

The New Zealand Bee Keeper



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The New Zealand BeeKeeper

OFFICIAL PUBLICATION OF THE NATIONAL BEEKEEPERS' ASSOCIATION
OF NEW ZEALAND INCORPORATED

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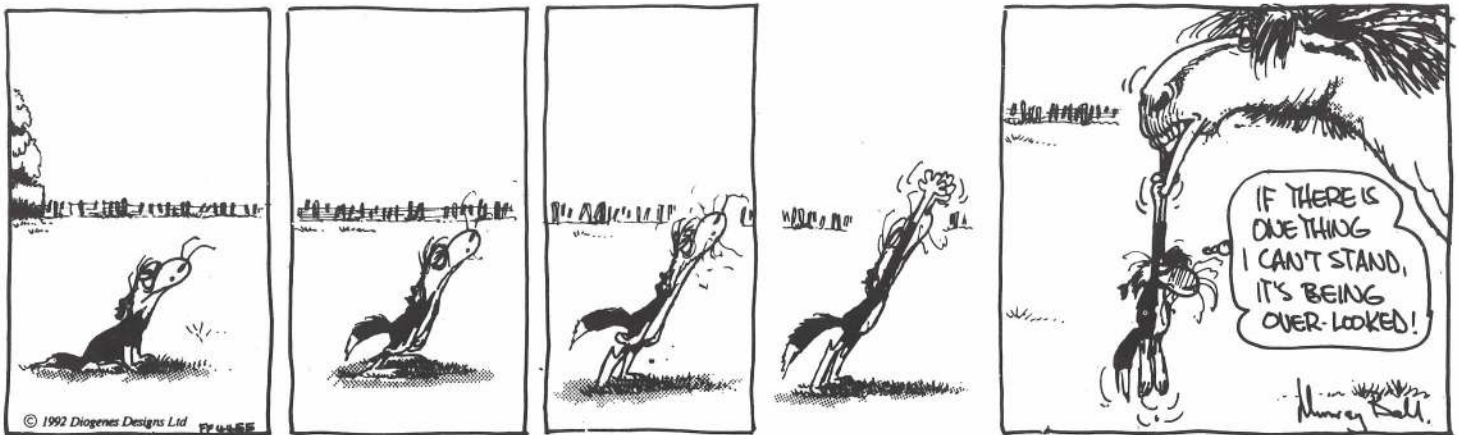
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FRONT COVER: Life Member Terry Gavin with wife Pat. See story page 6.

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CHANGES TO THE EXECUTIVE

Several changes to the Executive took place at this year's Conference. Keith Herron, a South Island member since 1984, has retired. Keith will be missed, not only for his work and his dedication to the cause of beekeeping, but for his keen sense of humour. The only time your Editor saw it flag was when someone suggested he looked rather like that politician who led the Labour Party into power in 1894. Keith has been replaced by Richard Bensemann.

Frances Trewby and Gerard Martin have changed places. Gerard, Vice President for the past two years has returned to his position as Executive Member and has been replaced by Frances Trewby, an Executive Member since 1990. The Editor regrets that he is unable to run a picture of Frances. Despite frantic searching he was unable to find one suitable. His apologies to Frances.



Frances Trewby has worked as a commercial beekeeper for nine seasons: four in the North Island and five in the South Island. During her two years on the Executive she has been actively fighting to secure continued Government funding for the endemic disease control program, and was the co-author of a submission to the Government.

She is also keen to further the Exotic Disease Response, to prevent Australian honey being imported, and to ensure beekeepers' interests where possum control programs are implemented. Among her other interests are the furthering of beekeeper education through Telford and the NBA library.

Frances believes the stability of the NZ Beekeeping Industry lies in a strong national organisation and an equally strong branch structure. She is concerned that beekeepers should get the best value for their hive levy dollar.

Richard is a member of the Canterbury Branch. He has been a shareholder and a director of Airborne Honey for the past three years. Before that he owned his own business, Greenpark

Apiaries, near Christchurch, for eight years. Previously he was Secretary of the Canterbury Branch for a spell of five years and has recently been re-elected to that post. No 'yes' man, he's sees himself as bringing youth to the Executive.



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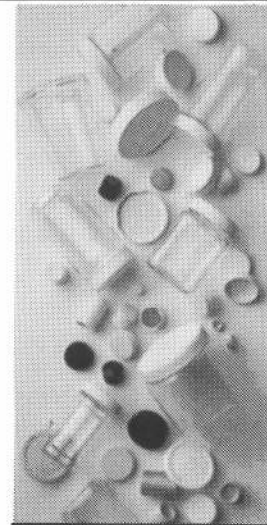
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Dear Sir,

I have learned of the NBA's excellent work in the area of beekeeping through my work and study here at University College Dublin, Ireland. I am 25 years of age and finishing an M.Sc. (Arg.) in Environmental Resource Management. My master's thesis is on the subject of apiculture (A morphometric survey of the races of honeybees in Ireland). In addition to my research interest and academic approach to apiculture, I have set up and maintained a successful commercial beekeeping enterprise for many years. This apiary is located at our family farm in central Ireland. Over the years I have attended numerous practical courses on beekeeping and have also been involved in practical and scientific demonstrations of apicultural interest to students at the University.

I wish now to pursue my dual academic and commercial interest in bees and in beekeeping by working and/or studying at an establishment such as yours. To this end I would be grateful if you could send me detailed information on the following aspects of your work:-

- * Present research and/or commercial activities.
- * Training and/or educational programmes.
- * Opportunities for employment and/or research (Ph.D.)

I have enclosed a copy of my Curriculum Vitae for you information. I look forward to hearing from you and perhaps to working with you some day soon, on our mutual interest: bees.

Thomas J. Carroll

B.Arg.Sc., M.Sc. (Arg.)(Hons).

Editor's note. Mr Carroll's CV is with the NBA.

Dear Sir,

Some time ago I wrote two letters to you. I notice you did not publish the one I wrote in response to Gavin White's comments on our activities in the previous Beekeeper.

I hear that Gavin is now in Canada and, as the next Beekeeper is really too far away from his comments, I feel it is best to not publish my second letter.

Thanks for publishing the other letter which I feel expressed my thoughts adequately.

G.L.Jeffery

P.S. For your interest. The Nelso restrictions conservatively cost us around \$25,000 in crop with an additional \$5000 needed for feed. Not a great help when trying to re-establish. Especially as I feel the whole operation involved overkill when compared with the more moder-

ate response in the UK to Varroa.

Editor's note. Only one letter, that published, was received in the office. The other must have gone astray.

Dear Sir,

Back in the Spring '91 edition Bill Floyd wrote an excellent article on marketing. I don't know what chances there are of any significant inroad of the sugar market — but a spoon of honey in your cup of tea (instead of sugar) is a refreshing change.

However, there is one way I think you could achieve a considerable increase in sales of honey. Most people like honey on bread or toast — I dare say that is a major use of our liquid gold — but it's usually runny and before you get as much on your bread as you would like to have — its dribbling over the edge. You pick it up to eat and get sticky fingers. BUT...if you spread the honey on bare bread it soaks in — then smear the butter over the top. In this way you get to use at least 50% more honey per slice without any mess. And, hopefully, people would eat bread and

honey more often if it's not so messy!

Over to the marketing experts.

Frank Hastings

Nuku'a Iofa

Tonga

Dear Sir,

I received seven copies on May 30th! Congratulations on using the effective delivery service which cuts out the long sea journey.

BUT, a small point which could be disastrous. The envelope paper is too thin for 7 magazines, and the envelope had been taped by the Post Office where the edges had frayed ie they only just made the trip.

PERHAPS better to use a thicker paper envelope to carry seven magazines.

Best wishes.

K Ellis

Editor's note. We have recently ordered stronger bags.

LIFE MEMBER: TERRY GAVIN

Terry Gavin was made a life member of the NBA at the 1991 Conference, Blenheim. Terry was an NBA Executive member from 1966 to 1970, has served as Northland Branch President and, over the years, in almost all, if not all, official positions of that Branch. He was a foundation member of the Comb Honey Association, The Packers' Association, and was the foundation President of The Queen Bee Producers' Association.

A second-generation beekeeper, Terry left school in 1943, aged 13, to help his father who had begun beekeeping in 1912. Terry took over the business in 1958, when his father stepped down.

Until 1977 Terry had been purely a honey producer, although he raised his own Queens, but in that year he bought out Frank White and the firm of White-line Queens was so named in the latter's honour.

"With the firm I bought Frank White's invaluable experience", Terry says "He was one of the real old identities in beekeeping, of the like we seldom see today."

In his hayday as a queen producer, Terry exported his queens to the Middle East, Britain, Canada, and to the Pacific. In 1964 he began exporting manuka comb honey. "But no way

would you sell manuka in combs today", Terry says. "It is too valuable for that. We now use a cheaper honey. What we need to do now is raise the price of other honeys to that presently being received for manuka".

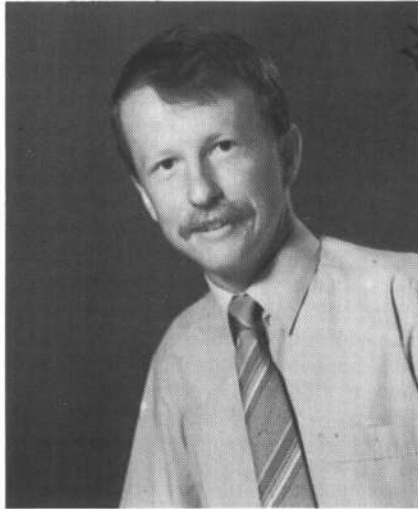
Terry makes the following points for the future of the Industry. "Although people are more aware today of the different kinds of honey there are still many misconceptions about it which need correcting. Beekeepers must educate people about honey. They must also watch the tendency for prices to become too low.

Commenting on his Life Membership, he said. "I was spellbound to receive it. It came as a complete surprise to be awarded the highest honour the Industry can bestow on anyone".



Beekeeping with stingless bees in Costa Rica

By Andrew Matheson, Director, IBRA, 18 North Rd, Cardiff CF1 3DY, UK



Bees without stings sounds like a bee breeder's fantasy, but there are honey-producing bees which don't sting, and which form the basis of a small beekeeping industry. While in Costa Rica recently I was able to look

at this fascinating part of bee culture. **Stingless bees**

The term "stingless bees" refers to a number of species of social bees, which live in permanent colonies and store honey. Some scientists call them "stingless honey bees", and they're classified in the subfamily *Meliponinae*, part of the family *Apidae* (which also includes honey bees and bumble bees.)

Are stingless bees correctly named? In fact they do have a sting but it is very rudimentary — they have no venom apparatus and cannot use the sting.

Several hundred species of stingless bees have been described, all from tropical areas. Most species come from Central and South America, but others are found in Africa, Asia, and Australia. The majority belong either to the genus *Melipona* (which occurs only in the Americas) or the genus *Trigona* (which is found throughout the range of stingless bees).

There's quite a size range too — from examples the size of the honey bee *Apis mellifera*, down to tiny bees only 2 mm long.

Stingless bee biology

As you'd expect with over 500 different species, there's considerable variation in the biology of these bees. What

follows is a description of some habits that are typical of many stingless bees.

Almost all species nest in cavities — underground, in hollow trees or in old ant or termite nests — making nest structures out of a mixture of wax and propolis called cerumen. In many species the brood cells are irregular, but figure 1 shows a stingless bee nest where brood is reared in cells arranged in single horizontal layers, rather like the nest of a social wasp. The brood nest is surrounded by a protective envelope (the involucre): outside this but within the nest cavity are a number of storage pots, used for honey and pollen. Finally, the whole nest cavity is sealed against the outside world with batumen, a mixture of cerumen and plant materials or mud.

The entrance is usually only one bee space wide and some species build a tunnel extension to the entrance, presumably to aid in defence. Some even seal the entrance up each night, and re-open it the next morning.

Brood rearing by stingless bees has one fundamental difference from the way honey bees go about the job — they are mass provisioners, providing a larva's total food supply before an

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egg is laid, rather than progressively adding food as the larva grows. Workers stock each brood cell with a kind of royal jelly mixed with pollen and honey.

In one species at least, a worker lays an egg on this food. The queen is attracted to the scene, whereupon she eats the worker's egg and a portion of the food, and lays an egg of her own. (This process seems to be an important part of the queen's diet.)

Whether or not this egg substitution has taken place, once the queen has laid in the brood cell the workers seal the entrance (at the top), leaving the egg to develop into a larva and grow without further attention. After the brood emerges the empty cocoons are removed and new cells built.

Swarming also has some novel twists. The process starts when scout bees search out a nest site. They carry cerumen (the wax/propolis mix) and honey to the new site, often making repeated flights back and forth, and begin to build nest structures such as brood cells, storage pots and the protective coatings. A virgin queen (not the old queen, as in honey bees) and some workers fly to the new nest, where male bees from nearby colonies gather. The virgin queen mates, usually on the wing and probably only once, returns to the nest and the life of the new colony begins.

sealed nest with an easily guarded entrance is one strategy. The species mostly commonly kept in Costa Rica has a single guard bee in the entrance, which retreats to admit returning foragers, but comes forward quickly when alerted by any unusual movement close to the hive. Some species can eject a caustic fluid on to attackers while I have seen a small species of *Trigona* in Malaysia which crawls in large numbers all over intruders, biting fiercely with its mandibles. This is quite unpleasant for the beekeeper!

Beekeeping with stingless bees

In some areas where stingless bees are native there has been a tradition of honey hunting from feral nests, and in addition about 35 species have been kept in simple hives. "Stingless beekeeping", more properly known as meliponiculture, reached its most advanced form in the Americas. Mayan beekeepers kept the species *Melipona beecheii* in hollow logs with a flight entrance midway along the log and each end closed with clay or stone — the stone discs used have allowed archaeologists to trace this form of beekeeping to as far back as 300 BC.

Honey was harvested by removing an end cap, and rather than pulling out a tistful of comb as with rustic hives of *Apis mellifera*, the pots were broken

After the Spanish conquest at the beginning of the sixteenth century, settlers also kept stingless bees, adopting the same methods as used by the original inhabitants.

Beekeeping in Costa Rica

Costa Rica lies toward the south of the Central American isthmus, sandwiched between Nicaragua and Panama, and is at the southern end of the area of traditional Mayan beekeeping with *M. beecheii* (known in Costa Rica as 'jicote gato').

Meliponiculture has continued using traditional methods, and log hives can be seen there today (figure 2). These logs are normally cut out of the trees when feral colonies are found in the bush, the ends plugged up and the "hive" hung up in a shelter or under the eaves of a house. Some hives have been kept continuously for more than 80 years.

One end of the hive is harvested each year, yielding up to 2-3 kg of a clear, sweet honey which, despite a high water content (27-30%), doesn't ferment. Meliponine honey is highly prized as a medicine, and is credited with healing conditions ranging from cataracts to cancer. Most is used by the beekeeper's family, as many people have only one hive, but some is sold in pharmacies and markets.

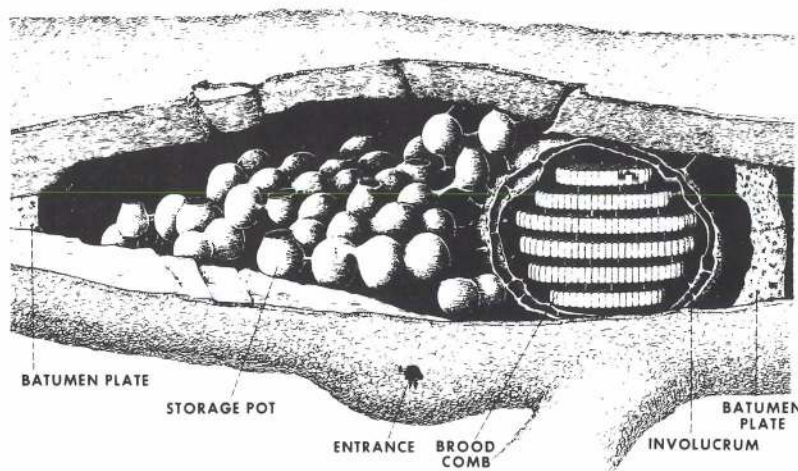
A smaller species of *Trigona* is also kept, yielding about one kg per year of a honey prized even more highly than that from jicote gato.

The European honey bee, *Apis mellifera*, was introduced to Costa Rica in 1839 (also an important year for New Zealand beekeeping): since then apiculture has progressed while meliponiculture has retained the same techniques as had been used for centuries.

Two recent changes have had significant impact on beekeeping. Widespread deforestation and land clearance, principally for cattle grazing, has reduced the habitat for *M. beecheii*. This has happened especially in the drier areas such as Guanacaste province, which was a prime area for this species. The arrival of the Africanized honey bee in 1983 has been followed by reductions in the number of honey bee apiarists and overall honey production. From exporting 600 tonnes in 1983, Costa Rica now imports the same quantity every year.

Why promote meliponiculture

Stingless beekeeping is a useful option where a tradition of meliponiculture already exists. Very little management is needed for rural people (campesinos) to keep one or a few hives, and produce small quantities of a high valued product. Hives can be kept near houses and in villages, something that



A stingless bee colony (from C.D. Michener, after JMF de Camargo).

Much of the biology of stingless bees remains unknown. There is a type of division of labour, as in honey bees. Some species have a form of dance language, while others lay pheromone trails to guide nestmates to food sources.

If these bees don't string how do they defend themselves? Making a well-

open and the honey allowed to drain out, sometimes through a straining basket, and into a storage container.

The wax, both from feral colonies and hives, was used for lost-wax casting. In both the Pre-Columbian Gold Museum and Jade Museum in San Jose, Costa Rica, there are exquisite gold ornaments made by this method.

isn't possible with Africanized honey bees. Meliponiculture can also help to maintain populations of stingless bees in the face of widespread habitat destruction, thus assisting the pollination of native plants.

Meliponiculture project in Costa Rica

New prospects for meliponiculture are being explored in Costa Rica, as part of a joint project by the University of Utrecht (Netherlands) and the National University of Costa Rica, under the supervision of Johan van Veen and Henry Arce.

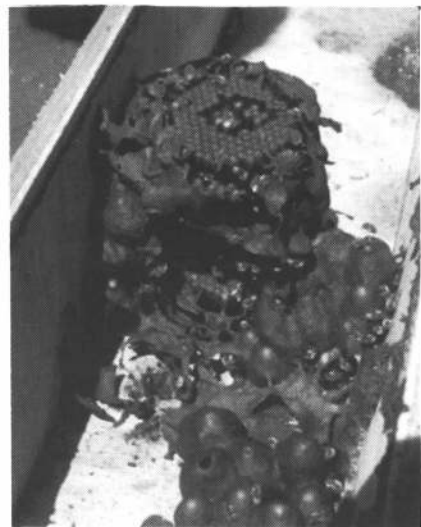
Firstly the staff and students are finding out more about the basic biology of meliponines. *M. beecheii* has some interesting reproductive strategies: queens are produced fairly constantly, but workers kill emerging queens if a laying queen is present in the colony. Presumably this is a kind of insurance

policy against queen failure. Drones are not always produced, and much is not yet known about mating in this species.

Unlocking these secrets will provide clues to better management, especially on how to make splits and increase colony numbers.

The project is also testing an artificial hive for jicote gato (figure 3). It's a simple 'coffin hive', 1200x270x270 mm with a removable lid, and which will make harvesting the honey easier. This has been designed to be similar in appearance to traditional hives and thus acceptable to campesinos, but other models are also under consideration. Colonies in the artificial hives are being monitored, to build up a picture of how colonies develop with changing seasons.

The results of the project can be used



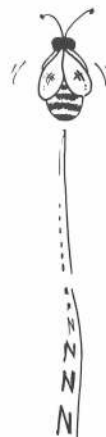
as a basis for rural development programmes, developing meliponiculture as part of Costa Rica's rural economy.

Further Information

At IBRA we collect and disseminate information on all bee species, not just honey bees, and so have a number of papers on stingless bees and their culture. New material is reviewed in *Apiculture Abstracts*.

IBRA members will have already enjoyed Eva Crane's readable review: 'The past and present status of beekeeping with stingless bees' (*Bee World* 73(1): 29-42 (1992)). For easily-digested and attractively illustrated text about all types of bees, try *Bees of the world* by Christopher O'Toole and Anthony Raw (1991, 192pp, available from IBRA).

At IBRA's International Conference on apiculture in tropical climates, being held in Trinidad and Tobago this September, there will be papers presented on stingless bees, a workshop session where people can share practical ideas on meliponiculture, and a field trip to look at stingless beekeeping in practice.



Above: Traditional hive for *Melipona beecheii* in Guanacaste Province, Costa Rica. Above right: Modern hive for *Melipona beecheii* with lid removed to show colony.

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STRAP REMOVAL IN THE APIARY

By Trevor Bryant

In 1989, a device for undoing straps in the apiary won the Waikato NBA gadget prize. The device is simple, effective, cheap and should be found in every unpaid (or underpaid) MAF-warranted inspector's kit. As the entry was judged the winner by a MAF apiculturist, a NBA executive member and seen by many beekeepers, I was surprised to read and hear of complaints by beekeepers of inspectors cutting straps to inspect hives and leaving things to be rectified by the beekeeper later — a wasteful and time-consuming practice that is totally unnecessary.

The tool as described was first observed in the kit of Gisborne beekeeper Barry Foster (devised by his father) who strapped all hives at wintering down to ensure components and bees were safe over the long winter months from storms, stock trampling, falling trees, flood etc., etc. An intact hive will protect the inhabitants even if upside down. The problem to overcome was how to undo the straps without having to cut them. An obvious alternative was to replace the simple pull-through wire with plastic buckles with release clips which allow for easy opening. This was



Above: The strap is tight enough to prevent it being removed by fingers alone. Below: The mouth of the crank is inserted over the wire buckle.



a more expensive alternative to the simple crank handle which the Fosters made: one half-turn and the straps were sufficiently loosened to effect removal and therefore recycling.

The device Alpha Bees Limited uses is extremely robust. It is built to last and will open the most difficult of buckles and will snap steel bands if ever required.

The mouth of the device fits over the buckle and is rotated to loosen the strap. The strapping can then be pushed through for removal — easy, simple and effective. Put away those knives (or sharpened hive tools) and recycle, or in other words, leave the hives strapped exactly as you found them prior to inspection.

Library Notes

This is one of the few times that no additions have come to hand apart from overseas beekeeping magazines.

A kind request to a few OVERDUE BORROWERS, please return the books etc. without delay if you are finished with them. It is not fair to keep others waiting. It is also expensive and time consuming to post reminders.

Your cooperation will be appreciated. Remember the change of address for the library.

John Heineman

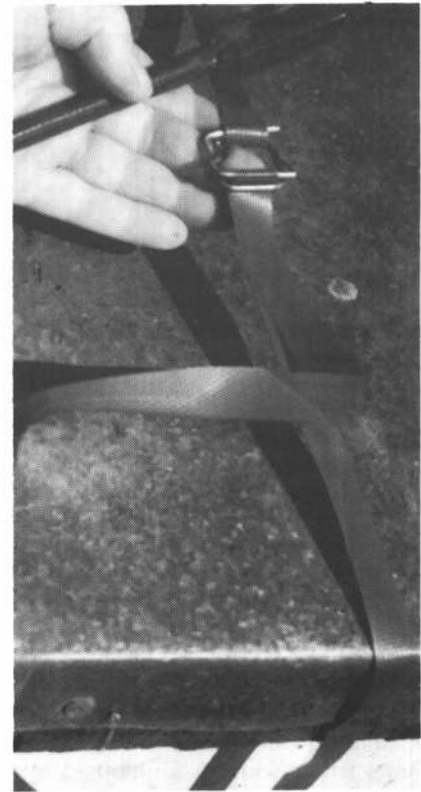
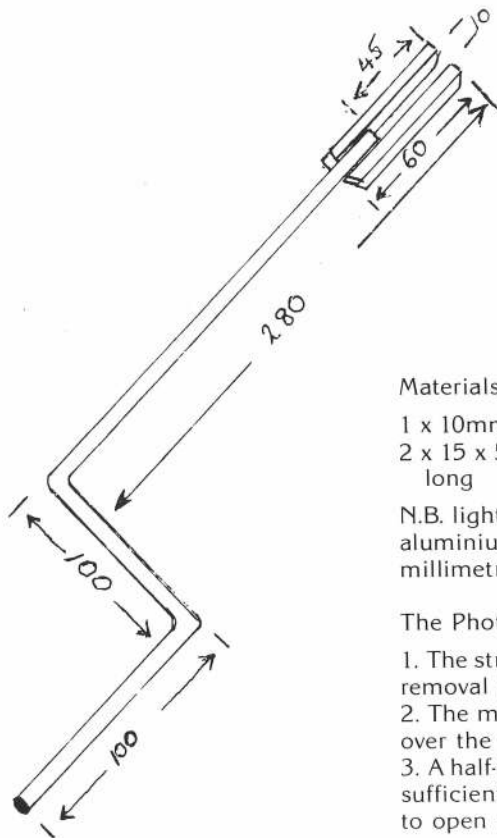


Fig. 1 Buckle Crank

Above both left and right: A half turn and the strap is loosened sufficiently to slide off, or to open more fully with the fingers.



Materials:

- 1 x 10mm steel rod 420mm long
- 2 x 15 x 5mm flat steel plate x 60mm long

N.B. lighter material can be used, e.g. aluminium. All measurements are in millimetres. Not to scale.

The Photographs:

1. The strap is tight enough to prevent removal by using fingers.
2. The mouth of the crank is inserted over the wire buckle.
3. A half-turn and the strap is loosened sufficiently to slide off (also see 4) or to open more fully with fingers.

To date the following have contributed to the marketing appeal.

- Greenvale Apiaries
- Lorimers Honey
- Waikato Honey
- Gerrit Hyink
- Glasson Apiaries Ltd
- G.R. Tweeddale Airborne Honey
- Honey Producers
- M. Wraight
- J. Moffitt
- Honey Packers
- Arataki Honey, H.B.
- Oliver Apiaries
- Te Akatea Apiaries
- Haymac Apiaries
- The Bee Business
- A & R Hodson Partnership
- Arataki Honey, Rotorua
- F.M. Abernethy
- Kiwi Bee Distributors
- Tecpak Industries Ltd
- Heathstock Apiaries
- Robinson Apiaries
- Steve Weenink
- Russell Berry
- Marlborough NBA
- G. Cammell
- Gavins Apiaries

QUEEN PUPAL WEIGHT AS A QUALITY BENCHMARK

By Reg Clarke

One of the latest buzzwords in business management is "BENCHMARKING". That means having a point of reference from which to measure quality or excellence. Using that reference point, a business can measure its own products, service, and efficiency. Both internally, and against the competition.

That use of the term was new to me until recently. But in the narrow field of queen physique, I have been applying the principle to my queen rearing for some years now. The idea has a simple obviousness about it. In order to improve anything, you must be able to measure some aspect of its qualities. To kick a drop goal, you must know where you are on the field, and the direction and distance to the goalposts.

In queen rearing, I use the "Benchmarking" principle to monitor queen weight, in the belief that heavier queens are on average more productive. (See fig.1) There is a good deal of research that supports that view, as does my own experience.

I've been recording progress since 1987, towards goalposts out beyond a 400 mg. queen weight target. Dots are maximum queen weights, and crosses are maximum pupal weights. Most of that progress has come from identifying pupae that are heavier than the pupal weight of the mother queen, over four generations. The fifth generation should give me a pupal weight in excess of 370, which puts a queen weight of 400 mg within reach next year.

The use of high-weight breeders lifts the mean weight of daughter queen. As an example of that, mean weights during the 1992 season were 20 to 30 mg above those recorded in 1991 — which is almost exactly the same as the difference in the weight of the breeder queens used.

The most useful measure of a queen would be the productive capability of her colony — honey crop weight. That is fine for selecting breeder queens. But it is measuring history. What I want in a way to measure the potential future productivity of queens as they are produced.

Productivity is partly genetic — there are many inherited qualities that contribute to productive efficiency. But

it is also partly physical. Colony population (bee numbers) is the major factor. That depends in part on the queen's egg laying performance, and larger queens are more likely to be capable of high rates. I suspect that the transmission of queen size from mother to daughter is also part inheritance, and partly physical — through egg size. Of course, the information we really want is not weight: that could be only obesity. We need to know the number of ovarioles. But only a dead queen under the microscope will tell us that. So we must settle for weight as an indirect measure.

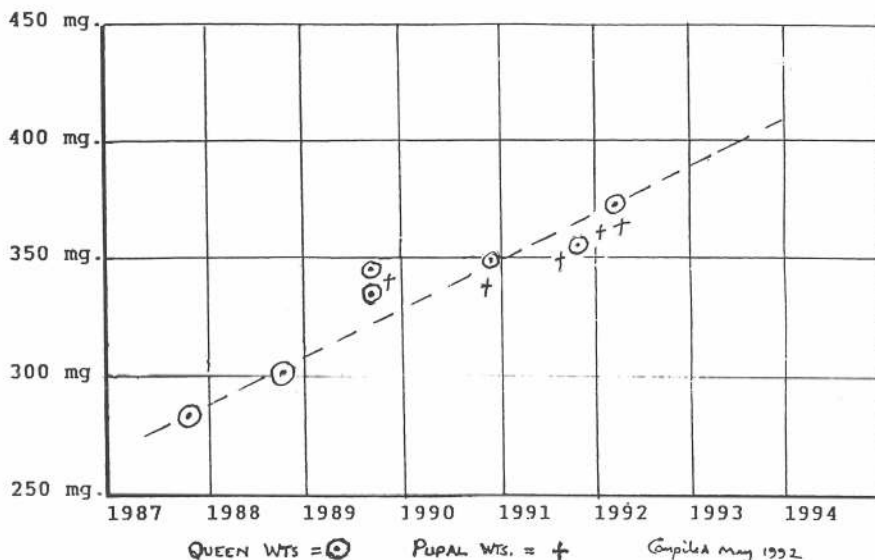
efficient. I will come back to consider those requirements in more detail. But first we need to revise what we know about queen development.

Queen Development

This is the best data we have on queen development. From a paper By Wang, 1965. (Fig 2).

1. Notice that the queen develops more slowly than a worker for the first four days, then gains an incredible 200 +mg. on day eight.
2. Feeding continues after the cell is capped, with maximum weight at the end of the larval phase.
3. The sharp decrease is due to the

BENCHMARKS AND GOALS
QUEEN AND PUPAE WEIGHT MAXIMA



It is easy to decide that high queen weight is a desirable goal. But it must be **additional to** and not a **replacement** for — good genetic qualities. However, it is **not** easy to apply this in a practical way to commercial queen rearing. That may explain why (so far as I know) no one else has done so.

Requirements

We need an accurate measure of fundamental physique, not affected by transient variables. The process must not harm the queen, and it must also be commercially practicable and cost

expenditure of energy and silk as the cocoon is spun.

4. Weights loss continues slowly through the pupal phase.
5. Wang's data ceases at the 10th day. From here on you have to rely on my own, less reliable data.

Queen Development. My Data. (Fig 3)

This graph is intended to show only the trend as development continues — not actual weights. The line is dotted at points where I have only sketchy data, and inked in heavily where I believe it is more reliable.

One bee scientist has recommended day 11 as the most stable point for weighing. For research purposes he may be right — but the pupa is too fragile to survive weighing. My choice is the period about two days prior to emergence. The pupae are accessible — most queen breeders will have them in an incubator at this time. Weight is decreasing steadily at about 10 mg. a day.

At this stage, the exoskeleton is quite soft and easily dented. But with care the pupa can be weighed without damage. The eyes have changed from pink to purple, and the thorax is white or changing to a light tan. Later, the pupa darkens in colour and is more robust. But wing development is at a critical stage, and weight loss is accelerating, and also becoming more variable.

Some researchers have weighed newly emerged queens. This is not in my view very accurate, and requires a 24 hour watch to catch and weigh the queens as they emerge.

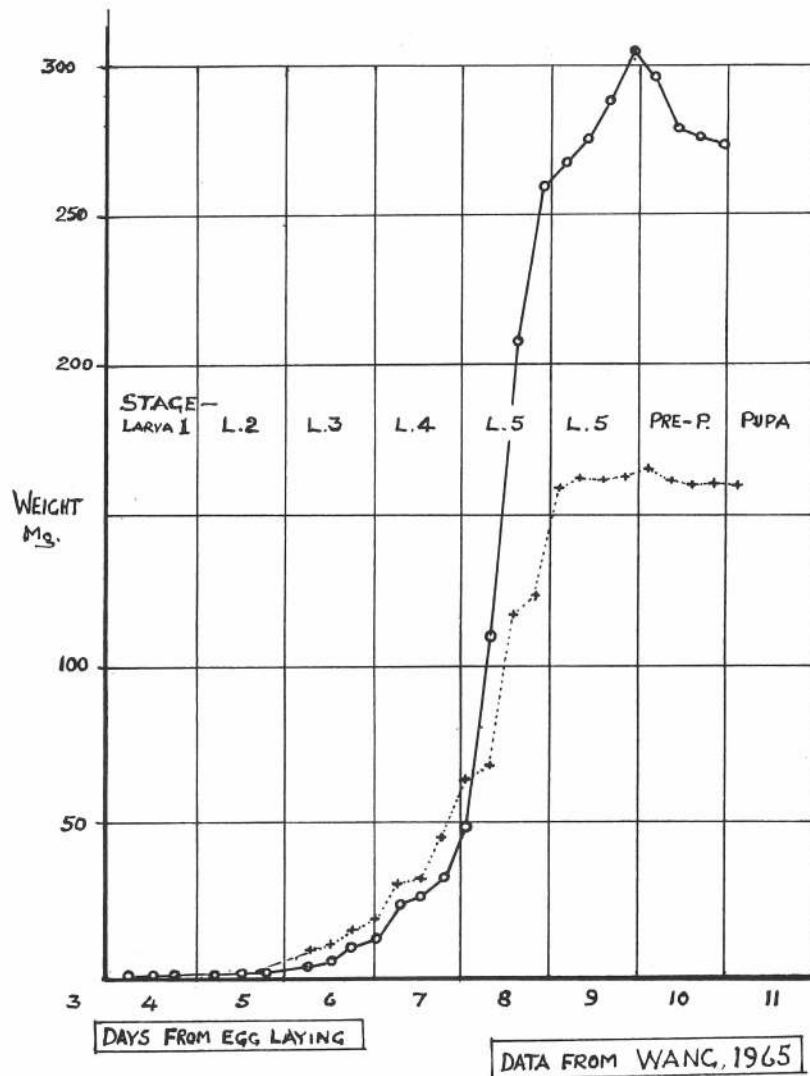
The next opportunity is when the mated queen is caged for sale. A queen taken from a three-frame nuc. after laying a few days will on average be a little heavier than the day 14 "P. Wt." The problem is that the variation can be as much as ± 30 mg. The low figure can indicate a poor queen. But it can also be a very good queen, that has laid up all the available comb space, and gone into a lower weight resting phase; or has started laying late and is not yet fully into laying condition. So I no longer place much reliance on this weight. It will, however, generally identify small emergency queens raised by the nuc. after cell failure.

A queen attains her peak weight at maximum egg laying rate. This will be about "P Wt" + 30 mg. This fluctuates about 10 mg. a day and follows an annual cycle from a minimum in winter, to a maximum during spring.

When queens are introduced to a colony by the cage method, they reach a very high weight about eight days after introduction. I sometimes record that weight with potential breeder queens, as I suspect that the weight gain (max wt — p wt) may be an important indicator of ovariole number and function.

Mean pupal weight trends will show the influence of the breeder queen, of seasonal factors, and of changes in production methods.

With this data, it is possible to measure progress against a target weight goal, as I showed in the first slide. External comparison, against other people's queens, is more difficult, as there is so little published data. Here you have an advantage over me — for



you can compare your weights with mine. If your queens are heavier than mine, which they may well be, please let me know, as I shall be keen to buy some.

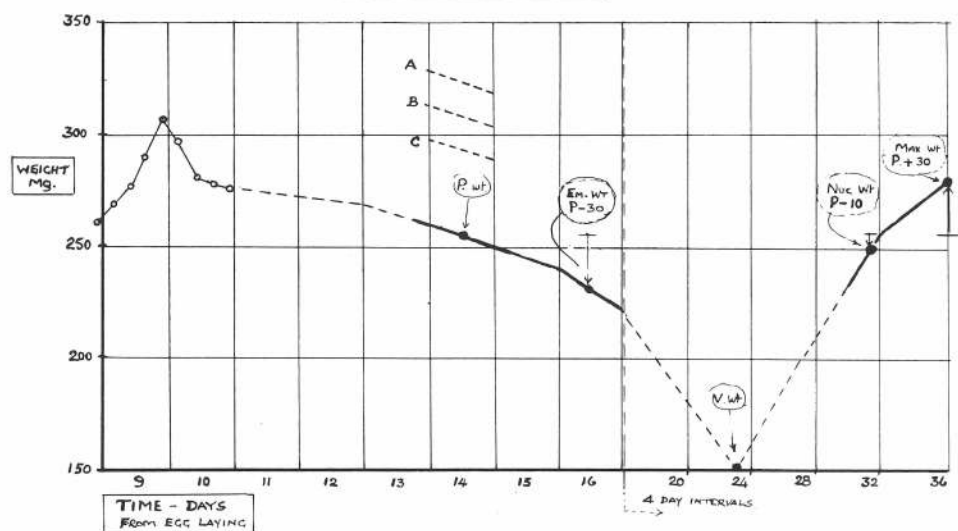
That gives you an overview of the way

queen weight fluctuates over time, and how it can be used as a quality benchmark.

Uses for Pupal Weight Data

The mass of data built up over time can be useful in many ways. I'd like to

QUEEN DEVELOPMENT



discuss two of them, using data from last autumn.

Contents versus Packaging

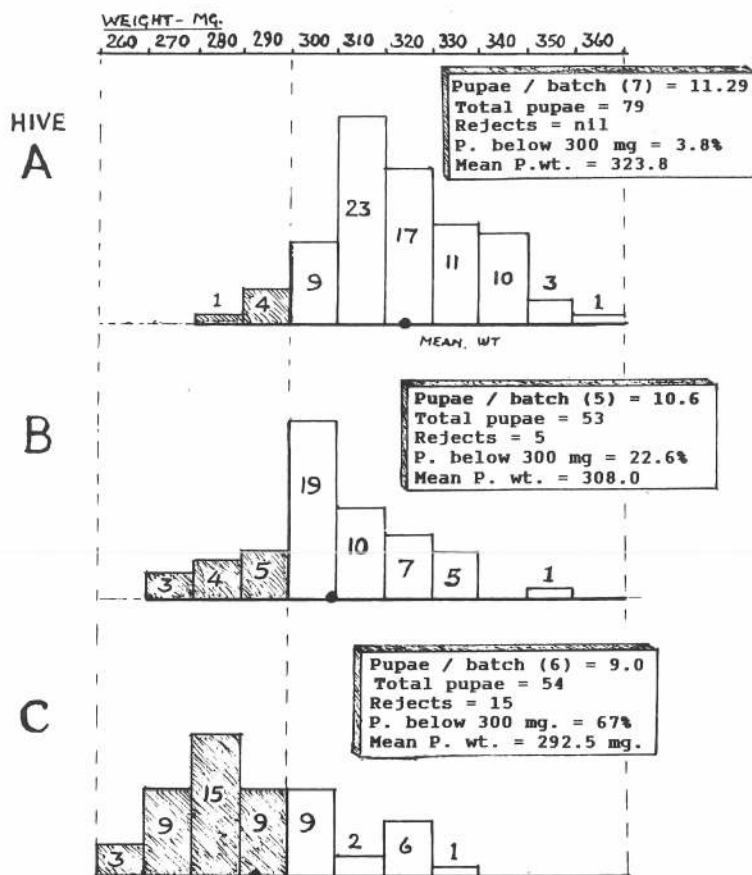
This bar graph compares the performance of three queenright cell finisher hives. They are chosen — from about 20 hives in use — to illustrate a point I consider important. All three produced cells of good shape and size, so on external evaluation of cell quality they are of equal merit. The pupal weights enable us to compare that external appraisal with the inside. In other words, can the contents be judged by the packaging?

Hive A. This was my best finisher hive. The difficult autumn conditions had an adverse effect on weights generally. But this hive consistently produced good results — only slightly below spring weights. Notice the high mean and maximum values. Only 3.8% are below 300 mg.

Hive B. Performance is average. There are 6% fewer usable pupae per batch, and 22.6% are under 300 mg.

Hive C. Does a very poor job, despite the deceptively large cells. There were a high % of low weight underfed pupae — (15 rejects), and 20% fewer usable pupae per batch. To avoid excessive losses, all pupae over 270 mg. must be used, whereas with Hive "A" that reject standard can be set at 300 mg. There is an interesting sideline here. The queen in Hive "C" was given to me by another beekeeper, because it produced good queen cells. And so it does — as long as you value the wrapper more than the goodies within.

QUEEN PUPAL WEIGHTS HIVE PERFORMANCE COMPARED



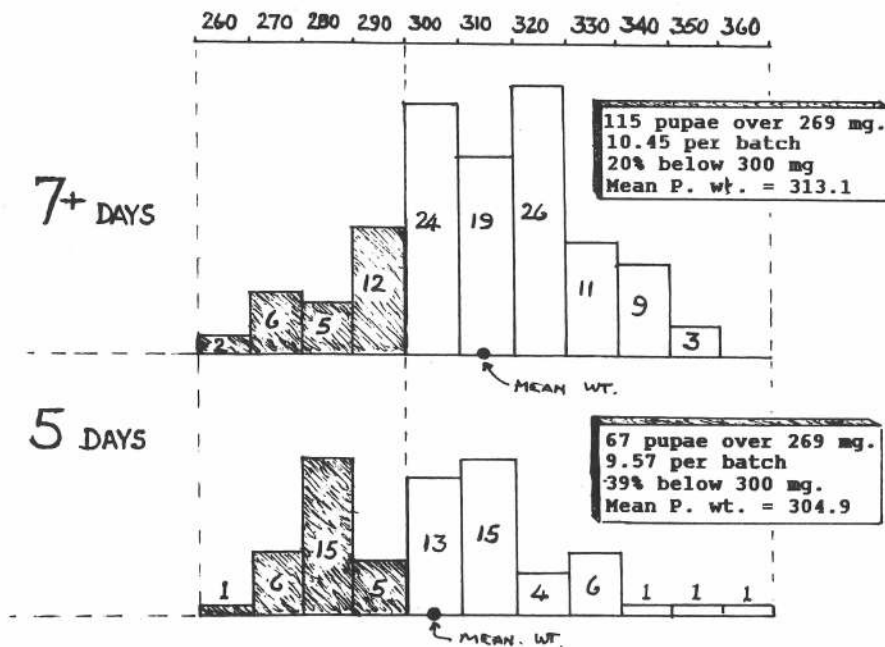
These differences are large enough to have a major impact on queen quality in so far as that can be measured by pupal weight, and also on the economic efficiency of production. Only pupal weighing can fully expose that difference. The worst hives can now be replaced, and from the best, one can raise daughter queens that may inherit this trait. During this trial period, only hive A was capable of producing daughters as heavy as the mother queen — which is essential if the physical quality of the stock is to be maintained.

The Effect of Intervals.

This graph is based on aggregate values from the same three finisher hives. But here the data is separated according to the interval between successive batches. Seven days or more, compared to five days.

The differences, which I think are due to the shorter interval, are quite significant. Mean weights are down 8%, and would be lower but for one exceptionally good batch from hive A. An extra 19% of pupae are below the 300 mg. standard. Here I should remind you that some standard queen breeding texts advise three to four day

EFFECT OF INTERVALS BETWEEN SUCCESSIVE CRAFTS



intervals. I have not yet tested four days against seven, but I suspect that an even larger depression of mean weight will occur.

This one set of data, gathered under difficult autumn conditions, would not be very reliable on its own. But in two successive spring seasons, I have seen a similar jump in mean weights on changing from shorter intervals to a seven day routine.

There need not be a loss of

productivity per hive due to extending the intervals, as it appears that on the longer cycle, the hive can care for more cells per batch. On four to five day intervals, mean weights decrease if more than 10 to 12 cells are given. On seven-day intervals, high mean weights can be obtained with 15 cells per batch.

I will now briefly sum up the main points.

Summary

1. The weight of queen or queen pupa

correlates well with productivity and with ovariole numbers.

2. Benchmarks based on weight recording guide progress.
3. Pupal weight on day 14 is the preferred option.
4. Maximum queen weight occurs during spring, and about eight days after introduction.
5. Daughter queen weights are proportional to the pupal weight of the mother queen.
6. Progress comes from using progressively heavier breeders.
7. Cell shape or size is a poor guide to pupal weight — judge cells by the contents, not the packaging.
8. The best — and the most — pupae come from the most efficient finisher hives.
9. Short intervals depress mean weights. But more cells can be cared for on longer intervals.

New Zealand Honey Packers' Association Report

From President Ian Berry

The past season's honey crop has been good, probably the biggest ever. Honey packers have had plenty of honey to develop new markets both in New Zealand and overseas. The time and money being spent by several of our members to develop new export markets must hold a promise of a brighter future for both packers and beekeepers.

Honey Stocks. Stocks of the darker grades of honey appear about right to see us through to next season. There is still a plentiful supply of the lighter honeys available.

Honey Prices. The publicity about Dr Peter Molan's work with manuka honey has so boosted demand that a sharp increase in price seemed prudent, mainly to prevent too much being exported and leaving New Zealand bare. It is pleasing to note that the higher prices have not depressed sales; in fact sales are being maintained at a much higher level than twelve months ago. I believe Floyd Marketing must be given some of the credit for this very satisfactory position.

Unfortunately prices received for other types of honey are not as good and it would seem there has been a weakening on the local market in recent months. The expansion of lower priced supermarket 'in house' brands to approximately 40% of the retail market is of concern. I believe it highlights the need to further develop better export markets to take up some of the oversupply on the New Zealand market.

The European Foul Brood scare at Nelson was a reminder to honey packers that the discovery of EFB in New Zealand would result in our honey market being opened up to honey from anywhere in the world. The increasing overseas ownership and management of New Zealand supermarkets would not help our members if imported honey became readily available.

Membership. We have a total of 44 financial members. We also have 14 financial members of our Exporters' Organisation, which is still a sector of the Association. Four members of the Honey Exporters' Organisation are not members of the Honey Packers. There is now a probability that the NZHEO will set itself up as a separate organisation.

Finance. In spite of falling interest rates and die commissions, the Association continues to be strong financially with net assets at the end of the financial year of \$34,704. This is a decrease of \$806 for the year. A satisfactory result when we remember we made a payment of \$2,000 to the NBA towards the Floyd Marketing Programme. Once again I see no need to alter our subscriptions for the coming year.

Conference Calls. Three conference calls have been held since our last AGM on February 3, March 30 and June 2 this year. I believe these are good value for money. The reports and minutes go to all members and are a good way of keeping members up to date without spending a lot of time or money.

Honey for sale Circulars. As we had no response this year from producers wishing to advertise they have been discontinued in the meantime.

ISO 9000. Members should take interest in the International Organisation for Standardisation. It may become a necessary requirement for business survival in the future. Becoming accredited to ISO standards will prove an exciting challenge to our members and will, I believe, result in many benefits to those who succeed in meeting that challenge.

To conclude, I would like to thank members for their help during the past year and give special thanks to our Secretary, Barbara, who often has to cope with Association work at night or at weekends.

REPORT FROM THE PESTICIDES' BOARD

Ian Berry

Once again I am able to report that the Pesticides Board is still in existence and is likely to be that for another 12 months. That is about the 4th conference in a row I have said just that! However there have been some changes. As a move towards combining the Pesticide Board and the Animal Remedies' Board, we now share the same Madam Chairman; Mrs Vicky Duncan. She is a very capable lady from a farming background and with considerable experience in both local body and business circles. Under her the Board has become more active with several extra meetings during the year.

During the last two to three years, the Pesticides' Board has changed from a Board funded mainly by Government through the MAF, to a totally user-pays body which has caused extra work and problems for the Secretariat. The Pesticides' Board is charged with ensuring the safe and prudent use of pesticides related to public health and the environment. However even this does not qualify for any funding by the taxpayer under the present constraints on government spending.

I have had one serious case of bee damage from orchard spray reported last season. Eighty-five hives put into black currants were wiped out when a neighbouring apple grower sprayed carbaryl on apples which were still 30% in flower. It was in the Timaru district, and at least one other beekeeper also suffered losses. There is a possi-

continued page 21

MARKETING

By Bill Floyd

First I think it important to get one thing very clear. That is, when we look at marketing as an industry, we must be aware of the Commerce Commission, in particular sections 27 and 30.

They concern anti-competitive behaviour, the effect of lessening competition, and price fixing.

As an industry we may have the objective of wanting to increase our profits, but if we as a group develop tactics which have the effect, or perceived effect, of lessening competition within the industry, and of fixing prices, then we could find ourselves in a fix of a different kind.

To show how that works, the commerce commission gives an example in its brochure. Five producers of pre-mixed concrete met to agree on a pricing policy to stop a price war which had forced the price of pre-mix concrete to below production cost.

So those people had their backs to the wall and were, in effect, running at a loss. What happened? The producers were convicted after admitting they had entered into an arrangement to fix prices. The reasons were irrelevant.

Whatever we discuss, we must be aware that we must not attempt to fix prices, we must not attempt to reduce competition. As an industry association we must create an environment where beekeepers can pit their business skills against each other successfully and can provide a good product to the customer in a free market pricing structure.

I understand that in 1992 there were 10-11,000 tonnes of honey produced in New Zealand and that domestic consumption is something like five, maybe 6,000 tonnes. Coupled with that is the unfortunately high probability of Australian imports being allowed. At the New Zealand Nutrition Conference in Auckland earlier this year they spoke at length about the rationalisation of the food markets between Australia and New Zealand. That appears certain to come about.

We all know that MAF has prepared a paper on a protocol on honey imports and unfortunately the New Zealand Honey Industry may lose the advantage that came from supplying a captive market.

At a time like this that an industry can look to the Government for protection, which is unlikely, or it can look at the lifestyle, economic, and social value changes in NZ and the world, and the phenomenal scientific and technological progress that's been made. It must then recognise that the free market is here, and here to stay. We must also recognise that competition doesn't have to lead to chaos. It can lead to progress, advancement, and economic success for the NZ Honey Industry.

Changes are happening at an almost overwhelming rate. Changes that will see increasing competition worldwide, changes that will see new products developed that will shake honey's traditional base.

In the 1990's, 70,000 new food products were introduced. 10,000 of them were introduced in 1990 alone, it is predicted that between 1990 and the year 2000, 172,000 new products will be introduced into supermarkets and 20,000 of these will be significant products that will shake existing market shares of other products.

With all of those new products there will be many that compete with honey. There is a limit to the amount of toast and muffin and barbecue sauces and crumpet that a person can take. Honey doesn't have a guaranteed future. No product has!

These changes will affect honey. The industry cannot stand still. The industry cannot retreat within itself. The industry cannot ignore what is happening. The industry has to focus on how it will be successful. How it will survive in the 1990's and into the year 2000.

In one sense, honey is an unsophisticated product. The manufacturing infrastructure is unsophisticated. The difference between most of NZ's honey packhouses, the harvesting systems, and those of a peasant economy are not great. Honey is 99% of the time sold as just honey. No frills. No special utility. No special functionality. It is vulnerable to international price competition, to commodity trading, to price wars.

The opportunity for honey to slide downhill to become a subsistence

activity for some, is unfortunately high. Some would say that many in the NZ industry have reached that subsistence level now. But there is a choice between chaos and success. Within NZ, the secret is for people of like minds, of like industries, to work together. Surely the biblical parable of Joseph's sons and the sticks, individually snapped but collectively strong, applies to the honey industry as never before.

My own company is involved in the cheese industry. That industry has got its act together. As a group it has carried out extensive research on the cheese market in NZ. Over the last 12 months it has developed a cheese promotional strategy and later this year will begin a range of advertising and public relations strategies to increase the consumption of cheese within NZ. It's being done professionally. It's being done at a considerable cost, and it's being done by an industry that is within its own ranks extremely competitive!

I can assure you that in the relationship between Tararua, Anchor, Koromiko (the one I work for), and Mainland, etc, there is no love lost when it comes to the fight for shelf space in the supermarkets. They are extremely competitive, but as an industry. Those companies decided that it was sheer folly not to use their collective strength to promote cheese per se and then to fight for the increased market share that that brings.

The cheese companies realise that although they are fighting each other, they are also competing with every other food type on the shelf. And although the Arataki and the Hollands and the Airbornes and the Comvitas all compete with each other, even more importantly, they compete with every other sensory satisfying food product out there.

And there are literally thousands and thousands of competitors for the honey industry.

The individuals within the honey industry need to think in terms of working together to 'grow the market', to create an increased demand for honey, and within that to create space for themselves to compete and compete well within the increased demand that they have created.

The honey industry's opportunities will come about through the strength

of focused purpose.

Members of the Fruit and Vegetable Federation work together. Have common strategies, have some very good promotional material. I have discussed both the Fruit Federation and the Vegetable Federation with the Commerce Commission and how these organisations are able to work within the guidelines and restrictions of the Commerce Act. The Commerce Commission said both are very effective in creating a suitable environment for their members without actually infringing the regulations.

The Avocado Industry is small, but it has an industry marketing programme. The Mussel Industry is getting its act together, is working out its problems. It's approach to international marketing, although it has some flaws in it, is one well worth the honey industry looking at.

The chairman of the Marlborough Mussel Growers' Association told me that he had spend some time trying to get his industry put under the umbrella of the horticulture export authority, and he felt that if honey as an industry could get under that organisation's protection it would be the best thing it could do in stabilising its world export markets.

The beef and lamb marketing bureau is another example of an industry getting its act together.

We are all aware of course of the pork industry through our association with their sterling secretary and ours — Stuart Goodman.

In collective activity there is both strength and wisdom. Strength and wisdom surpasses the ability of individual players within a group.

I think the main message is that if the honey industry doesn't take the opportunity that comes about through united strength, then it will have a problem. Maybe not the big players. In a free for all, the big in their quest to compete with each other usually survive. It's who they stomp on in the process. It's the stomped, not the stompers, that need to be concerned. And that's probably the middle-size companies in NZ rather than the very small.

Within NZ there are industry groups working together because in so doing they create the opportunity to provide for themselves.

What about the honey industry in other countries?

In the USA, the honey industry got its act together and increased

consumption of honey by 10 percent.

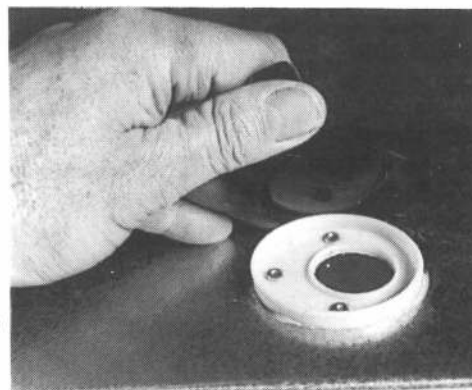
The Australians have got their act together. They have a marketing fund. They're developing a marketing programme and they're working as an industry to create opportunities for their members. I believe their marketing fund is something like half a million dollars. It will be interesting to see whether they believe, as does NZ, that the respective honey industries in each country should have a hands-off approach to each others' territories, or whether the Australians will say, lets go for NZ as well

The NBA has engaged Floyd Marketing to look at the whole question of marketing for the industry. A 'Focus Group' was established to focus on what the New Zealand Industry can and should do. That focus group consisted of Steve Little from the honey Co-op, Peter Bray from Airborne, Sue Jenkins from Marlborough Gold. A small committee, sure, but that's essential. Unfortunately it's South Island one, but it was agreed that those three companies, in effect, represented all of the various beekeeper types in NZ.

What have we achieved over the last year?

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- Orchardists can feed scented syrup for you
- No hive disruption
- No robbing
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Firstly, I took it upon myself to try and learn about the honey industry and about honey as a product. Initially I knew very little. I now know how little I knew then and also how much there is still to learn. Some of you spent a lifetime, or in the case of family business's, have generations of knowledge. I can never catch up with that, but I can hopefully complement you by bringing a different perspective.

Early in the exercise Sue Jenkins and I were fortunate in being able to spend some time with Dr Peter Molan at Waikato University. That was one of the most profoundly illuminating days that I have ever spent for any client in 20 years in advertising and marketing.

Peter Molan has an amazing fund of knowledge and, as we talked, I realised that what he was doing was creating an opportunity that, if used properly, would put the honey industry in NZ into a new dimension of opportunity and potential for profit.

Although it was a little premature, before Christmas I arranged a press release on Peter Molan's work and on manuka honey. That was done for two reasons. One, I believed that people had a right to know that benefits and properties were available from some NZ honeys, and two, I wanted the honey industry to see what could be achieved by the careful and planned control of positive information.

As a result of that press release, put out through the NZPA and Reuters, we gained worldwide publicity. Publicity which a company could never have purchased. That publicity appeared in or on:

NZ Television
 NZ Newspapers
 NZ Radio
 The New York Times
 The London Times
 Various Australian Newspapers and Tv.
 Singapore Times
 Syrian Newspapers
 The Biotechnology Journal

It brought letters from Damascus, from Canada, from the UK, from Germany, from Asia, from all over the world, to show the phenomenal potential for NZ manuka honey. Peter Molan replied to every single letter. He has, I believe, been an amazing find for the honey industry.

What's even more exciting for those of you who don't have manuka, is that it may not just be manuka that provides this amazing medicinal benefit. Some vipers bugloss (blue borage) has been shown to carry the same active ingredient.

As a result of that information being

released, the price of manuka honey rose, but not nearly as high as it will when the full clinical trials are complete and every doctor and professional has to accept that negative comments about honey in the past may have been ill advised, for want of a better word.

Who knows what the price of manuka honey could be once the trials are completed.

I understand from the Focus Group that the value to the industry of that press release in terms of the increased price on active honeys is worth something like \$80,000.

Because the Focus Group's task was to look at how to increase honey consumption dramatically we looked at developing a model to evaluate ideas. Against that we looked at product ideas that could absorb large amounts of honey. The cost of our work to date has been around \$14,000. Notwithstanding the fact that much of that money had to be spent on building up background knowledge, becoming aware of the industry...getting an information base.

That work is done now. It's a foundation that we are able to build on and move forward with.

To go back to that increased profit to the honey industry of \$80,000 from the increased value of manuka. Out of the \$14,000 that Floyd Marketing and the Focus Group spent, we can say that \$4,000 to \$5,000 was specifically related to the time spent on manuka information and the manuka project. In anyone's language I believe that represents a very good return on that money.

David Buisson is Head of Department of Marketing, Otago University, and an international speaker on speciality foods. This year he presented a paper on exotic foods at an international conference in Germany.

I spent some time with him when my company organised a conference for another industry group. At that conference a theme of David's was that foods that will remedy or prevent a disease or deficiency will have a glorious future if they are marketed properly.

In Japan the phrase is functional foods. They are the biggest growing retail phenomenon in that country. It's called when food meets medicine. Honey can be one of those foods.

In January Peter Molan asked me not to create any more publicity, I had arranged for possible coverage on the Holme's Show.

That first round of publicity was well timed, and achieved what we wanted. But to have tried for more before the clinical trials were completed, would

have put the integrity of the whole exercise at risk.

That's why there's been a very low profile from us until now. But once the trials are complete we can go to town.

Comvita currently promote active manuka honey at a retail price of \$3.50 for a small jar. That is a good price, but once clinical trials are done who knows what the price could be.

If it was a pharmaceutically-manufactured drug, a container this size could be worth \$45-\$100 or more. Manuka will be a natural product that works on stomach ulcers better than a drug. The future for manuka and any other active honeys is nothing short of incredible.

As a focus group we had to set ourselves a target. Back in August 1991 we said that that target would be 1500 tonnes of honey. In other words we said that we if we were to implement a marketing programme we needed a goal.

As it happened the groups' work slowed, then stopped, because the executive realised it needed a direction from the industry as a whole about funding. Dribbling small amounts of money at the focus group was not the answer.

How does one 'Grow a Market'? How do we increase consumption?

There are three areas of opportunity within NZ for honey.

The first is retail. Table honey is sensory satisfying, in other words, eat it and like it.

Therapeutic. People will take it not only because it tastes nice, but they feel it may do something good for them.

Medicinal: — Where certain honeys may have the attributes of medicine. I am referring of course to the active honeys.

Those are three elements of retail opportunity.

One retail strategy will be to increase the types of outlets that sell honey. That will most certainly come about as a result of Peter Molan's work. I believe pharmacies will soon sell honey's, both as delightfully packaged gifts and as therapeutic foods. Just like they now sell garlic and seaweed extract.

Another retail opportunity will come through different consumer functionality-needs, and that is most splendidly illustrated in Aratiki's inventiveness with their new "squeeze me" honey pack. For me this is top class marketing, and when I got my copy of The Grocers' Review I just about rang Barbara Bixcill and offered to give her a kiss for being so inventive. Because surely one of the problems people have with honey is the stickiness and that it runs everywhere.

Aratiki has said the 'running everywhere' is not a fault, it is a feature. It runs and it is sticky so if we put it in a squeeze bottle it will squeeze out of the bottle easily and then stick easily to what it lands on. Brilliant. And the names' great too!

Things like that do grow the market, and all power to Aratiki for being first.

The second area of opportunity is food service.

Let's look at the food service industry, in other words restaurants and the like. A week or so ago I received in the mail an application for information about the inaugural national culinary fair.

This is a competition taking place in Auckland. I notice they'll have various competitions for chefs from throughout NZ. There will be the lamb or beef dish, the poultry dish, the game industry board venison dish, the pork market cookery book. There's a cheese display, dessert, etc.

It seemed a very good opportunity for the honey industry to promote the concept of chefs from throughout NZ vying to produce a dish that used honey. That would create publicity for

us, it would show honey to be an interesting product. It would also provide us with an amazing array of recipes which could then be passed to honey consumers.

The cost to the NZ honey industry, for sponsoring a dish in this competition is one thousand dollars. That's amazing value.

It is a small sum of money to, one, have honey as a topic of conversation with the major chefs of NZ, and two, to create a resource of wonderful recipes about honey, and three, gain a lot of publicity from what was happening. There are other ways of stimulating the food service industry. We have only to copy the venison and fishing industry boards' models in a smaller way.

Then there is the food ingredient industry.

In America this was specifically targeted by the honey industry.

That has the area of greatest potential for us, for two reasons:

One, it has been untapped till now. Two, it costs very little to be successful in that arena.

I think that's very important for the NZ industry. We do not have the millions that the Pork Industry, the Dairy Industry, the Poultry Association

have. Your industry association marketing budget will be less than the budget of one of my small dairy industry company clients.

If food producers were military organisations, the pork people and the dairy people would be the big battalions. They have their infrastructures. They've got their armies of workers. They can build their own bridges to cross obstacles. They can do the market research. They're a totally self contained organisation with the money and the resources to go out and march through the marketplace. They can and do buy business.

The honey industry has not that resource/money clout.

The honey industry is like a commando group. When it starts off it will have live off the land, so to speak. It has to feed as it goes. It doesn't have the money for large infrastructures. It is going to have to respond to the marketplace, use the marketplace.

Whereas the large battalions can create their own environment, the honey industry has to use other people. It has to think as it goes, it has to be extremely responsive. Because it is small.

I believe it can be done!



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Shipment Size:

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Member



Remember those words of David Buisson: Foods that will remedy or prevent a disease or deficiency will have a glorious future.

That innate goodness of honey is the key to our success, it will create opportunities, not just for active honey's but for others as well.

As we create an attitude and a perspective about one type of honey, it cannot help but give a positive spin off to others. If one particular honey is very very good for you then the public reaction is certain to be 'well there must be something of value in all honeys' I don't believe it is wrong to allow that perspective to happen.

We know as an industry than honey isn't just sugar and as long as no member of the honey industry tries to market an ordinary honey as manuka active, then I have no problem with people feeling good about all honeys because of the values of some manukas.

Because the food ingredient industry will allow itself to be manipulated into producing honey products, there will be publicity about honey and people will look for honey because they believe it has an inherent goodness about it.

Oat bran now appears with monotonous regularity on a whole plethora of products. The food ingredient industry has been quick to realise the advantages of using oat bran, I believe that within New Zealand honey could achieve the same type of functional food status.

I stress that the food ingredient industry is relatively easy to target, to work with. It is certainly the least expensive way of getting honey used.

Last May I went to the Nutrition Conference in Auckland for the Dairy Industry. In my downtime I talked about honey as much as milk to virtually every I could collar. I got the list of people who were attending and made sure I spoke to those I saw as being important. One of those was Rose Gresson, who's the nutritionist and product development officer for Watties in Hastings. A really nice person, she is young and intelligent and in a job like that, amazingly important to an industry like ours. I phoned Rose about two and half weeks ago and spoke to her about honey and the fact that I wanted to have a talk to her while I was in Hastings. She thought my call timely because right in front of her was a row of products that Watties had brought from America. She was evaluating them for the NZ market, thought that honey could be a major ingredient in

those products and if the products were successful we were talking very large amounts of honey indeed.

I arranged for honey to be sent to her and she is making tests. If these new products are introduced there will be television advertising, there will be full colour advertisement in magazines. The whole Wattie empire gets behind its products and it markets them. It markets them well and honey could be part of that.

One of the things that impressed me about Watties, is that they are putting so much emphasis on good nutrition in their products.

If they take honey on board and in their products, because they agree it will be good for their customers, then we get the mileage from all of those hundreds of thousands of dollars that are spent on marketing by Watties.

For the record, I got the Watties' samples from a honey producer in the North Island because it was convenient. However, I explained with the samples that the honey industry would compete for supply.

I have recently been talking to an international confectionery manufacturer. Discussions have reached the point where I can't table just what the product concept is, but I have advised both your chairman and executive officer, so that although the information is confidential, your industry does know about it. Because I have been paid by the industry as a whole, my discussions with manufacturers are on the understanding that the food ingredient manufacturer will tender to those companies which are in a position to supply a consistent ongoing quality.

Everyone who has the potential to supply large volumes of honey will get the opportunity to quote for it. Now I will share an idea with you. Much publicity has been generated in the Middle East for manuka honey. There are six billion muslims in the world. In the Koran honey is extolled as being a food that has the blessings of the Prophet. That information can be coupled with the fact that nougat is a confection that's absolutely devoured in the Middle East and Asia in the same way that we eat chocolate. If we appreciate that a major ingredient of nougat is honey, then we have a very exciting potential for a new product.

Nougat is a mixture of egg whites, honey and some other product, often nuts or chopped cherries and fruits. The whole concept of developing nougat for both the domestic and international markets is very exciting.

As one of the members of the focus group said: 'If someone like Cadbury

or Nestles could be persuaded to dip it in chocolate and sell it as an interesting new confection, the demand could be phenomenal. It could become the Toblerone of the Pacific.'

That's one of the major roles I see an industry marketing group undertaking. Creating opportunities that unite honey with food-ingredient companies which have money and marketing machinery.

One important point about the food ingredient industry is that it cannot go to the shelf for a few jars of honey and use it in a machine. They'll be buying it by the drum. They'll be using it for week after week after month after month. The honey that they use must have a constant specification. It's functionality must never alter from one drum to the next, from one month to the next.

If we court the big boys and they develop products using honey, then the honey industry has to have its act together and be able to provide honey to set specifications.

The whole subject of developing industry standards and industry codes for honey will become a priority. That is something Peter Bray and Steve Little have been looking at and would like to take further, and perhaps the industry, to the point where it has a standard set of codes which any food ingredient manufacturer could rely on. When a product is being tendered for they would use this set of industry standards.

How about the food ingredient industry and, to a lesser extent, the food service industry and the general retail industries? We can provide each of those three groups with the opportunity to profit for themselves by using our product. If we do so properly then I don't believe achieving that goal has to be expensive.

We can't spend the money that the major food groups do but I think that by thinking on our feet, by thinking smart, by working smart rather than working hard, then we can get honey into products.

We can create building blocks of promotion and advertising, and publicity, using other people to create a sound and solid base for the industry. A sound and solid base on which you, as individual performers, can then compete to sell your honey products and services.

As we develop publicity for ourselves in any one of those three areas it will encourage and enable the other two to come on board and to grow. We get an synergy of results.

For example, if honey is waxed lyrical on the packages of Watties' and Cadbury's and Nestles', etc, then

suddenly chefs will begin to use the words Kamahi Honey when they describe a glaze for their pork, or for their marinade beef, or whatever, and so it grows and it grows. People then become aware of the differences between honeys and instead of just buying the pottle of clover honey for their children, they buy a small jar of special honey so that they've got something a bit special in the cupboard as well, etc, etc.

We need to teach people that honey has a number of taste options and sensory satisfactions available. Those are the three areas of opportunity. We can't afford as an industry to take on an advertising campaign which would promote honey through Tv, radio, newspapers and magazines.

A budget of half a million dollars minimum would be required for a national radio campaign for honey alone — more for Tv!

We're not suggesting that should happen. We believe that if we adopt the role of a small dynamic industry, think on our feet and think smart, then we can create opportunities for honey by allowing other companies to benefit by working with us.

Those are opportunities that can be explored relatively inexpensively by a small group.

While we develop those areas of opportunity, we need a parallel exercise to work on the professional centres of influence: the food technologists, the nutritionists, the dietitians, the school teachers, the family GP, and the like.

As we develop our sales and product opportunities, there will be a corresponding positiveness from those people in the community. A respect for honey.

Professor Mann is possibly the most important person in NZ in affecting the way honey would be perceived as a food. He is Professor of Human Nutrition at Otago. His thoughts and his curriculae affect the thoughts and attitude of all NZ's nutritionists, dietitians, and doctors.

Professor Mann refused to comment on honey except that as I made him aware of Peter Molan's research he expressed interest in the clinical trials proving the claims so far. He is a key target for us once the clinical trials have been completed.

Another area we will target is Massey University. There most of NZ food ingredient technologists are trained.

If we can get honey's functionalities incorporated into their teachings at Massey then we get people who will create tomorrow's food ingredient industries.

It is worth noting that many people don't want to use honey because they think it awful to handle.

We in the industry know that its functionality can be easily adjusted. It flows perfectly at the right temperature. It set again when you want it to if you bring it to the right temperature, but we cannot expect people in industry to know that. We have to take the time and invest in the cost of educating them.

One last comment on the food ingredient industry. In my discussion during the year I spent some time talking to the food development officer at Ernest Adams. As a company they use corn syrup as a sweetener. It's less expensive than honey. They see no need to pay the extra for honey. I left it with that company, that when we have the proof that honey is different, and that honey does have a very positive image in people's minds, it could be in Ernest Adams' interest to put "with honey" on, for example, their muffin mixes.

That's one of many companies that we can and should approach in a professional manner once we have the results of Peter Molan's research. Once we have our act together in the way of print promotional material. Once we're in a position to be able to provide bulk honey to certain specifications. Once the honey packers have their act together and can provide a product to an absolute standard.

Food industry people are easy to get to, to communicate with. There's not that many of them. Sue Jenkins is a member of the food writer's guild,

We know every good writer in NZ, the number of companies that employ their own nutritionists and food technologists are relatively few. We know who those companies are, we can get to them.

If we as an industry concentrate on decision makers, people who can create and develop products, people who make decisions about what goes into food, then we will be able to achieve some amazing results.

A way in which the industry could help the individual players is by creating a set of trademarks or symbols for the various types of honey. Those symbols would complement each other and would help to develop a general awareness.

There could be a symbol for all table honeys and the like which meet a certain standard. An adaptation of that symbol would be used for honeys which meet the active or medicinal standard, and a further adaptation again would cover honeys which have met organic standards.

Organic honeys are an area exciting in their own right, and completely in keeping with New Zealand's international clean/green antinuclear image.

PESTICIDES' BOARD REPORT

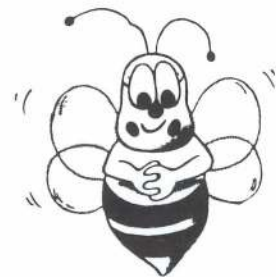
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bility of a claim for damages involving a large sum coming before the courts. Last year the Pesticides' Board was unable to fund the usual 50% of our "dead bees don't pollinate" advertisement so it became 50% to NBA and 50% to Arataki. This year I have been advised we should ask again and they may be able to help.

Bee deaths from 1080 jam baits have occurred during the past year and the latest news on the use of a bee repellent from David Lunn, the Registrar of the Pesticides Board, is that further trials are being carried out. While it may still be several months before the final results are out it looks promising.

Methyl Bromide. I attended a meeting recently on behalf of the NBA where most of the users of methyl bromide in New Zealand were brought together to find out how much is being used in New Zealand and what would the consequences be if a ban was placed on the use of methyl bromide because of possible damage to the ozone. A ban would be very serious for many people.

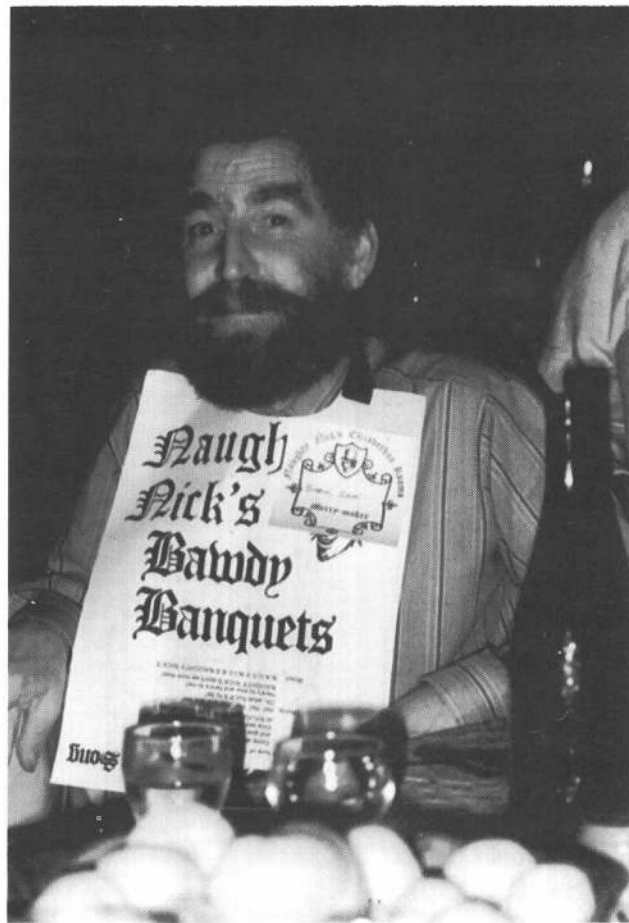
Once again my grateful thanks for the help extended to me by the various members of the Pesticides' Board during the past year, and with a special mention of David Lunn and Adrian Foley. I am certain without their help beekeepers would have many more problems with spray damage to their bees.



BUZZING AT



Left: Allen McCaw explains disease control. Below left: This gentleman is called Sinful Sam. By his expression he is enjoying himself at the Cconference function. We believe he sometimes uses the alias Ted Roberts. Below right: Dorothy Doowell does something or other with a wax candle. She is better known to some as Ian Berry's Supreme Commander.



CONFERENCE



Right: The wenches what slung the hash and poured the plonk at the Conference function. Below right: Now what have Reg Clarke and wife Janet fixed their little beadies on? Bottom left: Russell and Annette Berry study the menu at the Conference function. We also believe it was their 21st wedding anniversary.



Final report on wasp and bee research at Lincoln

From Barry Donovan Former Leader, Pollination section, DSIR Plant Protection

On 30 June 1992, the DSIR, along with MAFTech, FRI and the Meteorological Service, ceased to exist. In their place 10 Crown Research Institutes have been formed, to which most, but not all, staff have transferred. I regret to record that at Lincoln, lost staff include Dr Dan Pearson, who recently studied the pollination of white clover by honey bees and other insects in the mountains inland from Christchurch, and the annual pollen collection spectra of honey bees in the same region. This work has been published in *The New Zealand Beekeeper*, and the *Journal of Apiculture Research*. Mr A. (Lee) Ferguson who worked on the development of a machine to pollinate kiwifruit has also been declared surplus. Dr Rod Macfarlane, who since 1969 has researched on bumble bees and pollination of red clover and other flowering crops, and his technician Helen van de Ende, have not been given new positions. Mr Neil Schroeder and Mr Geoff Watts, upon whom we relied as mainstays of the wasp parasitoid rearing programme and as managers of leafcutting and alkali bees, are not transferring to a Crown Research Institute. Of the eight or nine people at DSIR Lincoln who a couple of years ago were working on bees and wasps, only myself and Mr Peter Read remain.

Wasp Research

During the last 12 months we continued rearing and distributing wasp parasitoids. A total of 17,000 overwintering cocoons were disbursed to contributors to our programme, and 50 wasp nests were inoculated with about 1,250 immature parasitoids.

Last winter we began a trial to determine the efficacy of parasitoids as suppressors of wasp numbers. At each of two field sites, one near Auckland (which was managed by Dr Jenny Dymock assisted by Mr Shaun Forgie) and the other at Castle Hill, Canterbury, 5000 parasitoids were divided between five release boxes in areas where wasps had previously been numerous. It was hoped that during spring/summer, adult parasitoids would emerge to attack wasp nests within about one km radius.

To assess the proportion of nests attacked, two approaches were adopted:

1. Throughout the summer, wasp nests were searched for and marked for excavation and nest examination in autumn.
2. At each field site, wasp trap-nest

boxes were placed throughout the study areas, 50 at Auckland and 100 at Castle Hill, so that wasp nests initiated in the boxes could be examined non-destructively throughout the season.

Parasitoids are likely to be at their most efficacious if they attack and destroy the small foundress nests made by queen wasps. Previous research has shown that queen wasps will start nests in nest boxes, so nest boxes offered a means of readily locating and inspecting newly-started wasp nests.

At Auckland, 4020 parasitoids flew from release boxes, and at Castle Hill, 1092. Fourteen nests were discovered and excavated at the Auckland site, and 41 at Castle Hill, but all were free of parasitoids.

Two wasp nests were formed in the Auckland field nest boxes, and one in the Castle Hill boxes. None were attacked by parasitoids when small, and the Castle Hill nest not at all. The Auckland nests have not recently been examined because the nests are still active. This winter the intention is to release another 5000 parasitoids at each site, and to increase the number of nest boxes at the Auckland site to 100. Some nest boxes will be re-sited in the hope of improving the acceptability of the boxes to nest site searching queen.

During November, a report on the previous year's research was distributed to 149 local authority officers and other parties who were contributing to our programme.

From mid September last year, Dr Jenny Dymock and Mr Peter Read spent three weeks in Washington State and Idaho collecting the North American wasp parasitoid, *Sphecofaga vesparum burra*. We are very grateful for the valuable assistance rendered by Dr Roger Akre, Washington State University, which helped Jenny and Peter to ship back more than a 1000 parasitoids from three species of wasps. The parasitoids are now being quarantined and propagated at DSIR Lincoln, and next summer tests will be run to determine how different this parasitoid is from the European parasitoid that is established here.

Since 1987 a team of wasp researchers based at Nelson have been examining wasp nests at Pelorus Bridge (and elsewhere) for attack by the parasitoid released there by us in 1987. From 1988 to 1991, between 3.4% and 5.2% of wasp nests within 2km of the parasitoid

release site were attacked, but in the summer of 1991/92, Ms Jaqueline Beggs has found that 16.3% were attacked. In half these nests however, only a few wasps in just the top comb showed evidence of parasitism, but parasitoids were present in several combs in the remainder of the nests. This increased attack rate augers well for the potential of this parasitoid against wasps.

Early this year, a firm based in Christchurch but leasing facilities at DSIR Lincoln, began extracting immature wasps from nests for export. Most nests were collected in the Nelson area, but there are plans to greatly expand the enterprise this coming summer, so you may notice some publicity. There may be opportunities for beekeepers to supply wasp comb, which, at the same time, should result in some local control of wasp numbers, which would be of benefit to beekeeping.

Bee Research

Leafcutting bees

We again managed our leafcutting bees for lucerne pollination on a contract basis, and repeated a test of the suitability of various hive designs for maximum acceptability to nesting female bees. We began the summer with 1.42 million bees and should recover about 2 million. It is likely that all bees and equipment will be sold to private interests this winter.

Alkali bees

We constructed and stocked two new nest sites, one in Marlborough and one in North Canterbury. We were assisted by a visiting Danish student, Thorbjorn Gilberg, who also studied the flight and foraging range of alkali bees as part of practical research towards a Danish degree.

Bumble bees

Last summer another visiting Danish student, Iben Andersen, raised about 30 nests of bumble bees at DSIR Lincoln as part of a research project for a Danish degree.

The future

Peter Read and I now belong to the Crown research Institute call Landcare Research New Zealand Ltd, which has responsibility for much environmental research. With other wasp researchers brought together from other DSIR and MAF organisations, we now form a Wasp Team, so improved co-ordination of research on wasps can be expected in future.

RESEARCH REPORT

*From Louise Malone, Helen Giacon, Catherine McIvor, and Roimata Hunapo
The Horticultural Food Research Institute of NZ Ltd.*



From left: Louise Malone, Catherine McIvor, and Helen Giacon.

The "Spore Score" Nosema Test Kit

An investigation of colour reactions of chemicals to nosema, partly funded by the Honey Industry Trusts, has led to the development of a prototype kit for beekeepers to do their own tests for this disease. The kit is simple to use and cheap to manufacture. It is not as sensitive as a microscope check, but does provide a guide to the condition of your hives with regard to nosema, without having to send samples away or purchase any costly equipment. See our demonstration and information sheet on "Spore Score" for further details.

Genetic Resistance to Nosema

Last season we set up a field trial to assess the responses of some New Zealand bees to infection with nosema. The aim was to see if any lines of bees showed a natural resistance to the disease.

Colonies were raised from 13 different lines of bees, yellow, black and hybrid, with two or three sister queens representing each line. Half the colonies were dosed by spraying sugar syrup containing nosema spores onto brood frames. The other half acted as controls and were given plain sugar syrup only. Weekly samples of 60 flying bees were then taken from each hive for 12 weeks. These were processed and counts of nosema spores made for each. The number of spores per bee for each hive and each sampling date was

then calculated.

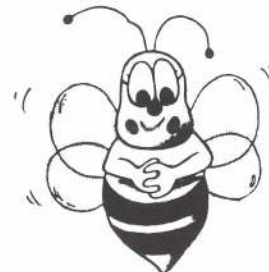
All lines responded to the nosema dose by showing increased levels of spores two weeks after dosing. Levels remained high for the following three weeks and then they declined, so that by 11 weeks after dosing levels were generally below four million spores per bee, comparable to those noted for the control hives. The natural turnover of adult bees in the hive probably accounts for this lowering of spore levels.

Although each line responded in a similar way, there were differences in the maximum spore loads attained and in the time taken for levels to begin to decline. Unfortunately statistical analysis showed that these differences were not significant. That is, all the lines tested were basically the same when it came to nosema response.

When caged bees from each line were checked for their ability to spread nosema infection among themselves, there were also no significant differences between the different lines.

This makes breeding for improved resistance difficult, but not impossible. By breeding one new line from those with the most favourable responses to dosing and one from those with the least favourable responses, it may be possible to create two new lines, one resistant and one susceptible to nosema. If this can be done experimentally, then it should be

possible commercially, although different methods would have to be used.



New Zealand Honey Exporters' organisation President's report

It is now twelve months since a special meeting of the NZ Honey Packers' Association was held at Blenheim to look at setting up an organisation of NZ honey exporters. A steering committee was formed to establish such a group and two conference calls and a meeting in Wellington have been held.

At our conference call on 4 November 1991 it was decided to adopt Allen McCaw's suggestion that we be called the "New Zealand Honey Exporters' Organisation". At the meeting on 12 March 1992 it was agreed to further consider the setting up of the Organisation as a separate body to the NZ Honey Packers. We have 14 financial members including four who are not members of the Packers.

*During the year, members have been posted copies of Export Statistics, International Honey Exporters Organisation reports and other information relating to the export of honey from New Zealand. The statistics show that honey exports for the first five months of 1992 were 980 tonnes, compared 839 for the same period of 1991.

It would appear there is now sufficient interest to set up as a separate group outside the NZHPA. Given an enthusiastic membership and dedicated officers it could play an important role in the NZ honey industry. The viability of many NZ beekeepers businesses will depend on sufficient honey being exported at satisfactory prices.

Ian Berry

MAF Quality Management Report

From Murray Reid

ORGANISATION

MAF Technology was amalgamated with the Department of Scientific and Industrial Research and formed into a number of Crown Research Institutes (CRI's). MAF itself now consists of MAF Policy, MAF Quality Management, MAF Regulatory Authority, MAF Corporate Office and MAF Fisheries.

BEEKEEPING STATISTICS

Beekeepers, Apiaries and Hives.

There were 5717 beekeepers owning 304,065 hives of bees at 30 June 1992 (Fig 1).

Honey Production and Exports

The total crop was assessed at 9560 tonnes (31.4kg per hive) compared with last year's crop of 7290 tonnes (23.3kg per hive) (Fig 11).

Exports of bee products to the year ending December 1991 were worth NZ\$6.7 million and involved 1,800 tonnes of bulk, retail and comb honey, honeydew and beeswax. (Fig 11).

Queen and Package Bees

New Zealand producers exported 25,112 queen bees worth NZ\$301,000 (free on board; fob) and 19016 1kg equivalent packages. It was not possible to put on fob value on packages because of the reluctance of some exporters to supply the relevant

FIGURE 1 BEEKEEPER APIARY AND HIVE STATISTICS FOR NZ APIARY DISTRICTS AS AT JUNE 1992

Register Location	BEEKEEPERS		APIARIES		HIVES	
	1992	1991	1992	1991	1992	1991
Whangarei	1,316	1,307	3,072	3,046	32,301	32,475
Hamilton	627	649	3,044	3,105	45,452	45,661
Tauranga	602	619	3,573	3,541	51,938	53,717
Palmerston North	1,332	1,340	3,927	3,917	37,554	40,528
Blenheim	497	505	2,048	1,972	23,941	23,284
Lincoln	758	768	4,949	4,937	59,090	58,239
Alexandra	585	586	4,344	4,482	53,789	58,338
TOTAL	5,717	5,774	24,957	25,000	304,065	312,242

information. However, based on last season figures these packages were worth approximately NZ\$600,000 fob.

AMERICAN FOULBROOD DISEASE (AFB) AND APIARY INSPECTIONS

A contract was entered into with the NBA Executive to assist branch disease

co-ordinators to carry out hive inspections. Some branches such as Bay of Plenty, Gisborne and Hawkes Bay carried out extensive 'diseaseathons', while others organised inspectors to work on an ad hoc basis. (Fig VI).

* FIGURE II NEW ZEALAND HONEY PRODUCTION IN TONNES (As at 30 June annually)

Year	Northland, Auckland, Hauraki Plains	Waikato, King Country, Taupo	Bay of Plenty, Coromandel, Poverty Bay	Hawkes Bay, Taranaki, Manawatu, Wairarapa	NORTH ISLAND	Marlborough, Nelson, Westland	*Canterbury, N. Otago	South & Central Otago, Southland	SOUTH ISLAND	New Zealand	**Yield per Hive (kgs)
1987	1122	1506	1450	1012	5090	966	1070	2965	5001	10,091	29.7
1988	480	1298	976	834	3588	807	1503	1850	4160	7748	23.1
1989	379	730	401	530	2040	621	1290	1801	3712	5752	17.4
1990	660	1154	1296	894	4004	471	2774	1503	4748	8752	27.5
1991	668	1057	1470	811	4006	265	1965	1054	3284	7290	23.3
1992	1200	1068	998	1231	4497	650	2870	1543	5063	9560	31.4
6 year average	751	1135	1098	885	3871	630	1912	1786	4328	8199	25.4

* Includes honeydew

** Total estimated production available for extraction divided by total number of registered hives

Altogether 161 temporary inspector warrants were issued by MAF but only 83 beekeepers exercised those warrants. However, beekeepers did inspect over 4000 hives and found 227 hives of AFB disease. (Fig V).

MAF officers carried out limited inspections under the NBA contract plus some inspections on an individual cost recovery basis.

MAF inspected 118 apiaries compared with 1286 last season and 753 hives compared with 7607 last year. (Fig VII). One hundred and nine hives of AFB were found in 29 apiaries. MAF officers and temporary inspectors usually find an average of just under 1000 AFB hives per year. This season, with the greatly reduced field inspections, only 336 AFB hives were found. The number reported by beekeepers was nearly the same as last year so it is possible nearly 600 AFB hives are still in the field waiting to be found by beekeepers.

MAF attempted to negotiate a memorandum (MOU) of understanding with the Executive for disease control services for the 92/93 season. This MOU was to be effected by March 1992 but to date has not been received by MAF. However, expressions of intent to engage MAF have been made and on this basis MAF continued to budget resources pending a contract that was

FIGURE III* EXPORT FIGURES FOR HONEY, HONEYDEW AND BEESWAX FOR THE YEAR TO DECEMBER 1991

PRODUCT	TONNES	NZ\$ (FOB)	NO. OF COUNTRIES	NZ\$/KG
Bulk Honey	1,030.9	2,858,268	15	2.77
Retail Honey	296.6	1,239,163	23	4.18
Comb Honey	114.3	934,908	10	8.18
Honeydew	254.5	993,106	13	3.90
TOTAL	1,696.3	6,025,445		
Beeswax	116.4	667,645	11	5.74
TOTAL HONEY AND WAX EXPORTS	1,812.7	6,693,000		

*Source: NZ Customs

to be signed in August 1992. Because of these continual delays some apicultural officers have contracted other business and may not be available to personally inspect hives next season. However, they will be able to manage any disease control contracts with the industry and audit the performance of any temporary inspectors engaged to do the work.

The industry is to be encouraged to examine the whole aspect of disease control from the specifications, service delivery to auditing performance of the delivery organisation(s). The Executive Study paper is a good beginning. However, a more radical approach may be called for involving research work from Dr Mark Goodwin's lab at Ruakura. MAF has been evaluating the

FIGURE IV AMERICAN FOULBROOD DISEASE LEVELS IN APIARY DISTRICTS TO 30 JUNE 1992

Register Location	DISEASED APIARIES				DISEASED HIVES				%APIARIES IN SPECTED BY MAF INSPECTORS	
	No.		%		No.		%		No.	
	1992	1991	1992	1991	1992	1991	1992	1991	1992	1991
Whangarei	149	192	4.8	5.0	307	667	0.9	2.1	6.1	18.1
Hamilton	317	232	10.4	12.5	781	559	1.7	1.2	0.6	14.1
Tauranga	379	351	10.6	9.9	836	1,115	1.6	2.0	7.0	9.1
Palmerston North	126	119	3.2	3.3	267	272	0.7	0.7	1.9	9.2
**Blenheim	169	218	8.3	11.6	378	453	1.6	2.0	5.4	6.7
Lincoln	182	148	3.7	3.6	332	225	0.6	0.4	1.2	5.5
Alexandra	166	182	3.8	3.3	259	412	0.5	0.7	0.8	6.2
TOTAL	1,488	1,442	6.0	7.0	3,160	3,733	1.0	1.2	2.9	9.8

*Includes both MAF and beekeeper inspectors whether under MAF direction or NBA direction

**Does not include emergency response inspections, November 1991

AFB disease monitoring being done in Denmark, the USA and in New South Wales for some years. Now that Dr Goodwin has answered many of our questions we are in a position to consider alternative methods of monitoring AFB rather than costly hive inspections. Monitoring could be done on voluntary or compulsory submissions of honey samples from hives, honey drums, or bee samples from hives. There are still a lot of questions to be thought through and costings done with these systems. MAF will be critically evaluating these systems in the next few months and making a recommendation to Executive.

EUROPEAN FOULBROOD (EFB) RESPONSE

This has been well documented in the New Zealand Beekeeper (No 213 1992) and Buzzwords (No 37, 38, 39, 40 and 42). An internal MAF audit following the response has highlighted a number of MAF systems that can be improved, and beekeepers and the Bee Disease Advisory Committee has also made helpful comments. These suggestions have been incorporated into new draft response procedures.

However, more fundamental questions of compensation and whether the industry wants MAF to respond to any suspect or confirmed case of EFB still has to be resolved. Remit Number 26 is a welcome attempt to address some of these issues. When the Biosecurity Bill becomes law the joint industry and MAF development of response plans will be required.

SURVEILLANCE

Government, through MAF Policy, continued to support inspection systems to prevent exotic pests and diseases entering New Zealand, the development of response procedures and training of staff to respond to any suspect outbreak, and a surveillance operation that looks for exotics that may have slipped through the net.

The apiculture surveillance system has three parts:

Apiary Register

Maintenance of the apiary registers is a legal requirement under the current Apiaries Act.

The computer database is a very large one with over 35,000 names and addresses. The database is only as accurate as the information supplied by beekeepers and as usual we only had approximately 50% of the statement of inspection forms returned by the due date. A number of beekeepers had their apiaries inspected after failing to make their returns and were sent an account for the work involved. The importance of an up-to-date register was

FIGURE V NUMBER OF APIARIES AND HIVES WITH AMERICAN FOULBROOD DISEASE FOUND BY MAF OR REPORTED BY BEEKEEPERS TO 30 JUNE 1992

	NO. OF APIARIES	NO. OF HIVES	% OF APIARIES INSPECTED	% OF HIVES INSPECTED
* Inspected by MAF	118 (1,286)	753 (7,606)	0.5	0.3
** Inspected by beekeeper inspectors	614 (1,058)	4,256 (5,859)	2.5	1.4
TOTAL Inspected	732 (2,345)	5,009 (13,465)	2.9 (9.4)	1.6 (4.3)
AFB found by MAF or beekeeper inspectors	106 (242)	336 (950)		
AFB reported by beekeepers	1,382 (1,200)	2,824 (2,783)		
TOTAL AFB	1,488 (1,442)	3,160 (3,733)		

* Includes beekeepers working under MAF directions

** Includes beekeepers working under NBA disease co-ordinator/NBA branch

FIGURE VI PERFORMANCE OF BEEKEEPER INSPECTORS WORKING UNDER THE DIRECTION OF THE NBA FOR THE YEAR TO 30 JUNE 1992

Register* Location	No. of Warrants Issued	No. of Inspectors	No. of Apiaries Inspected	No. of Apiaries AFB	No. of Hives Inspected	No. of Hives AFB
Whangarei	32	15	130	17	461	38
Hamilton	28	2	4	—	40	—
Tauranga	33	27	238	40	2,461	104
Palmerston North	25	20	50	1	273	3
Blenheim	15	10	99	3	364	4
Lincoln	20	3	57	15	445	77
Alexandra	8	6	36	1	212	1
TOTAL	161	83	614	77	4,256	227

*Most Apiary Registration Districts have more than one NBA Branch

highlighted by the Nelson response and beekeepers will be encouraged to supply grid references for their apiaries.

Hive Sampling

Apiculture officers inspected 430 apiaries for the presence of exotics and

took samples from 430 hives for testing for tracheal mites, *Varroa* and *Tropilaelaps*. Forty four samples were taken for suspect EFB and eight for Africanized honey bees.

MAF sampled apiaries mainly in residential areas and locations deemed to be high risk eg airports, seaports, garbage dumps, hospitals, military bases and suburbs with populations which are likely to be frequent overseas travellers.

No exotic specimens were found.

Live Bee Exporters

Live bee exporters were asked to take another 500 samples for testing for exotic mites but again proved unwilling to co-operate and only submitted 22 samples.

EXPORT CONFORMITY CERTIFICATION

Two draft export conformity certification schemes, one for bees and one for bee products, were prepared and distributed for industry comment. These schemes were modelled on schemes in place for animals and plants and reflect MAF Policy specification for animals and plants.

MAF Policy set specifications and procedures for export certification and negotiate export protocols with overseas governments. They also contract organisations to be the certifying authority. In the case of animal and plant exports, MAF Quality Management etc., is the certifying authority but no contract has been let for apiculture nor standards and procedures defined. Further work on conformity schemes has been suspended until a contract is signed with MAF Policy.

ACKNOWLEDGMENTS

The co-operation and support of my colleagues in the apiculture unit, and in MAF Quality Management is much appreciated.

I would also like to acknowledge the support of the NBA executive and Dr Mark Goodwin and his team at Ruakura.



FIGURE VII PERFORMANCE OF MAF INSPECTORS AND BEEKEEPERS WORKING UNDER THE DIRECTION OF THE MAF FOR THE YEAR TO 30 JUNE 1992 (1991 figures in brackets)

Register Location	No. of Warrants Issued	*No. of Inspectors	No. of Apiaries Inspected	No. of Apiaries AFB	No. of Hives Inspected	No. of Hives AFB
Whangarei	3	4	56	5	258	20
Hamilton	2	2	13	12	207	46
Tauranga	2	3	12	8	75	37
Palmerston North	5	4	26	4	92	6
Blenheim	—	1	11	—	121	—
Lincoln	—	1	—	—	—	—
Alexandra	3	3	—	—	—	—
TOTAL	15	18	118 (1,286)	29	753 (7,606)	109

* Includes Apicultural Advisors

Environmentally safe air-filter deodorisers

A range of low-cost domestic air filters that do not depend on CFCs for operation is available from a British company.

Pongoes, from M A H Industries Ltd, are made from activated viscose, a woven, flexible cloth which is 100% carbon and capable of absorbing odours and vapours.

Activated viscose has a constant odour-absorbing capacity throughout its life, in contrast to granular charcoal which starts to deteriorate as soon as it begins to absorb odours: it is stated to last at least ten-times as long as conventional granular-charcoal filters.

The range of filters available includes: Fresh N Fridge to keep a refrigerator free of the smells of onions, cheese, fish etc; Fresh N Car which absorbs cigarette smoke, animal odours and perfume; Fresh N Bin which absorbs odours from refuse bins and wate bins; Fresh N Air which is suitable for a variety of applications including use in wardrobes to remove 'stale' smells from clothes, on boats to remove residual odours, in

caravans to get rid of the musty smell which sometimes occurs after periods of non-use, in garages and workshops to keep them free from smells of paint, paraffin and adhesives — in fact, in any confined space or where unwanted odours occur; and Fresh N Shoe which is placed in shoes, wellington boots or sports trainers overnight to absorb unpleasant foot odours.

The company also supplies Pongoe Plus masks for use in medical areas, hospitals, workshops, paint-spraying booths, farms, DIY activities or in any environment where unpleasant or unhealthy odours or vapours are a problem. They are lightweight, comfortable to wear even for long periods, have a low breathing resistance, allow clear speech transmission and are compatible and most types of goggles.

The latest additions to the company's range of products are: a universal jug filter to fit any water jug currently available - a water filter that is readily portable and which, for example, can be slipped into a suitcase prior to departure on holiday; and replacement air/air-conditioning filters for commercial and domestica use.

REPORT FROM THE NUTRITION POLICY CONFERENCE

From Sue Jenkins, NBA Marketing Committee

Frances Trewby, NBA Vice President, and I attended the Nutrition Policy Conference for the New Zealand Beekeeping Industry. The title of the conference was 'Nutrition, Government, and the Food Industry... Working Together.'

The conference was held in Auckland on April 27-28 last. The 230 people attended. Among them were representative of the food industry, the Department of Health, area health boards, Universities, the medical world, as well as nutritionists and food researchers.

Professor Clifford Tasman Jones, Associate Professor of Gastro-Enterology and Human Nutrition, Auckland University, Chaired the Conference. The Associate Minister of Health, Katherine O'Regan, presented the Government's Nutrition Policy. The keynote speaker was Professor Philip James of Rowett Research Institute, Aberdeen, Scotland. The title of his speech was 'Implications of a Nutrition Policy for the Food Industry and Health Professionals'.

Professor Beaglehole of the Nutrition Task Force presented a paper on 'The Place of Food and Nutrition within the New Zealand Health Reforms'. Several speakers presented papers on 'What can industry do for itself' and 'The New Zealand Consumer'.

Gillian Smith, senior Food Technologist, Public Health Services, Department of Health presented an overview of the 5th amendment (including negative claims and fortification issue). *This is referring to the Food regulations 1984 amendment no. 5, 5 December 1991.* Gillians' paper probably gave us some of the most valuable information for the beekeeping industry. Papers were also presented on Food Labelling in Australia and New Zealand and Food Hygiene and Safety. They contained important information for our industry.

Day two was devoted to a variety of workshops. They expanded on the papers presented on the first day. The workshops I attended were 'Communicating Food Messages to the Consumers' and 'Why's and Wherefore's of Food Labelling'.

The National Beekeepers' Association thought it important to have representatives at this Conference as there are major changes occurring in the nutrition, food legislation, and monitoring and evaluation of the food

industry. The beekeeping and honey packing industry is part of the food industry.

The responsibility for food hygiene and food safety is being shifted from the Government to the Food Industry and to individuals.

Energy Value of Honey.

	kilojoules	kilocalories	fat	fibre	sodium
100g honey	1206	288	T	0.0	11mg
1 cup (359g) honey	4330	1034	T	0.0	39mg
honeycomb -100g	1352	323	5g	0.0	7mg
honeycomb -1 tablespoon (21g)	284	68	1g	0.0	1mg

(reference DSIR. Department Health Food Facts 1991)

Some of the regulations that beekeepers must comply with;

- * *Food Hygiene Regulations 1974* (currently under review).
- * *Fair Trading Act 1991* — Fair Trading Act
- * *Food Regulations 1984 amendment No 5*, 5 December 1991
- * *Food Regulations 1984 amendment No 6*, 17 Feb 1992 (amendment corrects errors)

General Labelling

(These notes are intended only as a guide — Beekeepers need to read the acts and regulations and discuss them with the appropriate area health board.

When designing a label for honey containers the following points must be considered:

1. Labels generally.
 - * The label must have the full street address of the manufacturer or packer. Where a company has a number of branches, either the address of the registered office or the address of the premises where the food was manufactured can be given.
 - * The word "health" is prohibited as part of the name of the food. 'Health Honey' would not be acceptable.

* A package of food containing pictures or illustrations showing how to serve or use the food, must be accompanied by words such as 'serving suggestions' or 'recipe'.

2. The wording must be in English.
3. The name of the food, honey, must

be at least 3mm high on the label and all other lettering must be at least 1.5mm high.

4. The wording must contain the weight or volume of the food.
5. The word 'pure' can only be used to describe a single ingredient food or a mixture of foods that are of the same type and considered 'pure' in their own right.
6. Nutrition Labelling Pointers:
 - * This regulation introduces general requirements for nutrition labelling. The label must show the energy content, the amount of fat, protein, and carbohydrate, and the amount of food in a serving [regulation 13 A (2)].
 - * The information on the amount of individual nutrients must be provided per serving and per 100ml or 100g [regulation 13 A (2)].
 - * Nutrients must be declared in a standard format shown in metric units [regulations 13 A (10-14), 13 A (17), 13 A (19)].
 - * A specified minimum quantity of a vitamin or mineral is required before a claim may be made about the presence of that vitamin or mineral.

- * Negative claims, such as 'no additives' are not allowed on honey labels because no additives are allowed in honey.
 - * If a nutritional claim is made for the food you must show that, either on the label itself or in any advertising.
7. Statement of Ingredients: All ingredients including food additives, flavouring substances, modified starch, must be shown. *A list of ingredients is not required for single ingredient foods such as honey.* (This gives honey exemption from regulation 11)
 8. The labelling changes must be made by 1 January 1995.
 9. The Food Regulations 1985 amendments redefined sugar.

Summary

1. Harmonization between New Zealand and Australian food authorities is a fact. The clear suggestion is that we will probably become one market.
2. Studies have shown that 52 percent of the information customers have about a product comes from the label. Labels need interest, importance, accuracy, clarity, and consistency. Food labels must have nothing false, deceptive, or misleading.
3. Our industry should continue to compare production, packaging, and labelling of honey requirements in Australia and other countries to which we export. These things rarely remain constant for long, so it is important that we keep up to date.
4. Our industry should, in the light of research at the University of Waikato and by other researchers on honey, consider the Therapeutic Goods Act, and the Medicine Act, 1981.
5. Our industry should develop its own Code of Practice. We must pay particular attention to such documents as 'Food Safety For the Future', 'Proposals For Change (review of the Food Hygiene Regulations 1974)'. We must also maintain consistency between our local market and the international market. We cannot allow our standards to be below those of our trading partners. It is always easier to obtain and maintain access if our requirements are slightly higher. On the other hand, if they are considerably higher, they simply impose additional production costs on the industry. The Australian food standard cannot be lower.
6. That our industry discusses with the Food Standards Committee, a sub-committee of the Department of Health, about having honey re-

defined in line with other countries (Australia in particular).

7. Health claims. Until scientific research is done, we cannot make health claims on labels. This is an area which needs full investigation to enable us to do so with our honey. This relates to researching the Therapeutics Goods Act in Food and Medicine Acts 1981. A Therapeutics' Act was introduced into Australia in 1989.

Agents supplying food regulations

Food regulations and amendments including the Department of Health Consolidation of the Food Regulations are available from the following bookshops:

Bennetts' Bookshop
Bowen House
Cnr Lambton Quay & Bowen Street
PO Box 5334
WELLINGTON
Phone: 0-4-499 3433
Fax: 0-4-499 3375

Bennetts' Bookshop
38-42 Broadway Avenue
PO Box 138
PALMERSTON NORTH
Phone: 0-6-358 3009
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WHEN THE QUEEN HAS DIED

By John Heineman

It's time again to get a move on. There is no reason why the colonies should not have wintered well if you made the necessary preparations in the autumn.

What can happen however, often beyond the beekeepers control, is that a queen has packed it in for one reason or another. If that has happened you may be able to determine the cause (may be an aged queen and perhaps blame yourself or the ? stays. It is just one of those things. You are faced with a queenless hive.

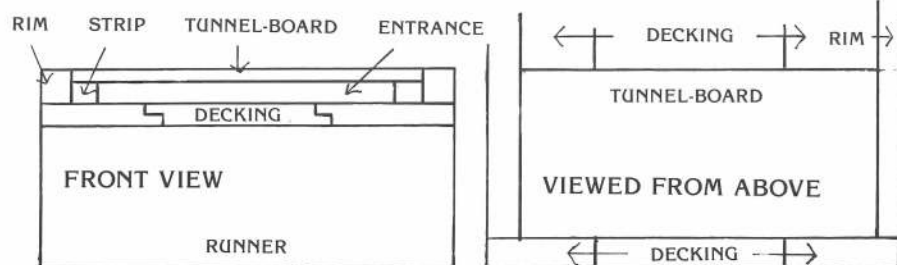
In general one does not need to have a great deal of experience and bee-knowledge to be sure that the most important creature is missing from the scene. When, after opening the hive, the colony makes that loud unusual buzzing noise, very much different from the buzzing of a normal colony, you can be 90% certain that something is very wrong. Sometimes one hears the expression: "that colony is roaring queenless". That's the way it often sounds. Follow up with having a look at a couple of brood combs and if no eggs or young larvae are present the diagnosis of having a queenless colony is correct.

However, if a colony has been queenless for some time there could be some brood scattered around in a haphazard pattern. It won't look like a normal brood pattern for it is the result of worker bees trying to fill the gap in the absence of their queen. This of course leads to nothing as worker bees, notwithstanding being female, have not got the right make up and are not fertile. So any eggs laid by them will finish up as drones, that is if it comes to anything at all.

The situation has to be remedied as soon as possible. You cannot leave it till you can secure a replacement queen to be introduced in a month or six weeks time. The bees in a queenless colony at this time of the year have already lived through the winter and so are aged. They will not have much longer to go. Consequently the hive will get weaker and weaker as no young bees are forthcoming. Such a hive will be sitting duck for robbing neighbours.

Now this is where that nuc (top), the one I advocated you should winter above a large colony as a spare wheel, comes into its own. It is meant for such

an emergency. Remove the bottom super of the queenless hive, shake the bees from the combs on the second super which you have placed on the bottom board, or in front of the hive. And combs containing honey can also go into the second super if you can make space for them by removing some dry combs. Then spread a double sheet of newspaper over the box. Make a few small tears with your hive tool in the paper and grab the queenright nuc (top). Place it on top of the paper. This of course, after removing the split board. Some bees from the nuc are likely to be on the split board and they should be given to the nuc. A sharp tap will dislodge them or you can simply use the split board as the crown board for the hive.



This, I am sure, is the best way to cure a queenless colony at this time of the year. There is no delay or set back, no empty place to fill later, minimal risk of robbing and with proper care you will notice no difference from the hive which did not lose its queen.

There are other options if you did not have that top to fall back on. You can, if the q.l. colony is strong enough and no laying workers are present, take a couple of combs with brood in all stages (from egg to hatching) from another strong hive and insert these into the centre of the q.l. brood box. Preferably plenty of young bees should adhere to these combs but make sure the queen is not amongst them. A little smoke will prevent fighting. The combs taken from the q.l. colony will fill the empty places left in the donor hive. But don't drop them just into the gap, make sure the broodnest is not split up. First squeeze combs with brood together then place the empty ones alongside.

There is now the possibility that a queen cell may be raised in the q.l. hive

and with luck you may get a young queen. With more luck she will be mated. However to get a queen mated good mature drones must be about. For many parts of the country it is just early enough for that. So you may still finish up with a q.l. hive or perhaps with a poorly-mated queen which will be superseded, or with a drone layer.

If the q.l. hive shows signs of laying workers I strongly advise against trying to doctor around by giving it brood. If you do more often than not you will be heading for disappointment. Much better to take the third and radical option.

This is to simply unite the q.l. hive with a q.right hive using newspaper. This is best done after re-arranging food combs and bees in one super. Take

the super with dry combs away or, if there is surplus tucker, give it to another give which can do with it.

This radical measure is the best not only for a q.l. colony with laying workers but also for any q.l. colony which has already become too weak. Admittedly this leaves you with an empty place on the site, but it avoids such a hive petering out or being robbed. It does not need to be a dead loss. The hive you have given the extra super with the q.l. bees and feed combs will, in a while, probably be strong enough to have a nuc taken off. If by then a caged mated queen is available you can introduce her to the nuc and again the empty spot can be filled. Of course it will take the nuc some time to build up to required strength for securing a crop of honey. You can help it along by giving it some combs of brood taken from another extra strong colony. Do not over do this for there must be enough bees to look after that extra brood or you may finish up with chilled brood if a cold snap happens shortly after making the adjustment. Swapping

places with a strong hive will also boost the nuc as it will receive extra field bees. A combination of these two "boosting" manipulations does wonders.

If, when coming across a hive gone q.l. during the winter, you are fortunate enough to get a caged queen, probably autumn raised, there is no objection to introducing her, provided the strength of the q.l. colony is adequate. When doing that it is also good practice to take a couple of combs with preferably sealed brood from another colony to go with the caged queen. A number of young bees will then soon become available and help the introduced queen to make a good start.

Now take notice: ALWAYS BE ON THE LOOK OUT FOR SIGNS OF B.L. (American foul brood, *Nacillus Larvae*) AND NEVER INTERCHANGE COMBS OR UNITE COLONIES BEFORE YOU HAVE MADE CERTAIN THAT BOTH THE DONOR AND THE RECEIVER ARE FREE OF THE MENACE.

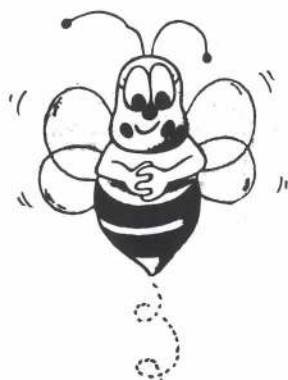
As I said earlier, workers in a q.l. colony can start laying eggs, usually within three to four weeks after the colony becomes queenless, but the result will only be drones. It is a matter of interest to note the exception to this rule in the world of the honey bee. In a very restricted part of South Africa the Cape Honey Bee (*Apis mellifera capensis*) is found. Laying workers of a Cape bee colony are able to produce eggs which develop into full females and can become queen bees. This phenomenon has something to do with pheromones. The development period of the Cape bee is different (shorter) from that of our bees. Of no practical value for us here but some wider knowledge never hurts.

Something you can perhaps adopt to your, and your bees', benefit. In the NZ Beekeeper No. 199 (Spring 1988) page 27 you find photos of what we call a "tunnel" bottom board. At that time we had just started to try them. Now four years later we can vouch for their

efficiency. New boards are made in this manner and used ones coming in from the field are altered if they produce enough to make it worth while. We are talking about the comb on bottom board of standard dimension with 20 x 20 mm rims. The article and photos show how the tunnel is provided by letting a 11mm thick board, about 30 mm wide into the recesses scooped out of the board's rims (risers) by using a buzzer. What if you have not got a buzzer? No problem. You have to cut a couple of 20 x 9 mm strips 30 mm long and tack these on the board against the inside of the rims. On these the board forming the tunnel can then be rooted. The board should be 11 mm thick,

about 80 mm wide and 365 mm long.

The tunnel prevents mice, from entering and seems to be a deterrent for wasps. An entrance reducer is not needed in winter and ventilation is satisfactory provided if some kind of top ventilation hole is present in the hive. A disadvantage is the somewhat greater bother with clearing the board. Debris can get stuck in the tunnel. This slight drawback can be avoided by not fixing the tunnel board so that it can be taken out for cleaning. That works fine for a few hives in a permanent position see also page 75 Practical Beekeeping on NZ by Andrew Matheson.



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Hawkes Bay

If you have not completed that winter maintenance it is almost too late.

Spring is springing with wattles and some prunus in flower. Being one of the few areas that has had adequate winter rain we expect a strong spring growth.

If by the time you read this you have been to Conference we hope you enjoyed it. The committee is wiser for the experience and we trust you will have forgiven any faults you found. Thank you for your attendance and support. A very special thank you to those sponsors who gave generously and to those who mounted trade displays.

Ron Morison

Poverty Bay

Most beekeepers in Poverty Bay are engaged in the usual maintenance work; the only field operations being the moving of the last hives down from the bush country to their spring sites.

Gorse and tree lucerne are flowering, providing a welcome source of winter forage for many colonies on warm days.

On July 18, Cliff Van Eaton, MAF

apiculture officer, and Dr Mark Goodwin, CRI Horticulture, Ruakura, conducted a course for Gisborne beekeepers on the recently-developed lab technique for analysing bee samples for AFB. The Tairāwhiti Polytechnic provided facilities and some funding for the course, which halved the cost to beekeepers.

Most Poverty Bay beekeepers still have stacks of honey on hand, preferring to hold it until prices reflect the real value of the product.

Peter Burt

Nelson

Autumn closed quietly but the beginning of winter was crisp and cold. I had thought that meant an early spring but I was proven wrong. Various events weather-wise are frequently taken as omens for better or worse, and perhaps it is the unusual that prompts the bees to gather honey at different times of the day. Be as that may, I have no predictions to make about what this winter will cause the bees to do. All I can say is that this winter has been a very thick slice indeed.

To the best of my knowledge most bees went down with a good supply of

feed and, provided they are dry, there is no reason to believe that they will be affected by the extremely cold weather.

Our rainfall, along with other places, is less than adequate, and will possibly affect the nectar-bearing plants more than the cold. Our immediate concern is to hope all is well for the build-up to pollination. Last year's kiwifruit crop was stunted because of little rain while other crops suffered from severe early frosts. The growers lost a lot of money.

Ron Stratford.

Southern North Island

The bees in our area stopped brood rearing early. This and the relatively mild winter have seen them come through the winter in good condition.

Around the coastal plains, spring flowers are now starting to show and the bees can be seen busily collecting early sources of nectar and pollen, whenever the weather permits.

For most beekeepers, the season starts again with the first round of stimulation feeding when they get back from Conference.

My wife has been talking to our local Cut Price super market owner. He

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suggested before we publicise honey again through the media, that we give the retail industry two weeks warning of the campaign. He was inundated with enquiries for manuka honey and couldn't get any for some time. He also considers we initially lost the impetus to capitalise on sales to customers who do not normally buy honey. Local honey sales are reasonable, however we are not seeing some specialising in the larger centres.

The industry is still going through change and this was reflected in the remits to conference. No longer can our branch get away with only five meetings per year. Things are moving quickly so we have introducing a newsletter to keep our members better informed. We also hope to assist with disease inspections by holding more dieaseathons. It was really good news to see an additional advisory position advertised. With constant down-sizing still going on in other industries, this must be seen as a positive step forward for our industry.

Frank Lindsay

Waikato

It is over twelve months since this Correspondent put pen to paper. Rea-

son, probably plainly procrastination. However, no one in the Waikato branch was prepared to take over so I'm back again.

This past year has been difficult for most beekeepers in the Waikato area. It started with a very hard spring that required an inordinate amount of sugar feeding to get hives up to standard for kiwi fruit pollination. The kiwifruit was reluctant to commence flowering and a number of beekeepers were unable to take their hives out of orchards until late December. My own finally came home on Xmas Eve.

Fortunately there was a crop of kamahi, but that was about all. The kanuka flowering from reports was probably the best for years but gave little or no honey because the ground temperatures remained low. It was these same ground temperatures that presented the clover and thistle from producing nectar.

As for the Callana Vulgaris (Ling) it was a disaster.

All in all a disaster income: \$50,000 against expenses of \$60,000.

The good news is that the branch had a good year and all our meetings were well attended. The Christmas party in Hamilton was a grand evening, again

with a goodly number of members present.

For the Field Day this year the branch travelled to Te Kuiti where we were the guests of John and Pauline Bassett. It was so interesting to see what John was doing and in spite of the weather, there were still a large number of people present at 6.30pm. The branches' thanks to John and Pauline.

Ross Blackman.

Marlborough

At the time of writing (July) our back country lies under several feet of snow which has buried hundreds of beehives. They are better able to cope than the sheep and cattle that farmers and their helpers are desperately trying to rescue. Roll on spring. At least there will be some moisture in the ground for plant growth. In contrast to the back country, the warmer coastal sites are building up well on spanish heath and five-finger.

Our branch has a long remits meeting lasting deep into the night and we are hoping a few things can be sorted out at Conference. There is room for much improvement in the marketing

EXPORTING

The NBA has, with the assistance of its members, established an export liaison group. This group will assist members who:

a) *may be considering exporting*

or

b) *wish to discuss an exporting matter with someone else in the industry.*

The following members will be pleased to provide information for members new and inexperienced in the export of honey.

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field. At present, with good crops, large surpluses are creating price cutting which doesn't help anybody apart from the super-market chains. The industry must work together to export more honey to safe-guard local market.
Mark Milne.

Auckland

Hives wintered down well with most having adequate stores, though the earlier than usual chill of winter made significant inroads into them. Brood rearing seems earlier than usual. We found two or three frames of brood and drones in the hives in mid July!

Conference was both successful and enjoyable, even though our levy will be \$1.61. The extra 50c for marketing is an important step. Marketing has 12 months to prove itself or I feel chaos may prevail. There was a willingness by all attending to discuss the cloudy issues of rule changes, AFB, EFB and marketing, etc. The Executive was keen to listen. So keep those ideas coming in.

Auckland will have had it's field day by now (August 9) I hope by showing people a few frames of AFB we can save more hives from being burnt.

Now I'm off to buy the first of, hopefully, not too many tonnes of sugar as the rain showers keep passing through.
Nigel Birse

Westland

There is not doubt winter has arrived and somewhat earlier than usual. Snow to low levels brought hard frosts which have confined bees to their hive clusters for long periods. But the atmosphere is dry which surely is an advantage to bee health. The results of a good wintering-down program will be starting to show.

With the changes that the Industry is facing there is understandable considerable discussion generated at Branch meetings, but the bottom line is: "how much more will it cost us?" The decisions made at Conference this year may prove to be the most important for many years.

Sandy Richardson

North Otago

Winter is certainly here. With snow everywhere and chilling frosts every night, the poor old bees have all donned their winter woollies. We hope that the survival rate will be a lot bet-

ter than last year when we lost about 20 per cent of hives with the cold in inland areas. However, hope springs eternal and we look forward to a good spring with lots of balmy days for mat-

ing queens. Meanwhile on with the winter work in anticipation of a bumper crop and increased prices. I said hope springs eternal didn't I?
Algie Lawrence

NBA Librarian's Report

My apologies for not personally presenting this report and thanks to the library committee member for doing it on my behalf.

The library collection was extended again during the year with a considerable number of items. Special thanks to Mr Trevor Bryant for the books, transparencies, and the series of very good and interesting slides he donated.

Borrowing increased somewhat in 1991 but has been well down for the first six months of the current year.

Lately some 70 specially marked books, of which our library holds more than one copy, have been placed in the library of Telford Polytechnic Institute on long term loan. Mr Gavin McKenzie has accepted responsibility. A written agreement outlining the conditions of this loan, including an annual audit, will be drafted. Pending agreement with the Institute's management an initial annual fee of \$25 will be paid to our library fund.

Enquiries were received from Spain for a duplicate set of the H. van Puffelen slide collection and for copies of certain articles from Slovenia. The would-be purchasers have been quoted the costs and we now await confirmation of the orders.

The request made by the director of IBRA, Mr Andrew Matheson, through the NZ Beekeeper, Summer 1991 issue, for copies of certain old NZ beekeeping magazines has apparently met with a nil response as nobody has contacted this library which was named as coordinator of any offers.

Use of mailbox 112, Milton was terminated following the increase in annual rental from \$30 to \$80. Library mail is now handled as counter mail and no difficulties have been experienced. Borrowers are urged to accurately address mail to: NBA Technical Library, C/- NZ Post, Milton, so as to avoid any arguments. No charge is made for counter mail as yet.

NZ Beekeeper issues of the past eight years (1984-91) have been bound at the Dunedin Public Library. The four volumes cost nearly \$160. The tab was picked up by the Executive which helps greatly with keeping the library fund on a even keel.

To cover normal operating costs loan fees are adequate. An increase is not necessary at present.

The search for a suitable video covering basic beekeeping and hive management, for which there seems a considerable demand, continues but so far unsuccessfully. Perhaps someone at Conference could assist in this quest?

It is interesting to note that in 1962, now 30 years ago, at the Conference in Tauranga, the founding of this library was initiated. From a small beginning it certainly has grown into something substantial.

John Heineman
Honorary librarian

HELP, PLEASE



The thirteenth National Scout Jamboree is being held at Upper Hutt during Christmas/New Year and we have been asked to mount and man a display on beekeeping. We propose to display a map showing the location of all the beekeepers in NZ. To make this more visible we would like your help. We require labelled honey pots, (no larger than 500g) for the display. This will allow the scouts to identify their local beekeeper.

Could all beekeepers please send a labelled pot to Mary-Anne Lindsay, 26 Cunliffe Street, Johnsonville, Wellington 6004.

COOKING WITH HONEY

By Sue Jenkins

A Taste for Honey

A spoonful of honey here, a spoonful of honey there each day, the honey pot soon empties out.

At morning and afternoon tea, how many of us put just the sugar jar out? We New Zealanders ate 47 kilograms of sugar each last year, yet we eat less than two kilograms each of honey a year.

With the trend to more processed foods, it is increasingly important to put foods from natural sources back in our diet. Honey is a natural, unprocessed food, the only unmanufactured sweet available in commercial quantities.

Honey Pumpkin Pie

23cm short pastry pie crust (unbaked)
2 cups cooked mashed pumpkin
2 eggs beaten
1/3 cup honey — clover or blue borage
1 tsp cinnamon
1/2 tsp ground ginger
1/2 tsp ground cloves
1/2 tsp vanilla essence
1 cup cream or half or half with mix or yoghurt.
Blend all the ingredients together in a food processor. Pour into the pie crust. Bake at 230°C for 10 minutes reduce temperature to 180°C and continue baking until filling is firm, about 20-30 minutes. Serve warm. (Serves 8)

Short Pastry Pie Crust:

1 1/2 cups flour
100g cold butter
3-5 tablespoons cold water
Process flour and butter in food processor, add sufficient water to make a stiff dough. Chill for 30 minutes. Roll to fit 23cm pie dish.

Vinaigrette Dressing

Serve with a tossed green salad or a salad of your choice.

Place the following ingredients in a blender and give a quick whiz.
1 1/2 cups oil (olive)
1 1/2 cups white wine vinegar
2 teaspoons of french mustard
2 tablespoons blue borage honey
juice of two lemons
2-4 cloves garlic
Pour into jar for keeping. Shake well before use.

Peanut-Honey Dipping Sauce

Serve this special dipping sauce with barbecued or grilled chicken. Combine in a saucepan or microwave bowl.
1/2 cup liquid honey
1/2 cup peanut butter
1-2 tablespoons soy sauce
1-2 cloves garlic, crushed

finely chopped green or red peppers. Heat sauce until boiling. Thin with water or milk as required. If desired add a little chopped fresh coriander.

Self-saucing Honey Pudding.

An easy to make pudding — delicious to eat.

50g butter
1 1/2 cups flour
1 1/2 teaspoons baking powder
1 cup sultanas
1 egg
1/2 to 3/4 cup milk

Sauce

50g butter
3 tablespoons honey
3/4 cup hot water.

Melt butter, remove from the heat and add flour, beaten egg. Mix with sufficient milk to make a firm dough. Place in a lightly-greased steam pudding bowl. Heat all sauce ingredients in a saucepan until blended. Pour over the dough. Cover basin, place in a saucepan of boiling water and steam for 30-45 minutes. Serve with yoghurt or ice-cream. (Serves 6)

Honey Date Cake

Moist, and delicious, this easy cake is ideal for lunch boxes or with coffee
1 1/2 cups (100g) chopped dates
1 cup liquid honey
1 cup boiling water
50g butter
1 teaspoon vanilla essence
2 cups flour
4 teaspoons baking powder
Put chopped dates, honey, and boiling water and butter in a saucepan. Stir over a medium heat until butter melts.

Remove from the heat and leave to cool. Stir in vanilla essence. Sift flour and baking powder into the saucepan. Stir to combine. Pour mixture into a well-greased and lined 20cm cake tin. Bake at 180°C for 45 minutes or until cake springs back when lightly touched. Leave for 10 minutes before turning out on a cooling rack.

Honey Oat Biscuits

75g butter
1/4 cup honey
1 cup flour
1 teaspoon ground ginger
1/2 teaspoon mixed spice
1/2 cup rolled oats.

Cream butter and honey together until pale. Soft flour and spices together. Add with rolled oats to creamed mixture, stirring well. Turn on to a lightly floured board and knead lightly. Shape into a log. Wrap and chill for 30 minutes. Slice 5mm slices. Bake at 180°C for 10 minutes or until golden. Transfer to a cooling rack.

Honey Lemon Basil Sauce

Serve over carrot stick, florets of cauliflower, brussels sprouts, sliced courgettes, or cubes of pumpkin.
2 tablespoons chopped onion
1-2 tablespoons butter
4 tablespoons clover or borage honey
2 tablespoons lemon juice
1 teaspoon fresh basil, finely chopped.
Sauté onion in butter until translucent. Stir in the remaining ingredients and bring to the boil.



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F.D. Heavy Brood Carton	13.5	16.0	9.64	10.85
F.D. Heavy Brood per Kg	13.5	16.0	10.44	11.75
* F.D.M.B. is also available in a 6 Kg (100 Sheet) Carton				
EMBEDDERS				
Electric Transformer complete with Leads	each	106.22	119.50	
Spare Leads	each	11.51	12.95	
Spur Embedder	each	9.42	10.60	
EXCLUDERS - All wire with wooden frames (26 per Carton)				
1-9	each	13.11	14.75	
10-49	each	11.47	12.90	
50 and over	each	10.93	12.30	
Unassembled 50 and over only	each	10.74	12.08	
Extra Wood Frames for above	each	1.74	1.40	
	per 10	10.40	11.70	
	per 100	91.56	103.00	
FEEDERS				
PLASTIC FRAME TYPE				
F.D. 8 litres and F.D. 5.5 litres	each	9.42	10.60	
Spare Leads	10	85.78	96.50	
	100	780.00	877.50	
F.D. 3.5 litres and 3/4 D. 4 litres	each	8.71	9.80	
	10	79.20	89.10	
	100	720.00	810.00	
ENTRANCE TYPE				
	each	3.11	3.50	
	10	29.78	33.50	
FRAMES				
Hoffman Full Depth, Three Quarter Depth and Half Depth				
Section Frames Full and Half Depth - Manley Three Quarter Depth				
(100 per Bulk Carton)	10	9.33	10.50	
	100	66.58	74.90	
	1000	594.67	663.00	
Note: Full Depth Hoffman Frames are supplied with Three Hole, 33mm End Bars. Frames with Four Hole or 35mm End Bars are available on request at no extra cost.				
FRAME PARTS Hoffman				
End Bars	100	15.64	17.60	
Bottom Bars	1000	142.40	160.20	
	100	15.07	16.95	
	1000	137.11	154.25	
Top Bars	100	28.27	31.80	
	1000	256.44	288.50	
FUMIDIL B				
0.5g Bottles	each	17.33	19.50	
9.5g Bottles	each	124.00	139.50	
GLOVES Leather Ventilated Beekeeping				
Small, Medium, Large and Extra Large	pair	39.82	44.80	
HATS Ventilated Bee Helmets				
Woven Fabric	each	22.18	24.95	
Moulded Plastic	each	22.62	25.45	
HIVES				
Complete Two Storey Hive (A6)	each	86.67	97.50	
HIVES MATS (22 per Carton)				
Hardboard with Wood Rim	each	3.96	4.45	
	10	34.53	38.85	
	100	310.67	349.50	
Frames only for Hive Mats	each	1.42	1.60	
	10	10.84	12.20	
	100	100.89	113.50	
HIVE STRAPPERS				
EMLOCK TYPE				
Complete with Galvanised Strapping	each	7.91	8.90	
	10	75.11	84.50	
	100	695.00	781.88	
Without Strapping	each	6.00	6.75	
	10	54.22	61.00	
	100	510.00	573.75	
Extra Galvanised Strapping	per length 1.24	1.40		
	per kg	4.99	5.50	
	50kg	195.00	219.38	
NYLON TYPE				
Complete with Four Metres of Nylon Strapping and Plastic Buckles	each	4.00	4.50	
	10	35.55	40.00	
	100	320.00	360.00	
HIVE TOOLS				
Fuller 10 Inch	each	8.44	9.50	
Kelley 10 Inch	each	10.84	12.20	
'Maxant' 10 Inch with Hook	each	19.42	21.85	
HONEY CONTAINERS				
Cut Comb Boxes (250 per Carton)	each	59	78	
	250	58	65	
140gm Clear Plastic Polyjars with White Screw Caps	each	36	41	
	100	32.00	36.00	
250gm Clear Plastic Polyjars with White Screw Caps	each	40	45	
	100	36.00	40.50	
500gm Clear Plastic Polyjars with White Press On Lid	each	40	45	
	100	36.00	40.50	
500gm Clear Plastic Polyjars with White Screw Caps: Square or Hex	each	40	45	
	100	40.00	45.00	
1 Kg Clear Plastic Polyjars	each	80	90	
Hexagonal with White Screw Caps	100	66.00	74.25	
500gm Plastic Safe-A-Pak Coloured with White Lids	100	26.22	29.50	
500gm Squat Clear Plastic Safe-A-Pak with White Lids	1000	213.33	240.00	
1kg Plastic Safe-A-Pak Coloured with White Lids	100	33.33	37.50	
2kg Plastic Safe-A-Pak Coloured with White Lids	1000	256.00	288.00	
2kg Pre-Printed with "New Zealand"	1000	360.00	405.00	
2kg Plastic Safe-A-Pak Coloured with White Lids	200	14.33	16.00	
2kg Pre-Printed with "New Zealand"	each	95	107	
	200	167.11	188.00	
6kg Plastic Safe-A-Pak Coloured with White Lids	each	2.67	3.00	
	100	195.56	220.00	
30kg Polyjars Plastic White with White Lids	each	11.73	13.20	
	per 10	105.78	119.00	
HONEY CONTAINERS				
2kg Plastic Safe-A-Pak Pre-Printed with "Pure New Zealand Honey"				
HONEY EXTRACTORS				
Lega Four Frame Stainless Steel Hand Driven	each	528.89	595.00	
Ecroyd's Four Frame Plastic Hand Driven Replacement Gears for Extractors	each	381.33	429.00	
Nylon	per set	14.67	16.50	
Metal	per set	32.00	36.00	
Clear Hinged Covers	per set	28.44	32.00	
HONEY GATES				
CAST IRON THREADED				
60mm OD	each	53.24	59.90	
75mm OD	each	61.33	69.00	
IN-LINE BALL VALVES				
25mm ID	each	30.05	33.80	
32mm ID	each	41.60	46.80	
38mm ID	each	54.84	61.70	
51mm ID	each	87.56	98.50	
NYLON THREADED WITH BACK NUT				
47mm OD	each	20.00	22.50	
60mm OD	each	31.56	35.50	
HONEY LABELS				
'Pure Honey' 75mm x 60mm	10	1.07	1.20	
	100	8.89	10.00	
HONEY PUMPS				
Ecroyd's Gear Type	each	475.00	534.38	
Honey Pump Unit, Complete	each	POA	POA	
Lega, 2000 kg per hr, complete	each	1600.00	1800.00	
Mono, Complete or Bare	each	POA	POA	
HONEY STRAINERS				
28 Mesh Nylon for Polyjars	each	20.27	22.80	
Nybolt strainer bags - made to order	each	POA	POA	
HONEY REFRACTOMETERS				
Kikuchi or Atago (Price on application) approx	each	550.00	618.75	
HONEY TANKS				
Plastic 30 Kg with lid and 47 mm Honey Gate	each	33.42	37.60	
Stainless Steel, with lid, gate and stand	each	149.00	167.63	
	100kg	199.00	223.88	
	200kg	279.00	313.88	
	400kg	499.00	561.38	
	pair	98	1.05	
	per 100	39.07	43.95	
METAL REBATES				
MOULDS				
Wax Mould, Five Rectangular	each	6.93	7.80	
Wax Mould, Six Hexagonal	each	13.78	15.50	
Wax Mould, Three Hexagonal	each	13.78	15.50	
Queen Bee Wax Mould	each	21.24	23.90	
Candle Mould, Hive	each	20.18	22.70	
Candle Mould, Large Skep	each	20.18	22.70	
MOUSE GUARDS				
	each	1.73	1.95	
	10	15.56	17.50	
NAILS (Pieces per Kg)				
FLAT HEAD VINYL COATED				
12 x 1.0 per Kg	17.33	19.50		
12 x 1.0 25 Kg Case	389.33	438.00		
30 x 1.6 per Kg	9.73	10.95		
30 x 1.6 25 Kg Case	222.00	249.75		
40 x 1.6 per Kg	10.00	11.25		
40 x 1.6 25 Kg Case	228.00	256.50		
60 x 2.5 per Kg	4.62	5.20		
60 x 2.5 25 Kg Case	93.78	105.50		
FLAT HEAD GALVANISED				
50 x 2.5 per Kg	7.82	8.80		
50 x 2.5 25 Kg Case	163.56	184.00		
60 x 2.5 per Kg	5.87	6.60		
60 x 2.5 25 Kg Case	121.33	136.50		
60 x 2.8 per Kg	4.80	5.40		
60 x 2.8 25 Kg Case	97.33	109.50		