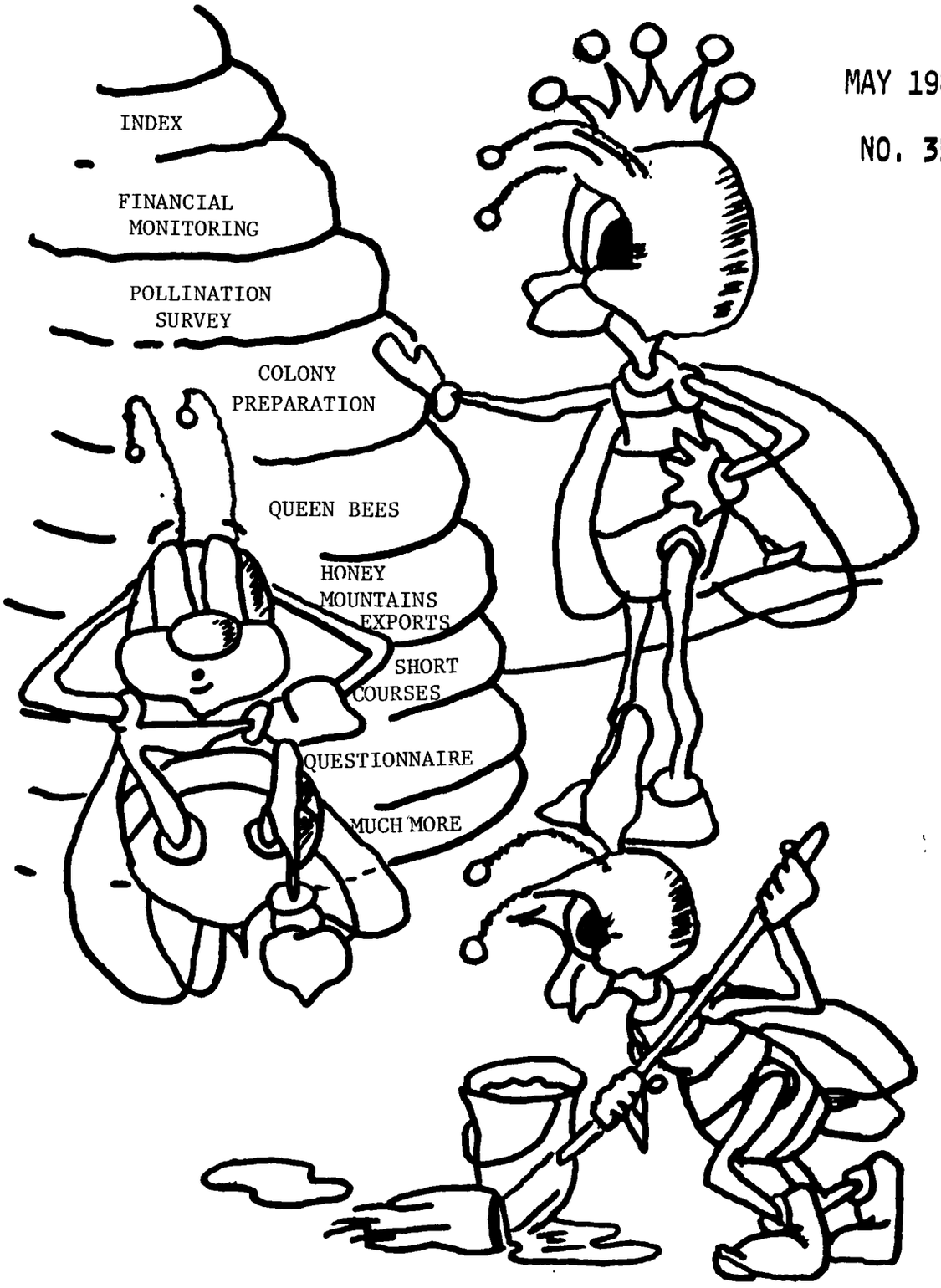
YOUR NEWSLETTER



MAY 1985

NO. 35

Ministry of Agriculture & Fisheries
Private Bag
Tauranga

Telephone: 82 069

T G Bryant
Apicultural Advisory Officer

Telephone: 65 962 Private

YOUR NEWSLETTER

MAY 1985
NO. 35

First the bad news, or good news, depending on how you view it.

The Newsletter circulation list will have to be reduced. Costs now incurred in producing printing, mailing have reached a point where funds available just will not balance output.

There are two choices, either cut down number of issues produced each year from four to two, or send four copies per year to those with more than 50 hives of bees. To help me decide, and to ensure the correct decisions are taken a questionnaire is inserted - please complete after due consideration and careful thought, then return as soon as possible.

While I would like to think you will all reply that is perhaps stretching things just a little. Nevertheless, the returns will indicate just how useful you think the Newsletter is and will decide its future.

There is a third alternative - if you, the beekeeper, is prepared to help meet production costs by perhaps contributing towards these, we can keep going the way things are.

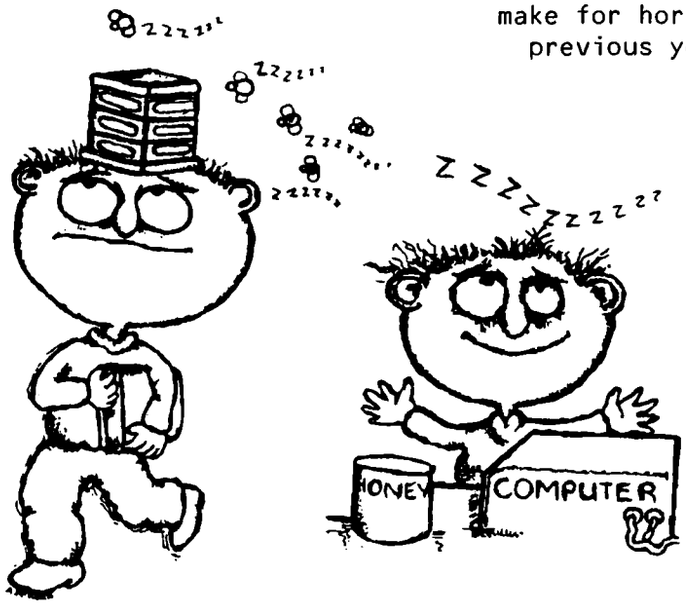
The status quo is being questioned and I am extremely interested in knowing exactly how you, the consumer, react to your publication - is it of value, informative or a complete waste of my time and yours? What would you like in the future?

An incentive to boost returns to the questionnaire may be if you take the time to reply, you will receive further issues; if you cannot be bothered then obviously you find the Newsletter of no value and don't wish to receive further issues.

Your opinions are valued and are given due consideration, so let's hear from you all.

MORE BAD NEWS, BUT ONLY FOR 1985

Disease statistics being compiled for 1985 will make for horrendous reading when compared to previous years.



The reason is a change in MAF policy. From May 1985 all disease statistics will cover the beekeeping season, spring to winter instead of January to January. The 1985 statistics will therefore include 18 months disease reports so don't panic when they are printed as the 1986 statistics will hopefully show a downturn in the reported incidence. For example, statistics for Tauranga will exceed 1% of all hives; if one used the old format these would read less than 1%.

Don't 'play' with disease, burn it and bury it, then report it.

Be a Responsible Beekeeper.

The Pollination Survey

RESULTS:

TABLE 1 : 1983/84 KIWIFRUIT POLLINATION SURVEY, TAURANGA APIARY DISTRICT SUMMARY

Total pollinators recorded	184
Total pollination hives recorded	28,691
Total orchard contracts recorded	1,731
Average hives per contract	16.5
Pollinators ≧ 100 hives	59
- providing hive total of	25,758
- percentage of industry hives	90%
- servicing contract total of	1,410
- average hives per contract	18.3

RESULTS

Total pollinators surveyed	54
Number ≧ 100 hive pollinators surveyed	46
- percentage of group	85%
Total orchard visits	64
Number orchards survey reflects upon	1,288
- percentage of industry	75%
Number of hives survey reflects upon	21,265
- percentage of industry	74%

POLLINATION HIVES JUDGED AS

	Number	Percent
Satisfactory	13,558	64%
Fair	4,713	22%
Unsatisfactory	3,015	14%
TOTAL:	21,286	100%

DISCUSSION:

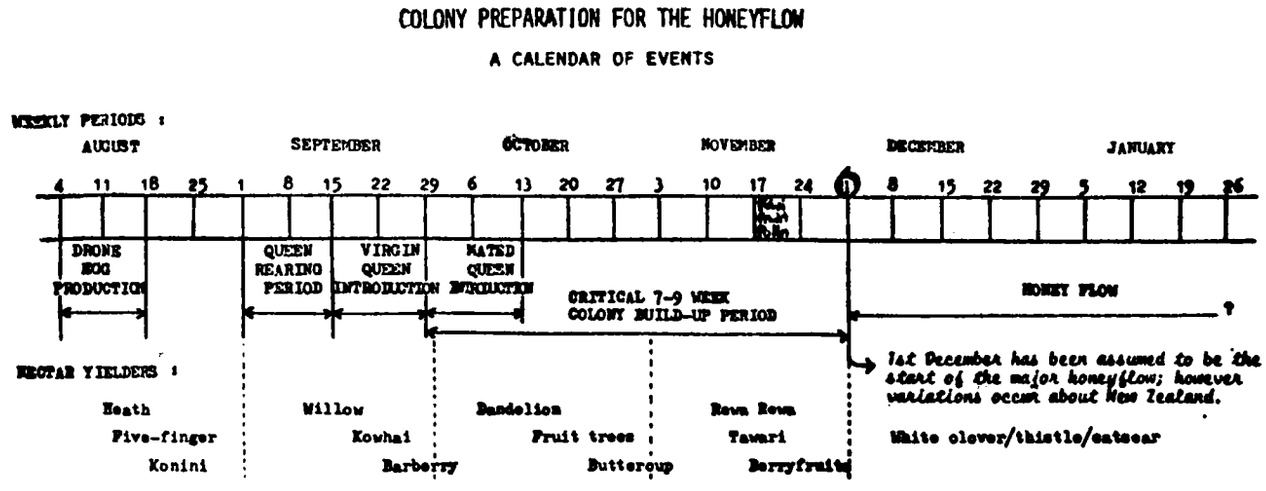
The results have upset many beekeepers and myself. We had expected much better things, particularly when one considers the inputs of many to improve the image of the industry over a number of years.

The most common fault is management, in particular spring management and a lack of understanding by beekeepers of the time span required to take a colony from 10-15,000 bees (nuc or split) to more than 30,000 bees. (See Tables 2 and 3).

TABLE 2 : *Rates of development of two colonies each starting with 18,000 adult bees and with queens with the same oviposition potential. Theoretical honey production. (Moeller, 1961).*

	Time (Weeks) 3	6	9	12	15
Colony starting with brood:					
Population of adult bees	37,000	48,000	54,000	54,000	54,000
Honey Production (kg)	18	28	38	38	38
Colony starting without brood:					
Population of adult bees	8,000	21,000	36,000	48,000	54,000
Honey Production (kg)	-	7	17	28	38

TABLE 3



For a full strength colony at the start of the anticipated major honey flow :

- encourage vigorous brood production for 7-9 weeks beforehand
- introduce mated queens, make divisions, replacements, 7-9 weeks beforehand
- undertake queen rearing 12-13 weeks beforehand
- stimulate drone egg production 16-19 weeks beforehand

Ministry of Agriculture & Fisheries

To interpret the numbers keep in mind the number 21; 21 days egg-adult, 21 days to forager (can be less in populous colonies), 21 days as forager (in ideal conditions). A colony takes at least 6-9 weeks to reach its peak. Planning must therefore take place well in advance as it takes just one hiccup, say inclement spring weather, to upset things and extend that time span.

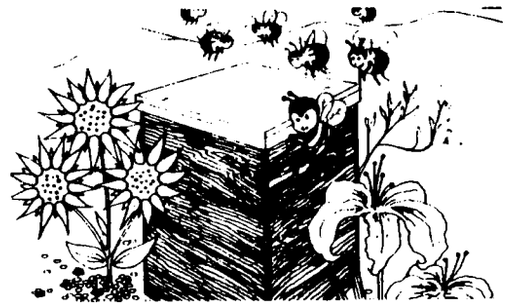
In most cases involving colonies not up to strength it was obvious a split had been done just prior to pollination. In these colonies the brood area was such that the potential foraging force would be small as most of the bees would be required to look after the brood and its potential pollinating power virtually zero. These colonies simply had not had sufficient time to build up populations to be worthy of calling 'a pollination hive'.

Other prevalent faults: queenless hives and obviously queenless prior to placing in the orchards, placement which encouraged drifting, even the occasional hive which had died out.

The latter are problems associated with poor quality control. If growers are expected to pay a standard fee then they should be provided with colonies that are almost as like as peas in a pod.

One can expect some to fail just prior to pollination or while in the orchards but more than 3% is unacceptable.

Commitment to satisfy the client's needs is paramount if there is to be a future for all concerned.



What to do to remedy problems:

* Plan now for next year;
* Don't rely on the weather in the spring;
* Take actions to ensure your hives reach a suitable size to give value for money;
* Requeen earlier or in the autumn, similarly make splits early in the spring;
* If necessary raise your own queens rather than rely on queen breeders;
* Better still, it should have been done in February/March;
* Feed your bees protein and carbohydrate at strategic times during the spring to encourage colony expansion;
* Please consult with your clients and do all that can be done to enhance pollination; his livelihood and your future income is dependant on the crop he harvests and pollination is essential to a profitable kiwifruit industry.

The key to developing a successful business and providing the right hive at the right time is:

* The queen bee - select for spring build-up, pollen gathering; know how to estimate the daily egg laying rate of queens. You can then estimate the time span to achieve your target.

* Field bees - know what 20,000 or 30,000 bees looks like in a hive; you then know how many more you require.

* Food - don't scrimp, by keeping bees/queens well fed colony expansion will not be hindered.

TABLE 4 : *Approximate rates of consumption of pollen by colonies with different rates of brood rearing.*

Number of Combs of Brood	Rate of Oviposition (Eggs per day)	Rate of Consumption of Pollen
1 - 2	500	1 FD Comb in 14 days
3 - 4	1,000	1 FD Comb in 7 days
5 - 6	1,500	1 FD Comb in 4-5 days
7 - 8	2,000	1 FD Comb in 3-4 days

* Disease free - brood diseases in particular but don't forget Nosema or paralysis.

* Combs - good combs and the provision of space for colony expansion is money in the bank.

* Be committed; to your client, other beekeepers and to your business.

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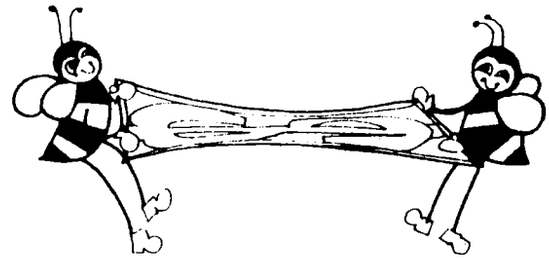


FINANCIAL MONITORING

Some typical costs for operating a 1000 hive operation in 1984/85 are:

	$/Hive	% Change Since 1983
Crop Exp: includes sugar, queens, wages.	$21.33	-11%
Packaging	$8.91	+80
Vehicle Expenses	$8.23/hive	-37
Total Cash Exp:	$49.92	+4
Total Income:	$102.73	+12
Total Exp:	$80.10	+8

includes personal, tax, development, capital, financial charges.

The actual business looked like this:

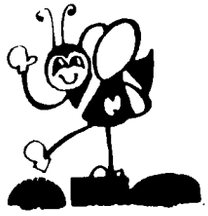
	Established Beekeeper	Developing Beekeeper
Beekeeping income	118140	25170
Beekeeping expenses	57403	11823
Beekeeping net income	60737	13347
Less drawings, taxation, financial charges	34718	8812
Surplus for ploughback	26019	4535
Less development and capital purchases	15921	14000
Plus new borrowing	16000	15500
CASH SURPLUS:	26098	6035

The established beekeeper was operating 1150 colonies, employed one permanent labour unit and casual seasonal labour. Had expanded hive numbers by 290 and upgraded his vehicles, hence the reduction in this cost. The spring of 1984 meant less cash spent on sugar and helped reduce crop expenses.

Projections for 1985 indicate that costs are likely to rise approximately 15%, the largest increases being: vehicles 10%, crop 28%, repairs and maintenance 28%, administration 12%, personal expenses 8%, taxation 81%, income -0.98%, operating surplus -9%.

Income projections were based on a price increase of 9% for pollination, nil increase for honey.

A noticeable trend since 1983 is the increased use of trading banks for seasonal finance now incomes are more or less guaranteed (pollination), improved cash flows (pollination) and greater personal expenses (guaranteed incomes/pollination).



Developing Beekeeper - This individual started 280 hives in spring 1984, expanded to put 330 in orchards and wintered 600. Goal is to have 600 producing hives for 1985/86.

The heaviest burden is increased equipment costs since 1983:

Supers	plus 35%
Frames	plus 43%
Foundation	plus 35%
Excluders	plus 35%
Lids	plus 75%
Floors	plus 50%

I shall let you all draw your own conclusions but it is becoming increasingly obvious that many beekeepers without the security pollination provides must be treading a fine line between profit and loss as honey prices to producers have not kept pace with rises in production costs.

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GST or Gas Tax

This tax, if implemented, will have a significant impact on all beekeepers. As providers of a service, pollination, and a product, honey, queens etc GST will have to be added onto all these.

As I understand it, and let's face it, none of us really are yet au fait with the nuts and bolts, if you sell a product such as honey to a packer you will add on GST, with pollination GST will be added on all accounts.

All beekeepers will have to register with the tax department and every two months make tax due payments.

Some larger companies will probably leave it up to their accountants but regardless very good records will have to be kept and maintained for scrutinising by tax inspectors.

Now is the time to start getting your book work up to date and/or start keeping cash books, receipt and account rendered books etc, etc. A good filing cabinet will be essential so start thinking about it now.

When full details are known I shall organise some in-house courses to assist you but nothing beats being forewarned and prepared.

** ****** **

What's On

JUNE 17-19

Management by Objectives for Beekeepers.

You are familiar with the Industry plan set out by the NBA; this is a course designed to help all commercial beekeepers wishing to become more efficient and realise their goals.

You do the work, tutors supervise.

To be held at the Bay of Plenty Community College. Registrations limited, so be quick.

JULY 9-12

Expanding into Commercial Beekeeping.

Designed for those thinking or have just made the move to become a commercial beekeeper.

Course content: legal, finance, IRD, RBFC, insurance, employing labour, vehicles, planning, business management and much more.

Venue is Bay of Plenty Community College.
Tutors are MAF, IRD, RBFC, Industry and private sector experts.

AUGUST 28-29

Queen Bee Production.

Designed for those with some knowledge of bees but few skills in queen rearing - a 'hands on' course.

Tutors: MAF, BOP Community College, Industry.

AUGUST 7

Bee Diseases Clinic
An evening to bring you all up to date on all bee diseases with emphasis on AFB, Chalk Brood, Sac Brood, Nosema, Paralysis et al.

AUGUST 15 - Bee Diseases Clinic, Tauranga

AUGUST 20 - Bee Diseases Clinic, Rotorua

SEPTEMBER 3 - Bee Diseases Clinic, Coromandel or Whitianga

Venues for the Bee Diseases Clinics will be known later and advertised in local papers.

For enrolment in courses scheduled at the Community College, write to the Bay of Plenty Community College, Private Bag, RD 3, Tauranga, giving details of the course you wish to attend.

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For Sale

50 blue plastic feeders, used one season - $4.50 each.

Work undertaken, assembling of frames and supers, glued and stapled, any quantity.

For above, write or phone: P A Townsend
Kernon Apiary
Arawa Road
RD 6
Te Puke Phone: 33 658

** ** ** ** ** ** ** **

SUPERS: Full depth - 2000 at old price, $3.70.

	New Price:	Full depth	$4.00
		¾ depth	$3.78

Phone Roy Hyde at 22 110 Whakatane.

** ** ** ** ** ** ** **

SPLIT BOOM LOADER - reaches approx 4m, lift 150 kg, electrically operated from hive cradle, hydraulically levelled, deck space 100 sq mm, fully removable.

Price: $4212 plus sales tax.

Contact: J Brown, Katikati Honey Centre, Main Road Katikati. Phone: 490 810.

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Pollen Substitute

Some beekeepers now regularly feed lactalbumin/yeast/sucrose patties to bees in the spring. One of the problems encountered is mixing the materials and achieving a consistent product. Consistency is easier to attain when the components can be bulked and known amounts measured.

Norm Dean is interested in assisting beekeepers by providing the means to mix large amounts if there is sufficient interest to warrant purchasing or hiring the right machinery.

If you don't wish to put up with the hassle of making patties but would be happy to pay someone to do it for you then contact N Dean, Rowe Road, Ohauiti or phone: 442 226. Do it as soon as possible to give Norm time to put things in place.

USA Honey Mountain

The US Government, through the USDA, will this year buy up 55,000 tonnes of honey while imports into the US reached a record 128.7 million pounds (57,460 tonnes) in 1984.

The USDA support for honey has quadrupled since 1972 from 14c to 66c per pound. It is reported that some American processors are buying foreign honey at 46c/lb then reselling it to the USDA for 66c/lb.

A direct result of cheap imports into the US has seen a decline in the Canadian honey price from $C 0.60/lb in 1982 ($NZ 2.16/kg) to $C 0.45-0.48/lb ($NZ 1.63-1.73/kg) this year. The March 1985 issue American Bee Journal quotes Canadian honey on offer at $C 0.38/lb FOB Canada.

With the US Government rebelling against all forms of support for primary products any reduction in the price to beekeepers will have serious repercussions on the industry there. Who knows but maybe we could see the US offering its crop on the world market and doing deals similar to that of its butter surplus; buy one lb and get one free.

Source: Am Bee Journal, March 1985.

Honey Exports to Queensland

Remember Joh's answer to New Zealand's anti-nuks stance when he impounded chocolates. Well it could happen to honey.

All food exported into Queensland must have labels which bear:

* *Full name and street address of the manufacturer;*

* *Full name and street address of the Australian importer.*

For honey the additional imposition is the requirement for an import permit with all shipments, even personally accompanied gift packs.

Ref: The Beekeepers Bulletin, 1985 6(4) : 12-13.

The Africanised Honey Bee

The US beekeeping industry may experience annual losses of $26 million to $58 million if this bee colonises the South and Southwest of the USA. This cost does not include effects on public health, pollination, beekeeping supply firms, non-migratory beekeepers, exports of bees to mention but a few.

Ref: Taber S, 1985. Government Plans to Deal with the Africanised Honey Bee, Am Bee J 125(3) : 181-183.

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Queen Bees

During the pollination survey one of the measurements recorded was brood area. From this we were able to assess how accurate our bee population estimates were and just as importantly get an idea of the daily egg laying rate of queens in hives used for pollination.

The population estimates done were extremely accurate when correlated to the queen's daily egg laying rate. To help you as the practitioners do your own estimates, see Tables 5 and 6.

TABLE 5 : *Numbers of brood combs required by queen bees at five different rates of oviposition.*

Doull's Table 4.

	Oviposition Rate (Eggs/Day)				
	500	1000	1500	2000	2500
No. of cells with brood	10500	21000	31500	42000	52500
Total area of brood (dcm²)*	24.5 26.9	49.0 53.8	73.4 80.8	97.9 107.7	122.4 135.6
Equivalent in FD combs**	1.4 1.8	2.8 3.6	4.2 5.5	5.6 7.3	7.0 9.2
Equivalent in 17 cm combs***	1.9 2.7	3.8 5.4	5.7 8.1	7.6 11.0	9.6 13.6

* NZ STANDARD FULL DEPTH = 1675 cm² of comb.

TABLE 6 : *Theoretical maximum populations of adult bees in colonies at different rates of oviposition and length of life. (Calculated with a deduction of 10% for larval mortality).*

Doull's Table 2.

Oviposition Rate (Eggs/Day)	500	1000	1500	2000
	Populations of Adult Bees			
Length of Life (Days):				
35	15750	31500	47500	63000
31	13950	27900	41850	55800
28	12600	25200	37800	50400
20	9000	18000	27000	36000

What is of concern is the apparently low daily egg laying rate of many queens at a time in the colonies expansion cycle when it should be reaching its peak.

Of the hives surveyed, 20% of queens had a daily egg laying rate of 1500 eggs/day or better; 14% laying between 1000-1500 eggs/day; 66% 1000 eggs/day or less.

This would suggest that the majority of hives used for pollination would obtain a surplus crop but would rarely be capable of taking full advantage of available nectar sources. The time required to build these colonies to a maximum population is longer but even then their strength will rarely exceed 32000 bees (refer Table 6).

It also highlights the importance of queen rearing in a beekeeper's operation. Observations point to a need for more care in selecting the best possible queen mothers, good nutrition when raising cells and the methods used to obtain larvae of the right age for raising queens.

Nutrition is of paramount importance as all other characteristics are of nil value if queens are raised on a poor diet.

Larvae of the right age is second on the list; queens raised from larvae older than 24 hours will have an inferior performance to queens raised from 1-24 hour old larvae and for every 12 hours up to 72 hours the more inferior the queen.

Other factors to consider to raise top queens are drone mothers and lots of drones, healthy adult bees (no Nosema) and populous cell raising units with lots of bees with active brood food glands.

Good queens are so fundamental to successful beekeeping that they are often the most neglected as beekeepers assume (incorrectly) that any young queen is a good queen.

Check your breeding stock's daily egg laying rate this spring, you may be rather shocked at how low it is when you consider top line queens should be capable of laying 2000 eggs/day.

Ref: Doull K M, 1973. Biological and Technical Factors Affecting Profitability in Beekeeping.

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Herbicides & Bees

Most herbicides are not toxic to bees, unless you use them to drown the bees. However, some herbicides are suspected of smelling so bad that if sprayed on foraging bees they cause fighting at the hive entrance because of loss of 'colony odour'.

A recent German study suggests that this is unlikely to happen. After bees were trained to use a feeding station, some were sprayed with the following chemicals:

- *2,4-D with MCPA*
- *Mecoprop*
- *2,4-D and 2,4,5-T*
- *Dichlorprop*

(all are used in New Zealand)

Tests were made with sprays at normal concentration and double strength. No abnormal behaviour was observed in the experimental colony.

Source: *The Beekeepers Bulletin, 1985; 6(4) : 27.*
Ref: *Schaper F, 1984. Reaction of bees to herbicides non-toxic to bees. (In German). Apidologie 15(3) : 241-242.*

Note: It has been observed that fighting can occur at the hive entrance if foragers are sprayed with the fungicide, captan. With so many new products coming on the market it is a major problem keeping up with all the technical data, perhaps you feel like this.

Industry News

Conference is to be held in Greymouth on 24-25 July. On Tuesday, 23 July is an Industry Workshop which will look at three themes:

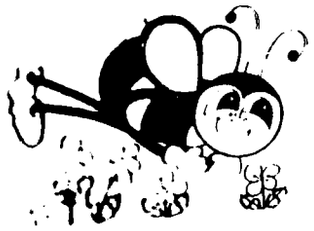
- Industry requirements for MAF servicing;
- Bee pathology, Dr Dennis Anderson, the recently appointed pathologist will be speaking about his job and priorities.
- Agricultural Quarantine services.

Did you know for example, that over 400 interceptions of honey bee products or related products (honey, pollen, beeswax, royal jelly, bee food, beekeeping equipment) were made in January and February 1985.

These interceptions were made in Auckland, Wellington, Christchurch and Dunedin at our regional ports including seven from yacht stores at Opua.

The list of countries is impressive and rather than list them, 23 are given and cover all those where the mites, Varroa, Acarine, Tropilaelaps are to be found, and the brood disease EFB and others of ill-repute, namely the viruses. Rather frightening!

"Is that a flower or a weed?"



ADDITIONAL NEWS

Clive and Allison Vardy are now in Gore and early in May were joined by Vardy Junior, a future beekeeper according to Clive.

The very best wishes to them both.

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REMINDER:

DON'T FORGET TO COMPLETE THE QUESTIONNAIRE AND RETURN AS SOON AS POSSIBLE.

HAVE YOU COMPLETED AND SENT IN THE LINCOLN COLLEGE SURVEY ON BIOLOGICAL CONTROL OF GORSE? IT'S IMPORTANT AND A GOOD RESPONSE IS ESSENTIAL.

To help you should you need to refer to specific topics previously discussed, an index is included.

Trevor.

Trevor Bryant
Apicultural Advisory Officer

I N D E X

Questionnaire

Please tick the most appropriate space for each of the questions, or answer otherwise where necessary. Any relevant comments would be appreciated.

1. Where do you get most of your information about beekeeping? (Please note that this means information about beekeeping, not scandals and gossip about the beekeeping industry in New Zealand).

   Number the most important 1-5, with 1 being the most important?

   AAO's newsletter ( )

   farmer magazine ( )

   radio ( )

   discussion groups ( )

   personal contact with AAO ( )

   newspapers ( )

   field days and seminars ( )

   other beekeepers ( )

   Telford, Flock House or community college courses ( )

   "Apiarist" ( )

   TV ( )

   "NZ Beekeeper" ( )

2. Why do you use your first choice the most?

   _____

   _____

3. How would you describe your reading of the newsletter?

   I read every article carefully ( )

   I skim every article and read some carefully ( )

   I read only occasional articles ( )

4. What makes you decide to read a particular article?

Tick each space which best indicates how each factor influences your decision.

	strongly	moderately	slightly	not at all
(a) interest in the title	_____	_____	_____	____
(b) look of the first paragraph	_____	_____	_____	____
(c) illustrations	_____	_____	_____	____
(d) length of article	_____	_____	_____	____
(e) other, please specify	_____			

_____

5. What type of articles do you like best in the newsletter?

Number 1-5 in order of importance, with 2 being the most important.

research results from overseas ( )

my ideas on beekeeping management ( )

district news and events ( )

equipment and gadgets ( )

funnies ( )

"stirring you up" about your beekeeping ( )

changes in tax and other laws ( )

other issues, please specify _____

_____

6. What other topics would you like to see included in the newsletter?

_____

_____

_____

7. How easy it is to understand the articles?

very easy ( ) moderately easy ( ) moderately hard ( )

very hard ( ) varies widely ( )

Comments _____

_____

8. How useful has the newsletter been?

extremely ( ) moderately ( ) slightly ( ) not at all ( )

Comments _____

_____

9. Can you remember information in any of the newsletter articles which resulted in economic benefits, such as cost savings, greater income, time savings, reduced tax?

Yes ( ) No ( )

If 'yes', please describe or estimate the benefits.

_____

_____

_____

10. Can you suggest any changes in format, such as length of articles, writing style, presentation, frequency of posting, etc?

_____

_____

11. Approximately how many hives do you run? _____

Thank you for your time in completing this. Please post it in the envelope provided - don't forget!

T G Bryant
Apicultural Advisory Officer