YOUR

NEWSLETT APRIL 1987 NO. 40 H M D POLLINATION - 1986 AND BEYOND IMPORTING QUEENS -TO BEE OR NOT TO BEE? THE COMPLEAT BEEKEEPER QUEENSLAND 1988) TECH MAF)FISH) CORP TRADE TABLE QUEEN COURSE MUCH MORE

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YOUR NEWSLETTER

APRIL 1987

NO. 40

Raising queen bees for replacement is relatively simple once you have the necessary skills, have put in place the on-going procedures and the right ingredients.

Breeding queen bees for specific characteristics, then maintaining or building on these is not quite so easy. Throughout the world researchers, breeders and beekeepers have attempted to breed superior bees with varying degrees of success.

Successful breeding programmes have been developed but few have remained viable, mainly because of the difficulties in maintaining stocks and retaining the interest of co-operators. The time and money involved is immense.

Numerous 'accidents', viz. the release of the Africanised bee in South America, the introduction of diseases and/or pests (eg Varroa), have made many beekeepers sceptical of breeding programmes, especially those which use imported material.

In New Zealand breeding programmes have never been successful although many individual breeders and beekeepers do have a sort of selection system to produce stock suited to their perceived needs.

More recently there have been questions raised as to why don't we allow the importation of genetic material to improve our stocks? Traditionally the industry and the MAF have taken a very hard stance against such a policy. The appointment of Dr Dennis Anderson as pathologist now presents the beekeeping industry with the opportunity to realistically reconsider

the question of importing new genetic material; ie we can now effectively screen imported stock.



Why raise the issue here, when after all it can be argued that until we have a national or even regional breeding programme we don't really know what the full potential of our bees is.

- 1. Industry has never perceived the need for a breeding programme.
- 2. The time and money involved outweighs the benefits.
- 3. The danger from imports is not worth the risk.
- 4. New Zealand bees are good enough and in many instances have been shown to be superior to overseas stocks.
- 5. Importing new genetic material is the easy way out.

BUT:

- * We now have the expertise to protect our existing stocks while adding to the gene pool.
- * There is a need to incorporate disease resistance and defensive behaviour in our bees to combat Chalk Brood and wasps etc.
- * Half moon disorder has been confirmed as a queen related problem (see HMD, pg 8).
- * Need to develop superior polle foraging strains; eg pollination of kiwifruit.
- * Industry needs to provide stocks, races or strains of bees suitable to our overseas clients if we wish to retain those markets.

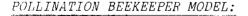
Whatever the decision industry makes it must be based on consensus and a willingness to do things properly. Perhaps the time has come for beekeepers to rethink options, consider future directions and opportunities available to broaden its income base. We have been told often enough we are the best beekeepers in the world, are we not then mature enough to think this option through to our mutual advantage.

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THE COMPLEAT BEEKEEPER

For a number of years some AAOs have been involved in Financial Monitoring of the beekeeping industry. In an attempt to rationalise (and

nationalise) this exercise a model beekeeper has been produced as a yard stick against which all beekeepers and AMOs can measure performance. The 'model' is in our view one of the top 5% of all producers - how do you compare?



1. <u>Personal:</u> Married with family, lives in a rural community within 25 km of a major servicing town or city.

Is self motivated and actively seeks best technical assistance available, communicates regularly with his beekeeping peers and maintains a good relationship with his clients (farmers and orchardists), bank



manager, accountant, technical adviser. Is a regular attender of industry meetings (KPA & NBA), in addition regularly attends field days, seminars etc.

2. <u>Business:</u> Had no previous business experience, started out as a tradesman who found a swarm 13 years ago. Hive numbers built up gradually funded from savings and income.

Obtained first RBFC loan nine years ago when the step to commercial beekeeping was undertaken (from 210 hives to 520). Further borrowings to purchase existing land and buildings, plant etc were undertaken in year 2 and 3 of commencing business. The business was refinanced five years ago with RBFC monies, total liability to RBFC was \$101,000; currently stands at \$90,000 (1987); (see liabilities 2.7).

Business is a family partnership with spouse (45/45) and 10% with other family members. Spouse has active interest in entire operation but main commitment is managing the financial aspects of the business (accounts, cash book etc), liaising with clients and assisting around the home base.

RBFC holds 1st and 2nd mortgage on property and lein on hives and plant. The trading bank provides overdraft facilities for seasonal finance and a finance company HP on the truck.

In 1986 joined with group of beekeepers (8) to form a marketing company. The company's main aim to export added value beehive products; eg comb honey, packed honey etc.

2.1 Assets:

Land 1.5 ha

Buildings - 3 bedroom house

- Double garage

- Workshop and storage shed

- Small processing building

Total value (market):

\$145,000

2.2 Beehives:

750 (2 brood 2 supers)

Feeder (internal) and inner cover (split board) for

150 additional feeders and miscellaneous hive equipment

Total value \$140.00 per hive:

\$105,000

2.3 Vehicles:

1 x 3.5 tonne truck, diesel (3 yrs) (105000 km) \$13,000

1 x 1 tonne ute \$11,500

1 x family car, 1600 cc (3 yrs) \$9,500

Total value (market): \$34,000

2.4 Plant:

1 x hydraulic loader

2 x stainless steel tanks

1 x stainless steel bench

1 x honey pump

1 x sugar pump

1 x sugar tank

1 x bee blower

	1 x Rediline generator 1 x compressor Tools (workshop) Sawbench Thicknesser Paraffin dipper 2 x staple guns Hand barrow (drum) Miscellaneous Total value (market):		\$21,280
2.5	Stock: 270 kg beeswax Honey bulk 12t Honey packed 1t	\$1,148 \$21,110 <u>\$1,900</u>	104 150
	Total value (market):		\$24,158
2.6	Cash: Shares, marketing company Term deposit At bank	\$2,000 \$6,000 \$ <u>2,900</u>	\$10,900
	TOTAL ASSETS:		\$340,338
2.7	Liabilities: Land and buildings; RBFC 1 L&B, hives, plant; RBFC 2 Vehicles; Finance Sundry debtors TOTAL LIABILITIES:		\$97,500
2.8	Net Worth: \$242,838;	(\$323.78/hive)	(\$130/hive)
		•	
2.9	Equity: Debt servicing costs to gro Personal drawings to net pr IRR * 1st mortgage matures 2007		71% 17.5% 38% 15%

3. Business Management:

Sets realistic business goals which are generally achieved.

Maintains all capital assets in a good and reliable condition, replaces vehicles on a planned/regular basis or when opportunity presents itself.

Updates financial situation regularly (every 3/12) with spouse (partner) and discusses significant financial problems, events and strategies with banker and accountant.

Investment opportunities outside beekeeping are undertaken when financially able to broaden income base.

Regularly attends board meetings of marketing group.

GST reconciliation on a six monthly cycle; in January a lump sum invested 60-90 days term deposits to avoid 'spending' tax due.

^{* 2}nd mortgage matures 2002

Personal priority is lifestyle and family; a regular holiday (2/52) is planned every Christmas.

4. Beekeeping Management:

4.1 Strategy:

- To have all hives producing.
- To have 750 colonies wintered plus 70 four-frame nuclei.
- To have 750 colonies prepared for pollination by 15 November each year.
- To provide all clients with colonies to Pollination Assn standards.
- To maintain all hive equipment for maximum utility and longevity.
- To standardise hive componentry for ease of management.
- To requeen all hives every two years.
- To pursue all available honey crops.
- To market the crop to best advantage.
- To maintain a disease free outfit.
- To keep abreast with change and advances within distirct, industry, orcharding, politics (industry, local and national), finance and environment.
- To have a two week summer break.

4.2 Management:

- * All two year queens replaced with own stock by March.
- * All failing queens replaced with own stock maintained in overwintered nuclei.
- * 150 queens purchased annually, 80 in April and 70 in spring from a reputable breeder to replace losses and add to gene pool.
- * All surplus queens maintained in out apiaries and used whenever a problem is identified. Units surplus as at 15 November are united and left on site for honey.
- * Sugar feeding is planned, strategically fed for colony build up. Sugar is also used to stimulate pollen foraging in some orchards where competition for bees is a problem (eg white clover) and in areas with high concentrations of bees to maintain colony expansion.
- * Protein supplement/substitute is used in dearth periods.
- * A two box (10 frames/box) brood chamber is maintained. A five year comb rotation is practised, replacement is with selected drawn comb.
- * Honey supers are full depth (2 per hive) and 350 cut comb boxes.
- * All cull combs are rendered down for wax. Wax used for foundation and any surplus sold.
- * Hive equipment with exception of frames is made on site, frames purchased from manufacturer.
- * All wood (except frames) is treated with a preservative (copper napthanate), dipped in hot paraffin wax and painted in a variety of colours with a water based acrylic.
- * Apiary sites are chosen for production potential, ease of access, environmental protection and convenience of site owner.
- * Sites are stocked depending on resource available, maximum number depends on seasonal workload and potential problems (robbing); average 20-24.

- * All hives are regularly inspected for disease but two visits primarily for disease, one in spring (early October) and one as honey is removed.
- * Disease control policy is burning all inner hive components and bees; sterilisation of boxes, lids, floors, excluders (if used) is carried out in paraffin dipper.
- * Number of servicing rounds varies with season and area; average is 12 per year.

Annual mileage (km) - truck 19250 - ute/car 6835 Total: 26085 Total/live: 34.78

- * Labour is employed on a seasonal basis but mainly for pollination and spring build-up period. Usually labour is employed for a total of 42 weeks in total but highest hourly total is compressed into November/December.
- * All beehives are moved at least twice in the production year, one in and out of orchards; two on to a spring or summer crop.
- * The honey crop is theoretically 50% bush sources, 50% pasture but does vary according to climatic conditions. Processing is contracted out.
- * All hives are requeened by March and wintered by early April.
- * First spring check is by the first week of August (feed nucs).

 The first round of all hives completed by second week of September ready for early spring flows (willow).

Management plan is flexible and judgement is based on climatic conditions, available resources and prospects and state of colonies.

- * Budget is revised quarterly, financial needs assessed and negotiated if necessary; ie seasonal finance.
- * Pollination contracts are confirmed by May and all clients visited by end of September. Clients are visited after the bees are removed in December and again at crop harvest to review the season and new seasons rate negotiated.
- * All complaints, requests re pollination, stock damage, swarms etc are actioned promptly.
- * All sites (and owners) are visited once a year and public relations, gifts (honey) distributed.

19	986/87	1987/88
Reekeeping Income	93270	131268
Beekeeping Expenses	48800	58032
Beekeeping Net Income	44470	63236
*Less Drawings, Taxation, Financial Charges	32298	39004
Surplus for Ploughback	12172	24232
Less Development and Capital Purchases	7875	27400
Plus New Borrowing		10000
CASH SURPLUS:	4297	6832

^{*} Does not include GST

FINANCIAL PERFORMANCE : Selected Indices

Pollination Fees:

Year		<u>%</u>	Total income/hive*	Honey production (kg/hive)
1981	\$48		-	-
1982	\$48	0	_	-
1983	\$59	23	-	-
1984	\$65	10	\$92	21
1985	\$71	9	\$103	28
1986	<i>\$74</i>	4	\$119	16
1987	\$90(est)	22	\$124	28

^{*} Prior to 1984 data collected would not be representative of group.

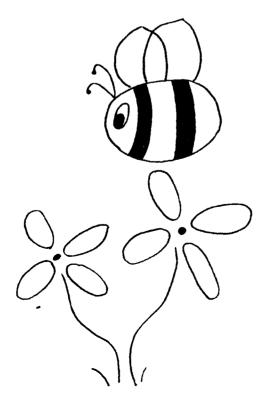
Beekeeping Expenses:

<u>Year</u>	<u>Vehicle</u>	Sugar	Wages	Admin	Crop (incl sugar)
1984	\$11.28	\$6.80	\$14.77	\$4.23	\$9.16
1985	8.23	2.37	15.65	3.12	5.68
1986	9.42	8.00	17.55	5.37	11.48
1987	11.49	9.60	17.78	7.11	12.70
1988(fore	ecast) 9.84	10.30	23.50	9.01	13.91

Financial Charges:

<u>Year</u>	\$/hive	Equity
1984	\$15.04	62%
1985	12.69	62%
*1986	15.32	55%
*1987	21.04	71%
1988(est)	23.76	

- * Reflects increased borrowing to increase hive numbers to cope with pollination requirements of kiwifruit industry, mechanisation and updating of vehicles, mostly short term finance.
- * Less short term monies required, substantial increase in market value of beehives.



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IMPORTANT NOTE:

The full report Beekeeping - Pollination 1986/87 - 1987/88 with budget and cash flow (Actual and Forecast) is available from MAF Tauranga. Subscription \$30.00 per year. Reports published in May and October.

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NEW POLLINATION SCIENTIST FOR MAF

Dr Mark Goodwin, who spoke to Industry at the July Conference (Rotorua) and at the Pollination Seminar (Tauranga) in July has been appointed to a position at MAF's Ruakura Research Station, Hamilton. Mark replaces Pat Clinch who retired last year.

Mark will continue his work on kiwifruit pollination and will look at the pollination of other crops. Beekeepers will recall that Mark's work provided insights on bee behaviour and kiwifruit, Particularly:

- a) Male kiwifruit flowers produce pollen from 8-11.00 am. Hence there is little reason to stimulate bees to forage earlier.
- b) With good bee activity, bees will move to other crops in the afternoon because they have exhausted all kiwifruit pollen. This does not mean, however, that they won't return next morning when the pol'en is again available.
- c) In orchards with high bee activity competition results in increased (male/female) pollen loads. This disrupts the normal single sex flower preference bees display in kiwifruit.
- d) In-hive sugar feeding at the time of pollen production (8-9.00 am) can fix foragers on kiwifruit. This is only necessary however in problem orchards with inadequate bee activity.

Mark's position is funded jointly by the NBA, the Kiwifruit Authority and MAF. Mark assures me he will be consulting with industry as to where the best research opportunities are. All the very best Mark.

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HALF MOON DISORDER UPDATE

Dr Denis Anderson, our bee pathologist at DSIR Mt Albert is making good progress on his study of Half Moon Disorder (HMD). The problem (no causative organism has been discovered so it cannot be called a disease) closely resembles European Foulbrood, a bacterial disease now found in Australia but not (as yet) present in New Zealand.



From a series of observations of HMD colonies, Denis has determined that while the symptoms appear in the brood, HMD is actually a queen-related problem. A series of symptoms have been identified which may follow a progression.

Initially, queens reared from HMD breeders show higher rates of supercedure, especially at the time of mating. Those that mate and begin to lay start to lay multiple eggs per cell. But the eggs are fixed to the cell differently than in cases of normal multiple egg laying (ie laying workers, new queens, constricted brood nest). The eggs appear to be deposited together, not one

at a time. Some eggs are stuck together, others are attached end to end. Eggs can also be found on the cell walls, as is the case in laying workers.

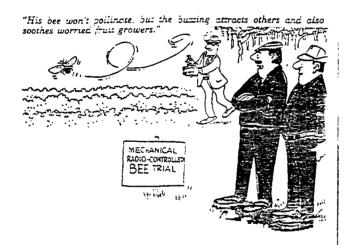
Once the brood is capped, patchy brood patterns were observed. On removal of the cappings many of the pupa found in worker cells are drones. This is despite the fact that adequate sperm is available in most HMD queens' spermathecas.

The other observation is the one first noted by beekeepers - larva are found dead, twisted in their cells in a 'half moon' shape. This is the characteristic that closely resembles EFB.

Because queens reared from HMD breeders show HMD symptoms, Denis believes the problem is genetically linked. His next step is to do artificial insemination to see whether the problem is carried in the semen or the queen.

Reference; C van Eaton, 1987, Northland Beekeeping 6; 3-4.

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TRADE TABLE

Substitute for Metalex, still copper napthenate, it is called BTB Brush on Wood Preservative. You can buy this product from Chemica BTB Ltd P O Box 160, Tuakau Phone (085)68165 Mr Mike Brown. Technical details Ph. Rotorua-Peter Cobham or Ian Gorman (073)479244. Dave Sawden has checked out the facts and costings. BTB has a 1% copper solution; to use dilute 1 part BTB, 2 parts kero or turps. Brush on or dip. There is no need to soak.

BTB: 20 litres BTB \$58.00 + \$5.80 GST 40 litres kero 44.00

\$102.00 or \$107.80 GST included

Equates as \$1.80 litre

 Metalex:
 20 litres Metalex
 \$170.00

 GST
 17.00

 100 litres kero
 110.00

\$297.00

Equates to \$2.48 litre

Many thanks Dave.

NB: BTB is sold as a 1% copper solution; do not dilute to 1% as incorrectly published in Waikato Bee Notes & Beelines.



"Have you ever heard of organic acupuncture?"

- * Tecpak Plastics Ltd, PO Box 713, Dunedin, Ph (024) 30 691, have available a very attractive clear plastic 400 ml container with coloured twist on lids. Ideal for honey as the lid will not 'pop' off.
- * Lily Pak Industries Ltd, PO Box 21 296, Freepost 1336, Henderson, Ph (09) 837 0510 have come out with a new range of plastic honey pots which replace the old 500g and 900g wax models. The pottles have snap on lids and are made from thermoformed polystyrene. They come in 250g, 500g, 750g and 1 kg sizes.
- * Beehives for sale Geoff Stone, Pirinoa Trees & Bees, 34 Mt Pleasant Road, Aro Valley, Wellington, Ph (04) 845 078 (evenings) has 138 3/4 depth hives and 38 full depth hives for sale all four high. POA.
- * A good selection of books are available from your IBRA representatives, T Bryant and A Matheson. For that ideal Christmas or birthday gift for your spouse why not contact us for hours of enjoyable evening reading.



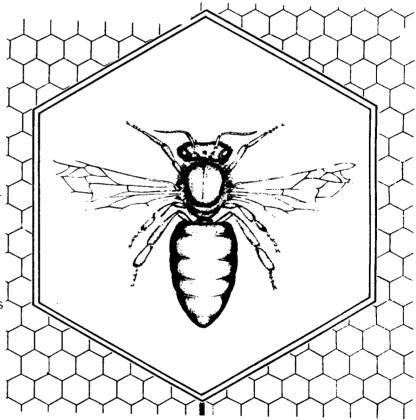
RAISE YOUR OWN QUEEN BEES

A course for the serious beekeepers who want to raise their own queen bees is in the pipeline. It will be very much a 'hands on' so you will get the opportunity to practice what we preach.

Dates are 15-18 September 1987 and the venue is MAF's Flock House Farm Learning Centre in the Manawatu.

For details write to:

Ted Roberts, AAO MAF PO Box 1654 Palmerston North



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COMING EVENTS:

Evening discussion re MAF bee disease diagnostic service with Brian Milnes, Diagnostician, Lynfield Plant Protection Centre, Auckland.

Venues, times will be advertised in local paper and through Beekeepers
Association. Dates proposed:

Gisborne
Whakatane or Rotorua
July 23
Tauranga
July 24

DID YOU KNOW -

- * That the provision of water is critical to bees throughout the year.
- * That bees have been known to store water in combs.
- * On very hot days a colony uses as much as 5 litres of water per day.
- * It has been calculated that a colony used approximately 31 litres during the season March 1 October 1 (Sweden).
- * That bees prefer warm water; ie above 18°C and below 32°C.
- * That they have a preference for salt water; ie salt concentration of less than 1%.
- * To collect 0.6 litres water from a site 25 metres from the hive requires bees to make 17,000 trips, flying 25 km.
- * That colonies 1 km from a source of water produced only one third of the crop of those alongside water.
- * Colonies deprived of water will die within a day or so. That such a colony can appear to have been killed by an insecticide.

Reference: TSK & MP Johansson, 1978, Some Important Operations in Bee Management, Chpt 8; 107-124.

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HAVE SOME 'PROFIT' TO USE OR PLANNING

AN OVERSEAS TRIP?

1988 may sound like a long way away but the months have a habit of being lost these days. Our neighbours across the Tasman are planning an international beekeeping congress in Brisbane to celebrate their bi-centennial year. It is expected 700 locals and 300 overseas visitors will attend.

Dates: 21-26 July 1988.

The conference fee of \$A200 includes admission to the venue, organised local tours, a copy of proceedings, conference dinner and name badge.

Readers will note the date for the conference coincides with the time usually set aside for the NBA Conference. Moves are afoot to bring the NZ conference forward and for a tour to go on from Auckland to Australia. It should be a good 'do', so plan now.



"I'd like to go somewhere near my luggage please."



"Wilkins, I understand you've been pullinating the naids again"

POLLINATION STATISTICS - 1986 AND BEYOND

National Statistics (compiled by T Bryant)

	<u>No</u>	No	
Crops Pollinated	Beekeepers	Beehives	Ave \$/Hive
Kiwifruít	203*	80613	75.00
Others: Pip & Stonefruit Berryfruit Avocados Seed Crops (legur etc) Vegetables etc	33 nes	9147	31,00

* Beekeepers who operate more than 50 hives; does not include orchardists.

TAURANGA APIARY DISTRICT:

(1) Bay of Plenty:		(1985)	
No of Beekeepers	202		
No of Commercial Beekeepers	58		
No of Beehives	47589	(30999)	+53.5%
No of Orchards	2043	(159 2)	+28.3%
Average No of Beehives per Orchard	d 23.7	(17)	
Estimated Revenue (Gross)*	\$3,635,308		
Other Crops:			
No Beehives	2400		
Estimated Revenue	\$60000		

 \underline{NB} : 75% of behives were supplied by members of KPA.

(2) Poverty Bay:

No Beekeepers	23		
No Commercial Beekeepers	13		
No Beehives	5283	(3620)	+45.9%
No Orchards	222	(158)	+40.5%
Average No of Beehives per Orchard	23.8	(17)	
Estimated Revenue (Gross)*	\$359,244		

(3) District Totals:

No Beekeepers	225
No Beehives	52872
No Orchards	2265
Estimated Cross Pollination*	\$3,865,504

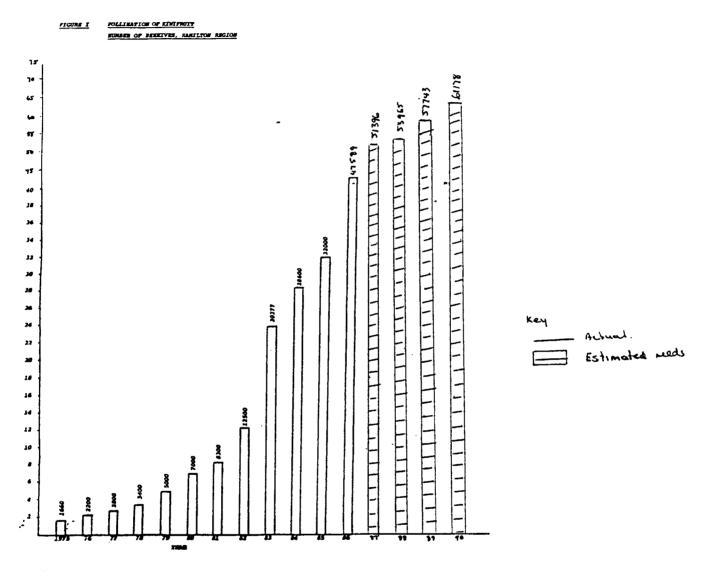
* Does not include GST.

For past and present statistics see Figure 1.

 $\overline{\text{NB}}$: I have made an effort to try and assess the future requirements for beehives in the Bay of Plenty. The estimates are based on the following assumptions.

- * There have been no significant plantings of vines over the past two years.
- * The major production areas Te Puke, Tauranga and Kaitkati are being stocked to somewhere near capacity.

- * Alternative pollination methods are becoming more efficient and cost competitive but will have little real impact in the short term.
- * Economics of kiwifruit production and likely impact of a price hike for beehives.
- * Sequential pollination and a high quality product being offered by beekeepers.
- * Confidence among growers in the KPA.
- * Impact of improved male vines and revised plantings (distribution) of males in orchards.



WASPS:

These critters are a proper pest this year. I hope that you have all taken time out to respond to Dr Henrik Moller's survey. Hopefully this will lead to a full research programme on ways to reduce the impact on beekeeping from wasp depredation.

Parasitic wasps have been released but it will be many years before these chaps make an impact on current populations.

Some alternatives to Mirex suggested to me are:

* Bug Bars, ant and spider concentrate (soon to be relabelled to include wasps). Use 3 capfuls per 250 ml water and spray onto bait. The product must be kept out of direct sunlight. The active ingredient is 3% permethrin (a synthetic pyrethroid).

The same company (also known as 'Kiwicare') also makes a permethron-based "bug bomb" to replace the more dangerous DDT and lindane-based borer bomb. It's a one-shot aerosol so doesn't have the fire hazard of a borer bomb. Available from garden, hardware and paint shops.

* Baygon, a carbonate with fast knockdown and long term residual. Used around food premises for ants, spiders, flies, wasps etc.

Tips from Andrew Matheson and Murray Reid.

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BRANDING BEEHIVES

The MAF has for many years advocated the branding of beehives with your registered number.

It is pleasing to see most of you are practising what we preach.

But, if you purchase or have purchased beehives <u>please</u> either erase the old brand or at least put a line through it. It is most confusing to go into an apiary with two to five different brands and try to work out which one applies. Especially when we are trying to locate the owner or someone phones in wanting to contact the owner.

Brand by all means but please think of over-worked and under-paid Registrars trying to sort out what belongs to whom.

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MAFFISH - MAFFISH MAFFORP,

As of 1 April (this is not a joke) MAF restructured; instead of nine divisions there are now four. Instead of there being eight regions there are now four. There were something like 55 managerial positions, there are now SMOKERS? 20 odd.

Where does the Apiary group fit - probably in MAFQUAL although others may be in MAFTECH.

How does it affect you, the beekeeper? Very little if at all. As AAOs we will still be responsible for all things beekeeping in the various regions.

The only real change has not yet come about. That is the need to have industry funding for operating the apiary registration programme and bee disease inspection programme as supported by your industry at the Rotorua conference.

A proposal for an annual registration fee has been accepted by the Minister. We now have to wait for the appropriate regulation to be passed by Government.

AAOs do however have to contribute to MAF's earnings so some services will be chargeable. There are also alternative clients; eg orchardists, who are willing to pay for our expertise so AAOs are not the exclusive property of the beekeeping industry. We are however committed to help industry – beekeeping is where our allegiances lie but don't expect to get our services 'free' all of the time; we may not be cheap but we guarantee an investment in MAF will be beneficial to our clients.

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BITS & PIECES

- * More details later, but it is proposed to have Brian Milnes discuss with beekeepers the bee disease diagnostic service in Gisborne on July 22; Whakatane on July 23; Tauranga on July 24. (Rotorua may yet be substituted for Whakatane).
- * The American honey mountain is on the move, not yet reached avalanche season but it seems exporters have stopped buying. Latest offers I have heard \$1.65/kg in the warehouse, no drums returned, you pay freight. The current situation may or may not be short term and probably will not become clear until the NZ dollar drops off around 50¢ against the US \$.
- * Beekeeping libraries all NBA members have access to their national technical library; address: PO Box 112, Milton, Otago. If you have books or want books please remember others are also waiting so return those books promptly.
- * "Bee Legal Bee Registered" posters have been passed out at meetings etc. I hope you have put them up in public places in your town. If not, why not; if you want additional posters then please contact me.

Bee Committed as well as "Bee Legal".

* The Africanised bee has been confirmed in Southern Mexico.



"Now I have all the necessities of life."

* The male sex hormone has been found in royal jelly. That's the good news for those promoting youthfulness and virility. The bad news is it's present at a concentration of 12 nanograms per gram - that's 0.0000012%.

Source: A Matheson, The Beekeepers Bulletin, May 1986.



"All in all, you're in excellent health, although I think I'd lay off the bee pollen for a while."

* Are all eggs created equal? Apparently a Russian researcher says, no. Young queens lay heavier eggs than old queens and the workers or queens that result are also bigger.

Queens from big eggs were shown to have more ovarioles and could be expected to produce bigger colonies as a result.

The final test was to compare honey production. Sure enough, colonies headed by queens raised from light eggs produced less honey, even in good years.

Source: C van Eaton, Northland Beekeeping, March 1987, No 6.

Cheers.

Trevor Bryant

THUST.

Apicultural Advisory Officer