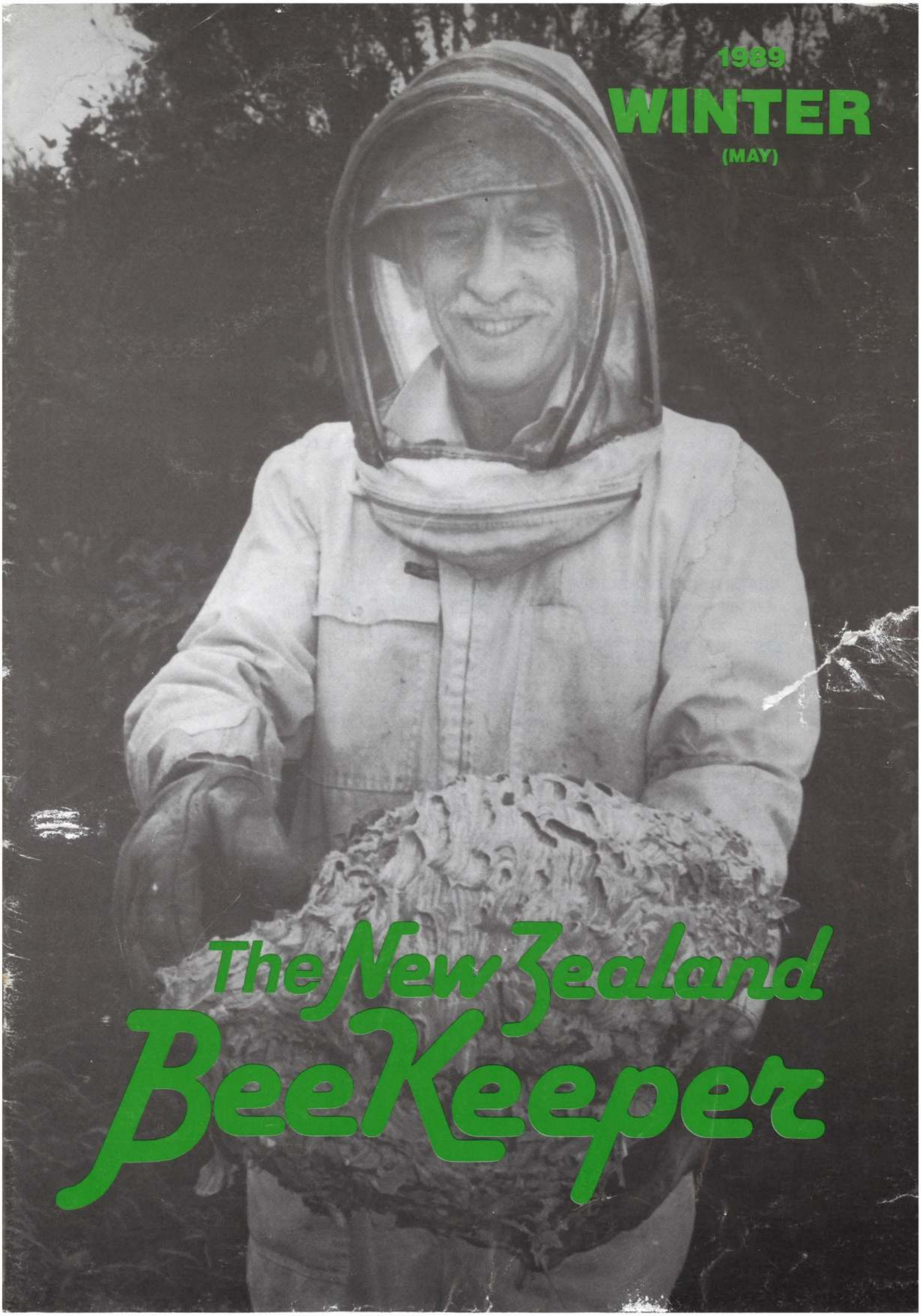

1989

WINTER

(MAY)

The New Zealand BeeKeeper

The New Zealand BeeKeeper

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

CIRCULATION, 1,550. . .

To Members of The National Beekeepers' Association of NZ Inc. who own more than 50 hives each and so are legally subject to the annual hive levy. **THESE HIVE-LEVY PAYERS OWN APPROXIMATELY 87% OF ALL BEEHIVES IN NEW ZEALAND.**

To Beekeepers with less than 50 hives who subscribe to the journal at $22.00 a year (incl. GST) which also includes membership of the National Beekeepers' Association of NZ Inc.

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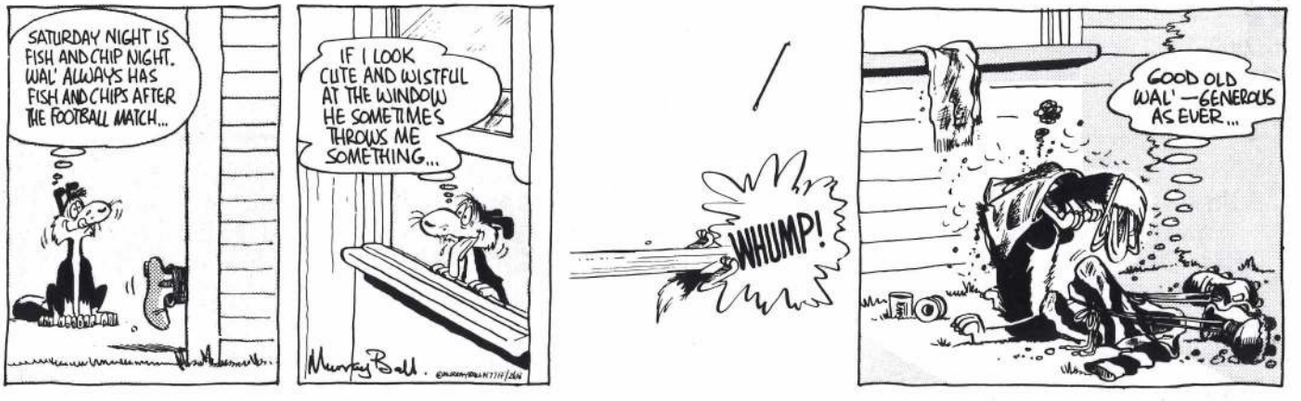

FRONT COVER: Reg Clarke with wasps' nest. See Machinations In Marlborough, pages 18 & 19. Reg is also a regular contributor to NZBK with research articles (See page 7).

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Better beekeeping, better marketing

From Ian Berry

"Better Beekeeping — Better Marketing" has been the motto of the National Beekeepers' Association of New Zealand for a very long time. It suggests to me that production and marketing are of equal importance. While marketing people emphasise that without sales there is no point in producing honey, production people say that until the honey is produced there is in fact nothing to sell. You must get both right to run a successful business. The last two and a half years have brought home to many New Zealand beekeepers how rapidly we can swing between marketing and production problems.

Late in 1986 we were heading for a large carry-over of honey. Then overseas prices rose, honey became easy to sell at good prices, so stocks in New Zealand were very low at the start of 1987. The first few months of 1987 saw packers endeavouring to build up their honey stocks by offering high prices and some beekeepers held off in the hope of even higher prices. Overseas prices then declined which created a glut, so 1988 began with a reasonable amount of honey in stock.

While producer-packers generally held their buying-in price to a reasonable level at this time to avoid devaluing their own production it was not so with packers who were non-producers. Some very low prices for honey were offered and in some cases accepted by beekeepers short of money. This enabled these self-proclaimed professionals in honey marketing to cut prices on the New Zealand market to very low levels in an attempt to increase their market share. Several small producer-packers who normally sell their crops at a discount found it very difficult to sell against the professional price cutters. In spite of the glut during 1988, several packers started 1989 with low stocks and when a poor season seemed likely, there was strong enquiry for the new crop. This has resulted in much higher prices being offered than 12 months ago and hopefully we can look forward to less price cutting on the New Zealand market this year.

At the time of writing (early April) the New Zealand crop seems likely to be no more than 50% of average so any beekeeper who sells his or her honey for a low price this year would be rather foolish. Unfortunately a number of beekeepers will not start their extractors this season and so will be unable to take advantage of the better prices.

In these days of rapid change we need to be able to make quick adjustments of emphasis within our beekeeping businesses in order to survive and make the most of opportunities that arise, be they in production or marketing.

The following are some suggestions which I believe could help beekeepers survive these difficult times.

1. Have your hives in good condition at the start of the flow each season. In this way you will be ready for the big crop when it comes. The three most important factors in having the hives ready are a good queen, adequate stores during spring build up, and plenty of room for the bees to store the crop when the flow starts. Another important factor is to have the hives in an area where they are likely to harvest a good crop. Simple, up-to-date, apiary production records help to ensure that you are not keeping bees in areas where there is little chance of their producing a good crop.

2. Have sufficient transport, extracting and honey storage capacity to handle a big crop without too much loss of production. It is important to gather as much honey as possible in the good seasons to see you through the poor ones.

3. Diversify: speciality honeys, pollination, queens and bees for sale, manufacture of beehive parts, production of pollen, royal jelly, propolis, etc, are all things which help beekeepers survive during seasons of low production or low prices.

4. When honey is easy to sell at good prices leave less for winter and spring feed and feed more sugar. Save more feed honey and feed less sugar when honey stocks are high and prices are low.

5. Have a policy of continually improving all aspects of your business. Small improvements to your methods, made regularly, can mean substantial improvements in efficiency and profits. In the long run it is the business which produces the best quality products at the lowest cost which is most likely to survive.

6. When things are good remember things will change and it pays to put something aside for a rainy day (or a drought).

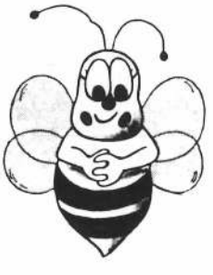
7. Spread your markets. Don't put yourselves in the hands of one or two buyers.

Above all think positively. It might not reduce the overdraft but it does make life more enjoyable and, after all, by the law of averages next season must be the year of Better Crops — Better Prices.

LEMON FILLING

¼ cup sugar
2 tablespoons flour
¼ cup lemon juice
½ cup honey
grated rind of 1 lemon
1 egg, slightly beaten
1 tablespoon butter

• Mix ingredients in top of double boiler. Cook over hot water, stirring constantly until thickened. Cool. Spread between layers of cake.



LETTERS

Dear Sir,

For hundreds of years our families have used and cooked with honey. Shortly after the depression sugar swept the nation and honey took a back seat.

Now we are finding out that honey is better for you and few know how to use it or cook with it.

I am in the process of compiling genuine time-tested recipes, remedies and recitals that have been in your family's kitchen and now can be shared.

No matter what the category: breads, desserts, main dishes, cures, sauces, dips, wines or whatever, send it.

Don't hesitate to list the home grown remedies, I'll print it.

Not only will I identify you and your recipe but will send you a free copy of the completed book!

Save the heritage of using honey! If you have an unusual experience, story, or happening with honey, tools, hives or bees, write it down and I'll include your event.

Please don't forget to include your return address. More than one recipe will certainly be accepted.

Thank you in advance,

Derrill J. Fussell
P.O. Box 293
Utopia, TX 78884
(512)-966-2480

Dear Sir,

Some 12 months hence I shall be setting out for a five-week holiday in your country. I would love to see a little of your beekeeping and in preparation I enclose US$23 for one year's subscription to your magazine, to be despatched by air mail.

P.S. Longbottom
Hon. Sec. Wharfedale B.K.A.
Stirton Grange
Stirton
Skipton
N. Yorks. BD23 3LN
Tel. (0756) 2837
England

Dear Sir,

Following from my experiences this season and discussion with other beekeepers, the question arises as to how selective our queen breeding industry is in relation to improving the quality of the stock produced.

Recent moves to import new breeds lead to lots of huff and puff about control of the new species, but nowhere do I recall any one queen breeder stating emphatically the truly scientific control in the form of artificial insemination of queen bees would be the norm adopted.

This was a feature actively promoted by Western Australia at the 2nd. International Beekeeping Conference held in July 1988 in Australia.

My records show that my "stroppy" hives were all supplied with new queens from the one supplier. Enquiries with the supplier resulted in free replacement of some of the queens. I compliment the supplier for this gesture to maintain customer goodwill.

Enquiries made since amongst the beekeeping fraternity about methods of queen selection have not led to any real satisfaction that modern, up-to-date selection methods are being adopted by our queen breeding industry.

Increased cost is an argument which no doubt will be promoted as a reason against adoption of such methods. As a beekeeper interested in improving the quality of the queen bees available for me to purchase, a doubling of the current cost in purchase would be warranted if it resulted in increased honey production per hive, which is the final arbiter of the worth or otherwise of the current stocks of queen bees made available to the beekeepers of this country.

Ham Maxwell

Dear Sir,

I was rather surprised to find a letter about biodynamic farming in the Beekeeper, they appear as strange bed fellows.

My hippy friends are very keen on biodynamics and lent me a huge biography of Rudolf Steiner. It was an incredibly dull book, but with perseverence I finished it. There was much talk of Rudolf Steiner lecturing in Frankfurt, in Stutgart, in Baden-Baden, and so on, but very little on what he said.

There was one part where the book finally came to life. Steiner's followers decided that they must have a laboratory and to do some experiments. However the movement had attracted no scientists so they were not sure what a laboratory needed. They finally acquired a room with a supply of water and of gas. Then they wondered what to investigate but could not think of anything. Finally they asked the boss. He suggested they should investigate life forces.

"How do we do that?"

"You get a bucket of water with a frog in it," was the answer.

I did not know whether to laugh or weep. I still don't.

So here we go again . . . 'a totally sustainable basis without the use of agricultural chemicals!' Is it not odd how many people are terrified of chemicals? The whole idea of a plant is to turn chemicals such as nitrogen, phosphorus, potassium, calcium, sulphur into plant material. Nitrogen from horse dung is identical with nitrogen from urea, calcium is the same chemical if you take it from calcium oxide or from egg shell. Potassium is the same chemical whether it is obtained from seaweed or from potassium nitrate, and so on. There is no material thing in this world that is not chemical.

I would suggest that a better way of solving the world's food problems would be to increase the use of hydroponics, that is, growing plants in organic chemicals only. This probably produces better food plants than any other known methods. Note the word 'probably', we really have as yet very little idea on how to measure food.

George Nichols

Dear Sir,

Please renew my subscription. I have enjoyed your fine publication. I am particularly interested in mead making and would like to see an article on this subject . . . perhaps an interview with Leon Hovill.

Ron Lunder
P.O. Box 1174
Westwood, California
USA 96137

(Editor's note: This issue carries an article on mead making.)

Dear Sir,

I am renewing my 1988 subscription.

I run over 1000 hives in southern and central California. It is interesting to read about the bee business in your country. Some time it would be good to visit New Zealand for pleasure and some business. It would be good to talk to beekeepers and see locations of bee yards.

Thanks for the good magazine.

Daniel W. Fuller
P.O. Box 547
Murrieta, CA 92362 USA

Obituary

It was with sorrow we said farewell to William George Ogilvy at his funeral on 17 March 1989.

Bill was a highly respected and much liked member of The Otago and Southland beekeeping fraternity.

He took over his business from his father who was a well known beekeeper in Romahapa (South Otago). Bill contributed much to the community to which he belonged. His service took place in the Warepa church which he helped to build and his remains rest at the Romahapa cemetery belonging to the district he loved so much.

Our thoughts go out to Mrs. Ogilvy and Bill's family.

The KZ7 Factor in queen quality

By Reg Clarke

The single most effective way to increase the profitability of beekeeping is to use queens of the highest possible quality. If you can agree with that sweeping statement, then you may have grounds for serious concern as you struggle to placate your creditors. For it appears that our average standard of queen qualilty is not as high as it ought to be. I say "appears" because the evidence is very scanty, and of the many economically important qualities of queens, few can be readily measured. The hard data is confined to two surveys. The first — a survey of N.Z. Queen Breeders stock, was reported by Cliff Van Eaton in the Summer '86 N.Z. Beekeeper. Cliff concluded that all was well apart from a few producers who could benefit from an advisory programme; but since then the Government axe has chopped large holes in our advisory service, and queen-quality improvement has fallen through one of them. The second study, of queens exported to Canada, was carried out by Guelph University, Ontario, and reported in the American Bee Journal of Nov. 1988. The quality was well below that of the '85 survey, and 59% of queens superceded in the year of introduction. There is also the negative evidence: the '85 survey was meant to be part of an on-going programme of quality improvement. Yet in the year to April, 1989, only three queens were sent to the MAF Lynfield laboratory apart from my own, and all were sub-standard.

This question of quality is relative. Cliff compared the '85 queens with data on American queen breeders' stock and concluded that all was well. Guelph found that surviving NZ stock compared well with their own. My own approach is to be totally uncompromising. Comparisons should be made with the highest possible standards and not with the mediocre. When Michael F[illegible] and his team challenged for the America's Cup, they committed themselves totally to being the best in the world. We need a little of that K.Z.7 spirit in our business.

Four measureable physical attributes control a queen's egg-laying capability, and hence have a major effect on colony population and honey crop. These vary over a wide range, controlled almost entirely by the way the queen larva is nurtured during the critical six days of larval feeding. These measures are weight, ovariole number, spermatheca volume, and sperm amount. Weight is a reliable indicator of ovariole number and spermatheca volume, of great value as the only evidence of quality available from a living queen. Sadly, we can only be certain of how good a queen might have been by killing her. Nosema Spore lev-

els should also be measured, as infection can ruin the best of queens.

We cannot go much further without using figures. The table of queen data shows the four parameters along vertical axes, which have been aligned so that a queen of exceptional quality in all respects records a straight line score (Line A). This relationship remains broadly true for lesser queens, except for sperm amount. The figures for small queens suggest to me that they may be sexually unattractive, for they contain only half the number of sperms to be expected in proportion to their spermatheca volume.

Mean values are shown for six groups of queens:

Line A. A standard of excellence just achievable with the best of technique and conditions. Values are close to the highest recorded and have been equalled by NZ Queens.

Line B. MAF Qual published quality standard. Note that the weight is low in relation to 300 ovarioles, and that 3,000,000 sperm represents only one year's supply. This appears to be based on a report by Jay and Dixon on USA queen breeders' stock. The K.Z.7 theme of **not** merely matching the opposition applies here.

Line C. Data from the 1985 NZ queen breeders' survey. (C. Van Eaton, Summer '86 NZ Beekeeper). Note that values are below line B except for weight and sperm amount, where the standards are low.

Line D. Export queens tested at Guelph, 1988. Ovariole numbers were not recorded; if in proportion to weight they would be in the 250 to 280 range. Quality may be reduced by production in late Autumn?

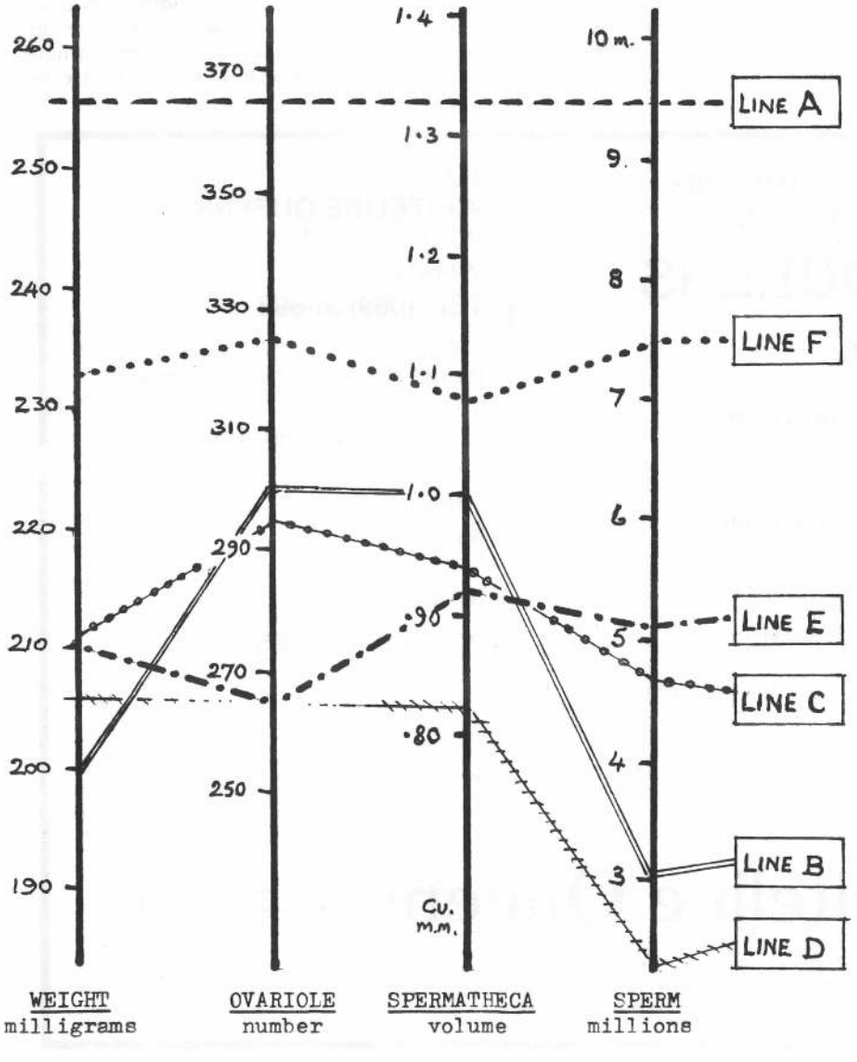
Line E. Control Queens from the author's queen quality trial Dec. 1988. Produced by conventional methods, with only sugar syrup stimulus feeding. Conditions favoured good mating success, but ovariole numbers are low.

Line F. Experimental Queens. Same trial as Line E, with the finisher hive diet boosted with extra minerals and vitamins, but witout supplementary protein.

There is space here to touch on my own queen nutrition research, only by including the above data. The project is incomplete but showing promise. A research grant from the Honey Industry Fund will enable completion next Spring, and in the meantime an interim report will be available at Conference.

The Consumer's Viewpoint

Quality control is for consumers as well as producers. You are entitled to a product of "merchantable quality". While tht is not easy to define, you can monitor quality if willing to invest time and money in it. At the simplest level, have a sample of queens weighed. If below 200 mg., then you have good grounds for complaint. Chemist or school laboratory scales would be suitable. If large numbers of queens are bought, consider sacrificing a few for MAF Qual testing. Think of it as an insurance premium: with consumer law



HONEY DELIGHT

1 package lemon or orange flavored gelatin
½ cup boiling water
½ cup honey
juice of ½ lemon
1 can evaporated milk
½ pound vanilla wafers

• Dissolve gelatin in boiling water. Add honey and lemon juice and mix well. Fold in the evaporated milk that has been chilled and whipped. Pour this mixture into a pan that has been lined with crushed vanilla wafers. Place crushed vanilla wafers on top of mixture and put in refrigerator to set. Cut into squares. Serves 6.

PECAN ROLLS

½ cup butter or margarine
1 cup honey
1 cup pecan halves
sweet roll dough

• When sweet dough is light, punch down and let rest a few minutes. Roll out in sheet one-half inch thick. Brush with butter and spread with honey. Roll is a jelly roll and seal edge firmly. Cut into one-inch slices. In bottom of the baking pan place butter cut into small pieces. Spread honey over this and scatter on the pecans. Place rolls one inch apart on the honey and butter mixture. Cover and let rise until double in bulk. Bake in moderate oven (375° F.) 20 to 25 minutes. Let rolls stand in pans one minute after baking before turning them out. If greased muffin pans are used, place ½ teaspoon butter and 1 teaspoon honey in each muffin cup.

on your side the expense is probably recoverable if you hve been unlucky enough to buy some duds. The cheapest useful test would be ovarioles and sperm amount at about $11 dollars, or $21 for a more extensive test. Just 50 hives, each producing 10% less honey than average will cost you 10 times that much each year in lost crop revenue.

Value for Money

Price and quality go together here as elsewhere. Queens of the highest quality cost more to produce, and if we all buy the cheapest maybe we exert a market force tending to lower quality? What is a better queen worth? Consider a modest increase of 10% more honey in each of two seasons on the average crop of 30 kg. This is worth an extra $9.60. For 20% increase double that. At the 10% level you can afford to pay $15 per queen and still be $5 better off. And you gain a second bonus by avoiding the losses caused by excessive supercedure.

The Positive Side

If this all seems a little negative, consider the other side of the coin.

1. The best queen producers have a product which on average is excellent.
2. The genetic quality of our stock is good — but let us set about improving it.
3. The importance of superior nutrition in queen rearing is beginning to be recognised.
4. We have the means of ensuring quality standards are high if we will trouble to use it.

A Challenge

Many queen producers are justly proud of their stock, and may perhaps be offended by my generalised criticisms. Will they accept a challenge to lay that quality on the line? I propose an annual competition, open to any NBA member. This would function rather like the annual wine competitions — a set number of queens would be submitted for quality testing by MAF Qual. Gold, silver, and bronze awards would be presented annually. That would be a very powerful marketing tool for the successful, and a great incentive for those less successful to do better. This would be elite stock, specially raised for competition, but so are many of the wines. The point is that the skills and techniques necessary for the top awards would be transferred at least in part to commercial production. They would have to be. To revert to the wine analogy, you cannot stay in business long if you sell 'plonk' under a gold medal label. If this were successful in lifting the average of queen quality to something much nearer that of the best, the whole industry would benefit by the lift in production.

Conclusion

In his queen quality survey of 1985, Cliff Van Eaton lit a torch that could have guided us to higher standards and better profits. When he laid the torch down and left MAF it may have gone out. If my comments have fanned the embers enough, we may yet benefit from the light.

"If you a happy cook would be,
Use honey in your recipe."

FROM THE COLONIES

Marlborough

Crop size: some peaks of 30kg/hive but average probably below 20kg. Some severe cash flow problems over the last few months with an increase in earnings only a promise but not in the bank yet.

Our AGM was successful, but only a small number attended. A rise in branch subscriptions was moved and passed in an amended state. The rise is mainly to cover the projected increase in postage and will bring into line all members of our Branch so that everyone pays a minimum of $10.00 towards the running of the branch.

After the AGM we heard an update from Reg Clarke about his feeding of queen-rearing hives with a nutrient mix obtaining impressive results. Unfortunately financial restrictions limit his sample sizes.

A PR day in conjunction with DOC was held at Whites Bay, our local swimming beach. We searched for and poisoned wasp nests. No parasites were found in any nests when samples were analysed by Henrik Moller.

Autumn has been dry after a January rain so farmers are going into winter very low on feed. Stock numbers are being reduced and should remain so for next spring.

So see you all at confernece.

James Jenkins

Hawkes Bay

Twelve months ago we reported how Cyclone Bola had devastated the entire rural sector of the province, and that beekeepers along with other agricultural and pastoral folk, would have a lean hard winter in front of them, although their fighting spirit would keep them going to a bigger and brighter 1989 season. Little did anyone realise then that we should have to record that the 1989 honey crop was to be the poorest in history: barely one-tenth of what it should have been. We all know now that beekeepers will have a problem to feed bees over the winter, to find enough work and income to feed themselves and then, hopefully, have enough hives available for the spring pollination.

In spite of the "doom and gloom" of the crop situation, Branch interest and fellowship is still very much alive. Meetings are well attended, and plenty of constructive discussion and helpful demonstrations are afoot.

The recent Annual General Meeting with perhaps only an average attendance was nevertheless a night that went with a swing. With the exception of two committee members, all sitting members from our president down were re-elected, so we may assume they are doing a grand job.

We were delighted to have MAF officer Ted Roberts from Palmerston North with us at our AGM. Just how he managed to produce a copy of "Memoirs of Early Beekeeping" by Mr. James Darcy from his archives we don't quite know. However he certainly rekindled some memories among the older beekeepers present. Thank you, Ted, for a very entertaining talk. We did note that one of the prizes in our raffle was on its way back to Palmerston North. Congratulations Ted!

It was with great interest that recently we saw our local MAF officer's name in the Vital Statistics column of the local newspaper. From the whole Branch congratulations to Richard and best wishes to Heather.

Gordon Sutton

South Canterbury

As predicted this past honey season has been the worst since the mid 1950's. When the drought did break it was too late to stimulate clover growth and so a large number of hives failed to gather a surplus of honey, in some instances not sufficient to take the bees through to next season.

However the rain did create a very good flowering of leatsear. The honey from this was stored in the broodnest and so in many cases will be ample for winter stores. Generally the average production would be about one third of an average season.

The local Branch held a very successful Gala Day at the premises of the NZ Beeswax Processors Ltd. at Orari. Pete Lyttle demonstrated the making of foundation and other machines used in the processing of Beeswax. Alan McCaw brought us up to date on the doings of the NBA and other speakers dealt with the release of the parasite to control wasps; bait's containing 1080 poison to erradicate opossums, droughts relief, the use of nucleus for queen rearing, and the use of computors relative to beekeeping. In all a very good day, so good that Peter Bray still had an audience of thirty around the computer at six o'clock.

Those who practice autumn requeening found this autumn perfect. Warm, windless weather allowed mating in the order of 80-90%.

These notes are the last I shall write, my successor will be someone much closer to the local beekeeping scene and so I say good luck for next season and my best wishes to my successor.

Harry Cloake

Waikato

The late Bruce Forsyth told me there was a year, long ago, when the season was so poor that the extractors never turned in the Waikato. The past season was not quite that bad but close.

Rain started New Year's Eve and carried right through February. March and April so far have been dry. Dairy herds are drying off with many farmers having fed out most of their hay and silage.

Our problem is that thousands of hives will need feeding from now on until early spring sources help. So many hives have lived day-to-day all through the season and even now are existing on pennyroyal.

One member tells of visiting 200 hives and bringing home eight supers of combs partly filled. We have had poor years before, but never one where the bees didn't gather winter stores.

Not only is nature unhelpful, but the financial situation is also unhelpful with high interest rates, and I feel sorry for those with loans to service.

Those who do Kiwifruit pollination have had a cash flow and will manage but I have heard several members say pollination is only worth doing if you can get a honey crop as well. I have also heard several say they would like to drop out of pollination because of the difficulties of raising hives to standard and working day and hight for weeks getting them into orchards. They feel the price per hive they receive does not compensate for their work but I suspect they cannot afford to drop out as honey crops are not consistent enough.

I have a feeling the greenhouse effect will hurt beekeepers more than other agricultural industries. We are just so much at the mercy of the weather.

The Branch has an AGM on April 21 and item seven on the agenda is a discussion on how to survive a disastrous honey crop. It will be interesting to listen to ideas.

Ray Robinson

Nelson

Although the days are growing shorter, our Indian Summer continues. Pollinators are probably in reasonable order, and those who expected honey may get a little provided their areas are not too close to the hot spots of Waspville.

Strange, isn't it, how the infested areas change from year to year for no apparent reason.

Where we held our Field Day we found, and destroyed, 17 wasps' nests in a very small area. There seems to be many places like that, and where it is impossible for bees to survive.

I had a circular about the price of honey recently. I compared it against the rises in telephone and other charges and I wonder how we can afford to wait for the big payout.

Ron Stratford

Otago

South and West Otago have secured good crops of honey, but further inland the takings are much lighter. From late summer onward the coastal area has experienced a lot of changeable weather but overall it has been favourable to get on with the job of gathering the crop.

A number of our branch members joined Southland at their field day held at Balfour. Very enjoyable and with a marked absence of glum faces.

Preparations for Conference are being made. Another Committee meeting coming up in the near future.

John Heineman

"Of all the cookies I have eaten
Those made with honey can't be beaten."

South Western Districts

Southern North Island

Once again we won first prize for our Honey Exhibit at the Levin Horticultural Field Days on February 17 and 18. Beekeepers throughout our district displayed their honey and trading was brisk. I am encouraged by the obvious impact this kind of promotion has.

As Allen McCaw (NBA National President) said at our A.G.M. in Palmerston North (17 March) we produce a specialty product. Our national production is small, 8,000 tonnes a year, and our export tonnage barely causes a ripple on world markets; but from people who demand honey free from contaminants of chemical residues and impurities, we should expect top prices if we promote a clean green image.

Chris Brommell was again voted president and Merv Farrington secretary for another year.

Ted Roberts, Apiary Advisor, reports that apart from a significant outbreak of American Brood disease in the spring in the Otaki-Levin area, the rest of the district has been relatively free.

Now with winter upon us, and the busy field work routines quieten down, we should heed Allen McCaw's advice: "Do some financial planning." In the aftermath of a poor crop, re-examine costs and methods, and for what honey we have, re-assess its price.

John Brandon

Bay of Plenty

The season turned into a complete disaster with very few hives producing even the smallest crop. In this area its rare to find a beehive with enough stores for the winter. Some have already died. Many more would have starved but the change to fine dry weather has enabled them to bring in just enough to keep going. Large quantities of sugar are being fed by those who can afford it. The situation is made worse by the depression in the Kiwifruit industry which has left a number of beekeepers waiting to be paid for pollination. When an orchard is sold in a mortgagee sale and there's not enough for the

secured creditors where does it leave the beekeeper? The Branch has circulated all its commercial members with a questionnaire to discover how badly affected they are, and with a view to gaining some assistance to help them survive.

Peter Townsend

Canterbury

At last we are at an end to the 1988-89 season. It must have been the worst of all time. Starting with massive sugar feeding to get the stock up to the mark and then to finish with next to no crop in most cases was almost unbelievable. Unless there is a drastic change in the weather we could be in for more of the same. The drought is worse now than in the middle of summer. Large areas of pasture are stripped bare by sheep and will need a lot of rain to get the clover to regenerate.

There are a few pockets that managed to achieve 30 kilos per hive, but the majority barely have winter stores. The hives are generally very strong as work has been to a minimum. This year we have had serious spray damage from chemical residues dripping on to lush clover in the orchards. In many cases this has been the only clover for miles and bees from honey-producing hives have been working it in droves. In future, it may be impossible to keep bees in the surrounding areas because large orchard's are expanding in Canterbury.

The Branch is planning a Spring Field Day and also intends to have discussion group meetings during the remainder of the year.

Let's hope the rains come and the sugar price falls before next season. Otherwise we will all be on drought relief.

Richard Bensemann

Northland

The fine weather finally arrived — a month too late! Many Branch members who rely on pasture sources have little or no crop this season and are facing hardship this coming winter and spring. However there was a good strong late flow in bush areas.

In early February we held an emergency branch meeting to assess the situation. We decided we must inform the minister immediately of the grave problems and to find out what if any assistance in the worst difficulties.

Hopefully the poor crop this year should send price of honey up to a reasonable price.

Brendan Nichols

Auckland

In the last 'Notes' I said that the honey flow was now on. Well, it was very short-lived. The rain lasted for two weeks and when it finished most of the flowers were washed out. The clover was very poor until the end of January. Very little honey was produced and, in some cases, hives had no stores by the middle of March. Frames that should have been full of capped honey were full of brood instead. Not just a few frames, but whole supers. Beekeepers in this area have very little honey for extraction. Any overseas trip this year will be to Waiheke Island!

Into March, and the bees have collected some penny royal, which will help a little.

Queen rearing has gone very well with calm, hot days making good mating weather. Our hope now is for a cold, dry winter, or we shall be feeding sugar early in the coming spring.

Dave Young

Westland

Westland experienced another dry, mild autumn this year. It kept the bees active, gathering what pickings were available. It's always a pleasure to work around an apiary in warm sunny weather, with the bees actively engaged in their own business, and no pressure on your part due to a honey flow. At such times one gets the opportunity to reflect on the many facets of the bee world.

As mentioned in the February notes, Westland's crop was below average. In fact it appears to have been around half. Although the nectar was available and the summer weather good overall, the wet spring had taken its toll.

A few days after sending in the last branch notes, which reported that wasps were no problem, the first wasps appeared. With the fine autumn they became a plague in some areas. The common wasp has also been identified for the first time here and no doubt has a bearing on the problem. The competition for honeydew was rather one-sided. The beech trees were literally crawling with wasps. Already there have been reports of wasp problems in some apiaries. It looks as if beekeepers must be alert as the weather cools this winter.

An indication of the extent of the wasp problem was given recently by men cutting survey lines through beech forest. They reported three nests per 100 metres of line cut! That was consistant over several kilometres. It would be reasonable to assume that in an area of 100 metres square there could be up to 200 nests, or 20,000 nests to the square kilometre. That seems a phenomenal number, but even if over estimated four times, then 5,000 nests is still an incredible number. "Food for **thought**?" or should I say: **"parasites"**?

Sandy Richardson

PATENTED MOUSE HERALDS NEW ERA FOR ANIMAL HUSBANDRY

In the United States the first-ever patent for a genetically engineered animal has been granted. Stirring up a storm of controversy out of all proportion to its size, the newly patented mouse strain was developed by two Harvard researchers.

They introduced a gene to the mouse at its very earliest stage of life — while the embryo was forming. The gene is one that makes animals particularly susceptible to carcinogens.

This breakthrough will be important for cancer research, providing a reliable means for evaluating both carcinogenic products and cancer drugs.

Predictably it has stirred strong feelings in the United States, from animal welfare groups and religious leaders who condemn the research, through to farmers who actively support it as a gateway to keeping American farming competitive. Although this one patent has been granted, pressure from various groups could see further patents on animals legally blocked in the United States.

While the new strain of mouse goes to work in cancer research, biotechnology is producing some other interesting results.

One very exciting prospect is the development of animals that will secrete human pharmaceutical proteins which could be "harvested". Already this has been achieved on an experimental basis in Scotland, where a sheep is producing human clotting factor in its milk.

It may not be too long before we see specialised strains of animals being farmed for human health products that are either extremely difficult or expensive to produce in other ways.

Insulin is another case in point. Traditionally recovered from the pancreas of pigs, it is now possible to produce it using genetically engineered bacteria. The resulting product is much "cleaner" than the animal-derived insulin.

For food and fibre production, the possibilities offered by biotechnology are endless. In the widest sense it can be used to improve reproductive performance and growth rates. It an confer resistance to pests and diseases, and it can circumvent years of selective breeding to change the qualities of milk or fibre to match what the market wants.

NATIONAL BEEKEEPERS' ASSOCIATION 1989 CONFERENCE

AGM, CONFERENCE OF DELEGATES, and NBA SEMINAR
DUNEDIN JULY 24-25-26-27

VENUE

Pacific Park Hotel, 21-24 Wallace Street, Dunedin
Telephone (024) 773-374. Fax (024) 771-434

NBA SEMINAR
Theme: *"Towards the 1990's"*

am: *Product diversification:*
— Food Technology
—Beekeeping methods
—New market developments

Climatology — "The Greenhouse effect"

pm: *Using computers in Beekeeping:*
—Hive records
—Budgetting
—Word processing
—Accounting
—New technology

PROGRAMME

Monday 24th: Specialty Group meetings. Social get-together 8.00 pm at Pacific Park.
Tuesday 25th: NBA Seminar. "Tecpak Tour & Tipple" in evening.
Wednesday 26th: Conference all day. Social Dinner and Dance pm.
Thursday 27th: Conference all day. Bus trip for ladies.

COSTS

Social get-together: "Happy Hour" 8-9pm, thereafter own expense. Supper 9.30.
Seminar registration: $10 inc. morning and afternoon teas.
Conference registration: $25 inc. morning and afternoon teas and bus trip for ladies.
Social Evening: $33 single, $60 double — includes dinner dance and entertainment (with a Scottish flavour). Tickets at registration.

ALL COSTS ARE INCLUSIVE OF GST — No money in advance please.

VENUE

PACIFIC PARK: Located in a peaceful setting of shrubs and trees overlooking Dunedin's magnificent harbour, the hotel provides first class accommodation, with all the usual facilities. 59 centrally-heated rooms, each with one double and one single bed, priced at the special Conference flat rate of only $66 per night (GST included). Colour TV, tea and coffee, and mini bar provided.

For those with added needs, there are several multi-bedroom deluxe suites, with lounge and kitchen facilities, available at $110 per night (GST included). For the more adventurous — try a waterbed and whirlpool suite at $165 per night (GST included)!

Pacific Park provides a superb a-la-carte menu, and special catering arrangements are being made for Conference. The restaurant just recently won a coveted award for excellence in its cuisine. The hotel is 5 minutes walk from Dunedin's olympic sized Moana Pool; and 3 minutes from Olveston, a magnificent stately home which is open to visitors daily. A courtesy van is available for hotel patrons to go into the City shopping centre, which is just 15 minutes walk from the venue.

PLEASE BOOK DIRECTLY WITH PACIFIC PARK — tell them you are with the NBA.

The Otago Branch will provide transport from Dunedin Airport if required, but we must receive details of your flight times at **least one week prior to Conference.** Contact one of the committee members listed below.

The NBA Otago Branch cordially invites you to experience the delights of our southern hospitality at the 86th Annual NBA Conference. For information, please contact:

Secretary: Neil Walker, 2.R.D. Milton, Ph. (02997)4614
Conference Organiser: Lin McKenzie, Ranfurly, Ph. (0294) 49257

A bee stock improvement programme for New Zealand?

By Derek Bettesworth
Apicultural Advisory Officer

INTRODUCTION

Dramatic improvements in plant and livestock production have been made using genetically superior stock produced by selective breeding. Problems with selective breeding of honey bees caused by their peculiar mating and sex-determinations systems have now been overcome.

The opportunities offered by a selective breeding programme have never been taken up by the NZ beekeeping industry, although a few individual beekeepers have attempted to improve stock within their own outfits. More than ever the NZ beekeeping industry is under financial pressure. The possibility of export opportunities and the need for greater profitability may now provide the necessary incentive for cooperative action.

REASON FOR THIS DISCUSSION PAPER

At a meeting of queen producers and other interested beekeepers at the NBA annual conference July 1988, and after considerable discussion, consensus was reached on the following objectives.

1. To identify and evaluate the bee stocks which we have in NZ.
2. Set up a breeding programme to improve our stocks.
3. To do this at an affordable price.

This paper briefly looks at the surrounding issues which need to be considered and evaluates some of the options available to us.

SOME BACKGROUND CONSIDERATIONS

THE IDENTIFICATION OF NZ STRAINS

We have two clearly identifiable races of honey bee in NZ, the black bee *(Apis mellifera mellifera),* the Italian bee *(Apis mellifera ligustica)* and a full range of intermediate hybrids. There must be some doubt as to whether or not within this range, consistently identifiable, relatively pure breeding strains exist. Bees within some outfits can apparently show as much variability as the range that can be found NZ wide. The factors which contribute to this uniformly variable population are:

1. A relatively small number of queen producers who suppy stock nationwide.
2. Exchange of breeding material.
3. Presence of feral colonies in most districts.
4. The open mating system of the honey bee combined with relatively few geographical barriers to drone flight.

The only way to determine whether distinctive strains exist is to bring them together and evaluate under uniform conditions. This could be done as part of the screening in process, when the best colonies are being chosen to make up the founding hives of a breeding programme.

If desirable strains can be identified then consideration will have to be given to their maintenance, either as part of an improvement programme or separately.

FACTORS INFLUENCING THE RATE OF IMPROVEMENT

NEED FOR CONTROL OF GENETIC BASE

No rapid improvement in any selected characteristic (i.e. honey production) is possible unless selection takes place within a closed population. A closed population is one in which the uncontrolled entry of undesirable genetic material is prevented (carefully controlled entry of new screened material is permissible). Stud livestock breeds are examples of closed populations.

NUMBER OF CHARACTERS SELECTED FOR

The more characteristics chosen for evaluation and selection the slower the rate of progress. A consensus will have to be developed here as to which are the most important. Obvious ones are nett honey production, overwintering, quiet temperament and disease resistance. A compromise should be possible by selecting say the three most important characteristics for positive selection. Negative selection could be applied to other chosen traits so that for example any colony showimg more than a certain level of brood disease, swarming or aggressive behaviour was eliminated from the population.

SIZE OF POPULATION

The larger the population the more severe selection can be and the greater the rate of progress that can be made. Obviously financial considerations will put an upper limit on the size of any breeding scheme.

MATING CONTROL

No significant progress can be made without control of mating. Two options are available:

(1) Use of an isolated mating area where only drones from selected colonies are present. This excludes unwanted drones but gives no control over which drones mate with any queen.

(2) Use of instrumental insemination (II). Instrumental insemination gives total control over mating so therefore permits most rapid progress. However it is a costly and labour intensive process requiring specialist equipment, skill, careful planning and management.

OVERCOMING THE INBREEDING PROBLEM

The system bees use to determine sex is a feature which complicates attempts to make genetic progress using traditional line breeding of close relatives. Loss of sex alleles from the population produces low brood viability causing great difficulty maintaining lines. Computer simulations have shown that a reasonable rate of improvement can be made and brood viability maintained for 10 years by using a closed population of 25 families. Progeny are reared from each line each year and mated with semen pooled from drones from all of the families in the population. Pooling of the seman has the effect of standardising the male contribution, so that in effect each queen receives an equivalent genetic contribution from the male side. The best queen from each family is chosen as the queen mother for the next generation of that family. (A more detailed description can be found in Appendix I).

The Western Australian bee breeding programme is a good example of the successful application of this system.

NEED FOR LONG TERM COMMITMENT

Any genetic improvement gained by a selection programme will soon be lost unless selection pressure within a closed population is maintained. Any investment in such a programme would

be wasted without a long term commitment to its continuance.

WHO PAYS

Ultimately the most important consideration is the question of funding. In the present economic climate it is most unlikely any direct Government input would be available. The ability of the industry to pay is limited. Remember that any commitment must be long term! There are two obvious approaches to funding which are not necessarily mutually exclusive.

1. Funding by participating beekeepers who would then be the ones to benefit from the use and sale of improved stock.
2. Funding by the industry as a whole (trust funds?) with the improved stock being made available to the industry in some way.

SOME OF THE OPTIONS

OPTION I — DO NOTHING

BENEFITS * No extra costs to industry or individual beekeepers.

COSTS * Loss of opportunity for NZ beekeepers to increase profits by use of superior stock.
* Possible reduction of export opportunities.

OPTION II — CLOSED POPULATION BREEDING PROGRAMME USING INSTRUMENTAL INSEMINATION AND EVALUATION AT ONE LOCATION

BENEFITS * Most rapid progress with this option because of total control over mating and evaluation under standard conditions.

COSTS * Very expensive option. (See Appendix II for rough cost estimates)

OPTION III — CLOSED POPULATION BREEDING PROGRAMME WITH INSTRUMENTAL INSEMINATION BUT EVALUATION OF COLONIES BY PARTICIPANTS IN OWN OUTFITS.

BENEFITS * Costs reduced as colony evaluation done by participants.
* Participants retain direct control of selection for next generation.

COSTS * Progress less rapid than II because evaluation not standardised.

OPTION IV — CLOSED POPULATION BREEDING PROGRAMME USING NATURAL MATING IN ISOLATED MATING AREA AND EVALUATION UNDER STANDARD CONDITIONS

BENEFITS * Cheaper than II and III because natural mating used.

COSTS * Slower progress than possible in II because of less control over mating.

OPTION V — CLOSED POPULATION BREEDING PROGRAMME USING NATURAL MATING AND EVALUATION BY PARTICIPANTS

BENEFITS * Cheapest closed population breeding programme.
* Participant input into selection.

COSTS * Least control over mating and selection therefore slowest rate of progress.

OPTION VI — IMPORT SEMEN FROM WESTERN AUSTRALIAN BEE BREEDING PROGRAMME

BENEFITS * Fastest route available to us for genetic improvement as we would be taking advantage of several years of selection already done in Australia.
* Cheapest option available to NZ at present.

COSTS * Bees selected for superior performance under W. Australia conditions may not perform well in NZ.

* Small risk of introducing exotic disease to NZ.
* Control of scheme out of hands of NZ beekeepers.

APPENDIX I
TASKS INVOLVED IN CLOSED POPULATION BREEDING PROGRAMME

1. Screen donated or bought in colonies to select 25 best as founding families. (This would be done once only, at initiation of programme).
2. Rear at least five virgins from each founding queen (early spring).
3. Rear drones from all families (early spring).
4.(a) Collect semen from drones of all families, pool semen, inseminate all virgins, care for inseminated queens (spring) or
4.(b) Set out virgins in mating nucs in isolated mating area with drone producing colonies (spring).
5. Introduce mated queens of new generation to colonies and build up to full strength (late spring).
6. Overwinter colonies.
7. Evaluate queens and select best one from each family for next generation of closed population. Sell or distribute remainder (autumn and late winter/early spring).
8. Start back at two (early spring next season).

APPENDIX II
COST ESTIMATES OF OPTIONS

These are very rough estimates mainly for comparison. More precise estimates would depend upon knowing who was going to do the job, where, and whether existing staff and facilities could be made available on a part time basis, compared to setting up a stand alone facility from the beginning.

All costings have assumed that the necessary hives, bees, nucs etc would be donated.

Possibly some income could be earned from sale of queens but this has not been taken into account.

OPTION II
CPBP USING II AND CENTRAL TESTING

Full time technician	25,000	
Seasonal help	15,000	
II contract	10,000	
Overheads, admin. transport etc	15,000	
		65,000
One off setup costs		
building-lab and storage	40,000	
vehicle	10,000	
II equipment	5,000	
		55,000
		$120,000

OPTION III
CPBP USING II AND PARTICIPANT TESTING

part time technician	15,000	
seasonal help	10,000	
II contract	10,000	
overheads	12,000	
		47,000
set up costs as in Option II	55,000	
		55,000
		$102,000

OPTION IV
CPBP, ISOLATED MATING, CENTRAL TESTING

full time technician	25,000	
seasonal help	10,000	
shift to isolated mating area	2,000	
		37,000
one off set up costs		
vehicle	10,000	
storage building	20,000	
		30,000
		$67,000

OPTION V
CPBP WITH ISOLATED MATING AND SELECTION BY PARTICIPANTS

part time technician	15,000	
seasonal help	5,000	
shift to isolated yard	2,000	
overheads	10,000	
		32,000
one off costs as in IV	20,000	
		20,000
		$52,000

OPTION VI
IMPORT SEMEN

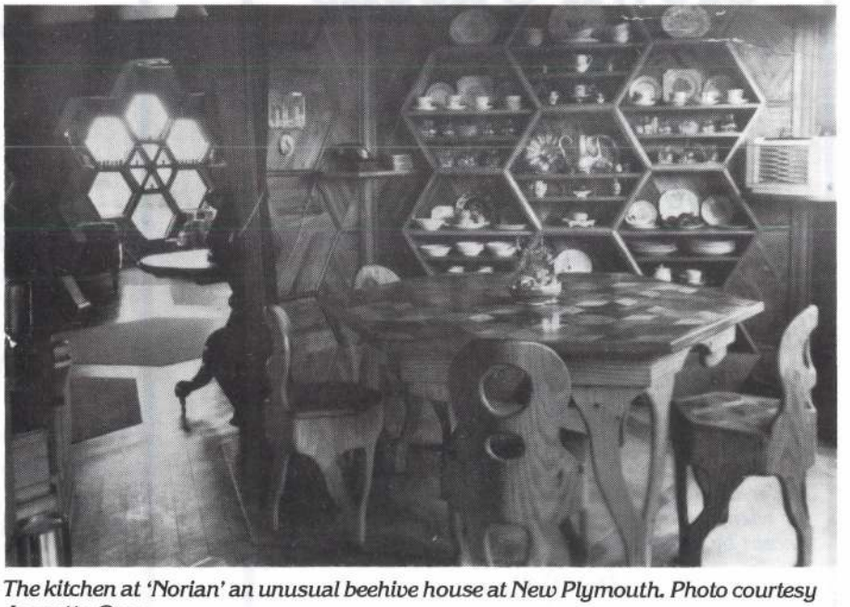
Freight etc	100	
semen per queen $100	1,000	
MAF charges to supervise quarantine	1,500	
disease testing	500	
contract to inseminate and care for queens at $100 per queen	1,000	
		$4,100

Assuming 50% of queens good at end of quarantine period each inseminated breeder queen would cost $820.

All comment and questions on this paper should be sent to:

Mr. Derek Bettesworth
Apicultural Advising Officer
MAF Qual
Ministry of Agriculture & Fisheries
Private Bag
Whangarei

AN UNUSUAL HOUSE



The kitchen at 'Norian' an unusual beehive house at New Plymouth. Photo courtesy Jeanette Grey.

What the store overlooks

By Ham Maxwell

Today's thought is on extraction. Why is it that when the crop is ready to be taken from the hives, difficulties arise? Despite advanced planning, ordering, and organisation, obtaining delivery of honey pots proves to be one of the most difficult tasks undertaken.

"Sorry, but a buyer came in and "X" did not know about your order and he sold all the stock to him." No, we don't know when new stock will be in." (The suppliers are real cagey in committing themselves).

"We do not sell to the public unless you purchase a minimum stock of $450.00 worth of containers.

"You little guys are a pain in the butt, coming in here expecting us to supply you with piddly amounts. I suppose we could let you have some pots, but don't make a habit of it.

"No, we don't have anything like your sample in stock. No, I don't know who could help you, we really do not take much notice of what others sell.

"Where are you from? Do you have an order? We only supply to trade on written order.

"You want to put honey into our containers? Gee, I suppose it would work! Don't know how good it will be.

"Do you have an account with us? Yes, we have just what you want, but if you don't run an account then we can't supply you."

Need I go on? All of us, starting small, have no doubt met one or more of the above reactions when looking for supplies of pots for honey.

It seems to me that all the suppliers have overlooked a basic marketing principal: find out what your customer wants, then endeavour to meet the need. They forget that they themselves started small, probably fell over themselves to get orders for their product. But, as demand for the product grew, they lost sight of the small guy; too much of a nuisance to handle.

Not even an offer to pay cash for the goods will induce supply. Surprising in this day of laments about poor payers of accounts, costs of debt collection, costs of charging goods on credit.

Local clubs can help the small guy. Band together with your orders to make a reasonable quantity. Demand a discount for cash payment and let the supplier know that further orders are imminent if he will get off his butt and show interest in your requirements.

You cannot force the wholesaler to supply you, but if sweet reason prevails, you may be able to get them around to at least listening to your requests. Often, it may be necessary to by-pass the guy on the store counter by insisting on seeing the sales or warehouse manager. Be reasonable in your approach, patiently explain your needs, and keep the smug look off your face when he tells the guy down in the store to let you have what you want.

No amount of careful planning on your part will come to anything if the people in the supply houses continue to employ staff who are just not doing their job. Given today's labour market, one could reasonably expect that more interest would be shown by the counter-jumpers in the supply houses. This in turn reflects on the boss who is failing to ensure the staff are giving top level service. Staff training is the obvious answer to such problems, with on-going refresher courses, such as those available at the local Community Colleges. Costly? That is up to the employer to decide. Given a choice between a bigger sales turnover or declining sales, there is only one choice for those who wish to stay in business.

Your small order today, your comments to other beekeepers about the supply of materials and quality of service, all add up to a potent sales force which is unfortunately not recognised by the sales people. That they are employed to perform a function on behalf of their employer is something which seems to have been forgotten by far too many of the characters one encounters at store counters.

In future, my money goes only to those who give me the three basics. Courtesy. Attention to detail. Prompt supply.

• *Honey is a natural, unrefined food. It is unique in that it is the only unmanufactured sweet available in commercial quantities.*

Since seventy-five to eighty per cent of its composition is sugars, honey has an energy-producing value second to raw foods. Cane and beet sugars must be broken down into simpler sugars by digestive juices before they can be absorbed into the blood stream and assimilated into the tissues. These resulting simple sugars, dextrose and levulose, make up almost the entire sugar content of honey. It has been clinically demonstrated that little digestion is necessary and that absorption takes place quickly.

MACHINATIONS

What do the beekeepers do in Marlborough when they are not keeping bees? The answer is just about everything and so we believe we have a strong, happy branch with a good mixture of both commercial and hobbyist beekeepers.

We have had during the last year; a honey-promotion day in the Mall; a day making new equipment for the Branch's hives; we displayed at the A & P show; held a field day on dual queen management; and we held our annual St. Bartholomew's evening to honour the patron saint of beekeepers. This is pretty much our usual year, but nevertheless at last year's AGM the call was for us to do something different. Hence the idea of a wasp eradication day was born.

We planned to hold a picnic and, at the same time, to eradicate some wasps in a popular picnic area. We chose Whites Bay because it always has a wasp problem and it is close to us all. The idea gained extra impetus when Henrik Moller heard of the day. He was keen to see if the parasitic wasps had spread from the two release boxes at the bay.

So off we went beekeepers, spouses and siblings plus a Department of Conservation Officer as DOC controls the reserve and was keen to see how things went. We hoped to find a few nests, destroy them, then later dig them up to send to Henrik.

Above: Rod McKenzie applies carbryl to a nest. Below from left: Reg Clarke spoons in the carbryl, Laurie Newman holds the numbered stake to mark the nest, and Rod McKenzie watches.

By the time the late arrivals arrived, the early birds had already located three nests and the even earlier birds had had a dip in the sea. Anyway, 'to work' was the call.

It takes the novice a while to spot wasps, and a while longer to distinguish them from bees. The Koromiko was in full flower so the bees were very active on this typically sunny Marlborough day. Once the difference between bees and wasps was established, it was how to tell the foraging wasps from the trafficking wasps. The traffic wasps have little red lights, said one of our brighter members.

In due course, and amidst a lot of hilarity plus some cursing, we had located and bombed six nests by lunchtime with only one sting recorded. Incidentally the 'brave' wore shorts, and tee shirts and hung around the rear guard; the 'semibraves' wore overalls and the 'wise' wore gloves and veils as well.

IN MARLBOROUGH

From Rod McKenzie

By the time the afternoon ended we had destroyed 18 nests with Carbryl powder. Each nest was flagged with a numbered marker to make it easier to find later on.

Two days later, a small party returned, dug up each nest, bagged it and sent them all to DSIR. At the same time, a further six nests were destroyed. None of the nests was host to the parasitric wasp which was disappointing for us, but Henrik is quite philosophic about it.

The Branch gained great publicity from the day. We made the front page on two days. The effort was greatly appreciated by the public and DOC have reported that the wasps at Whites Bay are well down on previous years.

Maybe your Branch should try it next summer. We certainly shall repeat it.

Right: Reg Clarke standing on his ear to attend to a difficult nest. Below: DOC officer Colin Davis discovers where wasp stings hurt. Reg and Rod admire his gesticulations.

The health of our charges

By John Heineman

Animal health should always be of great concern to those who care for our fellow creatures; may it be as an agronomist running flocks or herds or simply caring for a pussy cat. The principle is the same for beekeepers.

Naturally there are some differences. If Tip is not well, he is taken to the vet. The vet will cure, or advise you how to cure, him, if that is possible. But that's not so easy with a bee hive. Also I doubt if the S.P.C.A. will or can concern itself about neglected hives.

You and I have elected of our own free will, to keep bee hives. Consequently that places upon us the responsibility of caring for them, ensuring that they receive the necessary attention, and of creating the right conditions for them. We have no control over some factors which create these conditions, but our own care or neglect play an important part. If for some reason we cannot fulfil our obligations, then we have a problem and must find a solution. That might be disposing of both bees and equipment to someone who can care for them in a satisfactory manner. After all no decent person will neglect a dog, cat, or any other domestic animal because caring for it has become too great a burden. This is not only a moral matter, it is a legal one. The owner of live stock, including bees, is responsible for this good care and control.

The law makes certain provisions regarding honey bees and their keepers. These rules and regulations are reasonable and we must abide by them. If we ignore these rules we may be prosecuted and fined. Above all we lose our reputations. In principle, the neglect of a bee colony is no less abhorent than letting a dog starve, dumping a bag with live chickens into the harbour or leaving a dead animal unburied to be scavenged. It is cruelty. It also endangers the health of other animals and may cause monetary loss to other people.

As a Beginner Beekeeper you are of course full of good intentions; but very likely you are at a loss when it comes to assessing the well-being of your colonies. That is nothing to be ashamed of. We all have gone through that stage, because we all had to begin so the first and most important thing to you must do, before trying to see abnormalities, is to become absolutely familiar with the appearance of a healthy, normal, well functioning colony.

A sheep or cow can be dealt with as an individual, even if it belongs to a flock or herd, but bees must be taken as a colony. A bee separated from the colony has no future. It is of little or no importance.

Once this picture of a contented colony with healthy brood, worker bees intent on their tasks, headed by a vigorous queen, and with adequate supplies of pollen and honey, is firmly established in your mind it will become possible to see deviations from the normal and diagnose the common bee diseases and disorders.

It happens that hives are found infected with B.L. without the beekeeper knowing that something is drastically wrong. The mobility to diagnose the abnormality as B.L. is understandable, but if tha beekeeper had known what a healthy brood pattern should look like, the abnormality would have been obvious and someone could have been called in in good time to make the diagnosis.

How to go about gaining that experience? The answer is by doing. Start with someone who knows what it is all about alongside you so that there is the certainty that the frame with brood you are observing is truly representative of a normal healthy pattern. Do it again and again and make use of photos, descriptions, and slides which are available to assist you in obtaining this very basic skill.

What you will see are eggs, larvae at different stages of development, and sealed brood. Not necessary all on the same comb. A queen should deposit one egg in each cell. The egg is fastened by one end to the cell bottom. After hatching the grubs should show up glistening, pearly-white. At first they lie 'C' shaped on the bottom of the cell, after four days they stretch out and look really fat and plump. Another one or two days and the cell will be sealed over with wax cappings which are a bit arched and should be of an even light brown colour. The shade of brown will vary somewhat from comb to comb but it is the uniformity which is important. Normal brood is found in expanding circles, surrounded by a band of pollen, and then honey towards the outside of the comb.

We are fortunate in New Zealand in so far as, until now, we have not been affected by a number of bee diseases found overseas. To keep these out of the country is a big and demanding task, especially with today's frequent and fast transport systems. Travellers and goods arrive all the time. Our nearest neighbours are only 3½ hours flying distance. Much credit must go to the Customs men and Agricultural Quarantine Service. And a vote of thanks indeed to respective N.B.A. Executive Committees for keeping up the pressure in the right quarters to continue these safeguards.

It would be a waste of time and space to endeavour to give a description in depth of all the diseases and abnormalities which may afflict our honey bees. It is unecessary, for you have access to a number of good books and other material of which you would make use. Those authors have done a first class job describing symptoms and corrective measures together with clear pictures. Much better than I could hope to achieve. But a summing up of what you should learn to recognise as deviations from the normal healthy state of affairs, action to take, and sources of further information won't go amiss. And of course this will be restricted to only the main and common troubles encountered by beekeepers in NZ.

Abnormalities in the development of, and damage caused, to honey bee colonies can be the result of:

a. Brood diseases
b. Diseases of the adult bee
c. Certain disorders
d. Pests.

The three most common brood diseases we shall encounter sooner or later are: B.L. or AMERICAN FOUL BROOD, AMERICAN BROOD DISEASE, AFB (one beekeeper calls it CLAP which is, of course, unofficial), SACKBROOD, or just SAC, and CHALKBROOd.

B.L. is an abbreviation for **Bacillus larvae.** No doubt it is our No. 1 enemy at present (and it has been for a long time). Every beekeeper must be continuously be alert for this one, for without a doubt it is endemic throughout the country and can so very easily turn into an epidemic.

It is caused by a bacterium which forms spores with an extremely high resistance against heat (boiling water), freezing, and drugs. The spores are carried in honey and pollen. If infected food is fed to the larvae the spores will germinate in the gut, multiply, and death follows. The rotting larva will be host to millions of spores, a source of

further infection. And so it carries on with devastating effect. The colony weakens, neighbouring bees will start robbing, and there you go, the epidemic is on the way.

When inspecting a comb, watch for any sunken cappings which may be discoloured (darker) and look greasy, or for cells with a perforated capping. The brood pattern may be scattered, depending on the stage of infection, as often bees will clean out dead grubs. **Test:** with a match or similar stick, remove the capping, and pull out the decaying larva. If it is brownish and draws out as a viscous ropey thread it is B.L. infection for certain.

At a later, more advanced, stage of infection the dead pupa lies on the cell bottom with its tongue pointing upward. In case a hive has become really riddled with the disease you will notice an unpleasant smell.

Please don't throw that match away. Stick it into the comb. It has become another source of infection.

What to do now? Close up hive immediately but not the entrance as yet. All flying bees must first return to the hive. If you used your hive tool on this hive don't use it on the next one without sterilizing it first (flame, petrol). Clean your hands thoroughly.

The bees, combs, brood, frames and stores, must all be burned as soon as possible. Do this in the evening or on the first cold day when the bees are not flying. First make the hive bee-tight, then pour in about ½ litre of petrol. Leave 10-15 min., the fumes will kill the bees. Meanwhile, dig a hole close to the site, at least 60 cm. deep by a metre or more square, depending on the amount to be burned. Go deeper in the bottom of the hole to create a "sump". Honey is difficult to burn so when it runs out it will drain into this sump. Under no circumstances must it be possible to bring it back to the surface (ploughing). Let everything burn up properly until only a heap of glowing ashes is left. Only then fill in the hole. This may be next morning. Overfill somewhat and fit in the grass sods you have put neatly aside when you started digging. Leave as little trace as possible, all part of PR.

Have paper and dry sticks to start the fire, and sprinkle them with diesel. Stack some of the combs loosly on to the kindling. Take care with starting the fire. Remember that you killed the hive with petrol and there will perhaps be fumes. When you shift the hive near the hole make sure it does not fall apart. I like to place it on sheets of newspaper to catch any bees and bits and pieces which may spill. Afterwards the paper goes onto the fire too. If any of the hive gear is very old and the worse for wear burn that too.

Good equipment such as supers, excluders, and roofs, may be salvaged if adequate facilities for sterilisation are available and MAF permission can be obtained. This must be done in very hot (160°C) parafin wax for at least 10 minutes. When done thoroughly the equipment is safe for re-use.

During a drought, there may be a fire ban. In that case the diseased hive must be burned elsewhere. To transport it elsewhere you must first obtain a permit from MAF. Make very sure before loading such a hive on to your truck or trailer that it cannot come apart and that it won't tumble off the deck while travelling. I like to wrap the whole hive in a large plastic bag.

The place where the hive stood must also be cleaned up. Sprinkle petrol over that area and burn it off. Then use your spade and turn over the sods and dirt.

Hive tool, gloves, overalls and hands must be treated with a strong disinfectant then washed in hot soapy water.

Yes, it is a very drastic treatment. Why don't we use drugs as is done in the USA and Canada? Drugs don't eradicate B.L. They merely suppress it. Once drug treatment is started it must continue. If stopped the disease flares up. There are other arguments against drug use. However, it is illegal in this country so don't think of it.

If you find this disease you must report it to the appropriate MAF office within a week. Don't wait till you fill in the annual return.

This is perhaps the most depressing aspect of beekeeping. Burning a hive is no fun. But it is probably not as bad as some of the trials and tribulations some of our overseas colleagues face.

The incidence of B.L. in this country is not high but concentrated trouble does occur as we have seen in recent years. We must try to keep it down and that can only be done if every beekeeper is really on the ball. Inspection by MAF, part-time inspectors, and inspection days as organised by some branches recently, are a real good measure, but the most important part is played by the individual apiarist. If it hits you, the owner of say, two hives

and both are infected, all colonies are lost. That is tragedy. A 1,000-hive outfit that has to burn 20 will get over it most likely. The difference however is that the hobbyist is not making a living from honey bees, but the 1,000 outfit is and can as a rule not stand many set backs. They usually get plenty anyway.

Prevention is always better than cure (eradication).

A. Be legal, be registered.
B. If you find disease, report it.
C. Inspect every time you manipulate hive. Take care when transferring combs etc. from hive to hive.
D. Hygiene in your apiary site. No spilling bits and pieces. No exposure of combs, etc, for any longer than necessary. Prevention of robbing.
E. Minimise drifting by **not** placing hives in straight neat rows with entrances all facing in the same direction. Different colours, little landmarks, help bees to home.
F. Try to trace the origin of the infection and clean it up.
G. Get that permit from MAF when you buy in hives and have to shift them.
H. If you run a small number of hives each one can be marked so that each extracting super can go back to the same hive. In the case of larger numbers I am a strong advocate for using tin or alluminium labels to hang on every tier in the super shed so it is known from which site they have come. That helps to isolate trouble and prevents its spread through the outfit.
I. Never ever become complacent where it concerns B.L. You may not have seen a trace of it for years, but it is always round the corner.

Having said this you may think that I am suffering from paranoia about to B.L. and perhaps I am trying to talk you out of beekeeping. Not so! Sure, we have had our shocks from time to time but have been able to cope with them and are still in business.

SAC BROOD is caused by a virus named SBV which attacks the larva. At first glance it can easily be confused with B.L., but it is not serious. It is present in many colonies but only becomes apparent under certain circumstances.

As with B.L., the brood pattern may look patchy with here and there sunken cappings often perforated. Use the matchstick test. There will be no ropiness. The dead larva comes from the cell in a sack which has a yellow to dark grey colour and when broken releases a watery content.

Sacbrood affects a hive mainly in the spring and the symptoms often disappear when the season advances. Severe cases will weaken a hive. The only cure is re-queening with a young vigorous queen. In bad cases this is best done by uniting a nuc. That will help to boost the weakened colony at the same time.

CHALKBROOD is caused by a fungus named *Ascospheara apis.* The spores of this fungus may be ingested by the larvae with their food, germinate in the gut, and after a few days invade the body and kill the larvae.

This occurs usually when the larva is at the elongated stage (stretched out in the cell). The colour of the dead larva is chalky white in contrast to the glistening pearly white of healthy brood. It may be found both in uncapped and capped cells. So any cell which shows an abnormal capping should be checked.

The dead body will dry out and becomes hard. The chalky white may change to grey and black. These remains (mummies) lie loose in the cell and can easily be removed. Bees will take them from the cells, drop them on the floor, and work them out of the entrance. It can be confused with white or old mouldy pollen, but that pollen won't come easily from the cells. It is most apparent in spring time.

Spores of this fungus are tough customers and will remain viable for many years. Heavy infections will weaken colonies and consequently affect profitability.

Curbing and prevention of spreading is the answer. This implies, as with B.L. and Sacbrood, no interchange of gear, honey, or pollen between infected and healthy colonies. Avoid of drifting. A healthy environment is important. You need a dry, sheltered and sunny position with good ventilation of the hives as well as the site. Damp always favours the development of fungus. The use of Chalkbrood resistant queens is also a factor in combatting this disease.

These are the three main brood diseases you should learn to recognise. When in doubt or at a loss ask your experienced neighbour, your MAF Advisory Officer, or send a sample to: LYNFIELD AGRICULTURAL CENTRE, 131 BOUNDARY ROAD, BLOCKHOUSE BAY, AUCKLAND (P.O. Box 41, Auckland 1).

Literature: PRACTICAL BEEKEEPING IN NZ, by Andrew Matheson, chapter 19, HONEY BEE BROOD DISEASES, by Henrik Hansen, AGLINK FPP 124 BROOD DISEASES IN HONEY BEES.

SLIDES (24) BEE DISEASES, Univ. of Guelph. A VIDEO on bee diseases can be borrowed from NBA. TECHNICAL LIBRARY, BOX 112, MILTON. Books are also available from library or may be purchased from Stuart Ecroyd Bee Supplies, Box 5056, Papanui, Christchurch. Aglinks are available from MAF.

(to be continued in next issue)

LIBRARY NEWS

By John Heineman

To enter into your catalogue under Papers, Pamphlets etc.:

DISEASES OF HONEY BEES IN NEW ZEALAND by Murray Reid, National Manager MAF Qual, Ruakura, 3p, 1988. An article in "Surveillance" describing the various bee diseases we have to cope with in this country, legislation concerning the Beekeeping Industry, and the activities of MAF Qual, DSIR, pathologist, diagnostic service, etc.

AGRICULTURE SECURITY by MAF Qual, 1988. A folder with papers describing the organisation of Agriculture Quarantine Security at ports of entry etc.

NEW ZEALAND BEEKEEPING — AN INDUSTRY PROFILE by Andrew Matheson and Nick Wallingford, 1988. Very well done, it gives clear picture of our industry. Also good information for general public.

PROPOSAL FOR A JOINT AUSTRALIAN AND NEW ZEALAND HONEY BEE AND SOCIAL INSECTS DISEASES RESEARCH GROUP by Dr. Denis L. Anderson, 1988.

SUMMARY OF RESEARCH RESULTS 1985/1988 by Denis L. Anderson and A. Murray. Honey Bee Pathology Group, DSIR Entemology Division.

SUMMARY OF THESIS on SCOTYPAPU AUSTRALIS (Paasion Vine Hopper) AND ITS PARASITE CERTRODORA SCOTYPOPAE, by P.J. Gerad, 1985, 8p.

STUFFED TOMATO SALAD

• Slect even-sized, firm red tomatoes. Wash, scald in boiling water to loosen skin. Remove skin. Hollow the tomatoes. Sprinkle inside with salt. Drain. Chill. Fill and pile high with (1) chicken or fish salad, (2) cole slaw, (3) cottage cheese and chives. Top with a spoonful of Honey Mayonnaise and stuffed olive.

A tank-full warning

By George Nichols

My extracting room has a pit one metre square by 600 mm deep. In the pit is a large plastic tank to be filled with honey from the extractor and the uncapper. This tank is somewhat hidden from view and I have to pull in my bulge and creep past the uncapper to have a look. Twice last season the junior member of the firm had a great hoot to see Dad, bottom upwards, baling out. My cousin Rex came to provide some slave labour and he provided the third occasion for a major spill.

"Well, why don't you do something about it?"

I hadn't got around to it, like many another job.

Apart from laziness there is one other great obstacle, one of my ancestors was the first man to use a steam roller to crack a nut and he seems to have handed something down. There are many interesting ways of measuring liquid levels. You can fire a light beam at an angle to the honey surface, and when the surface is high enough the light beam enters a photo cell and switches on the pump or a whistle. How about using a proximity switch to sense the level and to fire off a piercing shriek? Would it be possible to resonate the tank volume when full and use this resonance to trigger a warning? All delightfully complicated and guaranteed to fill many a fascinating evening pottering in my workshop. The horribly simple effective means is to use a toilet switch, rectify a low alternating voltage from a transformer to make a low direct voltage to drive an oscillator to drive a loud speaker — here we go again — complicated as ever! Start again, use a toilet switch to switch on a low alternating voltage to a loud speaker and a torch bulb.

All the bits needed, except for a plastic bottle, two drawing pins and the wood work, can be found in an old cow shed radio. From the radio take the mains transformer which has a 250 volt input and a 6.3 volt output winding (it has other windings as well so go along to an electrician or a radio ham to identify the windings.) Also take the loud speaker, the dial light and holder, the three-pin mains plug and cable, the fuse and fuse holder.

Fig. 1 shows the level switch. The cap of the plastic bottle is screwed into a wooden rod and the bottle is screwed back into its cap. The other end of the rod is pivoted on a short piece of dowel which passes through a small wooden box. A drawing pin on the wooden rod makes contact with another drawing pin attached to a second shorter piece of rod. The wooden box is attached to the side of the honey tank with the plastic bottle over the inside of the tank. When the tank is full, and the bottle is floating on the surface of the honey, screw the shorter rod on to the side of the wooden box with the two drawing pins in contact. A twin flex is soldered to the underside of each drawing pin head or wrapped round the pin.

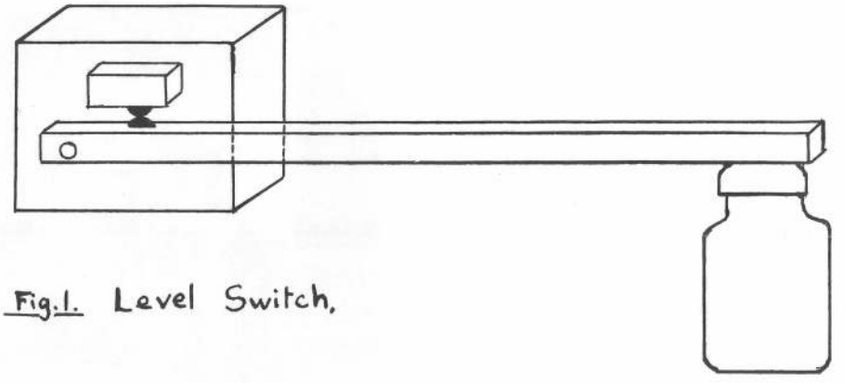


Fig.1. Level Switch.

Make another wooden box with a large hole in its face for the loudspeaker, and a small hole for the 6.3 volt bulb. Mount the transformer and the fuse holder with its fuse inside. Clamp the end of the mains cable tightly inside the box and terminate the ends in a terminal block. Clamp the end of the twin flex from the drawing pin switch tightly and terminate in a second terminal block. Now wire everything together as shown in Fig. 2. My loud speaker box sits on top of the extractor.

When I made this I wondered whether I would be able to hear it above the other humming noises in the extracting room but I need not have worried, it is quite distinct and can be heard 10 metres away in the warm room. It makes a pleasant hum, quite tolerable for the odd half minute that it takes me to switch on the pump and lower the honey level. The light is bright but probably unnecessary.

If you have to buy any of the bits they are readily available from Dick Smith. You are supposed to have your construction checked for safety by your local power board. Strangely enough, this service is free. After all, a dead bee keeper will not pay his power bill.

MILK

• For extra flavour and nourishment add 2 tablespoons of honey to a glass of milk. Serve hot or cold.

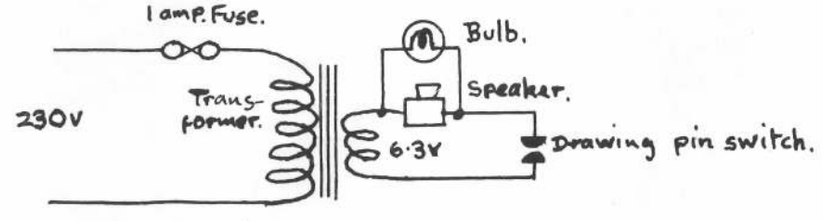


Fig.2. Circuit.

SOUTH-WESTERN

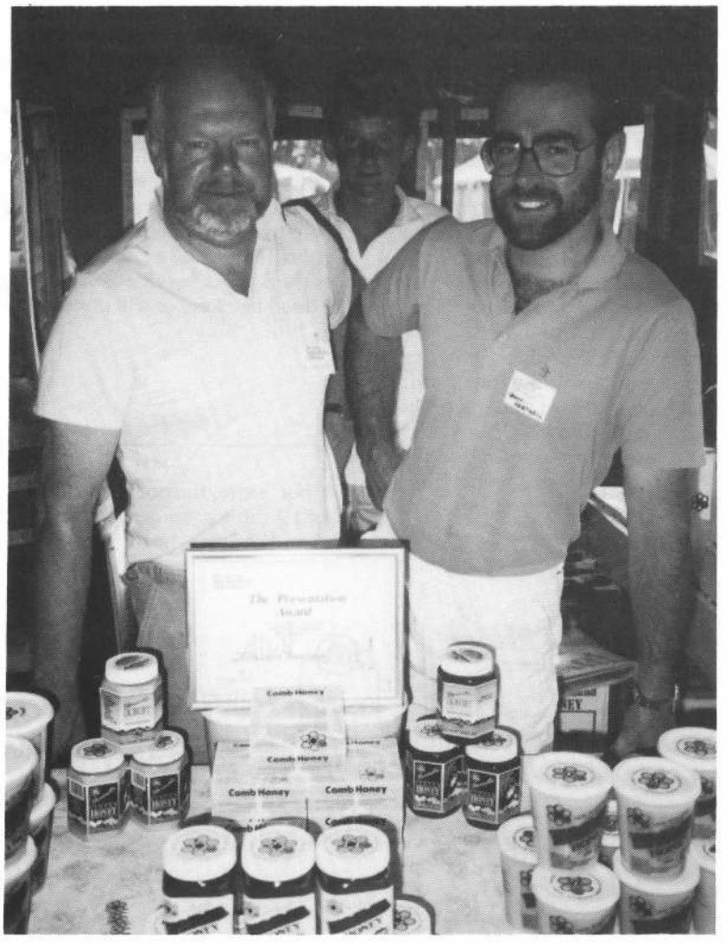
The South Western Districts (Southern North Island) Branch did it again this year. Best Exhibit at the Levin Horticultural Field-days on the 17-18 February.

As one of the MAF Personnel put it: Beekeepers are very lucky because bees and their products attract everyone from one year old to eighty. Once their interest is aroused, you just can't stop them coming into the tent.

It started three years ago, when we visited the show and found to our horror that the only pollination notice was a two-inch high line: "Bees Pollinate", and a display of bumblebees.

We formed a sub-committee and over a couple of meetings compiled a list of possible items as well as beekeepers with specialty products. Interests were indexed. We looked for photographs, pamphlets, give-a-ways (National Beekeepers HQ was a big help, as was Jacki Ashcroft and her bee promotions). We hired an 11 x seven metre tent from the Scouts, made display boards, fence posts, and tiny flags. We dug up wasps' nests, and asked beekeepers in our district to bring samples for display and honey for sale.

Above, back row from left: Stan Young, Norm Keane, Helen Tweeddale, Joyce Young, Kevin Kibby, Andrew Linsay, Bruce Flavin. Front from left: Frank Linsay, Ham Maxwell, Nacy Keane, Marjorie Kibby, Mary Ann Linsey, Alister Pain. Stan Young holds the award for Best Site. Below: Martin Smith, Hamis Smith, and John Hartnel.



We organised the manufacture of yellow T-shirts featuring the NBA logo surrounded by the words "Angles of Agriculture". This screen print is under the NBA's name and is held by Display Makers Ltd, P.O. Box 9646, Wellington, and is available for other groups to use.

The preparation for this year's field-day started the day the last one finished. Our two sponsors, Tecpac Plastics and Wilson Neil Hororata, offering to assist us again. The site was booked because it's position is very important. Always get a site close to the food-dispensing places as most people are drawn there some time during the day.

The preparation for this year's event took three days of activity only as most of the items were already available or had been collected throughout the year.

The display consisted of: two manned observation hives, one at either side of the entrance. One queen-marked and the other not. One for a 'spot the queen' competition. Each child was given a "I Love Honey" sticker to wear.

Through the entrance were our sponsors products, where John Hartnell and Martin Smith enticed people to sample all the honeys and to buy it if they wished.

DOES IT AGAIN

From Frank & Mary-Ann Lindsay

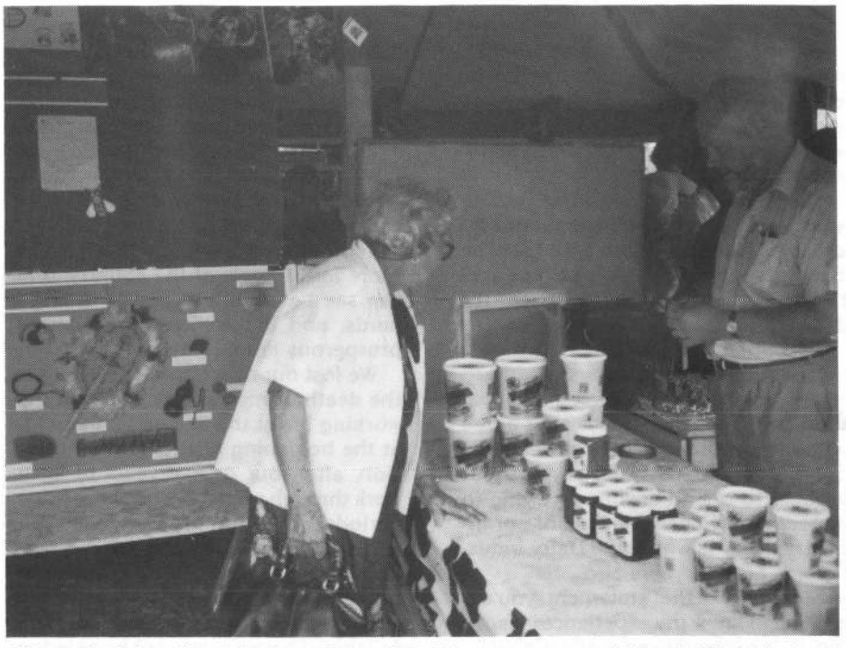
Past the MAF Qual display on illegal imports, a general display of honey and products led to a line of beekeepers displaying their individual honeys and a sampler. The idea was for people to taste the rich varieties of bush and lowland honeys produced in our area.

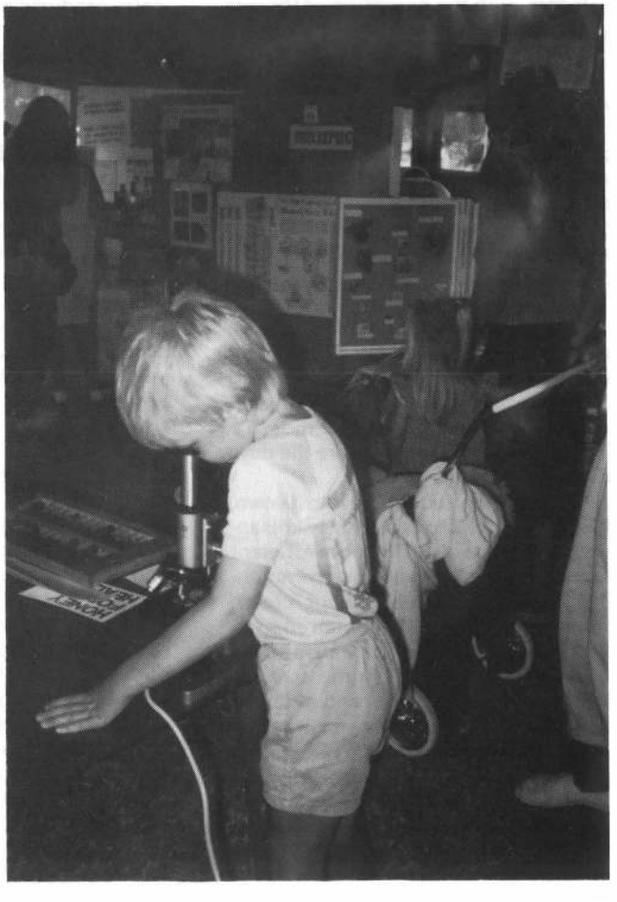
Beyond was a microscope display showing both a bee and a wasp's sting, and then the display boards which featured Education (Telford and BOP Cert. course), Beekeeping clubs, and pollination. A video on bees, wasps, and how to move bees came next, then finally the mead/wine tasting.

Outside one of our members displayed medicines. He talked about the curative properties of honey and bee products and offered advice on how to relieve arthritis.

Sixteen people staffed the exhibit over the two days. However, they were, at times, relieved by visiting beekeepers. A busy, tiring but enjoyable weekend.

We hope this account will assist other groups to put together a similar display.





Above: A visitor shows interest. Below left: Mum seems more interested than junior. Below right: A budding scientist.

The future of our industry

By Stuart Tweedale

At our recent annual general meeting in Palmerston North, we were privileged to have as our guest speaker National President Alan McCaw, who gave us an insight into the seminar at Flock house.

He spoke of the shocking trading year just past, and of plans for our industry's future; he also said that the Executive would welcome suggestions that might help it in its deliberations.

Accepting my limitations as a public speaker, I have previously left it to more able people at Conference to hold the floor. This is not because I agree with the way our industry has been run; on the contrary, I must say without wishing to offend anyone or trying to appear smart, that the state of our industry today is where the Dairy Industry was 60-odd years ago.

Since I make that statement, you are entitled to know my experience in farming. I am exprerienced in the manufacture of dairy products and for 43 years have been a beekeeper.

In fact, with the exception of the war years, I have spent my entire life producing food.

In the late 1920s the dairy industry was just emerging from the horse and cart era. There were dairy factories in practically every district, each supplied with expensive plant and a steam boiler. Each put through a small quantity of butter or cheese or both, and all were at the mercy of the Tooley Street merchants of London, with their many "slumps and mini booms".

The farms separated their own milk and, like our industry, were for the small amount of income generated, well and truly over capitalised with all their farm implements, used about one month a year. This of course was before the days of the contractor.

As the motor truck came into its own, the smaller factories slowly disappeared to leave only the more efficient factories. Even so, it was quite common, until WWII, for three or four cream trucks to run down one small road to pick up from three or four farms. The reason given was that some farmers liked to have their own brand of butter delivered in their empty cans.

The war and zoning put a stop to this nonsense, and today it is a common sight on our country roads to see big stainless steel truck and trailer units collecting from as far as 60 or more miles away.

In place of the small dairy factories of the past, great gleaming modern buildings now handle the total milk production from many miles around.

In these modern factories a wide variety of dairy products is manufactured, attractively packed, and sent all over the world.

Today as one travels through the more fertile parts of the country, one can see beautifully kept farms, large herds, and the lovely homes where prosperous farmers live.

We lost our own farm in 1927, after the death of my parents. I started my working life at the age of 14. In 1930, at the beginning of the great depression, after four or five years of farm work through probably one of the worst periods in the life of New Zealand, I managed to get into cheese and butter making. I stayed with it until war broke out in 1939.

Since 1945 I have been a beekeeper, so I think I have a pretty fair knowledge of how much work, worry, and uncertainty goes into the production of both dairy products and honey. However for a good life, dairying wins in a canter.

In our cupboard is an attractively-packaged piece of Tararua cheese. The price was $5.00 for 500 grammes. In Palmerston North in July I priced a carton of honey in Foodtown. One of the best known brands was selling at $1.35 for 500 grammes. Even the lowly pet food, made mainly from old ewes and stale bread, leave us behind in price. Such is the state of our industry at the moment.

Most beekeepers are excited at the prospects of a much higher pay-out this year: until they remember they have no honey to sell. No one wants to know what will happen when next we produce a surplus.

Until two years ago I cleared $3.00 per kg. for 6 kg. packs of honey. "Top quality" from our shop. We gave up though because of our advancing years, and the seven-days-a-week effort it entailed.

Last season, as a bulk producer, the same type of honey brought me the handsome return of $1.25 per kg.

After listening to the bee-keepers' moan about everything in general, comes the question of what can be done to rectify matters. I know that having said what I am about to say, I will be quickly shot down in flames. And I know what I am about to propose may not happen in my lifetime. But it must eventually happen if we want to live in a modern trading world.

First, all honey produced in this country should be under one brand name, "New Zealand Honey", whether sold in or out of New Zealand. Second, we must get rid of all the individualism we are so proud of. We must act as a national team like The Apple and Pear Board, the new Kiwifruit Board, or the Dairy Board. Both in New Zealand and overseas, the buyer is interested only in the uniform quality, presentation, and the availability of our honey, not whether it comes from Joe Bloggs or Bill Smith. Third, we must sell individual honey under its specific floral name but we should change one price for all. It all costs the same to produce. What a delightful sight to see a variety of floral sources attractively packaged on supermarket shelves and all labelled "New Zealand Honey".

It has been my view over time that pricing honey downward because of its colour turns customers away. Many years ago, The HMA tried to sell three grades of honey at different prices. It was a disaster. The retailer charged the top price for the lot.

For many years the 30 tonnes of honey sold through our shop annually was half high-country water-white clover, and the rest was a blend of kamahi, rewa rewa, and clover. One was as popular as the other and both sold for the same top price.

The pricing of our honey was never a problem: anyway until last year. We simply sent for a suggested price list from the HMA and placed it on the counter along with the honey. When that supply dried up we obtained another from Mr Percy Berry; someone my family has much respect for, and we carried on from there. We found it was not the price charged for honey that was so important, but rather what was in the carton. If all the honey sold was enjoyed by the customers, they came back for more.

At present there are a multitude of extracting plants in this country, each packing little bits of honey. All are trying to sell against each other. There is utter confusion, and only one party is doing well out of it.

If the smaller units were to concentrate on producing a crop, and if they let the long established, and more proficient, packing plants in each province pack and distribute to the nearest city, we would be reaching the

point where the dairy factories were 40-odd years ago. In times of local shortage, honey could be brought in. Centralised extracting plants could become a thing of the future, like factories handling whole milk.

Experienced packers can be depended on to turn out a good and uniform product. That we need. It is important that when a housewife buys a carton of honey the whole family eats and enjoys it. Badly prepared honey, fermented, or with an odd taste, can put a family off honey for many years. It is surprising how many people have been put off in this way.

A year ago my son visited an Asian country of 60 million. About 20% of these people are fairly affluent. A beekeeper there, with only a small hive holding by our standards, was selling direct from the extractor at $12.00 per kg. He runs a Mercedes car! Some of our overseas salesmen should travel off the beaten track!

Next year, when you have your hard-won honey nicely sealed in drums, and certain people appear and try to convince you that your product is worth very little, then tell them that they can have it for $3.00 per kg., take it or leave it. You will hear a few howls of protest, but most packers will say 'good on you' for taking the initiative and putting a realistic value on honey. By doing this you might also give your family a long overdue lift in its standard of living. You may also make a dent in the inflation that has left us so far behind.

To sum up, these are the things our industry could benefit from:

ONE: Ger rid of our silly individualism and start living in the real trading world.

TWO: Bulk producers concentrate on production alone.

THREE: Well-established packers in the provinces pack and distribute all packed lines to the nearest cities. Packing to be by contract.

FOUR: All honey to be packed under one New Zealand brand name but under individual floral labels.

FIVE: All honey to cost one price, regardless of colour and type, so flavoured honey will not be refused.

SIX: Beekeepers to hold some honey back in good years to ensure a continuity of supply for export orders.

SEVEN: Forget about different grades of honey. All honey is good value and is expensive to produce. Customers often prefer a more flavoursome honey.

EIGHT: All bulk honey to be not less than $3.00 per kg.

NOTE: One hard-pressed supplier sold his honey early in the season for **eighty cents p**[illegible]**g!** With petrol at 90 cents a litre, he should at least be able to run his truck for a while!

The above suggestions should give food for thought. However, one thing is certain: if we try to carry on as we have in the past, we will become the gypsies of the agricultural world. Our families deserve something better than that.

EVERYDAY CAKE

⅓ cup shortening
½ cup sugar
½ cup honey
1 egg
½ cup milk
2 cups sifted cake flour
2 teaspoons baking powder
¼ teaspoon salt
1 teaspoon lemon extract

• Cream shortening. Add sugar and cream well. Add honey and beat until light and fluffy. Add egg and beat thoroughly. Add sifted dry ingredients alternately with milk. Add extract. Bake in two layers in moderate oven (375° F.) 25 to 30 minutes. Put layers together with French Honey-Chocolate Frosting.

Your health in honey mead

By Jeanette Grey

Some people like their honey on toast, some eat it straight from the comb, whilst others prefer to drink it. Fermented honey mead was the earliest alcoholic drink in the world. Remember in David Attenborough's recent TV series, 'First Eden', the early cave painting of a person climbing the tree to get the wild bee's honey, thousands of years ago? Alcoholic honey comb was probably discovered accidentally, when a primitive being investigated abandoned honey comb fermented by wild yeasts at the top of a tree. Cramming comb eagerly into his mouth, the world's first alcoholic fell out of the tree a little later.

Ancient history and mythology are dotted with references to mead, not only in Europe but in Egypt and in the Americas where, for example, the Mayas had gods of mead.

In early Celtic and Saxon times, the honey brew was drunk from shallow bowls called mazers, to the toast of "Wassail", originating from "Waes Hael" — Your Health! Mead is very potent with an alcohol content of between 12 and 18% by volume. It had an unchallenged reputation as an aphrodisiac; there was no other alcoholic competition for some centuries.

Modern life, for some of us, became rather full of honey mead when two medical friends introduced this satisfying hobby. A great round 10-gallon glass vessel, the carboy, reposed on the wooden sideboard of a small flat. About 45 litres of water with 1.4 kilos of honey, pasteurised, bubbled away at 21 degrees C. for five to seven weeks at a time.

A special Burgundy yeast from Australia, gave off continuous carbon dioxide gas via a water trap to prevent entry of undesirables to the precious brew. There were, however, several memorable encounters with the insect world. Ants invaded the honey stores in their thousands and were heated up with the honey and scooped off without taint. On another occasion, an inebriated weta was found swimming spastically in the mead until rescued. This mead's potency left several guests with temporary muscular problems.

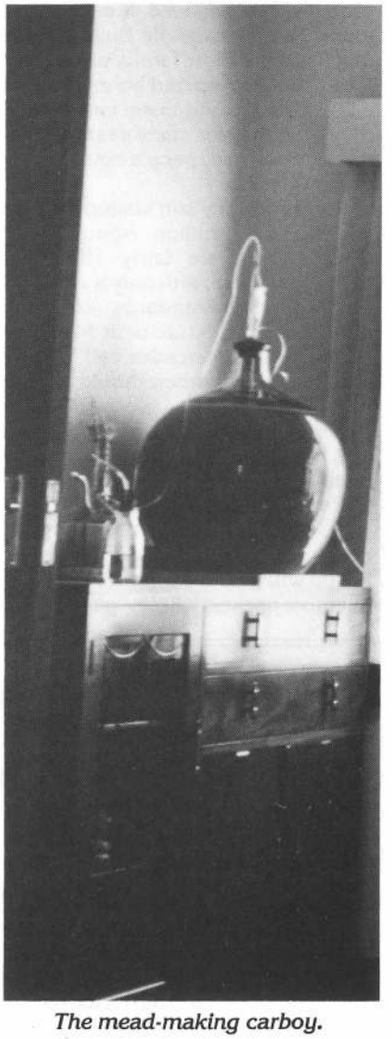
Ancient peoples had to wait patiently for up to seven years for their mead to be ready to drink. Today, the addition of citric acid and innocent salts like cream of tartar, ammonium phosphate, and magnesium chloride, enable mead to be brewed within five weeks. If clover honey is used, the bottled mead is palatable almost immediately, but with some honeys, it is necessary to keep the mead to mature. High acidity during fermentation, and later the alcohol itself, make bacterial contamination unlikely if reasonable care is taken during manufacture and bottling.

In 1953, a scientist, T. Palmer-Jones, at the Wallaceville Research Station of the Department of Agriculture, near Wellington, published an excellent paper in the NZ Journal of Science and Technology, describing mead-making from various New Zealand honeys. He recommended manuka, but condemned buttercup honey.

Mead is far from being a clear liquid when fermentation is finished. The usual methods for clarifying can be used, such as brewer's finings and bentonite (dried fine clay) before filtering. Mead may be made sweet or dry, depending on the amount of honey used and the extent of fermentation and patience.

When honey was only sixpence a pound in the early nineteen sixties, brewing it was both economical and pleasant. If luck prevailed, free excess feed-honey was available at the end of each winter as the bees flew out to gather their own nectar. Today the hobby would be much more costly. Similar economics led to a decline of honey production and brewing from the fifteenth century onwards. Wine became more plentiful; sugar arrived as a cheap sweetener. Large amounts of bees wax were no longer purchased for church candles after the Reformation; this added to the woes of the bee keepers.

Today in Auckland, honey is plentiful and there is even a shop for beekeeper's supplies in Mt Roskill to cater for about 2,000 apiarists. Mead has been brewed commercially in New Zealand for the past quarter of a century near Rangiora in Canterbury. Many Aucklanders are not aware of mead on the market here. It is difficult to find, but worth either seeking or making, as it is a delicious drink. Wassail!



The mead-making carboy.

CONTENTS:

Honey	13.6kg (30 lbs)
Cream of Tartar	45 grams
Citric acid	270 grams
Magnesium chloride	10 grams
Calcium chloride	10 grams
Ammonium phosphate	45 grams
Water	10 gallons (45.5 litres)

METHOD:

1. Pasteurise by heating at 70°C for 1 hour, using a very large CLEAN tin or pan on electric stove; stir to dissolve as it heats.
2. Cool a little, and pour into very clean brewing vessel (glass or high-quality plastic) fitted with a fermentation air-lock.
3. Let cool more before adding yeast — a champagne or burgundy-type yeast is good (obtain commercially)
4. Fermentation for at least 3 weeks, requires temperature of 25.5°C. (tropical fish-tank heating element

dangling in brew with thermostat is ideal)
5. Ferment until no more gas (CO_2) coming off (primary) through water-lock. (Secondary fermentation is optional)
6. Add powdered bentonite 113 grams. Mix to remove some of cloudiness and it then sediments a day or two.
7. Filter to remove yeast cells and bentonite by carefully drawing off above the main deposit at bottom. Other clarifying agents like Finings, may be added before the final filtering. Large circles of plain coarse filter paper in funnel are used, but it is slow and much patience is needed. Some people prefer mechanical filtration with pump and filter pads.
8. Preserve with sod metabisulphite (1g. per gallon) as bottling.

ALCOHOL content is about 12-14% but may be higher if there has been secondary fermentation. Clover honey mead may be drunk immediately but other meads need to be aged in their bottles.

"All candy calls for flavour sweet
And honey therein can't be beat."

Symposium 1990 South Africa

Venue: University of Stellenbosch, Stellenbosch, Cape Province, RSA.
Date: 24-26th January 1990
Objectives: *To bring together all persons/agencies who have an interest in honey-bees to exchange knowledge and ideas to advance beekeeping in the region. *To publicise the races of honey-bees found indigenously in southern Africa including the neighbouring islands. *To promote pollination by honey-bees as an integral part of agricultural crop production and nature conservation. *To promote the use of honey and other products of the honey-bee. *To promote the protection of honey-bee flora.

International speakers

Two internationally recognised bee scientists have agreed to present keynote lectures, one Prof. John B. Free (UK) on pollination and associated bee behaviour and the other Dr. Robin Moritz (W.G.) on bee genetics and biology. We hope to have a third international specialist to talk on the topic of pesticides, if adequate financial support is forthcoming from this sector. We are, in addition, negotiating to get an internationally recognised authority to speak on honey.

Background

South Africa with its unusual position of having both first and third world agricultural systems is in a unique position to benefit from apiculture or beekeeping.

In the first world context the pollination of some of our major agricultural crops is essential to, for instance, the viable fruit growing and sunflower seed production industries. In the third world context beekeeping is a very valid cottage industry which should be encouraged by all official and other agencies. Rural fuel projects i.e. the planting of trees for firewood should be integrated with beekeeping by selecting dual or multipurpose tree species for these projects.

Saint Bartholomew's Day

By Sue Jenkins

ST. BARTHOLOMEW'S DAY: August 24th. What an apt way to get one in the mode of beekeeping for the forthcoming season. Our Branch for the past three or four years has been celebrating the day at various people's honey sheds or homes.

It is a good way to get togther, talk bees, bees, bees, and more bees and a slowly one gets the message that it is time to begin spring checks, queen rearing etc etc etc. . . .

Who is St. Bartholomew? He is the patron saint of beekeepers and bees, and it used to be traditional for the honey crop to be taken on this day, and a ceremony to bless the mead (incidentally the oldest known alcoholic drink) was held.

It has been difficult to discover much about St. Bartholomew. There was an article by Annabel Langbein in the Listener, August 1984, and an encyclopedia in our local library mentions him briefly, but I found nothing in a couple of books listing saints.

This Northern Hemisphere ritual can be turned to our advantage, when the end of August is the season for the start of beekeeping. So often Christmas parties get cancelled because everybody is busy. St. Bartholomew's day represents the last day of peace before the storms.

Here is a recipe for a St. Bartholomew's cake which compliments those glasses of mead.

St. Bartholomew's Cake

500g honey
500g sugar
250g butter
1 kg flour
3 eggs
3 tsp baking soda dissolved in 125 ml hot milk
¼ tsp salt
1 tsp cinnamon
1 tsp ground cloves
1 tsp ground ginger
1 tsp ground cardomon
1 cup chopped walnuts
rind of 1 orange

Beat the honey, sugar, and butter to nearly boiling. Cool. Add the remaining ingredients and work into a dough (it will be quite soft). Place the dough into a 2 litre plastic container, cover with a towel and leave to mature in a cool place for a few hours or overnight (this increases its keeping properties). Halve the dough and press each half into a greased 25x30cm sponge roll tin. It should be 2cm thick. Bake at 160°C for 30-40 minutes or until the cakes are golden brown and firm to touch. When cooked they will be hard at first and should be put aside in a sealed container for 2-3 days, during which time they become melt-in-the-mouth tender. Sandwich the layers together with Walnut Paste (recipe below) before eating.

Walnut Paste

¼ cup honey
1 cup walnuts
2 cups icing sugar
50g butter
1 egg yolk
100g sponge cake, crumbed

Finely grind the walnuts, then beat in the sugar, butter, egg yolk and cake crumbs. Spread a very thin layer of runny honey (heat if necessary) over one side of each cake. This acts as a binding for the walnut paste. If desired, ice with a plain thin icing, using a little orange flavouring. Alternatively, dust with icing sugar.

The value of slumgum

By John Heineman

The waste product left after rendering culled combs for the purpose of recovering the bee-wax content is usually termed "slumgum". It is disposed of in different ways and is commonly regarded as of nil value.

Some rose fanciers, however, seemed to be interested in the material as they like to use it as a mulch round their bushes. They claim that a generous application of slumgum has a beneficial effect on the rose bushes, improving their health and the quality of the blooms.

I pose the question: why have we perhaps been throwing away a valuable source of plant food? Unable to find any specific information amongst available literature the answer lay with getting an appropriate analysis.

Mr Stephen Ogden, scientist at Invermay Agricultural Centre near Dunedin, obliged by arranging such a test and subsequently offering some comments.

The process of rendering the combs is, in short, a melting-out period in a steam chest followed by repeated pressing of the sludge in a waxpress submerged in boiling water. After the final pressing the wax is skimmed off, the water level in the press lowered, the pressure is released, and the bag with slumgum removed and shaken out. Repeated tests have shown that wax residue is negligible.

After cooling the slumgum becomes "touch" dry, dull brown to dark grey in colour, and crumbles easily.

A sample of this material was taken and the tests done are as for herbage analysis with the following results:

N	(nitrogen)	3.98%
P	(phosphorus)	.47%
S	(sulphur)	.22%
Mg	(magnesium)	.13%
Ca	(calcium)	.16%
Na	(sodium)	.02%
K	(potassium)	.47%

Mn (manganese)	63 parts per million
Zn (zinc)	210 parts per million
Cu (copper)	17 parts per million
Fe (iron)	555 parts per million
Mo (molybdenum)	.39 parts per million
B (boron)	46 parts per million

These figures show that the main requirements for plants N, P, K and Ca are low, and the three trace elements: Zn, Fe and B are moderately high. Overall it certainly is not a concentrated fertilizer, but it provides a range of nutrients and trace elements.

The main benefit will be as a soil-conditioner and it will assist with the uptake of nutrients already in the soil. There is nothing in it that would be harmful to plants. As Mr Ogden remarks, it is only as good as a compost and a similar effect may be gained by digging in grass clippings.

So we did not strike it rich, but still finish up with a good composting and mulching material. Adding it to the compost heap is probably the best way of making use of it.

A note of caution: B.L. spores are extremely resistant to high temperatures so notwithstanding exposure to steam and boiling water they may survive. Bees will sniff around slumgum as there will be some sweetness left. If not sure of the origin of the rendered combs, it is safer to burn the dry slumgum.

Classified Advertisements

Available only to registered beekeepers selling used hives, used plant, and other apiary equipment, and those seeking work in the industry. $17.00 for 20 words (inclusive of GST) payable in advance. No discounts apply. No production charges. Maximum size: 1/6 page. No box number available.

FOR SALE

200 hives, 4 storeys high, good condition, on North Canterbury bush sites. Ph. 0524-59413.

800 Hives 4 storeys, $56,000. Plant at valuation. Ph (0553) 88437, Featherston.

150+ beehives two high, Inox pneumatic packing machine with tank, stand and bench. (Suitable honey and similar products), Honey refactometer, Jiffy hand forklift 1 ton load, 3m lift (ideal for confined honeyhouses). Phone (067) 20883 N.P.

50 Beehives — $80. Plus 100 ross round boxes plus frames $20. Contact Dave at Masterton, Ph. 80808.

SITUATIONS WANTED

English Beekeeper, 38 years old, 15 years experience with 40 colonies, wishes to visit N.Z. during 1989/90 season, for four months. Seeks work and experience in exchange for board and lodging. Please reply to: Mick Jordan, North Calvadnack, Polgear, Carnmenellis, Redruth Cornwall, England. Tel: (0209) 860630.

Goods and Service Tax

Please note: ALL payments to the National Beekeepers' Association are subject to the Goods and Service Tax (G.S.T.)

On some Hive Levy returns received recently, beekeepers have written:

"We are not registered for GST and therefore do not need to pay this."

Unfortunately that is not so. The Association is registered and, therefore, all payments, whether levies, advertising, subscriptions, etc., must have G.S.T. added.

NOTICE

The next applications for trust funds close at the office of the NBA, P.O. Box 4048, Wellington, on 31st August, 1989.

TEA

• Scald a china or earthen teapot. Allow one teaspoon of tea to each cup of freshly-boiled water. Pour boiling water over tea. Allow to steep 3 minutes. Serve at once with honey.

OTHER PUBLICATIONS

INTERNATIONAL BEE RESEARCH ASSOCIATION (IBRA)

IBRA is a charitable trust providing scientific and practical information on bees and beekeeping worldwide. All members receive BEE WORLD. For full details of IBRA services and Membership contact: International Bee Research Association, 18, North Road, Cardiff CF 1 3DY, UK, Tel: (0222) 372409 or (0222) 372450 (ansaphone), Telex: 23152 monref G 8390.

THE SPEEDY BEE

Keep up with the latest in the United States beekeeping industry with reports of meetings and developments from The Beekeepers' Newspaper. Published monthly. $20.00 per year (mailed First Class). Write for air mail rates. The Speedy Bee, P.O. Box 998, Jesup, Georgia 31545 USA. Write for free sample copy.

THE APIARIST

A New Zealand Beekeeping Journal. Published every two months. Contains informative and interesting articles on beekeeping in New Zealand and overseas. Subscriptions: Free to all registered beekeepers in New Zealand with six hives or more. $5.00 per annum, if less than six hives. Write to: The Editor, "The Apiarist", P.O. Box 34, Orari, N.Z.

SOUTH AFRICAN BEE JOURNAL

The leading bee journal in Africa for over 75 years. Official organ of the Federation of Beekeepers' Associations, published bi-monthly in English and Afrikaans. Primarily devoted to the African and Cape bee races. Subscription, including postage: R35.00 per annum, payable in advance in South African Rands. Apply: The Federation Secretary, PO Box 4488, 0001 Pretoria, South Africa.

AUSTRALASIAN BEEKEEPER

Senior Beekeeping Journal of the Southern Hemisphere. Complete coverage of all beekeeping topics in one of the world's largest beekeeping countries. Published monthly by Pender Beekeeping Supplies P/L, P.M.B. 19, Gardiner St., Maitland, N.S.W. 2320 Australia. Subscription by Bank Draft. $US27.00 surface per annum.

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OTHER PUBLICATIONS

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Packed with practical beekeeping. $4.80 a year from the Editor, Robert N. H. Skilling, F.R.S.A., F.S.C.T. 34 Rennie Street, Kilmarnock, Ayrshire, Scotland.

BRITISH BEE JOURNAL

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INTERNATIONAL BEE RESEARCH ASSOCIATION

What do you know about the INTERNATIONAL BEE RESEARCH ASSOCIATION? The many books and other publications available from IBRA will deepen your understanding of bees and beekeeping: an IBRA membership subscription — inclusive of *Bee World,* a truly international magazine published quarterly in the English language — will broaden your beekeeping horizons. Details from IBRA voluntary representatives for New Zealand, Andrew Matheson, MAF, Private Bag, Tauranga or Peter Brunt, Nelson Polytechnic, Private Bag, Nelson, or from International Bee Research Association, 18 North Road, Cardiff CF1 3DY, UK.

THE SCOTTISH BEEKEEPER

Monthly Magazine of the Scottish Beekeepers' Association. International in appeal, Scottish in character. Subscription rates from: D.B.N. Blair, 44 Dalhousie Road, Kilbarchan, Renfrewshire, PA10 2AT, Scotland, U.K. Sample copy on request — $1 or equivalent.

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NATIONAL BEEKEEPERS' ASSOCIATION

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NBA Pens ''Honey You're Sweet''	**$5.06** per box members
	$5.50 per box non members
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Trees for Bees Posters	**55** cents each
Trees for Bees Tags	**$3.30** (box 100)

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by Andrew Matheson
$17.60

Nectar & Pollen Sources of N.Z.
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