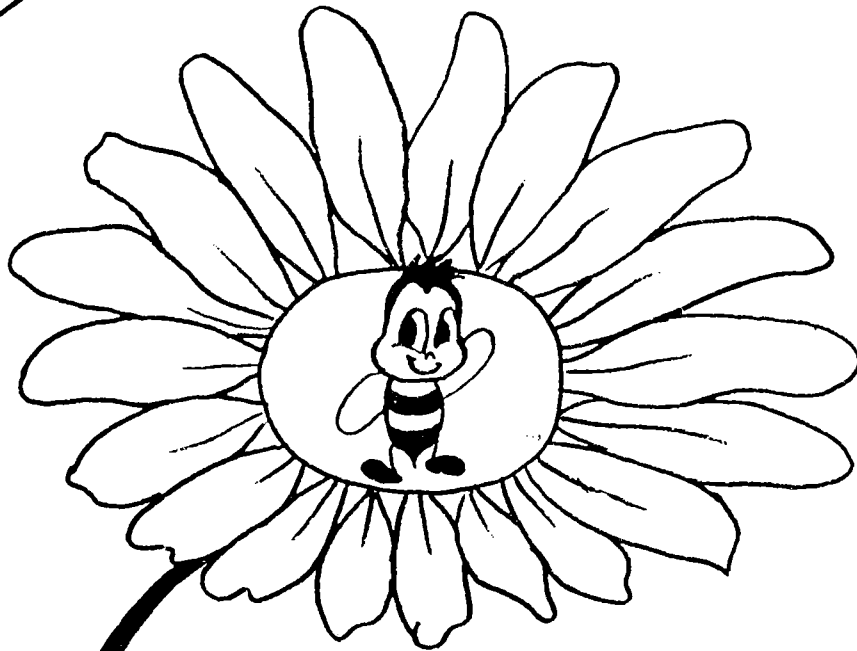


NO. 26

December 1985



# waikato bee notes

- \* Chalkbrood
- \* KF pollination standards
- \* Reduction in BOP restricted area
- \* Honey market news
- \* Field guide booklet on trees and shrubs
- \* Queen Bee Producers Assoc
- \* Trade Table: N Finlay agency, Kopr-Kote, Queen cell transporter, Branding head, Honey buyers, Plastic queen cage
- \* 1080 possum programmes 1986
- \* Executive news
- \* K virus
- \* African bees and trachael mite in N. America
- \* Sugar news
- \* Diesel vehicles and RUC's
- \* Wasp catcher and baiter
- \* Ted Roberts: AAO Palmerston North



Ministry of  
Agriculture  
& Fisheries



As I write this, hives are just starting to come out of the kiwifruit orchards. So, it is a bit early to report on how things went. However, it has been a most trying season. I only had one report of pesticide damage. If any of you did experience losses from pesticides, especially in the BOP, please get in contact with Trevor Bryant, MAF, Tauranga, phone (075) 82069 and let him know. And speaking of pesticides, I wonder how many of you remembered to phone the Fruit Federation offices in the Bay to tell them when you had placed hives in orchards or when you took them out!

ooo0ooo

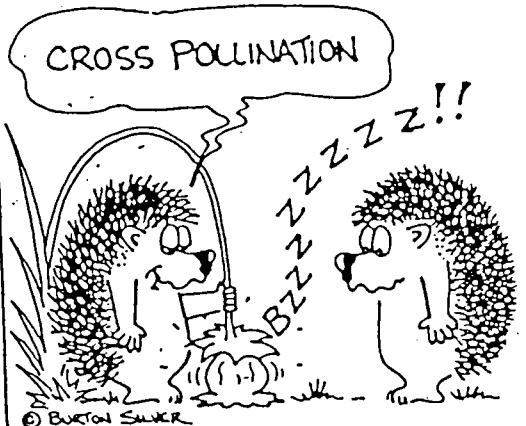
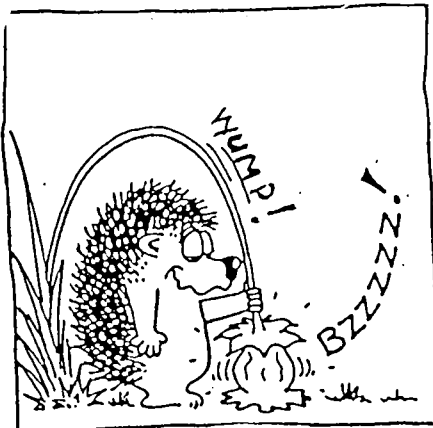
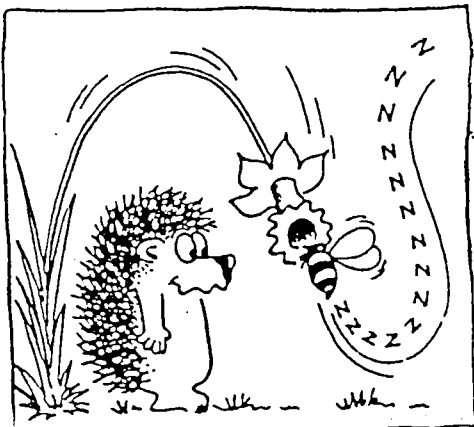
CHALKBROOD (CB)

The number of beekeepers from the BOP who are reporting chalkbrood in their hives is starting to grow. We made a special plea to beekeepers with CB not to place these hives in the orchards as we know the fungus can be spread by floral contamination. I haven't seen Doug Briscoe's report on the hive monitoring work he was doing in the Bay, to know if beekeepers abided by our request or not.

However, it would seem that it won't be long before CB appears in many Waikato areas. Our observations on the disease have not changed, namely:

- \* Black bees seem to be more susceptible than yellow Italians
- \* The disease comes and goes
- \* Some spread of the disease must be by contaminated water or flowers or perhaps wind?
- \* CB should not be too serious provided you buy or select queens showing "resistance" to the disease and make up extra nuclei to patch up any colonies that do show high levels of infection.

At the moment Trevor Bryant and myself are thinking of holding a one day meeting sometime in January to talk about CB; we want to get an idea of its spread and what you as an industry are prepared to do about containing or even eradicating it. Based on your thoughts we in MAF will formulate a policy at least for the Waikato and BOP areas.



© BURTON SWICK

KF POLLINATION STANDARDS

"What is a standard or ideal pollinating hive for KF?" This question has been discussed at great length over the past few years and a consensus of sorts arrived at. Now, Andrew Matheson in Nelson has completed a thorough review of all the scientific work on standards for pollinating hives and from that, plus our field experience, we can make the following recommendations for KF.

- \* Brood area At least 7000 cm<sup>2</sup> of brood, which is four full-depth frames packed out with brood. However, it is nearly impossible to find such frames of brood, so we talk of 60% frames instead.

7000 cm<sup>2</sup> of brood is equivalent to seven "good" (60% full) full-depth frames, or nine three-quarter depth ones.

- \* Age of brood At least a quarter of the brood should be unsealed. This young brood provides the most stimulus for bees to collect pollen.
- \* Position of brood Most of the brood should be in the lower box, as here it encourages foraging bees to collect more pollen.
- \* Queen Colonies must have a young, prolific queen to reach the required brood area.
- \* Bee numbers At least 30 000 bees - that's about 12 full-depth frames, or 16 three-quarter depth ones.
- \* Empty combs Empty combs to encourage and allow for colony expansion.
- \* Pollen Stores One to two frame equivalents.
- \* Honey Stores At least three frames (or equivalent).
- \* No AFB and Ideally no Chalkbrood Either If you want to be a bit more "scientific" in estimating the bee strength then you can:

- (a) Examine each frame and estimate bee numbers remembering that a full-depth frame covered all over (both sides) one bee deep, will contain around 3000 bees.
- (b) Count the number of frames covered with bees. A quick way to do this is to count the bee spaces between frames that are filled with bees. You need to count the top and bottom of each brood box and average them, eg

Top box	:	top bars 8½, bottom bars 9½;	average 9
Bottom box	:	top bars 8, bottom bars 6;	average 7

total 16 frames of bees.

The following table will give you a summary of our "ideal" KF pollination hive.

	Below Std	Minimum	
Daily egg-laying rate	1 070	1 430	1 791
Cells with brood	22 500	30 030	37 620
Area of brood (cm <sup>2</sup> )	5 250	7 000	8 770
Equivalent FD frames (packed out)	3.0	4.0	5.0
Equivalent 3/4-D frames (packed out)	4.1	5.5	6.9
Number of 60% full FD frames	5	7	8
Number of 60% full 3/4-depth frames	7	9	12

Do you know the definition of a moustache? *"Its an eyebrow coming down for a drink!"*, according to my 10 year old son.

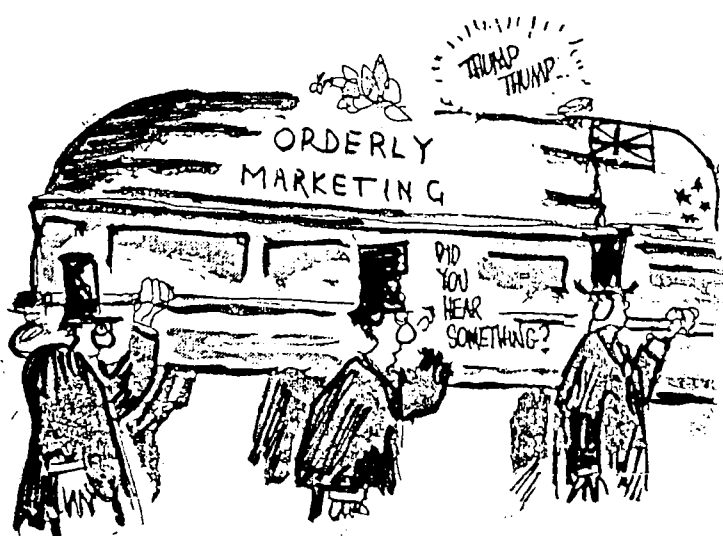
\* \* \* \* \*

RESTRICTED AREA BOUNDARIES : BOP

Following a recommendation from the Apiaries Advisory Committee and a report from Trevor Bryant, the BOP restricted area has been decreased in size, so freeing up more land for year round occupation by beekeepers. There is still tutu in the district so any of you using these areas should be careful. I'll attach the gazette notice as an appendix.

HONEY MARKETING

Most of our honey seems to have been cleared at last. Talking with exporters and reading market reports there are several reasons for the flurry in export activity over the past three months.



- \* The USA had another short crop, with a lot of their own honey going into the government support programme at around NZ\$2.60 kg. This honey maintain is now around 90 000 T or one seasons production in the USA. I have been told that a lot of this honey is poor quality but the problem remains; too much honey.

The strong US dollar is also attract- ing imports of foreign honey headed by Argentina, Mexico, Canada, China and Australia. A 1986 budget proposal is trying to do away with the support programme and the lobbying by beekeepers is intense. If the USA decides to "dump" their surplus honey we will feel the backlash.

- \* Europe had a poor crop overall due partly to the weather and partly to Varroa according to some reports.
- \* Canada was about average and Mexico's crop was down.

So, the short crop in the states followed by active buying of Canadian, Argentinian, Chinese, Mexican and Australian honeys took a lot of honey out of circulation. The short crop in Europe created a vacuum that we have slotted into very nicely. The encouraging thing is that many exporters are busy pre-selling next years crop too.

\* \* \* \* \*

You Know You're Getting Older When!

*You begin to outlive enthusiasn.  
You decide to procrastinate but then never get around to it.  
Your mind makes contracts your body can't meet.  
A dripping tap causes an uncontrollable bladder urge.  
You know all the answers, but nobody asks you the questions.  
You look for a chair before starting a conversation.*

\* \* \* \* \*

FIELD GUIDE TO COMMON NEW ZEALAND TREES AND SHRUBS

This is an excellent booklet available from the conservatory officer, New Zealand Forest Service, Rotorua and costs \$1 for each of the two volumes. The booklet is based on a key for trees and shrubs with smooth leaves or serrated leaves.

QUEEN BEE PRODUCERS ASSOCIATION

There's been an exciting development in the queen bee industry in New Zealand with the formation of a professional association for queen producers.

The New Zealand Queen Bee Producers' Association was formed at this year's Greymouth conference, after preliminary rules had been drawn up at meetings in Northland.

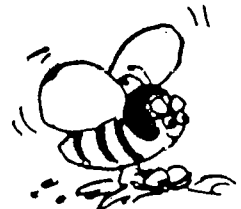
The NZQBPA has 12 objectives listed in the general areas of industry co-ordination, business ethics, stock improvement and market development. Membership is open to NBA members who sell at least 500 queens per year. Others may become associate members.

Formation of this association is important because it signifies a new willingness on the part of producers to work together, improve the standard of domestic queens and co-ordinate the development of export markets.

Terry Gavin was elected President at the Greymouth meeting with Malcom Haines Secretary. The NZQBPA is sending a newsletter to its members plus any topical or more urgent up-dates that may be required.

...Did you hear the one about the restaurant on the moon?

"Terriffic food but no atmosphere!"



And finally:

*Dissolution of the New Zealand Honey Marketing Authority  
(Notice No. 3555; Ag. 4/54/19)*

*PURSUANT to subclause 3(8) of the Honey Marketing Authority (Dissolution) Regulations 1983, I give notice that the New Zealand Honey Marketing Authority is hereby dissolved as from the 31st day of August 1985.*

*Dated at Wellington this 20th day of August 1985.*

*M L Cameron  
Director-General of Agriculture & Fisheries*

*NZ Gazette, 29 August 1985*

TRADE TABLE

\* Bee Supplies

Norm Finlay, 32 Matai Street, Hamilton, phone 79739 is stocking a full range of beekeeping equipment from Ceracell, eg smokers, veils, overalls (including zip hoods), frames, boxes, foundation and so on. Contact Norm for a price list.

\* Ampol Kopr-Kote

Ampol Kopr-Kote is a high temperature anti-seize thread lubricant. Use it on exhaust bolts, spark plug threads, boiler connections, etc. Packed in 100 gm tubes or 500 g and 2.5 kg cans. The New Zealand agents are CC McPhail Ltd, PO Box 28-356, Remuera, Auckland, but most motor specialists should stock Kopr-Kote.

\* Carricell, Queen Cell Transporter

This neat little portable electronic incubator will hold 96 cells in a soft foam tray and operates off the cigarette lighter in your vehicle. It's made by The Bee Farm, Kereru, RD1, Hastings, phone 789 449. It might sound a bit expensive at \$240 freight paid, but think of the number of cells you have cooked or chilled in the past. Value them at \$2 each and.....? The incubator would hold a lot more cells if you took out the punched foam tray and laid the cells on their sides. If you want this option ask the manufacturer (John Dobson) not to glue the foam cell holder in.

\* Branding Head for \$52

Contact Graham Cammell, 133 Walmsley Road, Mangere, Auckland, phone (09) 667 938. The head size is 25 mm so it can be used for top bars as well as boxes etc. Graham is also making those nifty hand hooks for lifting beehives that he demonstrated at last year's field day.

\* Honey Buyers

Two new buyers are active on the NI market. Viz Wilson Neill-Hororata Honey Exports Ltd, Ph Dunedin (024) 776 921, PO Box 958, and Acton International, phone 62598, Christchurch.

Wilson-Neil-Hororata Honey Exports sent out a circular recently to most beekeepers. If you didn't get one write to the company for more information

or ring their "local" agent Peter Jones, phone Rotorua (073) 476-622. Both these companies have a long history of honey exporting in the SI.

\* New Plastic Queen Cage from Ceracell

This is an improvement on the standard plastic cage and as they are made from polypropylene you can boil them. For orders under 1000 the price is 22¢ each or 20¢ over 1000.

\* Disclaimer

Mention of any particular product or supplier does not imply MAF endorsement nor criticism of other products or suppliers not mentioned.

1080 POSSUM PROGRAMME

The Pesticide Board is going to be very active in our region next year. Please note the following:

1. Kopuatai Swamp : Hauraki Plains

This programme is scheduled to begin on 10 February and will involve both aerial baiting with pollard pellets and a ground programme using "jam" (usually apple pulp) and 1080. The pollard baits represent no danger to bees but the poisoned jam may do so.

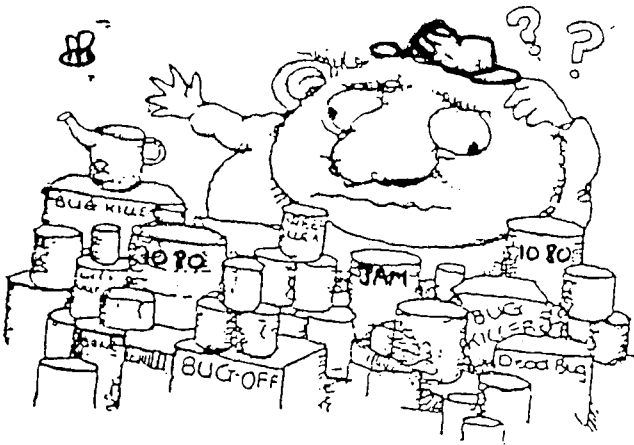
Poisoned jam has killed bees in apiaries in the Pureora forest area in 1984. Some hives took a severe pounding before they were shifted out but all recovered. Trials Wallaceville conducted in 1964, feeding poisoned jam into beehives, showed that the

1080 killed bees very quickly. In one case a hive with a population of 21000 bees was reduced to 3000 within five days after eating about 60 gms of jam containing 1080.

In practice field operators will lay the baits during the day and cover them up over the next two to three days. As stock have to be removed before the baits are laid, baiting will occur in "blocks". Pre-baiting with non poisoned jam will be done first followed by the poisoned baits.

February was chosen because the swamp lands must be as dry as possible (water deactivates 1080) and as long a period before the duck shooting season was required for poisoned possum carcasses to decay. Dogs are one of the animals most susceptible to 1080.

Is the programme necessary? Over 600 head of cattle in the Hauraki Plains-Piako counties had Tb in the testing year ending 31 August 1985. At approximately \$350 each something had to be done! Fortunately not many of our beekeepers are affected, but those with hives registered in Auckland will be. The MAF line is that the hives should be moved out. 1080 can get into the honey but it is not a cumulative poison to man and would represent no significant danger. However, the effects on honey sales could be dramatic if elements of doubt were raised by the press. Past experiences with tutu poisoning and scares over 245-T, especially in the Coromandel, are all too vivid.



If you want more information on this programme contact Roger Smith, Pest Destruction Officer, Piako County, phone 48-179 Te Aroha or A Cato, Livestock Officer, MAF, Thames.

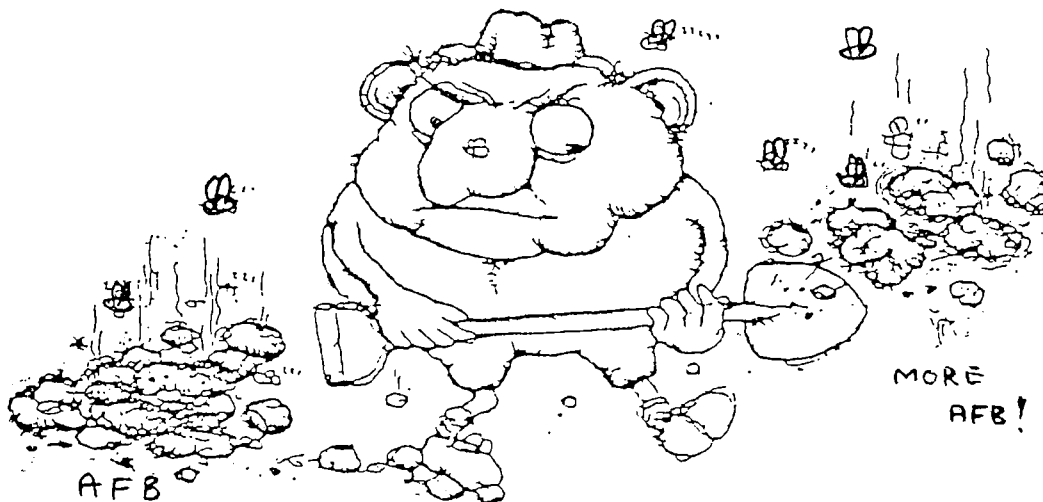
2. The other major scheduled programme for April-July 1986 is in the Waipa, Waipapa and Puniu catchments. Both pellets and jam baits will be used on private and crown land. One area involved is along both sides of the Waipa river starting at R Meyers farm and extending downstream to the Otewa-Waimahora road at Turamoe farm, Otewa.

The Waipapa operation involves both sides of the Waipapa river extending from the boundary of Tahae Block downstream to the outfall of the Waikato River, 1 km south of the Waipapa hydro dam.

The Puniu programme extends northwards through the Ngaroma district to the headwaters of the Puniu and Mangatutu Rivers north of the Pureora state forest. Contact Trevor Jones, the Senior Livestock Officer, MAF, Te Kuiti for more information.

\* \* \* \* \*

*"If you can keep your head while all those around you are losing theirs, you haven't realised the gravity of the situation!"*



#### AMERICAN FOULBROOD

I've just participated in a two day court hearing in Westport, where a beekeeper was taking MAF to court alleging improper and negligent destruction of his hives infected with AFB. After being subjected to that I sometimes wonder why we bother assisting an industry in controlling this disease when it is clearly your own responsibility.

However, most of you are very responsible and 16 of you are helping with part-time inspection of hives in your districts. Some are doing more than others but every bit helps I guess. I appreciate your efforts anyway especially those who won't be asking for any payment.

*"The secret to eternal youth is to lie about your age!"*

#### SNIPPETS FROM THE EXECUTIVE

- \* Your executive has successfully negotiated a fee of \$50 per sample analysed for pesticides by scientists at Ruakura. This may seem a lot but a true



cost recovery would be nearer \$300-400. One of the machines used cost \$500,000!

- \* There are 83 beekeepers enrolled in the BOP distance education programme run by Nick Wallingford.
- \* The 1 kg plastic pack has been gazetted by the Labour Department and you can legally use it from 1 March 1986. The Executive is trying to have a 750 gm pack approved but wheels grind very slowly in this regard.
- \* A pamphlet has been designed for the agricultural quarantine officers to give to incoming passengers who have honey or other bee products confiscated. It is hoped to have these available by Christmas or early in January.
- \* Executive and MAF are aiming to hold another workshop at Flock House next May to review the industry plan and to write new objectives and action plans for the next 18 months.
- \* A committee has been set up to investigate market research opportunities and requests for assistance have been sent out to all the universities. Favourable replies have been received from four of them.

\* \* \* \* \*

*Did you know that "the only thing free of charge is a flat battery!"*

AUCKLAND DRUM COMPANY LTD

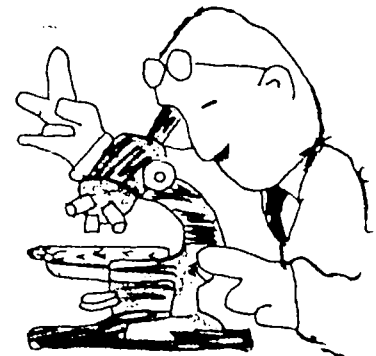
Mr Thomas has advised me that he would appreciate an early indication from beekeepers of what drums they will need for next season.

They have another order they can't fill but are prepared to keep some drums back for beekeepers. Price is around \$24 until the new year when will rise to about \$25.50.

These are for the epoxy lined drums, phone Auckland (09) 643 777.

KASHMIR BEE VIRUS OR K VIRUS

As we expected, Dr Dennis Anderson has found this disease in New Zealand. So what you say! Indeed. The virus has no recognisable field symptoms and seems to be a bit like the common cold. It just sits there in the gut of apparently healthy bees until conditions are right for it to become a problem. We are finding it frequently in association with AFB.



The main problem is on the exporting front. Canada and the UK refused to import queen bees from Australia because of K virus. Until recently, it had only been found in Australia and Kashmir and was supposed to be "exotic".

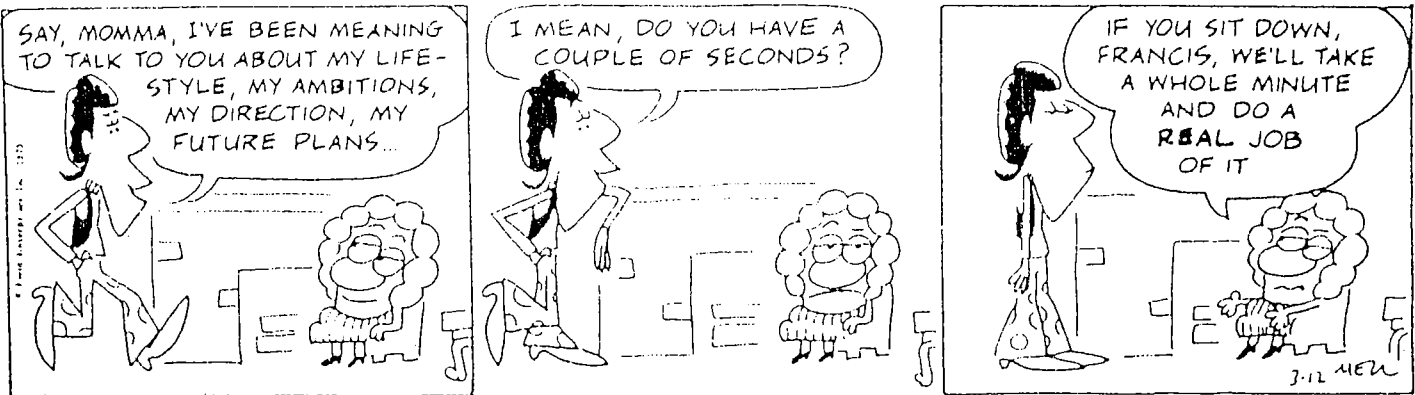
We're importing dead bees from around the world (under strict quarantine of course) to see how widespread the virus is. So far we have found it in Canadian bees. I'm sure Dennis will find more viruses before he's finished. Look for an article on K virus in the December issue of the New Zealand Beekeeper.

AFRICAN BEES IN CALIFORNIA

The "crisis" appears to be dying down but some beekeepers are now attacking the authorities for the way they handled the discovery of the Africanised swarm etc etc. It's a case of "damned if you do and damned if you don't"

Anyway, government personnel looked at over 20 000 hives and found eight colonies that had African characteristics. Cross breeding should eliminate or dilute the African genes.

Meanwhile the tracheal mite continues to spread and is now in at least 18 states in the USA. The Canadians are conducting some wintering trials with hives infected with tracheal mites. It will be interesting to see how the mite affects these hives.



**100 YEARS AGO** Herald files

### Big Hope For New Crop

A very general opinion still prevails that more even than the meat-tinning movement or any other, the sugar beet industry will yet be the mainstay of the Waikato.

It will therefore be learned with satisfaction that the plan recently suggested in this column of forming a small company to grow tea or sugar beet, and thus partially demonstrate what the cost per acre will amount to, and, consequently, what would be the farmer's profit to produce it for the factory at 18s a ton, will be carried out this spring.

Mr W. A. Graham has formed a small company in Hamilton of tea shareholders with a share capital of ten pounds each, and the cultivation of sugar beet in patches of about five acres each.

will be carried out on a systematic plan.

A careful record of the process employed and the cost incurred will be kept in each instance, and of the individual average size of the roots, and gross weight of the several crops, and also by the assistance of 'Mr. Pond,' the average percentage of sugar in each case.

The cost of this, it is expected, will be far more than recouped by the sale of the roots for cow food, in and around Auckland next winter, as by arrangement with the Government there is a special freight fixed for sugar beet from the various Waikato railway stations, little more than half what the ordinary freight would be.

The percentage of sugar which the Waikato soil and climate might provide having been proved to be so very large, it now only remains to show the farmer he can profitably grow the root for supply to the factory.

September 9, 1885

SUGAR NEWS

A few snippets I heard or read at the December executive meeting.

1. The refinery will sell a single pallet load of sugar if pushed.
2. The price of sugar is to come down.
3. Long term contracts with Fiji and Australia are not being renegotiated. The spot market is much cheaper due to depressed world prices. However, we will still buy most of our sugar from these two counties.
4. It is, or will be possible to import your own refined white sugar. You always could import raw sugar.
5. We may yet see a sugar beet industry in Canterbury and possibly the Waikato?

Three chaps hard of hearing were together in a railway compartment.

"Is the next station Wembley?" asked the first.

"No, it's Thursday," said the second.

"So am I," said the third, "lets all get out and have a drink!"

BUYING A SECOND HAND DIESEL TRUCK OR UTE?

- don't be caught with unpaid road user charges (RUC).

RUC applies to trucks, cars, utes and vans and places the liability on the applicant for a licence to make sure all outstanding RUCs have been paid. The MOW administers the RUC Act and they operate a computer enquiry service to provide this information; phone Wellington 729-282.

\* \* \* \* \*

*Did you know that "once every 24 hours day breaks without falling and night falls without breaking?"*

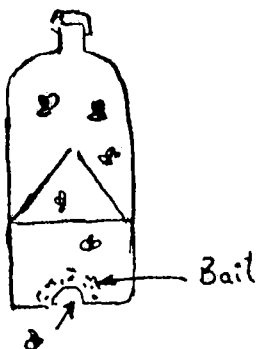
New Zealand Honey Exports Year Ended June 1985			
Bulk	\$1,646,012		
Retail	\$ 552,493		
Comb	\$1,621,987	Total	\$5,156,877
Honeydew	\$1,336,385		
Source Department Statistics			

MISCELLANEOUS!

Social Welfare Minister Mrs Ann Hercus opened the new Hamilton Sheltered Workshops and Training Centre on 7 November. It seems that Mrs Hercus' father was a beekeeper here in Hamilton. I just thought you would like to know that!

Please note that the Disabled Citizens are now the Sheltered Workshops and they're down the end of Sunshine Avenue. Sunshine Avenue goes off Te Rapa Road directly opposite Bryant Road where their previous factory was. Their phone number is still the same, Hamilton 493-840.

\* \* \* \* \*



DESTROYING WASPS

The wasp season is not far away. Here's a novel and cheap method of "baiting" wasp nests sent to me by a Mr Hume of Roxburgh. Make a catcher as in the diagram from a

2 litre plastic soft drink bottle. Place some meat or fruit in the bottom and each afternoon remove the cap and dust the wasps with carbaryl, maldison or Mirex, then release the wasps. They fly home covered in insecticide. Wash out the bottle and reset. Neat eh?

*Copies of the Queen Honey Bee and Honey Export Manuals can be obtained from the secretary of the NBA, PO Box 4048, Wellington.*

NEW APICULTURAL ADVISORY OFFICER

Ted Roberts is the latest member of our team and is based in Palmerston North. He was a former senior lecturer in agronomy at Massey University before joining MAF. Ted has kept bees for many years in Wales and Uganda before coming to New Zealand. He still has bees of his own here and has long been an active NBA member in Palmerston North.

Ted tells me he is enjoying his job so far but has discovered what most of us already know "It takes twice as long to get anywhere as he planned - and when he gets there he only gets half as much done as he hoped."

\* \* \* \* \*

Murphy made a lot of laws; I'm not sure if this was one of them but I like it anyway. *"To err is human, but to really mess things up requires a computer and a human!"*

And speaking of computers, we had a lot of problems getting your statement of inspection forms out of the computer this year. I have a good number of them back already but I expect a lot more. They were due on 7 December this year! Please get on to that.

We've got an excellent honey flow on at the moment and prospects for good sales next year. Can it last? Who knows, but try not to worry about it over Christmas.

Remember, "worry is like a rocking chair. It gives you something to do but doesn't get you anywhere."

Have a restful festive season.

Regards

*Murray.*

G M Reid  
Apicultural Advisory Officer

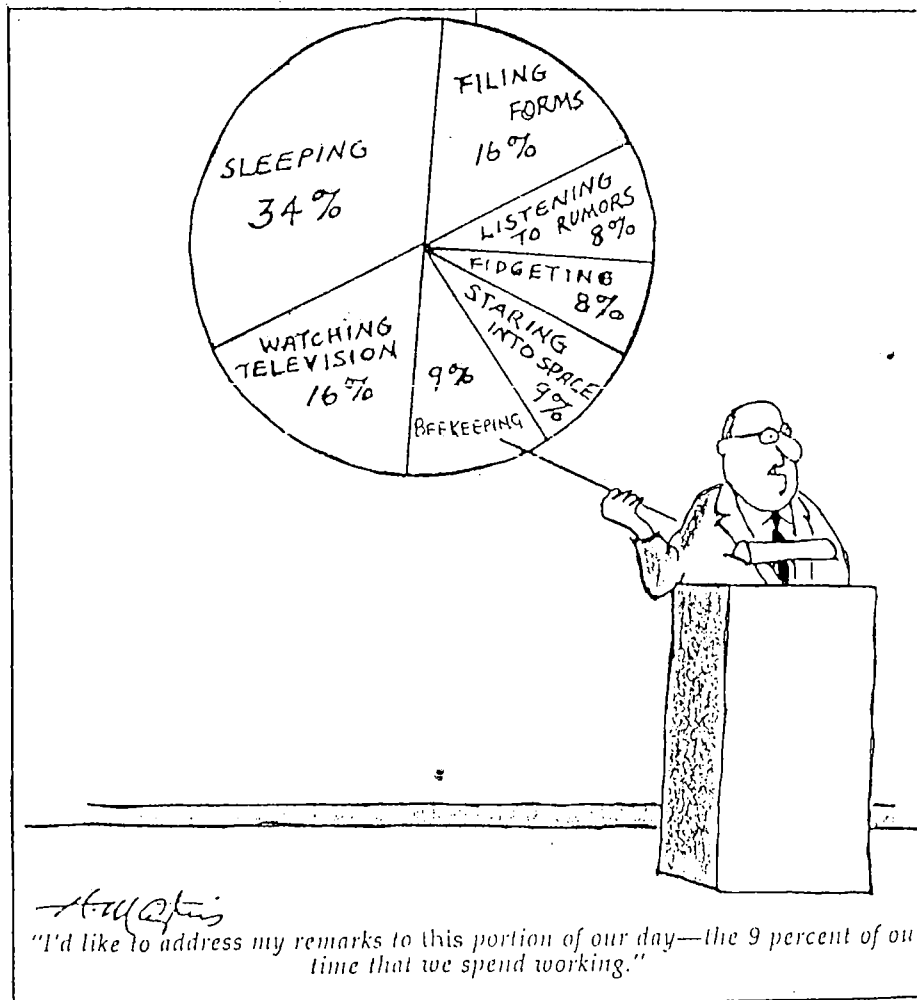


"MORNING doctor - my wife thinks I'm suffering from stress...God is that the time? - let me have your views in triplicate - can I use the phone? - my secretary will do the medical...must rush - let's have lunch some time..."

STOP PRESS

Some newsworthy items from the December issue of the Speedy Bee that's just arrived on my desk:

- \* The US Senate has voted to end the honey price support programme over three years. If American beekeepers lose their honey subsidies and don't get a corresponding increase in tariffs on imported honey, many honey producers could be in a severe financial position.
- \* Oregon has found some tracheal mites in a migratory outfit that had come from North Dakota.
- \* California has also found tracheal mites in bees that had come from a supposedly 'clean' county in South Dakota. Mite numbers were low but the implications for the queen and package bee exporters will be dramatic. The Department of Food and Agriculture is proposing to establish an 81 square mile quarantine area, depopulate infected apiaries and give the owners of infected bees seven days to shift the rest of their bees out of the state.



## APPENDIX.

Extract from *New Zealand Gazette*, Thursday, 3 October 1985, No. 185, page 4326

*Notice Declaring a Restricted Area for the Production of Honey*  
(No. 3580; Ag. 12/12/2)

PURSUANT to section 30 of the Apiaries Act 1969, the Minister of Agriculture and Fisheries hereby gives the following notice.

### NOTICE

1. The area specified in the Schedule hereto is hereby declared to be a restricted area for the purposes of the Act.

2. The notice declaring a restricted area for the production of honey (No. 617; Ag. 60025) published in the *Gazette* of 29 November 1973, No. 110, page 2490, is hereby revoked.

### SCHEDULE

#### RESTRICTED AREA

ALL that area in the Tauranga and Opotiki Counties, Rotorua and Whakatane Districts and the Borough of Kawerau in the South Auckland and Gisborne Land Districts, bounded by a line commencing at a point in Block III, Awaateatua Survey District, being the intersection of the middle of the East Coast Main Trunk Railway with the middle of Caverhill Road and proceeding generally southerly along the middle of the said road to and along the middle of Braemar Road, to and along the middle of Johns Road to and along the middle of Allotment 342, Matata Parish, and the production of that line to the middle of the Tarawera River; thence southerly up the Tarawera River to a point in line with the middle of Onepu Springs Road; thence southerly to and along the middle of that road to a point in line with the south-eastern boundary of Lot 2, D.P. S. 2476; thence south-easterly on a bearing of 135° for a distance of 1 kilometre from the last-mentioned point; thence north-easterly parallel to and 1 kilometre distant from the Onepu Springs Road, Kawerau Road and State Highway No. 30 to the middle of the Rangitaiki River; thence southerly up the middle of that river to a point in line with the south-western boundary of Allotment 60D1B2D, Rangitaiki Parish; thence south-easterly to and along that boundary and its production to the middle of MacDonald Road; thence generally north-easterly along that road and the middle of State Highway No. 30, to the middle of White Pine Bush Road; thence south-easterly along the middle of that road to the middle of Downward Road; thence southerly along the middle of that road to a point in line with the northern boundary of part Allotment 32' O', Rangitaiki Parish; thence westerly to and along that boundary to the eastern boundary of the Omataroa Rangitaiki Block; thence southerly along that boundary to a point in line with the southern boundary of part Allotment 32J, Rangitaiki Parish; thence generally south-easterly to and along that boundary and the southern boundaries of the northern severances of part Allotment 32C and Allotment 33L and its production to the middle of Foster Road; thence northerly along the middle of Foster Road to and north-easterly along the northern boundary of Lot 1, D.P. 10480 and its production to the middle of the Whakatane River; thence generally northerly down the middle of the Whakatane River to a point in line with the mean high water mark of the Bay of Plenty Sea Coast; thence generally south-easterly along the mean high water mark of the seacoast crossing the mouth of Ohiwa Harbour, to its intersection with the western boundary of Block I, Opotiki Survey District; thence southerly along the western boundaries of Blocks I and V, Opotiki Survey District; thence easterly along the southern boundaries of Blocks V, VI, VII and VIII, Opotiki Survey District; thence northerly

along the eastern boundaries of Blocks VIII and IV, Opotiki Survey District to the mean high water mark of the seacoast; thence generally north-easterly along that mean high water mark to its intersection with the northern boundary of Block II, Waiaua Survey District; thence easterly along that boundary and southerly along the eastern boundary and southerly along the eastern boundaries of Blocks II, VI, X and XIV, Waiaua Survey District and Blocks II and VI, Urutawa Survey District to a point in line with the north-easternmost corner of Section 2, Block X, Urutawa Survey District; thence westerly through that point and by right line to the south-east corner of Block VI, Waioeka Survey District; thence westerly by a right line to and along the southern boundary of Block VIII, Tarawera Survey District to its south-western corner; thence northerly along the western boundaries of Blocks VIII and IV, Tarawera Survey District and Blocks XVI, XII and VIII, Rotoiti Survey District; thence westerly along the northern boundary of Block VII, Rotoiti Survey District to its intersection with the middle of State Highway No. 33; thence northerly along the middle of that State highway to a point in line with the north-eastern boundary of Part 1E, Okere Block; thence north-westerly to and along that boundary and its production to the middle of the Kaituna River; thence generally northerly down the middle of the Kaituna River to a point in line with the south-western boundary of Section 8, Block XI, Maketu Survey District; thence south-easterly to and along that boundary and its production to the middle of State Highway No. 33; thence south-westerly along the middle of that highway to a point 1 kilometre distant by a right line from Allport Road; thence generally south-easterly parallel to and 1 kilometre distant from Allport Road, and Ridge Road and by a right line southerly to the easternmost corner of Lot 2, D.P. S. 4732, situated in Block III, Rotoiti Survey District; thence easterly along the northern boundaries of Rotoiti 3U2A Block, Tokerau A1B, A2 and A4 Blocks, and Rotoiti 5B1 and part 5B2 Blocks, crossing the intervening Maniatutu and Kaikokopu Roads, to the middle of the Pongakawa Stream; thence generally north-easterly down the middle of that stream to a point in line with the south-western boundary of part Section 13, Block IX, Waihi South Survey District; thence southerly to and along that south-western boundary and the western boundary of Lot 1, D.P. S. 27653 to its south-western corner; thence easterly along the southern boundary of the said Lot 1 and its production to a point 1 kilometre west of Rotoehu Road; thence northerly and south-easterly parallel to and 1 kilometre distant from Rotoehu Road and Johnson Road respectively to the northern boundary of Lot 2, D.P. 13994; thence easterly along that boundary and its production to the middle of Campbell Road; thence north-easterly along the middle of that road for a distance of 1 kilometre; thence south-easterly along a line parallel to and 1 kilometre distant from Campbell Road to its intersection with the middle of the Whakahaupapa Stream; then south-easterly up the middle of that stream to its intersection with Campbell Road; thence south-easterly to and along the middle of that road to its intersection with the middle of Pikowai Road; thence north-easterly along that road to its intersection with the middle of Settlement Road; thence easterly by a right line to a point being the intersection of the Herepuru Stream and the production of the northern boundary of Section 8, Block XII, Waihi South Survey District; thence generally southerly up the Herepuru Stream, and Waipapa Stream to a point 1 kilometre north of Manawahe Road; thence generally north-easterly parallel to and 1 kilometre distant from Manawahe Road and the Herepuru Road to its intersection with the middle of the East Coast Main Trunk Railway; thence south-easterly along the middle of that Railway to the point of commencement.

Dated at Wellington this 20th day of September 1985.

COLIN MOYLE, Minister of Agriculture.