. He confessed to me in Auckland that he's now paying 35% more for his bulk polyfloral honey than he was three years ago! !!! He reckons he's losing his shirt on some of the deals now.... his shirt looked fine to me.... but I do agree he's losing his hair! (And he used to joke about my hairline!)

The honey crop

I understand that packers are predicting 7,700 tonnes... others less! At that level it is a sellers market: New Zealanders consume around 7,000 tonnes... we export from 1200 to 3000 tonnes... and there's hardly any reserve stock. You work it out!



Bill Floyd

And remember: our Nielsen Research shows that for the last four years New Zealanders have, each year, increased the amount of honey they eat and what they pay for it! The "pie" is getting bigger and better: are you getting your share!

Of course, looking at the production from a national perspective doesn't afford any good news for the producers in the "Big Dry": who have faced a disastrous crop! I drove from Christchurch to Blenheim last month: the utter barrenness is simply appalling.

The Honey Research Unit

Last month's Beekeeper included a list of Research Projects where we were looking for 'sponsors' or 'partners' to match to some of those. Only a few responded but we have some very good 'matches' to look at.

We're now at the stage of turning some of the Research projects into Commercial Ventures: you can expect some very exciting new honey based products and the result will be increased production and selling opportunities; however, you can also expect those opportunities to favour beekeepers and packers who have invested in quality systems, traceback and sampling procedures. These new generation products will need premium honeys: and should allow a premium price: will you be in a position to capitalise on that?

Unfortunately you won't get a lot of news

about some of these ventures now, because the companies investing in developing the products are entitled to confidentiality during the R & D phase. But we'll certainly be getting some massive publicity later this year and early next.

Auckland does it well

I was able to tie in a visit to Auckland and Hamilton with attending an Auckland Branch meeting. As I said to the meeting: I have these mixed feelings about the Branch... they are great people to chat and talk to... and the meeting was very interesting: but, boy of boy.... they sure know how to give me (and marketing) a hard time every year at Conference.

One of the key issues that concerned some branch members was Floyd giving advice to individual brands on a consultancy basis: I explained that this proved to be too political and wasn't happening now unless there was some overriding value to the NZ producer group as a whole: and Neil Stuckey as Chairman of the Committee would make that decision, not me.

Must especially thank Auckland Branch members Rob and Janey Johnstone for their hospitality: beautiful home and fine food, great hosts!

And my favourite honey this month.....

Its a "good news and bad news case" all in one. Neil Stuckey and I picked it up in the North Island: a superb delicious honey... lovely tangerine/ dark apricot colour and very more-ish flavours... a mix of many floral sources I'm sure.... including manuka and rewarewa but, by any definition a delightful, full flavoured honey! And I'd say who's it was except for what I'm about to add: the label says 'Pure Clover' and the side-label says a "mild white honey". This is truly a case where one could invent an interesting play on words and say... get off the grass! because grass is not where this collection of nectar came from!

Remember what I said earlier on in this column about the retail groups culling brands? You can be sure that this honey... marketed as 'clover' won't stand a chance against the 'real clovers of the national brands (and I have to say neither should it!) but as a 'herbal honey' or some-such, maybe it would have a future! Who knows... this packer probably won't. And, I must stress.... it is a beautiful eating honey!

That's all for now.

Regards.

Has your honey been tested for residues ?

Jim Edwards, MAF Regulatory Authority

You may have already had a visit from one of MAF Quality Management's Apiculture Officers to collect honey samples from one of your apiaries and/or your honey house. This is part of the Residue Monitoring Programme that our industry is obliged to do for access of New Zealand's honey into the European Union market. Please do not be alarmed that you have been chosen and please co-operate in the sampling process because it is for the benefit of the whole industry. (See BeeFax Vol.3, No.1, November, 1997.)

The EU required us to implement a programme that is based on one sample being collected per 300 tonnes of annual production. This meant that throughout New Zealand, we had to select 30 samples which are being analysed at the National Residue Laboratory at Wallaceville. The costs of this programme will be met by the industry as a whole and not by the people who own the site sampled. How the costs are recovered is up to the industry itself to determine, MAF will not dictate how that is done.

If your site has been chosen for sampling, it is because your name was selected randomly. This was done in three stages. First we looked at the regional honey production levels over the last five years and then allocated the number of samples to be collected in each region. Then, all the commercial beekeepers in each region were allocated a (random) number and the required number of people were drawn by Russell Berry, President of the National Beekeepers Association of New Zealand Inc. At the conclusion of that draw, Russell did not know whose names had been chosen. The third phase was then for the apiary sites of those selected to be given a random number. Dr Barry O'Neil, the Chief Veterinary Officer then drew out the apiary sites for sampling. Barry also did the draw of the honey houses to be sampled on a similar basis.

Frequently asked questions :

What is being tested for and why? The tests are to detect antibiotics, carbamates and pyrethroids, organochlorines including PCBs, organophosphates, lead, zinc and arsenic. These are the residues prescribed in the EU requirements for market access.

What happens if we find something nasty? MAF Regulatory Authority (MAFRA) Head Office has the responsibility for

implementing trace back procedures and taking appropriate action relating to residue non-compliances. Apiary owners will be notified in writing, by MAFRA that their name and apiary have been placed on the 'suspect list' and of the actions that will be taken by the Ministry of Agriculture. Future lines of product from these owners will be required to be tested for the compound that was detected. The owners name and address, together with the non-compliant residue will automatically be subjected to trace back procedures. Telephone and/or apiary trace backs will be carried out by MQM field staff in order to determine the cause of the residues (where possible); and to provide advice on remedial measures. (A written report on this investigation will be required to be forwarded to the National Manager International Animal Trade). Apiary owners will be required to provide a written statement, advising what apicultural systems have been improved or instigated to prevent a recurrence.

Who gets the information from the survey? The information will be held by the MAFRA and is confidential to the MAFRA. Affected individual beekeepers will be informed if they have residues detected in their product. The information released to the industry as a whole will be of a general nature. The industry will not know from official sources whose premises have been sampled. So for example, MAFRA might say that a particular organophosphorus compound has been detected in the annual testing programme and indicate possible sources.

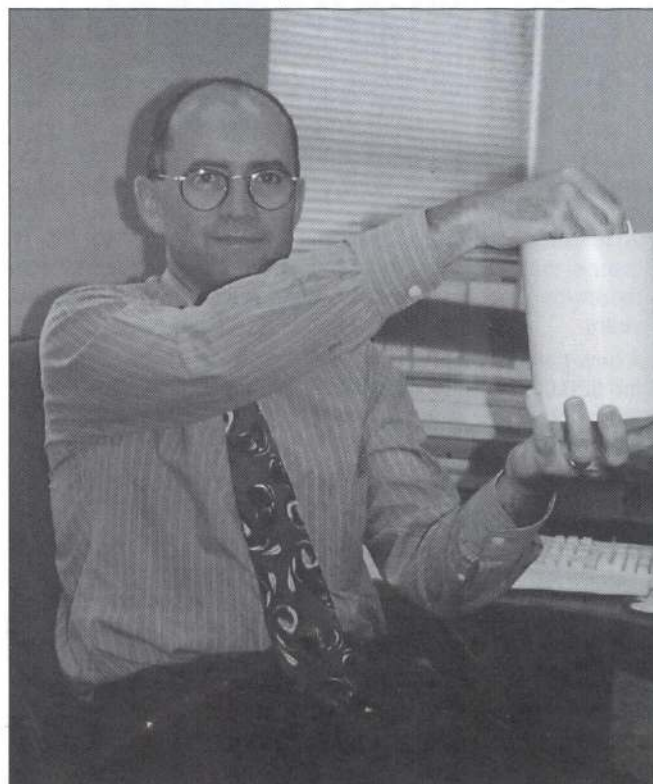
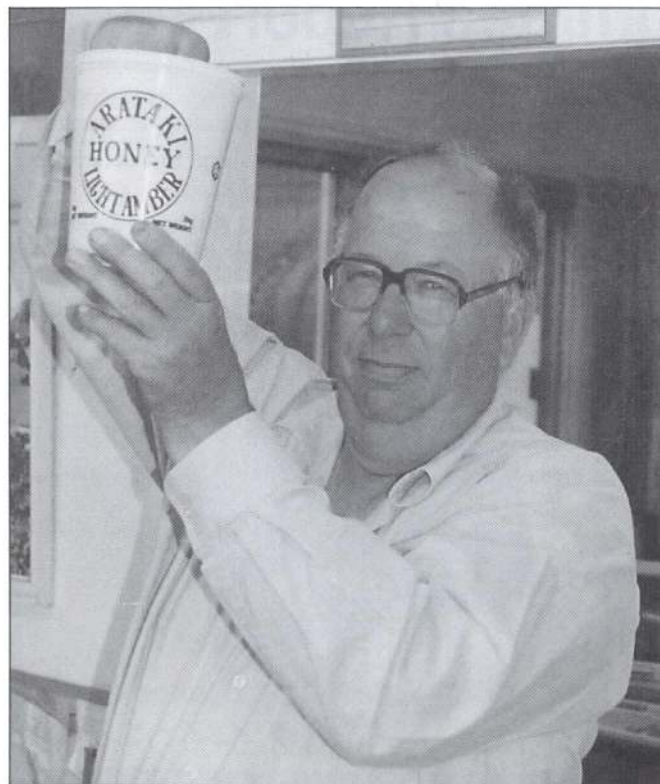
Will individual beekeepers sampled be identified publicly? No, not by MAF.

Will the results be published in *NZ BeeKeeper*? Yes, but only in a general report that will indicate the residue(s) detected and their likely sources. That way, all beekeepers can be advised of risks that they could be exposed to so that they can avoid them in future.

Pictured:

Left: Russell Berry drawing out the names of the beekeepers who will have their apiaries sampled.

Right: Dr Barry O'Neil drawing out the apiary sites and honey houses to be sampled.



EU Residue Monitoring Programme

Comments from your President - Russell Berry

Your Executive believes that the cost of the New Zealand Residue Monitoring plan for Apiculture, should be borne by the buyers of honey in the countries that require this plan.

The current proposal is :-

The NBA will initially pay MAF for their work and then pass on these costs to the New Zealand exporters of honey to the countries requiring the Residue Monitoring plan, (initially EU countries).

This will require exporters of honey to agree that MAF can pass on to the Executive Secretary information regarding exports to initially EU countries (confidential to the Executive Secretary only), so that the NBA can charge exporters to recover the costs of the programme.

If exporters fail to pay the NBA account, the Executive Secretary will request MAF not to issue any further permits to

that exporter. The Executive would recommend that this cost to the exporter be shown as a separate charge on your account to the buyers.

Please notify us immediately if you do not agree with this action.

The alternatives do not look good.

MAF to charge exporters directly on their permits - MAF is not keen to do this.

Stop exporting to the EU - nobody wants this!

We are trying to get MAF's price down from \$17,000, which is unacceptable for this Residue Monitoring plan.

Your Executive is working hard to reduce the proposed cost of this plan. You can help by supporting our actions as above.

Russell Berry

PMS Report

Progress has been slow with the final details of the PMS while the target start of July 1st is nearing rapidly. It has been said that Rome was not built in a day. Neither were Pest Management Strategies.

Preliminary work has been done on many things but final details are still uncertain. By publication time, we hope to have finalised the consultation process with MAF Regulatory Authority on the instructions required to be given to parliamentary council so that the order in council can be drafted. When this process is completed we will be able to finalise such things as the operational plan, tender process, management possibilities among other details.

Discussions are continuing with MAF RA on the Apiary Register, at present being maintained by MAF Quality Management. In some ways, we are in a difficult position as the Apiary Register is used for beekeeping matters other than disease control. We, in conjunction with NBA Executive, are

involved in consultation with Government on several matters to which the Apiary Register is a major link. For instance, Export Certification depends on the Apiary Register, at this stage, to enable MAF to confirm that area clearances are a fact. We have to do what is necessary to enable exports to continue.

Sorry I have not more to report, but rest assured, every thing is being done to put the PMS in place as well as getting the best deal possible to keep exotic diseases out of this country. NBA Executive visited Quarantine at Auckland Airport to see at first hand the new system used to keep unwanted organisms out.

The use of X-ray cameras and dogs to detect food, jars of honey and many other possible sources of diseases is working well.

Terry Gavin

Publications Committee Report

Advertising Rates

The publications committee took on board all the comments received from the readers re the advertising rates increase and recommended to the Executive, that the Advertising rates remain as is. They also recommended that we offer a 20% discount to those advertisers, who commit to the 11 issues, (only on half and full page advertisements) they also recommended that we hold these prices for the next two years.

A new category should be offered a 20-word advertisement for \$20.00. (Twenty words for 20 bucks), this should help the hobbyist or small beekeeper that wants to sell off, or advertise to buy some gear.

The Executive agreed to all these recommendations. Thank you for your letters.

Magazine Budget for 1998

The Budget has been set for 1998, which shows a profit.

Interesting to note when there were only four issues per year advertising was still more expensive than it is now and nearly double the number of readers compared with then.

Remit 16 from the 1997 Conference asking for a full review of the magazine. This has been carried out.

We will be taking a firmer line on outstanding accounts.

All accounts not paid within 60 days will go to a collection agency for collection, plus costs.

Anthony Taiaroa,
Publications Chairman



A creation story - In the beginning... God created heaven and earth

Quickly He was faced with a class action suit for failure to file an environmental impact report. He was granted a temporary permit for the project, but was stymied with the cease and desist order for the earthly part.

Appearing at the hearing, God was asked why he began his earthly project in the first place. He replied that He just liked to be creative.

Then God said, "Let there be light." Immediately government officials and environmentalists demanded to know how the light would be made. Would there be strip mining? What about thermal pollution? God explained that the light would come from a huge ball of fire.

God was given provisional permission to make light, assuming that: no smoke could result from the ball of fire; that He would obtain a building permit; and to conserve energy, that He would have the light out half of the time. God agreed and said He would call the light "Day" and the dark "Night". Officials replied they were not interested in semantics.

God said, "Let the earth bring forth green herbs and such as many seed." The EPA agreed so long as native seed was used.

Then God said, "Let the waters bring forth creeping creatures having life; and fowl that may fly over the earth". Officials pointed out this would require approval from DoC co-ordinated with the Fish & Game Council and Civil Aviation.

Everything was fine until God said He wanted to complete the project in six days. Officials said it would take at least 90 working days to review the application and impact statement. After that there would be a public hearing. Then there would be 10 to 12 months before....

At this point, God created Hell.

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Beekeeping?

Notes for beginners and others

The first two months of 1998 did have some surprises for part of our beekeeping fraternity. Of a pleasant nature here in the South. At the end of last year nails were being chewed to the quick. Then real summer arrived, three weeks late. Fine warm weather day after day and week after week. The clover just appeared overnight. We will be talking about it for years to come. Besides clover other sources also seem to come into their own. There it was, a crop of honey after all, it certainly saved the day for some.

Mind that's in our part of the country, it did not change El Nino's behaviour elsewhere.

One effect of this very late start is that the colonies which reached the peak of field bee strength also late have done well. Under more normal circumstances they would still have been building up during the flow. In contrast those that were ready earlier now had a good proportion of ageing fieldbees who had a considerable lesser number of days left before they went by the wayside.

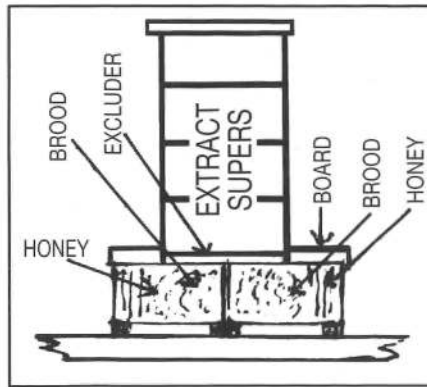
But one can only plan for and work towards what is usual in most years. Next time the late-comers will probably miss out.

The Southern field day (Otago and Southland branches) was held on the 14th February and blessed with glorious weather. Good attendance. A number of informative and practical demos. Good value for all categories of beekeepers. One can always learn something new no matter how long one has been in the game.

One demonstration covered two-queen hives and removing the crop. Pelletised two queeners with the full supers still on arrived by truck. Lifted off onto the ground the pellet held three hives. Two had each two single brood chambers on top of each other, divided with a queen excluder and with a second excluder above the second box so keeping the honey supers free of brood.

The third hive was a variation on the theme as it had the two brood boxes holding a queen each alongside each other with an excluder covering half of each and with the honey supers above this. So the bees of each half were working the same lot of supers. The parts of the brood boxes not covered by the excluder had been provided with a board to act as a lid. The advantages of such a set-up are pretty obvious.

Both brood nests can be worked by the beekeeper from the sides by simply lifting off the cover boards. No need to do a lot of back breaking moving of full honey supers to reach into the brood nest. It was interesting to note that the



combs with brood in each half were where the sides adjoined with the honey combs towards the outsides. The full honey supers were removed and cleared of bees with a hand held battery powered blower. Then stacked on a pellet and covered with an escape board, upside down. This enabled bees left behind to get out but prevented any robbers entering. Once the operation was finished heavy duty glad wrap went around the supers on the pellet thus making a neat and secure parcel to be lifted onto the truck. Very efficient indeed. The parcel contained 12 supers, full, not a bad result for three hives. Each hive received an empty super which has hopefully been filled since.

I was taken to task the other day for advocating making autumn nucs (tops, splits) for the purpose of increasing hive numbers next season. It was argued that the cost of feeding was too great and uneconomical. Alright to make a few for replacements or for patching up but not for increase. That is an opinion, now look at the facts.

To make a top we start with two combs of brood and bees. The combs will hold a certain amount of honey, another full comb of feed is placed alongside plus we make certain that there is also a quantity of pollen. Once the top is underway, it is settled down and has a laying queen (either introduced as such or hatched from a cell) it is fed about four litres of a strong sugar syrup. If this is done in April the top will come through the winter. However the top being made somewhat earlier in March and without enough late nectar coming in it may have consumed some of its stores so we play it safe and give a top-up, another two or three litres. This will see it right well into August. No way can we make up a spring nuc here before about half way through September so the autumn nuc receives another feed to bring it to the point where a spring nuc can be made up.

All up it will have taken a maximum 10 litres of syrup, likely a bit less. Forget about the comb of honey given for a start as the spring nuc will need that too. The

syrup is worth say \$8. Also the autumn top has been made at a time when there is a surplus of bees and a hive does not suffer from a bit of blood letting while bees and brood are at a premium in early spring, at least round here. Comes September the autumn top starts developing fast, the spring nuc is just starting. By the time the honey flow is upon us the autumn nuc will be strong and ready as it has had time to become a full blown hive, the spring nuc is still less strong unless spring conditions, that is the weather and nectar and pollen sources, have been exceptionally good. We cannot count on that. It does not take very much for the autumn top to make up an extra \$8 or more. So I stick to my guns and favour those tops, get them through the winter and use them to fill gaps and for increasing numbers.

If you want to make some it is not too late, but introduce a laying queen at this stage and any syrup feeding should not be left any later than early May. When it becomes cold the bees will have trouble to take it up and they also need time and warmth to store and ripen the syrup so that it is suitable as feed. When fed too late you may well finish up with a full feeder of fermented syrup and a starved colony.

John Heinmann

The Everlasting Flame

*Flame, flame give me your light
Flame, flame shine out bright
Give me your light
And feeling of love
Flickering around
Like an orange dove*

*Your shining so bright
Glowing into the night
And coming with you
Is a feeling of heat
Shining out
Through rain and sleet*

*Flame, flame show me your light
Keep on glowing through the night
Shining brightly, through the glass
From candle to candle, your flame
shall pass
You are the flame
That will always last*

Rebekah Dalby, aged 11

Tales from the past

Perhaps it is our way of life, but most beekeepers keep reasonably fit. Jogging is often a way of keeping fit but have you heard of the South Canterbury beekeeper who used to keep fit by jumping along at great speed. It doesn't seem the best way of progressing toward fitness, but perhaps the fact he was taking his pet wallaby for a walk had something to do with it.

The same fellow used to like catching wallabies that didn't quite clear the fence as they jumped across the road in front of the truck. The idea was to jump out and catch it by the tail. Then dance around in circles while you made up your mind what to do with it and at the same time avoid the claws on the back feet. A great pastime.

Summoned for sixpence

Are you old enough to remember what a sixpence was like.

At that time when you wrote a cheque you always added sixpence.

A beekeeper named Bob, also drove heavy trucks as a sideline. This meant he had to have it checked for a certificate of fitness with the local Transport Department. This he did, but being a bit forgetful he forgot to add sixpence to his cheque.

Sixpence wasn't worth much so you would think that would be the end of it, but lo and behold a month later he received an account for sixpence. Bob just ignored the account, However a month later he received a further account, so carried on ignoring it.

Next month no account arrived. Instead this time there was a solicitor's letter, so Bob just ignored it.

The next month he spied the laughing policemen walking up his path laughing happily as you would expect from such a title.

The laughter made Bob very curious so he asked the policemen "what was so funny?" The reply was "I have a summons for sixpence".

Bob said, "what will happen if I pay you the sixpence?" "That will be the end of it" said the policemen. So accordingly Bob gave the policeman the sixpence and off he went on his merry way.

Just shows you that bureaucracy is not a new idea, doesn't it.

The same research technician used to like camping out. On one occasion the frogs were keeping him awake at night so he sprinkled cyanogas crystals around where he was sleeping. Said he had a marvellous night's sleep. I wonder if the cyanogas affected him or the frogs?

Cyanogas was used in fairly big quantities and most instructors used to complain of nasty migraine type headaches related to it.

When wasps were becoming a problem one Instructor was asked to help. Apparently a farmer was driving his tractor and the back wheels dropped into a big wasp nest. The farmer was only

wearing shorts, so naturally abandoned ship. Unfortunately he left the tractor running and in gear. Nothing seems to upset wasps more than a tractor churning up their nest over a long period. In the end people up to a mile away were getting stung. The instructor arrived at the scene, got out of his car, got stung, jumped back inside, put on his veil, grabbed a can of cyanogas, rushed to the tractor, turned off the ignition, dropped in half the can of cyanogas and ran. The gas soon settled the problem.

Griff who was a very knowledgeable instructor also was organised to deal with wasps. He had a series of pipes he screwed together. He would push the pipe into the ground into the wasp nest and then blow the cyanogas crystals into the nest. On one occasion he did this near Oxford. He loved the Oxford meat pies so stopped to have one as a snack. Next thing he knew, it was morning. Must have been some crystals in the pipes in the boot of his car, so nearly a fatality.

On another occasion two instructors had a big burning job, so killed all the hives with cyanogas and then started carrying the hives to where they were to be burnt. All of a sudden they both sagged at the knees and had to crawl away from the gas area.

For some reason using petrol wasn't thought of then although the obvious solution.

After a while borer bombs were used as an alternative to cyanogas. These also had their problems. Personally I found them good for getting rid of aphids on my rows of cabbages. Just light one and run along the rows with it. The cabbages tasted okay probably because we didn't worry about residues too much those days. It was still when DDT was thrown about with wild abandon.

On one occasion there were three big hives established in the ceiling of one of those big old fashioned farm houses. No trouble getting rid of them. Just put a borer bomb alongside each hive in the three corners. What a pity they didn't think of leaving a piece of string to act as a guide out. Lost the way, lost the manhole and just about suffocated. All of a sudden smelt fresh air and followed it to the manhole. Learnt something. Don't use that method again.

Most instructors were very much individuals. They each had their own way of coping with a situation. One Instructor invited the local beekeepers to his small apiary for a field day. Unfortunately the first hive had AFB. So did the second and so on along the row. No problem. He then volunteered to show the assembled beekeepers how to burn them.

The same instructor was asked by his Superintendent of Horticulture, could he go out with the instructor one day to see what he did. Off they went. Through the city at a good turn of speed.

It seemed he had just forgotten to give way to other vehicles that screeched to

a halt all around. Then just in front of the Express train with inches to spare. The Superintendent all of a sudden remembered urgent work he had forgotten at the office. Had to go back straight away. Never ever did get out with that instructor.

Another time an Instructor wanted to check some hives for disease. A nice fine warm August morning. No you can't said the wife of the owner, a prominent doctor. Sorry but they have to be done was the Instructor's reply. Went ahead and next day the Superintendent received a letter of complaint about how the Instructor had upset the hives, chilling the brood and a long list of other nasty things done. It just happened that the Superintendent had been with the Instructor that day and rubbished the complaints. One of the few times it paid to have the boss on hand.

Some Apiary Instructors had their own way of doing things. One managed to work from 4pm to 6 for the 6 o'clock swill in the local pub each day. Managed to get there regardless of where he was in his district earlier in the day. Probably took some planning.

Another instructor spent a lot of time inspecting hives near some big rivers. Eventually it was noticed by a new instructor that no hives had existed in that area for a number of years. Perhaps the early instructors passion for trout fishing may have had something to do with those inspections.

I expect many will remember Vince Cook. He was helping another beekeeper rear queens. He said that have you ever noticed that queen rearers had big families. Perhaps it is the royal jelly? Sure enough both had sons nine months later. Perhaps a coincidence?

Red tape was always a problem for Apiary staff in those days. Imagine the reports it would take to explain how you hit a grader but never saw it?

One instructor was a real fishing, hunting type. If it moved it was fair game. On one inspection visit he noticed trout in a small stream. He had heard that cyanogas was okay for fishing, so tipped in a good quantity. Next thing trout popping up everywhere. Took ages to bury the dead trout in the sand along the bank to get rid of the evidence.

Apparently it was a trout hatchery. I wonder what the acclimatisation society thought of the reduced trout numbers?

This same person was keen on salmon. A salmon fisher fought a real monster one time. It fought gamely but eventually was wound in to the shore. That day newspaper headlines read "Fisherman Lands Skindiver". Apparently the chap was hooked in the thumb when diving for salmon (quite legal as in the sea) and was hooked in the thumb.

There were numerous other incidents that jog the memory often related to beekeepers met on the job but these are a sample.

Anon

Beekeeping Memoirs

Beehive rustlers

by Ron Mossop

Murray Reid's article in the December 1997 *New Zealand BeeKeeper* about hive theft prompted me to write something about our own experiences of hive theft.

Some years ago my son and I were going across a farm paddock towards our hives when we could see something brown lying about twenty yards in front of the hives. There was some speculation as to what it could be. It was the only single storey hive in the yard with a sack wrapped about it. It was obvious what had happened. Some budding beekeeper had decided to rustle some of our hives. He must have got about twenty yards when things got too hot for him so he dropped everything and took off. I hope he got five stings in the face and another five stings in the other place. That was our first experience of hive theft, but unfortunately not our last.

When some beekeepers heard that there was a fortune to be made from the pollination of kiwifruit, it started some sort of gold rush. Beekeepers came from near and far to this new El Dorado, one



Ron Mossop

beekeeper came all the way from Inangahua Junction. He made a pest of himself for over ten years. One day the police arrested him on a charge unrelated to beekeeping. The judge described him as a monster and sentenced him to two years in gaol.

When he gets out of gaol I hope he goes back to Inangahua again.

We learnt a lot of new tricks about beekeeping from the rustlers. For example, a quick way to get four frame nucleus away in the Spring is to take twenty nucleus boxes with empty frames to another beekeeper's hives and simply remove four frames from the middle of the top box complete with queen, brood and honey and replace them with four of your empty frames that may have come from FB hives, but don't let the owner of the beehives catch you or your beekeeping career could end suddenly.

Another time we went to a yard of about twenty five hives and found four hives were missing. They had been dragged through a hole in the boundary hedge and loaded on to a trailer on the road. We went back later and found another four hives missing. I thought of setting some gin traps in the hole in the hedge, but then I thought of the farmer's dog getting caught in the trap-not a good thing for a farmer-beekeeper relationship. Whilst I was wondering

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what to do next, they took four more hives. Having by now lost twelve hives we shifted the remaining hives away. At this stage we thought that it was about time we branded all our hives. We were making a lot of new supers at the time so I made a steel block with our number welded to it. The block was made red-hot with my oxy-acetylene welding plant. We proceeded to brand many super ends, floor boards and lids. It was a hot and expensive way to do the job, with the added danger of starting a fire in the shed. I decided to brand our hives in some other way so I got some 1H" concrete nails, drilled sixty seven holes in a piece of steel to form our number D280 sandwiched and bolted them between a piece of steel attached to a machine I had made. It was driven by a GHP motor, well geared down to put about six tons pressure on the nails. The nails were forced over halfway through the hive timber, and on the back stroke the nails were drawn out, as I had a device to restrain the super end. We found we could do one super every eight seconds. If you put your hand in the wrong place at the wrong time it would probably spoil your day.

Now that we had gone to the trouble to brand all our hives we thought it would be a simple matter to catch the beehive rustlers, but it was not. Our men arrived at a yard just before daylight to pick up hives for orchards and found twenty one hives missing. The thieves left their hive tool behind. Later I hung it on the wall and called it our "Five thousand dollar hive tool". That was our loss when we took into consideration the hives value plus loss of pollination fees and possibly some loss of honey after they came out of the orchards. As all the men were

working long hours putting hives into orchards I got the job of trying to track the rustlers down and so became a one man police force, but nevertheless I had a plan. The rustlers would want a new hive tool and I knew a man in Tauranga who used to sell beekeeping equipment so I asked him to take particular note who came to buy a hive tool. The first person was a girl about sixteen years old. She did not qualify as a suspect, but the next two men coming in to buy a hive tool did qualify as suspects because of some prior knowledge we had of their activities.

Whilst we were having our troubles with thieves other beekeepers were experiencing the same thing. The favourite time to steal beehives was the first week in November, after a beekeeper had kept his hives alive over the winter and built them up to strength and put a new queen in the hive.

One unusual case I heard about was where a beekeeper had brought his hives out of orchards in a hurry at the end of pollination to prevent his bees being poisoned by an after pollination spray. He put them in a dump yard about three miles from the orchards. One night rustlers took a truck load of his hives. The beekeeper had an idea where they might be, so he spent several days driving about in his car making enquires in an area about forty miles away. He found a truck load of his hives in two yards. He went home and got his truck and a friend and next morning at first light he loaded his hives on his truck and took them to his own yards. Beekeepers must have better things to do in December than to race around the countryside rounding up rustled beehives.

By good luck we did get a man to court charged with stealing beehives. A local beekeeper heard about some hives not far from his home that were lying about with a lot of hives dead, he investigated and found many different brands including ours. Our hives had the brands nicely puttied up and some paint slapped over them. It was a good cover up job but the thief did not know that we branded the bottom of our floor boards. The police became interested and soon found the thief's home base. There were stolen hives and frames everywhere. I think the hive numbers found were D280, D384, D386 and E1. I got several of my supers and in the presence of a policeman ran my angle grinder over the paint. The white putty on both the fire branded and press branded supers came out very clearly. The supers were placed on the court exhibit table.

Another beekeeper and I attended court and gave evidence as witnesses for the police case. We had the defendant sweating a bit for a while but somehow he had managed to hire one of the best defence lawyers in town, our man walked out of the court free with a big smile on his face. He had been charged with stealing hives when he should have been charged with being in possession of stolen hives.

I am sorry to hear that there has been another outbreak of hive rustling in our area after having been free from this sort of thing for over ten years. I hope they don't find one of these rustlers swinging from a tree with a rope around his neck. The police would take a dim view of it and the affair would probably make headline news and serve to give New Zealand beekeepers a bad name.

Genetically Modified Organisms and Bees - A statement

Rumours are currently circulating that colonies of bees have been killed by foraging on crops of genetically modified plants in this country. The British Beekeepers Association Technical Committee has been concerned about this issue for some time and has obtained from the Department of Environment a complete list of all applications to grow Genetically Modified Organisms (GMOs) in the UK.

The current situation is that no licenses for the commercial planting of GMOs in the UK have been issued. The first crop to be considered for the issue of a license is oilseed rape. Two varieties are under consideration. The first is a herbicide tolerant variety, The

intention being to make weed control in the crop easier and cheaper. The second is an insect resistant variety, using the gene for a naturally occurring insect toxin. These and other GMOs are currently undergoing a Risk Assessment Exercise in both the UK and mainland Europe. This aims to assess the possible adverse effects on beneficial organisms such as bees which forage on the flowers or parasitic wasps which prey on the insect pests. The concern is that bees may come into contact with the insect toxin and suffer damage. Whilst the Risk Assessment Exercise is only at an early stage, initial results suggest that the insect toxin is not present in either pollen or nectar and that there is no risk to bees. Licenses for the commercial use of

GMOs in the UK will not be granted until the Risk Assessment Exercise is completed. Limited field trials of the herbicide tolerant oilseed rape have taken place, but trials of the insect resistant oilseed rape, have only taken place indoors, in insect proof glass houses or controlled environment rooms. Therefore reports of bees being harmed by commercial crops of genetically modified oilseed rape grown in the UK and Europe cannot be true.

The British Beekeepers Association Technical Committee will continue to monitor this complex issue and will inform beekeepers as further information becomes available.

Beeline for blossom

Honeybees' acute sense of smell could help farmers harvest bumper crops.

Bees can be trained to recognise and seek out particular smells, French researchers have found. They claim the technique could be used by farmers to pollinate crops more efficiently, and even by environmental officers to identify pollutants.

Bees are choosy about which plants they pollinate. Their choice depends on the amount of nectar a plant produces and when it produces it. They use colour and smell to recognise plants that are likely to reward them with a hearty meal. Although their use of colour has been well studied, less was known about how bees recognise smells.

The French team, led by Minh-Ha Pham Delegue at the Laboratory of Comparative Invertebrate Neurobiology in Bures-sur-Yvette, has found that the olfactory receptors on bees' antennae are sensitive to hundreds of chemicals. However, their recognition of plants depends on combinations of just a few. The mechanism is so sensitive that bees can distinguish between two species of sunflower that have chemically similar smells and look identical to the naked eye.

The researchers discovered that when a bee finds a plant with suitable nectar, it associates the "reward-the sugar in the nectar with the smell of the plant. After a while it learns which odours lead to food.

In the way that bees associate odours with food, says Pham Delegue, "their sense of smell is very similar to vertebrates".

She found that she could lure bees to plants that they would not normally pollinate by artificially increasing the flowers' nectar content. The bees soon learnt to be attracted to the smell of those plants, and revisited them even when the nectar was removed. Pham Delegue believes that bees could be trained to pollinate crops that do not have enough nectar to attract them naturally, thus maximising the amount of fruit or seed the crops produce. She points out that training bees would be cheaper than spraying plants with chemicals that mimic bee pheromones, a method used in North America. In the same way, she says, environmental agencies could use bees trained to recognise pollutant odours as highly sensitive biological detectors.

One problem is that, over time, the bees may learn that the plants they are attempting to feed from have little or no nectar, and they will go off in search of the real thing. However, Pham Delegue believes that when bees are taught a false association while they are very young they will remember it for life.

Matthew Gledhill, Paris

Thanks to Brian Alexander.

Southern North Island Field Day

Saturday, March 14th at 10.00am

Venue: Pinehaven School
Pinehaven Road, Upper Hutt

ALL BEEKEEPERS WELCOME

Topics include:

- Removing honey in a built up area
- Autumn requeening
- Small scale honey extraction
- Air powered nail gun demonstration
- Disease diagnosis
- Competitions
- Sausage sizzle at lunch time

Bring your lunch

Free tea and coffee

Cost \$5.00. Individuals, \$10.00 per family

Questions:

Contact Mary-Ann (04) 478-3367

—NOTICE OF MEETING—

Canterbury Beekeepers, Hobbyists, Amateurs, Professionals and other interested parties

Keep Tuesday evening, 31 March 1998, free as you are invited to an evening with the Canterbury Branch NBA and MAF Border Control staff at the MAF Quality Management facilities, 14 Sir William Pickering Drive, Christchurch (just off Sheffield Crescent, Burnside).

Don't miss this opportunity to see and hear how the Border Control Team work to protect our country's agricultural interest and, therefore, our interests.

~Starting: 7.30pm sharp~

Bring a friend along and a gold coin for supper.

**Enquires ring: Branch Secretary, Trevor Corbett.
Phone/Fax: (03) 314-6836**

Notice of AGM, Canterbury Branch NBA

Date: Tuesday 28 April 1998

Time: 5.30pm sharp

Venue: The Whitehouse Restaurant, Main South Road (approx 3km north of Dunsandel)

- Programme:
1. AGM - election of officers
 2. April meeting:
 - a - General Business
 - b - Honey Promotion Discussion
 3. Dinner - partners welcome - \$16.50 per head.
 4. Guest speaker

Please bring partners along to enjoy an informative, friendly and relaxed evening, at the end of a long and trying season. Please book early with secretary as seats are limited to 40. Phone/Fax: (03) 314-6836, Secretary, Trevor Corbett.

Southern Field Day

Very good crowd - estimated 70 to 80 - almost the way it "used" to be in Southland/Otago in the "good old days" when we produced regular good honey crops. Beekeepers, honey buyers, equipment sellers, spouses, families and other workers turned up from all over the South Island - and we even had Bryan Clements from Waikato there too.

Considering one of the main speakers was Dr Barbara Barrett - an entomologist from Invermay Research Centre, who spoke about the Clover Root Weevil (sitona) - by the end of her address we were all looking sideways at Bryan and threatening to tip him upside down - or even sterilise him - to make sure he was not carrying any of these nasty little customers with him from the afflicted Waikato regions.

However - Bryan came away unscathed I think, and in fact he gave a very good report from the Sitona Roadshow which he had attended in the Waikato. It appears this little bug is going to create some interesting discussions throughout our industry in future as the report from Dr Barret was that it was most likely to spread throughout NZ, accelerated by the movement of stock, vehicles and feed such as hay and lucerne. Given the drought conditions this year, stock feed is likely to be moved over considerable distances, and the spread of the clover root weevil will very likely accelerate even faster.

Biological control agents seem to be the most effective possibility for future control, although there was the suggestion that after an initial "epidemic" of mites through a new area, a situation of more natural balance sets in and like the experience with the closely related lucerne weevil, they naturally reduce to more manageable levels. Wetter grasslands seem more susceptible - especially dairying land. They don't seem to enjoy dry areas so much - which makes virtually all of the eastern side of the South Island quite safe this year as El Nino's grip continues to parch the landscape.

We had a full report from David Woodward - the Telford Apicultural Tutor - about the training opportunities at Telford, and "yours truly" spoke about "The Asian Economic Downturn - Fact or Fiction?" - subtitled "Does the World have AEDS?" After hearing gloomy predictions about the clover weevil, I don't think the equally gloomy report about the "Asian Contagion" was very good news - at least the lack of applause at the conclusion of my address would indicate that was the case! Or maybe it was just the lousy presentation?!?

The evidence from overseas reporters such as Tradenz would indicate that the economic crises in a number of Asian

trading partners such as Korea, Malaysia, Indonesia, Thailand, Phillipines and to a lesser extent Hong Kong, Singapore and Japan, will continue to have a negative effect on many of our key industries. Tourism and forestry are where some very dramatic falls in business have taken place. Just one example - a 92% drop in the number of Korean tourists visiting NZ now compared to a month or so ago! That is almost a full-stop, not simply a downturn!

Effects on the beekeeping industry which I identified in the address included the tourism decline and consequent reduced demand from souvenir shops for honey products. Several of the Korean shops have closed their doors, virtually overnight, and other vendors are reporting considerably reduced foot traffic through their doors.

Package bee sales to Korea, which had been steadily growing have fallen to virtually zero this year, not due so much to the lack of demand from Korean beekeepers, but more to the extreme difficulty in securing any sort of payment guarantee terms for suppliers from here and Australia.

Honey orders to Japan and Malaysia have declined this year due to financing difficulties, and the fall off in purchasing of luxury foods or "lifestyle goods", such as comb honey and speciality products. There does not seem to be near as much discretionary spending cash available in these countries.

I also suggested that the need to diversify into other markets will create some costs in money and time for exporters to maintain sales volumes, but this may be offset this year by the "mixed blessing" of the below average honey production season which is being predicted - particularly in the South Island clover honey production areas.

Pressure upon the domestic market prices are expected to be upward due to competition for honey stocks, rather than downward through oversupply caused by a shift from export to local market selling.

We have a reprieve this year - but look for a different scenario next year if production gets back to normal - or better, and the economic problems continue in Asia - and possibly beyond as predicted by some commentators.

After lunch we were treated to practical demonstrations on queen rearing, hive management, including some innovative ideas from Murray Ballantyne in Southland to improve the yield of honey from a colony through various methods of two-queening or manipulation. (How many of you have heard about "two-queen towers", or "shook swarming?")

The equipment sellers and honey buyers were given an opportunity to sell their wares and make their offers to purchase what there is of a honey crop this year. A refreshing interest in Southland's production this season - must be because the few beekeepers still operating in the deep south have actually produced a reasonable yield - despite the late start and crazy spring conditions. Most of the Canterbury visitors came down for a bit of "green-grass therapy" not having seen any in their regions for several months!

David Woodward finished the day with an address on Australian Beekeeping - but I am not sure if he convinced anyone to emigrate across the Tasman or not! All in all - a very successful and enjoyable Field day - a bit of information sharing, a bit of a chin-wag with other beekeepers, a bit of "horse-trading" with the buyers, and a bit of sunburn - always proves a winning formula for a typical beekeepers field day.

Allen McCaw

It pays to slim

I knew a fellow rather well, who was pulled up in a Japanese imported truck while travelling to orchards to feed beehives, who was 100kg overweight.

Not him, you dip-stick, the truck. The fellow was only 50kg overweight.

It cost him \$6 for every kg he was overweight. What next? Have a haircut!

Noxious weed.

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The Heart of the High Country

Beekeeping in New Zealand's South Island high country can be both a privilege and a pain.

We received a call from helicopter pilot Dave Armstrong that a number of our hives were in disarray over in the Clarence Valley between the Inland and Seaward Kaikoura ranges. Since it was the middle of July we had no hope of getting 'over the back' as there was a couple of metres of snow on the 1200m (4000 ft) pass. In summer apart from slips, washouts, flooding, unseasonable snow and minor contingencies like mechanical breakdown, it's no real problem to grind up and over the range in our 4WD MJ Bedford. In normal circumstances we would only be looking at a long day round trip. In mid-winter however, I was seriously considering brushing the dust off my ice-axe and crampons and making a bit of an expedition of it. Luckily Dave had flown in our motor bike to Quail Flat a couple of weeks before while ferrying pig hunters to their block.

Dave Armstrong is one of those fearsome looking characters complete with tattoos but with a heart of gold. Everything he's got he's worked for including a missing middle finger, testimony to the fact that it hasn't all been easy going. It's not unusual for him to drop in for a chat while we're working bees. He just parks up the Jetranger with turbine screaming and blades whirling. Occasionally with his impish sense of humour he sneaks over a low ridge like 'Blue Thunder', catching us by surprise and causing the cab of the Bedford to feel as though the drive shaft has finally come loose and is trying to thrash itself through the deck of the truck. On one particular occasion Lance Godfrey was operating our big 'John Deere' tractor while preparing an air strip when he heard a loud disarming shrill he thought was coming from the motor. He immediately hit the kill button but nothing happened. After dropping the blade down and still no response, he glanced up to see the skid of Dave's chopper merrily dancing below the cab of the tractor. The penny dropped and Lance caught a glimpse of Dave's cheeky face before he high-tailed it off like a dog with a stolen bone.

Colin Nimmo of the 'Muzzle' station on the other side of the Clarence is also part of the airborne battery that seems to delight in sneaking up on unsuspecting beekeepers. Colin flies a Cessna 185 and is one of the most accomplished mountain pilots in the country. He too has a heart of gold and hearing of our plight offered to fly us in so we could right

the hives. Colin has saved our necks or should it be our feet a number of times. During the big Kaikoura flood of 1993 Jim Godfrey and I had just spent 36 hours underneath the tent fly while the Clarence raged to an incredible 23 ft above normal flow. "At least getting a cup of tea is easy" remarked Jim as he leaned over from his sleeping bag to fill the billy from the side of the tent. At first break in the weather Colin was up for a look and deduced correctly that the Apiaries boys would have a little trouble getting home for Christmas dinner. Our main access to the range up the Herring stream had been obliterated. Colin, in a feat of precision flying managed to drop a note tied to a stone. 'If you can get to Horse Flat I'll fly you out for Christmas'. A quick pack up and a little 'kayaking by truck' in the swollen Limestone Creek, soon saw us happily on our way, much to the delight of our families. It's a relationship with true high country men like Colin Nimmo that makes working in a tough uncompromising environment like the Clarence, such a privilege.

Up ended hives in remote sites can be a real pain. With Colin over head it was a mad scramble to get to the air field 1 km up the road. I had to furiously pack and scout through my mother-in-law's chook house looking for eggs. In a sublime 15 minutes we were over the snow capped Kaikoura's and looking down on the scattered hives. Young cattle and then wind had ransacked them. Colin flew us over each apiary site in turn and we were able to plan our ground manoeuvres with the motor bike. A soft landing brought us to Quail Flat then a pleasant mid-winters day saw us righting all the hives. We paused to admire the beauty of Manakau, the highest peak in the range. A quick thermos of coffee then back to snuggle down into our sleeping bags for the night. Next day right on cue Colin was there to fly us home and in 14 minutes we were on the airstrip. Colin was genuinely embarrassed at our offer of payment. That's why we have no problem backloading a bit of his wool or the odd tractor job. A mutual understanding, that puts the heart into and takes the pain out of, life in the high country.

Nick Parkinson, Kaikoura Apiaries



Library News

The following books have been bought recently. Don't forget to note them in your copy of the catalogue.

Traditional Candle Making by Deborah Millington, 1992, 40pp, UK. Gives a lot of info and practical advice. Not just about beeswax candles but the use of other waxes and fuels are discussed, listing the advantages and disadvantage.

Making Craft Wax Candles a publication of Al Root Coy, 1993, 16 pp, USA.

It describes and pictures the "how to do it", different ideas and designs.

Considering the growing interest in the art of candle making these two additions to the library collection should be good value to those who want to try their hand.

Bumble Bees for Pleasure and Profit, published by IBRA edited by Andrew Matheson, 1996, 47 pp, UK.

A great little book giving a real insight in the make-up and behaviour of this very beneficial insect. Its contribution to the pollination of wild flowers as well as cultivated crops. The rearing of colonies for commercial use is clearly discussed and their use for glasshouse pollination.

A must for anyone who wishes to rear bumble bees, of general interest and admirably suited for students who wish to make the bumblebee the subject of a school project.

Making Mead (honey wine) by Roger A Morse, 1980, 127 pp, USA.

Professor Morse is the author of a number of beekeeping books and many articles, all very readable, founded on thorough research and practice. So it is with this one giving history, recipes, methods and description of equipment and materials required. A book we should have had in our collection years ago.

Goss Korner

Be listening to Radio Pacific 26th March 2.00 - 300pm

Heard a whisper Graeham Gainsford is talking on APITHERAPY.

Keep watching Country Calendar. Heard another whisper about Bryce Hooten that the Country Calendar TV team are with him for a week at the end of March. (he is our blind Beekeeper and a real character). Bet he gives them lots of laughs.

Heard some gossip? Send it to us, if we can we will publish it for you.

Precis from the December Executive meeting

Well another very successful meeting with the Executive behind us as the year draws to a close.

We met in Christchurch the 1st, 2nd and 3rd of December. An excellent meeting with the local Branch at the Polytechnic on the Tuesday evening. They supplied a delicious meal prepared by the Students and very good hosts to us, with a question and answer session to round off the evening, about 40 people there. Thank you, to Richard Bensemann for chairing the question and answer session.

We met over three days this time as this allowed us to travel during the day rather than peak times and some very large savings were made on Airfares. By travelling around midday they had saved the NBA a fair amount of funds i.e. on my ticket alone, they had saved over \$300.00, minus an extra nights accommodation so other than the extra time the Executive is away from their businesses, this has proved very valuable. It also gave more time to ensure they revisited the industry plan as Conference had asked them to do.

Some of the issues covered at the

Executive meeting were:

That this summary to the Branches will be printed in the next issue of the magazine to keep the membership better informed as well. (This report will appear in the February Issue).

The Executive Resolved to limit the free copies of the Minutes to Branch Chairs, Secretaries, and those nominated by the Executive. For other interested persons Minutes will be supplied at cost, i.e. \$35.00. Per Annum.

Concerns were raised over the accuracy of the Apiary register and the number of people who had filled out statutory declarations saying they had told MAF many times that they had sold their bees. (We know first hand as we have taken many of the calls) We are also looking for a cheaper method of following up to collect the outstanding levies, as this is proving very expensive.

The **Marketing Budget** was approved for 1998 at the amount requested, which is a positive endorsement of the marketing activities.

PMS Review Committee is on target for a 1.7.98 launch, the Chair of the Committee, Terry Gavin told the meeting.

Now we do not have to have a Board of Inquiry, this will save us a lot of time and distractions, and allow us to get on with the job. The Minister's decision was totally supported by the entire Executive at the meeting.

We had a Conference Call with the Ministry of Health, over the Proposed labelling requirements for Propolis, Royal Jelly and Pollen.

We have asked for some more facts from the Ministry, as well as more time to make Submissions (we are waiting for a reply to this). I believe it was a very good meeting with the Chair making some very strong comments to the Ministry. How can you say New Zealand pollen is the same as Australian when the floral sources are quite different? It is not Bee Pollen, as Bees don't make Pollen! etc.

We are currently waiting on those facts before we go public, as we don't want to say anything that is incorrect.

Dr Jim Edwards joined us from MAF RA to update us on the European Union (EU) requirements on Pesticides testing for Honey going in to the EU in 1998. Russell, as well as the other Executive has done a lot of work with Jim on this

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to get it ready at very short notice for the EU.

The Conference Remits, as well as the Industry Plan, was again revisited, with a lot of progress being made.

Particularly on the Border Control, issues Terry Gavin has done some sterling work in this area. We are meeting with the Auckland Border control people in Auckland prior to the March meeting.

Clover Weevil Problem.

Very satisfying to be able to confirm that the Honey Industry Trustees have granted \$25,000 for Research in to the clover weevil problem, (spreading at the rate of 35km per year, suspected to be in the Hawke's Bay already)

Publications committee reported through Tony Tairora, that they would not take up the offer of the MAF BeeFax for 1998 due to cost. Nearly double the 1997 price, and they felt they could not justify this expenditure. We have also received a quote to update the Profile Magazine again double the quote earlier in the year, so we are looking for a cheaper alternative at the moment. Tony also reported that the Publications budget will come in on the positive side, which is good news. First time for a long time.

We received quite a bit of flack over the increase in the Advertising rates.

The Publications Committee agreed, the increases were unfortunate, but no increase had been approved for four years and in hindsight this was bad planning. If the rates had of been increased two years ago we would not of had the need to increase them so much this time.

Branch letters.

We had a letter from Hawke's Bay Branch re the Sawfly that has been allowed to

sneak into New Zealand and attack the Willow trees.

We are following the problem through and I will keep you informed as we go along. Another blow to the beekeeping industry in New Zealand.

We had a letter from Nelson Branch, re our Contract, which you will have received as well. The President will reply to this with the outcomes from the meeting. Briefly, there is a Contract in place with our company and a very full contract and job specification (13 pages) with six monthly performance reviews, the President will update you on this one. For those of you who don't know. Our (Janice and Harry's), company, Training In Progress, runs the NBA under Contract. We supply an office, photocopier, computers, printers, fax machine, etc, and carry out the day to day functions of the Association under Contract.

It is pleasing to see the Branches taking an interest in the Industry. This is healthy for the Executive and us.

One area we desperately need your assistance on, is Genetically Engineered Plants. We know they are being grown in New Zealand under very tight conditions i.e. covered, so Bees can't get at them. If you see or know of any trials that are not under these conditions can you notify me urgently, we wont use your name as the person who gave us the information.

Russell has just returned from Canada, where Genetically Engineered Plants are real hot issue. We don't want to see our Exports put at risk through something like this.

The other area to keep a watch on is the importation of Bee products. Thanks to Chas Reade we managed to stop a

distribution of Chinese Honey in a gift pack through the shops. Chas found it, reported the problem to us, and we had MAF investigate, and remove the stock.

March meeting as I mentioned earlier, will be in Auckland, we will meet with the local Branch on the Tuesday evening 3rd of March. May meeting will be in Wellington. July meeting at Conference at Waitangi. September and December venues, and dates, left to the incoming Executive. This could be an opportunity for them to meet your Branch? Drop me a note if you would like the Executive to meet with your Branch, no promises, but I am sure they will do their best to accommodate your wishes.

We have collated for the Executive, an NBA Operations Manual, this allows them to have all the NBA bits and pieces together, which has really made their job a lot easier. Also when a new Executive member is voted in we will supply them with manual and they will have all the information to allow them to quickly get up to speed.

We have produced the same for the Branches, and now most of next years meeting dates have been decided upon we can finish it off and send to Branches who wish to use it.

We are just finishing of a NBA Presentation Manual, so Branches will be able to borrow it and give an overview of our industry. This will have paper copies of the overheads with it, so you can copy any overhead you wish to give to your audience. You will be able to use the manual to suit your particular audience as well.

Harry Brown

Apologies, this missed the February issue.



This photograph was taken in Bali (Indonesia) near the "Pura Tanah Lot", a Hindu Shrine. Among the street hawkers, there was this beekeeper, selling bottled honey and combs with honey and pollen. The combs are round and seem to be taken out of a traditional log hive. Some bees were flying around the box. These were very small yellow bees (possibly A Cerana).

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All in reasonable order.
There maybe other bits
and pieces also.

The Biotechnology Revolution:

2. Tools and Techniques for the Fruit Industry

Sue Muggleston, HortResearch, Mt Albert Research Centre, Private Bag 92 169, Auckland

This is the second in a series of articles written to give you a better understanding of what is happening in New Zealand and around the world in the rapidly developing field of biotechnology. This article covers a range of tools or techniques that are being developed in conjunction with this technology that have tremendous potential for changing the New Zealand fruit industry. Some of these changes may also impact on beekeeping practice. Genome mapping and molecular markers are used directly to improve and accelerate plant breeding programmes. A map is made of economically important genes and also of any easily identifiable DNA markers that are very close to these genes on the chromosome. The theory is that if the markers are close enough, then if you've got those you've also got the gene. This concept is very important for characteristics that do not become evident for several years, for example, fruit size or colour. Using Marker Aided Selection, breeders can predict these desirable characteristics in very small seedlings, and greatly improve the efficiency and output from their breeding programmes.

In crops such as kiwifruit, where there are separate male and female plants, great efficiencies can be gained in a breeding programme by eliminating

unproductive male plants, so that for the same resources many more potential cultivars can be selected.

DNA fingerprinting can be used to identify important quarantine pests or diseases. This is especially helpful in situations where the invader is not easily identified visually and where current diagnostic tests take several days. European Foul Brood is a good example of this and that is why MAF have been developing a DNA test for this exotic bee disease.

On the horticultural front, HortResearch scientists have developed a world-first test to identify pest mealy bug species on export consignments of apples. This technology is estimated to have saved the NZ apple industry at least \$1million in the first season of use. In a normal season, more than 4 million apples are checked by inspectors from the US Dept of Agriculture for one species of mealybug out of 4 that is considered to be a quarantine pest. If one insect is found, an entire consignment of 60,000 cartons of apples has to be held in cool storage for 40 days while young stages are reared to maturity, to enable them to make a positive identification. The new test can identify the mealybugs in 24 hours.

Similarly specific DNA probes for disease organisms allows the detection of small numbers of microbes even when there

are no obvious symptoms. This technology has been developed for fireblight on apples and for access to the Japanese market, shows that there are no disease organisms left on the surface of the fruit after chlorine dipping. For access to the stricter Australian market, the technology is used to certify orchards as being free of fireblight by sampling fruit right throughout the season.

DNA fingerprinting could also be developed for the identification of specific cultivars.

Other genetic technology has allowed the use of antibodies to detect minute amounts of pesticide residues. This technology has been patented and will be useful for a number of different applications.

Gene technology is also important in the supply of high health, virus free propagating material, currently being applied in the Citrus Budwood Scheme and Virus Indexing programme for the pip and stonefruit industry.

These and other new techniques have great potential to enhance the competitiveness of our fruit industry, regardless of what further development of genetically modified crops public perception will allow. Genetic modification has left the realms of pure science and has entered into the political arena. The next article will discuss some of the issues of public perception.

The Biotechnology Revolution:

3. Public Perceptions

Sue Muggleston, HortResearch, Mt Albert Research Centre, Private Bag 92 169, Auckland

This is the third in a series of articles written to give you a better understanding of what is happening in New Zealand and around the world in the rapidly developing field of biotechnology. This article discusses the complex area of public perception.

I'm sure you're all aware that there has been a great deal of media hype throughout the world recently, with groups such as Greenpeace and the Natural Food Campaign asserting that the public does not want genetically modified foods.

Public perception is a strange thing and many different conclusions can be drawn depending on the questions that are asked. In a "simple questionnaire" such as commissioned by Greenpeace, respondents were asked questions of the

nature "Are you happy to eat genetically modified food?" To most of the public who know nothing about it, this sounds scary so of course they say NO.

Other surveys have been much more specific in the questions they asked. In a New Zealand survey of fruit production methods, respondents were asked "would you eat an apple that had been genetically engineered to improve its flavour?" for example. In this survey 62% of respondents stated they would if it had increased size, 67% would if it had improved flavour, and 66% would if it had reduced chemical residues. In contrast, only 33% predicted that they would knowingly eat an apple that had been sprayed with pesticides to reduce pest damage!

HortResearch has recently secured a

contract to carry out a comprehensive survey into public perceptions of transgenic plants in New Zealand. Many organisations including New Zealand Fruitgrowers Federation will be involved in the initial stages of determining appropriate questions that need to be addressed.

Regardless of the basis of public concern, the current demand is the right of the public to know what they are eating and to make their own choices.

Groups worldwide are calling for compulsory labelling of all genetically modified foods. This has created a minefield of how to provide meaningful information. This would be the first time that a method of production needed to be identified - in the past, the characteristics of the product itself were

labelled, not how it was produced. Should that change?

In manufactured products, sources of raw materials may change weekly meaning that sometimes they will be genetically modified and sometimes they won't. Is "May Contain Genetically Modified Ingredients" really going to be useful? Particularly, for example, in cases such as soybean which is in up to 80% of all processed foods.

There are many different ways in which people can be informed about what they are eating - point of sale leaflets, advertising campaigns etc, which in many instances may be a lot more sensible than labelling.

In the UK, Zeneca seeds worked with major supermarket chains Sainsbury's and Safeway's in the introduction of a range of genetically modified tomato paste. The tomatoes (which were grown in the US) had been genetically modified to reduce the rate at which the fruit deteriorated. This led to 40% less crop wastage during harvesting and processing as well as an enhanced flavour. Many months before the product was released they had a major publicity campaign letting people know it was coming. There was another advertising

campaign when they were released. Tins were 10% bigger than the standard lines and selling for the same price, they were clearly labelled as being genetically modified and information leaflets were supplied. Customers bought the tomato puree, nobody complained once the leaflets had run out and sales have been increasing regularly over the many months since.

While this approach has been successful for a product such as tomato paste which has only one ingredient, it might not be feasible for multi-ingredient products where only one component may be genetically modified.

Monsanto have taken a very different approach with their production of Roundup Ready Soybeans which have been modified to be resistant to the herbicide Roundup (which Monsanto manufactures). This enables the farmer to use this herbicide to control weeds with no risk to the soybean crop. As soybeans are a commodity crop that ends up in many different food products, Monsanto are opposed to separating out genetically modified and nonmodified beans and to labelling the thousands of products in which their beans are used. This approach has proved unpopular,

with Greenpeace mounting a "Not Ready for Roundup" campaign against the company.

In New Zealand, the Gene Technology Information Trust has just been set up, operating as GenePool, which has the aim of providing authoritative gene technology information so New Zealanders can make informed choices on the use of these technologies. It will also act as an information network for people and organisations with educational, food, environmental and industrial interests. Its information resources include a website, a library of publications, a six-weekly newsletter, fact sheets, and a speakers bureau. Gene Pool was established with initial funding from the CRIs, but we have recently sent out invitations to a large number of companies and organisations throughout NZ to contribute to achieving these aims.

GenePool's website address is <http://www.genepool.co.nz> and you can contact them directly for further information by phone: 04 473 7246, fax: 04 499 0879, email: info@genepool.co.nz or writing to PO Box 10-792, Wellington. Our next article will deal directly with the impacts of genetically modified plants on bees.

The Biotechnology Revolution:

4. Honeybees and Genetically Modified Plants

Louise Malone, Libby Burgess and Sue Muggleston, HortResearch, Mt Albert Research Centre, Private Bag 92 169, Auckland

This is the fourth in a series of articles written to give you a better understanding of what is happening in New Zealand and around the world in the rapidly developing field of biotechnology. This article describes research being done in New Zealand to help ensure that any genetically modified crops grown here will be safe for bees.

In New Zealand, all genetically modified organisms (GMOs) must have approval from ERMA (the Environmental Risk Management Authority) before they can be experimented with or grown outdoors. ERMA follows a rigorous procedure for making its decisions, involving a thorough assessment of all possible risks. For these risk assessments to be as accurate as possible, it is important that ERMA has access to good scientific data on GMOs.

The aim of our research with bees and GMOs is to provide ERMA with accurate data to help them to make the best decisions on GMO release in New Zealand, with regard to bee safety. Of course, we also have the aim of keeping beekeepers, growers and the general public informed about GMOs and bees.

Of all the types of genetic modifications that may be made to crop plants, probably the most likely to affect bees will be those designed to protect the plants from attack by insect pests. These "pest-resistant transgenic plants" will be engineered so that pests can no longer gain sustenance by eating their leaves, stems, fruit or roots. If the pest-resistance gene is also "expressed" in the flowers or pollen, then bees may be exposed to it as well. Whether this presents problems or not will depend on the amounts of gene product that the bees are exposed to and also the type of gene.

To test the direct effects of pest-resistance genes on bees, we have been feeding various concentrations of a range of resistance gene products to adult bees kept in cages in an incubator and then monitoring their survival. So far, most genes we have tested are from the Protease Inhibitor group of pest resistance genes. Protease inhibitors are extremely common compounds found in virtually every living organism. Many are found naturally in plants, such as potatoes, pumpkins, or soybeans, where

they serve to protect these plants from insect and fungal attack. Researchers around the world are taking protease inhibitor genes from one plant species and introducing them into others to improve their resistance to pests and diseases.

Our research with four different protease inhibitors has shown that when adult honeybees are fed with medium to low doses of these, there is no effect on their survival. When presented with extremely high doses of each (an absolutely "worst-case" scenario), their survival is reduced (Malone et al., 1995; Burgess et al., 1996; Malone et al., 1998). These dose levels are much higher than those necessary for the transgenic plants to be effectively protected against pest attack (McManus et al., 1994; Duan et al., 1996). There is also additional protection for bees available if the plant is engineered so that the introduced gene expresses itself only in the stems and leaves of the plant and not in the pollen.

We have also done some experiments with bumblebees and it seems that they are even more resilient than honeybees.

Three of the four protease inhibitors tested had no effect at all on the survival of adult bumblebees, even at extremely high dose levels (Malone et al., unpublished results).

Similar experiments are under way with honeybees and another important type of pest-resistance gene, the Bt gene. Bt is a bacterium that has an insecticidal activity and has been used for many years as a biopesticide to spray on crops instead of chemical insecticides. Examples include the Bt sprays used in organic kiwifruit production and the spray used in Operation Evergreen to control white-spotted tussock moth. Bt spray is known to be completely safe to bees and it is likely that Bt gene products (which are "stripped-down" versions of the active ingredients) will also be safe.

There is also a second, indirect way in which bees might be affected by transgenic plants. As with conventional plant breeding, sometimes undesirable traits may be introduced inadvertently along with the desired new trait. One example might be flowers that are less attractive to bees. However, genetic modification techniques allow plant breeders to make changes with far more precision than conventional breeding

methods and so the likelihood of such "side-effects" occurring may well be lower (Conner, 1997). We will soon be conducting experiments with flowering transgenic plants in cages within a containment glasshouse in order to develop methods for assessing these indirect effects. Bees will be given a choice between control and transgenic plants and their foraging activity observed and measured.

One of the clear benefits to bees of pest-resistant transgenic plants will be a reduction in the use of chemical pesticides on crops. This of course has been the whole rationale for creating such plants in the first place, since the continued use of large quantities of chemical pesticides throughout the world is simply not sustainable. Our research, and that carried out in similar labs overseas, aims to ensure that bees and beekeepers will also benefit from the "biotechnology revolution".

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Beeswax - yellow cappings	\$ 5.80kg	\$ 6.10kg	\$ 6.40kg
Beeswax - other	\$ 4.70kg	\$ 5.00kg	\$ 5.30kg
Pollen - cleaned & dried	\$ 24.00kg	\$26.00kg	\$28.00kg

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Environment Update

Issue 56 Dec 97-Jan 98

The Minister for the Environment, Simon Upton, has announced that the Government has agreed to a phase-out schedule for methyl bromide.

Methyl bromide is the only ozone-depleting substance that until now has not had a phase-out schedule in New Zealand.

Methyl bromide is used to fumigate soils prior to planting high-value cash crops such as strawberries. Compared to the once common CFCs, which can last hundreds of years in the atmosphere, methyl bromide has a short atmospheric lifetime of around 18 months. Nevertheless, it is one of the most significant ozone-depleting substances known. Reducing its emission is one of the few actions the Government can take now which will have an immediate benefit to the ozone layer. Importing of CFCs has already been phased out.

In 1994, the Montreal Protocol's Scientific Assessment Panel concluded that phasing out the release of methyl bromide was the single most important action that could be taken to protect the ozone layer over the next 50 years.

Methyl bromide has been controlled by the Montreal Protocol on Substances that Deplete the Ozone Layer (the international agreement to phase out ozone-depleting substances) since 1992. As required by the Protocol, importing of methyl bromide into New

Zealand has been controlled since 1995.

Mr Upton said that it is only the soil fumigation uses that would be phased out. Methyl bromide is also used as a fumigant to control quarantine pests in products being imported and exported. As agreed internationally, the amounts of methyl bromide used for quarantine and preshipment applications will continue to be exempted for controls. Mr Upton said that the risks of the environmental impacts from introducing unwanted pests outweigh those from the relatively small amounts of methyl bromide used for quarantine and preshipment purposes globally.

The reductions required in New Zealand under the new phase-out schedule are in advance of those required under the Montreal Protocol, which was revised in September this year. Both the new regulations and the new international schedule require a phase-out by 2005, "but the interim reductions agreed to for New Zealand are consistently faster than our international obligations," he said.

Mr Upton said that the phase-out schedule was the result of extensive consultation over several years. He noted that, although it was not required by law, New Zealand's consumption of methyl bromide for uses other than quarantine and preshipment applications had already fallen by 35% in 1996 from the 1991 base level.

Methyl bromide phase-out schedule for New Zealand

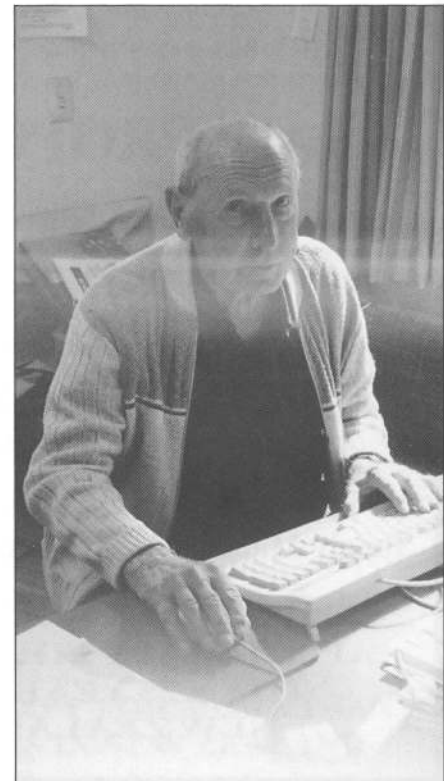
Year	NZ Schedule	Montreal Protocol
	Reduction	Reduction
1991	Base Year	Base Year
1995	0%	0%
1998	25%	0%
1999	35%	25%
2000	45%	25%
2001	60%	50%
2003	75%	70%
2005	100%	100%

All dates refer to 1 January of that year

Exemptions

Quarantine and preshipment applications are exempted throughout the schedule period. Critical uses (not yet defined by the Montreal Protocol) are exempted in 2005 only.

WHO IS THIS MAN?



Anti-inflammatory drugs may end beekeeper immunity to bee stings

from the American Bee Journal (1994) 134, (2): 120-121

Beekeepers should think twice before taking some anti-inflammatory drugs. The drugs may reverse their immunity to bee stings.

During the last few years, several new nonsteroidal anti-inflammatory drugs have been developed to relieve pain and reduce stiffness, swelling and joint pain associated with inflammation. Such drugs include ibuprofen, fenoprofen, naproxen, ketoprofen, sulindac, piroxicam, suprofen, and tolmetin.

It is well known that beekeepers develop an immunity to bee stings and it has been reported that some people get temporary relief for the pain of arthritis if they sustain several bee stings. Two cases have recently been reported of people taking a nonsteroidal anti-inflammatory drug and suffering serious allergic reactions to bee and wasp stings.

A 66 year old beekeeper had developed an apparent immunity to bee stings over six years. She was prescribed a nonsteroidal anti-inflammatory drug for osteoarthritis. A few months after taking the drug, she was stung on the wrists while working around the bee hives and within 15 minutes developed heart

palpitations, a rash and swelling of the mouth and tongue, making it difficult for her to breathe. She stopped taking the drug and 48 hours later when she was stung again she developed no reaction.

Another report describes a 48 year old wife of a beekeeper who had been taking a nonsteroidal anti-inflammatory drug for five months for osteoarthritis. She had previously had only skin reactions to wasp stings. But one day she developed wide spread swelling, red, itchy rash, heart palpitations and shortness of breath within two minutes of being stung by a wasp. Hospitalisation was necessary.

Until more is learned about the reason for these reactions, beekeepers should be aware of the potential hazard associated with these drugs and bee stings.

(Reprinted from Texas Beekeepers' Association Newsletter, but originally appearing in Understanding Prescription Drugs by Dorothy Smith, Pharm. D., pp 270-271; British Medical Journal 292: 378, 1986,

Acknowledgement Scottish Bk (Oct 97)

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Waikato Field Day Diary 21st of March

Liquid Syrup Feeding

Cold syrup versus warm syrup
Which is the best?

Plastic Frames Plastic Foundation
What are the Pros and Cons?

Time: 9.30am

Venue: Haddrells Honey House
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All inquiries to Tony (07) 856-9625

Hieroglyphs suggest long association between humans and bees

In the ancient Egyptian sun temple of Ni-user-re at Abusir, an Egyptologist discovered the first written references to beehives on a hieroglyphic relief.

Although this is the oldest known written evidence of Egyptian beekeeping — about 4500 years old — the advanced nature of the beekeeping operation depicted in the hieroglyphs suggests ancient civilisations have had a long and prosperous relationship with the honey-bee.

And at a Zimbabwean archaeological site, maybe the earliest record of the honey-bee's relationship with humans is found in a painting of 'honey hunters'.

Interestingly, these early people produced detailed drawings of themselves, including images depicting the 'honey hunter' blowing smoke at the bees in order to protect their hive, a practice still employed by modern beekeepers.

The honey-bee has had a long association with many of the world's cultures.

It has featured in many of the different cultures' folklore and literature, and has certainly been a stable aspect of some cultures' commerce. Few insects have contributed so positively to human well-being. Bees don't exist for the use of humans, yet human accounts of bees have provided an intriguing insight into the historical lives of bees. However, if we want to know more about the history of bees we have to turn to science.

Only recently have modern scientific techniques allowed us to uncover some of the secrets of the bee's evolutionary progression. Fossil evidence of prehistoric insects, particularly amber deposits from the resin of witch-hazel and sweet-gum trees, has provided scientists with a sketchy understanding of the bee's history.

This evidence suggests the early ancestors of the modern bee species can be traced to the sphecoid wasp that lived during the Cretaceous periods, about 144 million to 65 million years ago. A form of the sphecoid wasp appears to have specialised in nectar and pollen-feeding larvae, whereas wasps at this time were thought to have fed their larvae on spider or insect prey, although there are some exceptions. It is generally accepted that bees are a descendant of this nectar and pollen-feeding sphecoid wasp.

The oldest known bee specimen, *rigona prisca*, was unexpectedly located in an old American Museum of Natural History collection. This bee fossil was discovered in New Jersey amber deposits. Although this specimen was poorly documented, analysis of the amber showed it dates from 65 million and 80 million years. But the advanced evolutionary characteristic of this bee, specifically its apparent pollen and nectar-foraging function, caused considerable speculation over its authenticity. An advanced pollen and nectar-foraging bee from the Cretaceous indicates the existence of suitable flowering plants. However, the corresponding plant fossil evidence does not appear to confirm the existence of such flowering plants. Hence this bee's existence, and somewhat controversial dating, contradicts some of the established thought on the evolution of flowering plants.

Also, fossil evidence from Baltic amber dated to the tertiary period, about 40 million to 35 million years ago, shows a proliferation of bee species that appear similar to the modern honey and bumble-bee.

Today it is thought the worldwide bee fauna consists of more than 20,000 species in the super-family apoidea.

Of the numerous bee species, New Zealand has about 35 identified species, which is a small number when compared to Australia's 1630. Even similar-sized countries such as Britain, with 251 known species, and Japan, with 329 known species, have a greater diversity in their bee population. At this stage, few reasons have been advanced for New Zealand's

modest number of native bee species.

The Canterbury Museum's bee collection is small, consisting of a representative range of introduced honey and bumblebees, two specimens of an introduced leafcutting bee and only a few examples of the native bee species.

The museum holds no type specimens of New Zealand native bees; most are in overseas institutions.

Acknowledgement, The Press, Christchurch

Bee seeing you

The mystery of the bee odometer that helps the insects 'pace-out' distances from their hive to nectar appears to have been solved by ANU visual scientists.

A study led by Professor Mandyam Srinivasan, from the Research School of Biological Sciences (RSBS), has shown that bees calculate how far they have flown by remembering how much of the world has 'whizzed by'.

The group trained bees to fly down a tunnel to a sugar reward, and watched how closely they returned to the spot once the reward had been removed. The researchers managed to short circuit the bee navigation system by painting horizontal stripes along the walls, eliminating the visual sensation of motion as the bees flew along the pipe. "It was as if the odometer wasn't ticking," Professor Srinivasan said.

The group is interested in how insect visual systems work because of their simplicity (a bee brain contains only one million neurones compared to several billion in humans), making them ideal for many robotics applications.

Acknowledgement: ANU Report

Thanks to David Penrose.



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Fruit Cake Confection

- 1½ cup walnut halves
- 1½ cup whole Brazil nuts
- ½ cup seedless raisins
- 1 cup halved, pitted dates
- ¾ cup whole candied red cherries
- ½ cup whole candied pineapple
- ½ cup diced citron
- 1 cup sifted all-purpose flour
- 1 tsp baking powder
- 1 tsp salt
- 3 eggs
- 1 cup honey
- 1 tsp vanilla

Reserve ¼ cup of candied red cherries. In a large bowl combine nuts and fruits. Sift dry ingredients together and shake over fruit. Mix lightly, beat eggs well and gradually add honey in a fine stream. Continue beating, add vanilla, blend thoroughly into nut-fruit mixture. Grease bottom and sides of a nine-inch tube pan. Line bottom with brown paper. Grease paper. Spoon cake mixture into pan. Bake at 300 degrees for 1½ hours.

If top is brown, cover with foil. Continue baking another 30 minutes or until cake is done. Cool cake in pan about 10 minutes - loosen around edges. Turn out on wire rack and remove paper. To decorate: Cover top of cake lightly with honey and arrange halves of red cherries (candied) over top. Flavour of cake improves with age. Makes approximately a 4-pound cake.

Honey Bees

- ½ cup honey
- ½ cup butter
- ½ cup finely cut pecans
- 1 tsp vanilla
- 2 cups flour
- ½ tsp soda
- ½ cup lemon chips
- ¼ cup chocolate chips

Cream honey and butter. Add sifted ingredients. Mix very well. Stir in vanilla and pecans. Remove ½ cup of dough and add melted chocolate chips to it and set aside. Add melted lemon chips to the remaining dough. Set aside ½ cup of lemon dough. Roll out remainder of lemon dough on floured board to ¼ inch thickness. Cut out 1½ inch pieces and place on cookie sheet. Roll our chocolate dough ¼ inch thick and cut long ⅞ inch wide strips. Do same with lemon dough, making strips ¼ inch wide. Place side by side and cut off 1 inch pieces and twist. Now, simply twist the round pieces of dough together in the middle, lay a twist across each center, add two chocolate chips for eyes and you have a bee. Bake 12 minutes in 350 degree oven.

Caramel Honey Dumplings

Sauce:

Melt and brown ½ cup sugar in heavy skillet or pan. Add 1 cup honey, 2 cups hot water, 2 tsp butter and ½ tsp salt. Cook 10 minutes stirring occasionally.

Dumplings:

Cream 2 tblsp butter with ½ cup sugar. Sift 1½ cups flour with 2 tsp baking powder. Add alternately with ½ cup milk to sugar mixture. Season with ½ tsp vanilla. Drop batter by spoonfuls into hot caramel sauce. Place on low flame and cook for 20 minutes without lifting cover. Serve with a little of the sauce.

Date-nut Loaf

- ½ cup boiling water
- ½ pound pitted dates, finely cut
- 2 tblsp butter or margarine
- 1¾ cups flour
- ¼ tsp salt
- 1 tsp soda
- ¼ cup honey
- 1 egg well beaten
- 1 cup shredded Cheddar cheese
- ¾-1 cup walnuts

Pour boiling water over the dates and butter; let stand about 5 minutes, until all the butter is melted and the mixture has cooled. Sift flour, measure, then sift with the salt and soda into a bowl. Stir in the date mixture, beaten egg, honey, cheese and walnuts. Stir only until well-blended. Pour into a well-greased loaf pan (9x5x3 inch size). Bake in a moderately slow oven (325 degrees) for 50 to 60 minutes. Turn out on a rack to cool.

Mix Easy Honey Fudge Cake

Preparations: Have shortening at room temperature. Grease two 9-inch layer pans or one 10x10x2 inch pan, cover bottoms with waxed paper and grease again. Start oven for moderate heat, (350). Sift flour once before measuring.

Measure into sifter:

- 2 cups cake flour
- 1½ tsp soda
- 1 tsp salt

Measure into bowl:

- ½ cup shortening

Mix in small bowl:

- 1¼ cups honey
- ¾ cups water
- 1 tsp vanilla

Have ready:

- 2 eggs unbeaten
- 2½ squares unsweetened chocolate, melted

Mix by hand or with electric mixer at low speed. Mix shortening just to soften. Sift in dry ingredients. Add ½ cup of the liquid and the eggs. Mix until all flour is dampened; then beat 1 minute. Add remaining liquid and melted chocolate, blend, and beat 2 minutes longer. Batter will be thin. (Count only actual beating time. Or count beating strokes. Allow about 150 full strokes per minute. Scrape bowl and spoon or beater often.)

Turn batter into pans. Bake in moderate oven (350 degrees) about 30 minutes for layers or about 40 minutes for square cake. Frost with Easy Fluffy Frosting.

Easy Fluffy Frosting:

Beat 1 egg white with dash of salt until stiff enough to hold up in peaks, but not dry. Pour ½ cup honey in fine stream over egg white, beating constantly about 4 minutes, or until frosting holds its shape. Add ½ tsp vanilla.

Honey Cookies

- 2 cups sifted flour
- 1½ tsp baking powder
- ½ tsp salt
- ½ cup or 1 stick butter
- 1 cup honey
- 2 eggs
- 1 tsp vanilla
- 1 tblsp cream or milk

Mix and sift 1½ cups flour, baking powder and salt. Cream shortening and honey until soft. Beat in eggs, vanilla and cream. Stir in flour mixture, then gradually add enough flour that is remaining to make dough stiff enough to roll out. Chill thoroughly. When ready to bake, preheat oven to 375 degrees. Roll chilled dough to ⅞ inch thickness using a floured cutter and place on ungreased baking sheet. Place in moderate oven 8-10 minutes.

Honey Queen Kisses

- 1 cup honey
- 1 cup butter
- 2 eggs
- 2 cups flour
- 2 tsp baking powder
- ½ tsp salt
- 1 cup coconut
- 1 cup butterscotch chips
- 4 cups cornflakes

Cream butter, add honey a small amount at a time, creaming after each addition. Add eggs, one at a time, beating well after each. Sift together flour, baking powder and salt and sift into creamed mixture. Add coconut and chips and mix well. Fold in cornflakes and drop by teaspoon fulls onto ungreased baking sheet. Bake 15 minutes in 350 degree oven. *Yield: 5 dozen.*

Honey Oatmeal Cookies

- ½ cup butter
- ½ cup honey
- 1 egg
- 1 cup flour
- ½ tsp soda
- ½ tsp cinnamon
- 1 cup oatmeal
- 1 cup raisins

Cream butter with honey, add egg well beaten, then flour which has been sifted with soda and cinnamon, add oatmeal and raisins. Drop by teaspoonfuls on greased cookie sheet. Bake in moderate oven 12 to 15 minutes.

Hobo Bread

- 1½ cup raisins
- 1½ cup hot water

Cook a few minutes and let cool. Add ½ cup honey, 1 egg, 1 tablespoon shortening and beat until smooth. Add 2¾ cups flour, 2 teaspoons soda, pinch of salt. Grease and use four No 2 tin cans filled half full. Bake in moderate oven (350 degrees) for one hour.

Honey Pecan Cookies

- 1 cup shortening
- 1 cup honey
- 1 tsp vanilla
- 1 cup sour milk
- 1 egg
- 2 cups flour
- ½ tsp soda
- ½ tsp salt
- ¾ cup pecans
- ¾ cup coconut
- ¾ cup raisins

Cream together shortening, honey, vanilla. Add milk and egg. Sift together dry ingredients and blend in mixture. Then stir in pecans, coconut and raisins. Drop on greased pan. Flatten with bottom of a glass dipped in sugar. Place a pecan half on top. Bake in 350 degrees oven 15 minutes.

Honey Candy Bites

- ½ cup butter
- 2 tbs milk
- 1 cup all-purpose flour
- ¾ cup honey
- ¼ tsp salt
- 1 cup grated coconut
- 1 tsp vanilla extract
- 2 cups rice crispy cereal or corn flakes, slightly crushed.

Combine all ingredients except vanilla and cereal in saucepan. Cook over medium heat, stirring constantly, until dough leaves sides of pan and forms a ball.

Remove from heat. Cool. Add vanilla extract and cereal. Shape into 1 inch balls; roll in additional coconut. Store in refrigerator. *Yield: about 42.*

Honey Chews

- ½ cup butter
- 1 cup honey
- ½ cup chopped dates
- 1 cup nut meats, chopped or broken

Boil together butter and honey to 260 degrees or hard ball stage. Remove from heat, add chopped dates and nuts. Stir for two minutes then pour into buttered tin. When cool, cut into squares. May be rolled in icing sugar and wrapped in cellophane.

Baked Honey Custard

- 5 eggs
- ½ cup honey
- 4 cups scalded milk
- ⅛ tsp cinnamon or nutmeg
- ¼ tsp salt

Beat eggs sufficiently to unite whites and yolks, but not to make foamy. Add other ingredients, mix thoroughly, pour in custard cups or large old. Set cups in pan of warm water and bake in moderate oven until firm.

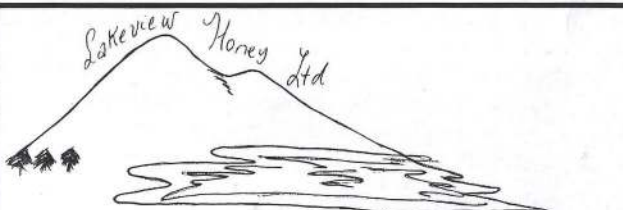
Granola

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- 6 cups quick rolled oats
- 1 cup wheatgerm
- ¾ cup cashew halves
- ½ cup honey
- 1½ tsp vanilla
- 1 cup chopped dry apricots
- 1 cup shredded coconut
- ½ cup sunflower seeds
- ½ cup cooking oil
- 1-3 cups water
- 1 cup raisins
- 1 cup chopped dates

In a large bowl, combine oats, coconut, wheatgerm, sunflower seeds and cashews. Mix together oil, honey, water, salt and vanilla; stir until coated. Bake at 350°F for 30 minutes, stirring frequently. Cool, and add fruit. Store in airtight container until ready for use. *Makes 11 cups, (500 calories per cup).*

Acknowledgement American Bee Journal



EXPERIENCED BEEKEEPER WANTED

for Central North Island business
Starting August 3rd 1998

Based at Turangi, the successful applicant is assured of:

- Top salary and working conditions
- Work vehicle
- Assistance with relocation
- Seasonal bonuses relative to work record and honey yield

This area has much to offer in outdoor pursuits all year round; skiing, fishing, hunting, water activities, plus cultural and shopping experiences 30 minutes away in Taupo.

If you are interested in joining our beekeeping team preparing hives for kiwifruit pollination and honey production please write to us giving work experience, CV and two references.

Applications close April 30th 1998.

Lakeview Honey Ltd
Omori Road, RD 1, TURANGI.

07 3860111

IMPORTANT DATES FOR 1998

BRANCHES SEND YOUR MEETING DATES IN FOR 1998. NO CHARGE.

EXECUTIVE MEETING DATES

MAY 98 - 25th, 26th and 27th - WELLINGTON

MAGAZINE Copy/advertising deadline 1st of month. EXCEPT for DECEMBER issue. DEADLINE 25 NOVEMBER

COMING EVENTS...

NELSON BEEKEEPERS CLUB — Contact Pete and Kevin 546-1422

Diary Now!! 1998 Conference

1998 NBA Conference is being Hosted by the Far North and Northland Branches. It will be held at the "Quality Resort", Waitangi (Bay of Islands).

Dates:

Specialties meetings, Monday 20th and Tuesday 21st, Conference Wednesday 22nd and Thursday 23rd of July.

Hotel Phone number:
(09) 402-7411
Fax: (09) 402-8200.

Branch contact details on the inside the front cover of the magazine.

Diary NOW 14th, 15th, 16th of August 1998 for a BUZZ weekend

A full weekend of training and hands on for all you budding beekeepers and those who need to feel comfortable working with bees.

Venue: Pohangina Valley Camp.

Full cooking and accommodation facilities.

Cost: \$50.00 - Food, Accommodation and Course.

Another Southern North Island venture to assist you.

Any questions call: P.J. (alias BUZZ) on (06) 378-7632

AUCKLAND BEEKEEPERS CLUB INC. — SECRETARY - Terry Buckley Ph: (09) 415-9853

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

AUCKLAND BRANCH
Call: Jim (09) 238-7464

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

SOUTH CANTERBURY BRANCH
Phone: Noel
(03) 693-9771

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

CHRISTCHURCH HOBBYIST CLUB
These are held on the first Saturday each month, August to May, except for January on which the second Saturday is applicable.
The site is at 681 Cashmere Road, commencing at 1.30pm.
Contact Peter Silcock
Phone: (03) 342-9415

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

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

HAWKE'S BAY BRANCH
Meets on the second Monday of the month at 7.30pm.
Cruse Club Taradale.
Phone: Ron (06) 844-9493

MANAWATU BEEKEEPERS CLUB
Meets every 4th Thursday in the month at Newbury Hall, S.H. 3, Palmerston North.
Contact Joan Leckie
Phone: (06) 368-1277

NELSON BRANCH
Phone: Michael
(03) 528-6010

NELSON BEEKEEPERS CLUB
Phone: (03) 546-1422

OTAGO BRANCH
Phone Bill (03) 485-9268

NORTH OTAGO BRANCH
Phone: Mr Peter Cox,
38 Rata Drive, Otematata
Ph: (03) 438-7708

POVERTY BAY BRANCH
Contact Barry (06) 867-4591

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

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

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

WAIKATO BRANCH
Call Tony (07) 856-9625

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

WELLINGTON BEEKEEPERS ASSOCIATION
Meets every second Monday of the month (except January) in Johnsonville. All welcome.
Contact: Shauna Tate, 6 Martin Street, Porirua East.