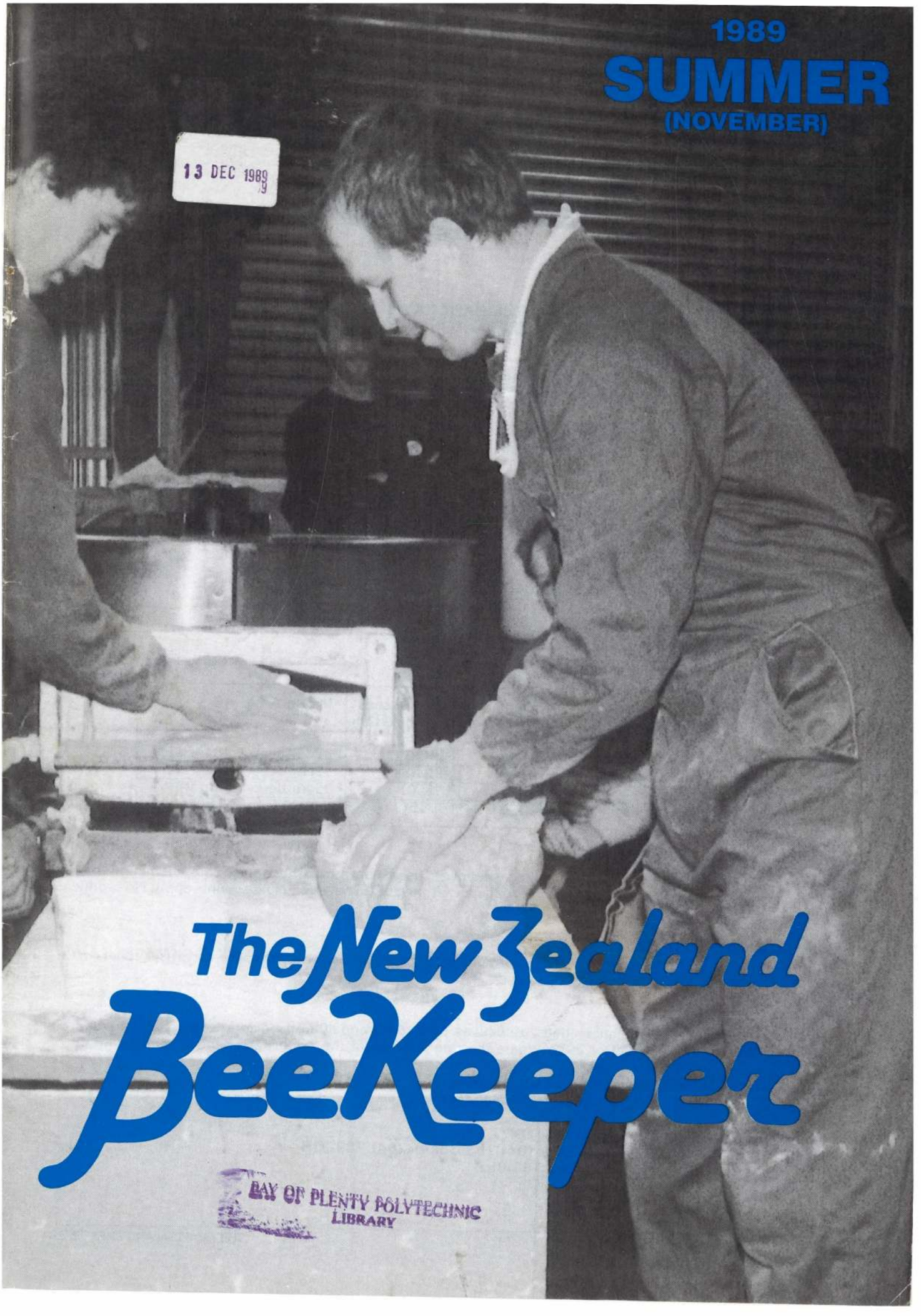

1989
SUMMER
(NOVEMBER)

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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Is man too greedy?

By 'Beekeeper'

In all the reading I have done in the few short years that I have called myself a beekeeper, there seems to be that elusive factor for which everyone is striving — namely the ability to take more and more from the hive as each season comes and goes. To reach this ideal seems in some cases to be almost obsessional, and I wonder at the situation various developers of methodology get themselves into. To say that bruising of the ego is inevitable when things do not go according to plan is simply to state the obvious.

That the honeybee can be so exploited is a never ending source of wonder. That the interference by humans is tolerated in any form at all in nothing short of miraculous. I'll tell you why. Here is an insect, which for thousands of years has been going about its business of survival of its species. Sure, there were no doubt many situations where survival seemed impossible, as witnessed by the ice age and the other times which saw life in various forms wiped out. yet the honeybee came through it all, to the stage of development we witness today. But will the species be able to continue its existance as man begins to interfere with the genetic structure of the race?

It seems that right from the outset, once man decided to harvest the crop from the hive, the expectations of production from the beehive have always been that better production capability is the goal. Leaving some hives to carry over into the next season is expounded in all the old texts dealing with the management of hives. Swarms from these hives were then recaptured and housed in the skeps emptied the previous season. Various methods in the management of the hives were outlined by the authors, and all had the basic aim of increasing the output from the hive. The introduction of the Langstroth removeable frame hive is regarded as a major step forward in bee management, and this has been adopted as a common method worldwide. Whilst differences exist as to the ideal size of the frames being used, the basic premise of better inspection capability and hence better management exists.

Would the bees please stand up and enlighten us as to what they think of all this interference with their lifestyle? We know of course they cannot. Yet individuals have come and gone who insist, sometimes to the point of nausea, that they know best. They have developed a sure fire method of housing, hive manipulation, queen rearing and husbandry, to name but a few. If all beekeepers follow the advice they offer, crop size will increase, easier management will follow, and life for the beekeeper will be easier and easier. My wonder, after reading all the garbage printed in learned journals, is that we have any bees left at all! Now, on top of it all, the genetic scientists are at the stage, if what I read is true, of being able to make freedom from disease a reality in various species. That they cut across thousands of years of genetic development is seemingly taken for granted.

The still unanswered question is: how is it that man is so superior to nature, and by what token does man presume to know best for other species?

Supposedly the Africanised honeybee has undesirable properties, namely that it is stroppy. But for whom is this trait undesirable? Left alone, would they come to detest this formation of their character, and take active steps to avoid repetition in the future? Has man at last met his match when trying to bend the will of another creature to his own?

The Italian bee has, by comparison, a gentle nature. Yet is regarded by many beekeepers as a poor producer. As we look at each strain of bee, so it becomes apparent that, to man, each has an undesirable trait, and that this quirk in character should be bent to suit what we want. Is this fair?

Consider your own beekeeping. Are you looking after bees for profit — interest — compassion — or wonder? Do you wonder at times why you bother to look after bees, particularly when your accountant has just called you in for a session? Which aspect of beekeeping do you enjoy the most? Seeing a nucleus develop into a production hive, witnessing the miracle of colony organisation, or marvelling at the amount of crop at the end of the season? Each beekeeper will have a different story to tell; each has solid reasons for his interest in beekeeping. As long as we have this individuality in mankind, so will the tendency to interfere with the development of other species to suit mankind be developed. At all times we are assured by the scientists that every care will be taken to avoid, at worst, lessen undesireable side effects arising from their interference with the natural order of the progression of the species. The current development of the parasitic wasp to limit the spread of German and Common Wasps is a case in point. If the food supply normally germain to this parasitic wasp is denied, will an alternative source of food, namely bees, become the answer to the creatures survival in this country? It appears no positive assurance can be given. Only with the passage of time will beekeepers be able to determine an answer.

This is but one situation engineered upon us by well meaning scientists. Some may say the parasite now being used to eradicate the gorse plant is another. Yet behind all this manipulation of species is a profit motive. With wasp eradication both the beekeeper and the tourist sectors of our community, stand to profit, although an assured food supply for birds is often touted as the principal motive. If we eradicate gorse it releases many more acres for pastoral production: a worthy cause to a world hungry for our food products. That dollars in the bank will be the most desirable outcome is to be tacitly assumed, but not publicly promoted.

For those with the ecology at heart, it is difficult to decide whether to offer support or not. In making this decision it is to be hoped that the rule of the mighty dollar recedes far into the background.

NOTICE

The next applications for trust funds close at the office of the NBA, P.O. Box 4048, Wellington, on 28 February, 1990.

LETTERS

Dear Sir,

With regard to your Conference '89 photographs, I would like to set the record straight. I do not, as you suggest, drive a "bus load of screaming horrors twice a day somewhere beyond the black stump." I do drive a school bus in a beautiful Hawkes Bay country district with a load of interesting and lively young people.

Jenny Dobson

PS: I am also neither grim nor saintly.

Dear Sir,

I am a member of the "Bangalore Beekeeper's Association" in Bangalore, India. I live in an ashram in Bangalore and look after our bees, we have six hives at present. I'm at present visiting my parents in Auckland and will be here only until Oct. 15. I had wanted to make contact with you and local beekeepers but as I am unable to come to Wellington, I am writing instead.

We have come across your magazine "New Zealand Beekeeper" and are very impressed with it. It is very difficult and expensive for us in India to get literature, magazines, etc, on beekeeping. We would be extremely happy and grateful to receive your magazine and any old or used bits on beekeeping. I request you, on behalf of B.B.A. to send back issues of your magazine, as many issues as possible to us in India. We would circulate them amongst the members of B.B.A. and they would be put to very good use. I request that you parcel them up as 'Printed Matter' and send them by Registered Parcel Post Sea Mail as this would be the cheapest and most reliable way to send them (the postal system in India is not very reliable). Please send them as soon as possible to:

THE SECRETARY
BANGALORE BEEKEEPERS
ASSOCIATION
C/- ATMA DARSHAN YOGASHRAM
213, 30th CROSS, 7th BLOCK
JAYANAGAR, BANGALORE
INDIA 500082

Also, if any of your members or subscribers would like to correspond with an active beekeeper in India, please write to Mr Varadarajan, C/- Bangalore Beekeepers Association, Atma Darshan Yogashram, 213, 30th Cross, 7th Block, Jayanagar, Bangalore, 560082, India. If you would like to publish this in your magazine, we would be very happy to correspond with New Zealand beekeepers. If you or your members wish to send us any equipment such as gloves, masks, etc, we would accept with pleasure.

Yours in happy beekeeping!

Yogaratna

Dear Sir,

Herewith the metric conversion for recipes as promised at conference.

Oven Temperatures

Metric-Celcius	Fahrenheit
140°C	275°F
150°C	300°F
160°C	325°F
180°C	350°F
190°C	375°F
200°C	400°F
215°C	425°F

Approximate conversions:

25g = 1oz	250g = 9oz
50g = 2oz	275g = 10oz
75g = 3oz	325g = 11oz
125g = 4oz	350g = 12oz
150g = 5oz	375g = 13oz
175g = 6oz	400g = 14oz
200g = 7oz	450g = 15oz
225g = 8oz	500g = 16oz (1lb)
	600ml = 1pt

If a recipe says 25g (1oz) gelatine convert it to a measurement that the average cook can comprehend like 3 tablespoons. BUT 2 tablespoons of sugar equals 30g. So you need to know and understand the conversion factors.

I refer you to Christmas Cookies' Summer 1988, page 14.

2 ounces of citron should be 50g of citron, but can we purchase citron in our shops? I realise it is probably lemon or orange juice flavour, but for NZ we have to adapt this recipe. In the instructions roll 1/8 inch-should be 2.5mm. Bake at 350°F should be written as 180°C.

Frozen Fruit Salad page 21 and 29.

4 ounces cream cheese should be converted to 125g or even 1/2 cup cream cheese. 1/2 pint whipping cream should convert to 300ml or 1¼ cups.

Christmas fruit nuggets, page 31, should be baked at 190°C not at 375F.

These recipes should have been presented in a more updated, upmarket manner.

Sue Jenkins

(1). Sue, you have me bluffed. In your own recipes (see page 26) you use a mixture of metric and old-fashioned. If we are to change to a metric system then surely we should be using grammes and millilitres entirely and completely eschew spoons, cups, and steam shovel buckets. However, a learned opinion suggests it is a pity Napoleon was ever invented. He has caused more trouble than he is worth.

(2). A number of Wellington delicatessens stock powdered citron. Perhaps it is simply a matter of hollering loud enough in your neck of the woods. Following is the citron's c.v. for those interested.

CITRON, a species of *Citrus (C. medica)* belonging to the subfamily Aurantioideae; the same genus furnishes also the orange, lemon, lime, shaddock (pummelo) and grapefruit. The citron is a small, evergreen tree or shrub growing to a height of about 10 ft.; it has irregular, spreading spiny branches; large pale green, broadly oblong, slightly serrate leaves, with wingless petioles, and generally perfect flowers. The acid varieties such as the Diamante have flowers purplish without and white within, while the sweet varieties such as the Corsican have creamy white flowers throughout. The fruit is ovate or oblong, protuberant at the tip, from 5 in. to 6 in. long, furrowed; rind adhesive, the inner portion thick, white and fleshy, the outer, thin, greenish-yellow and very fragrant. The pulp is firm, either acid or sweet, and is used only for byproducts. The thick peel has an agreeable flavour when candied.

There are many varieties of citron but the two commonly grown for production of candied peel are Corsican and Diamante. The fruit of the Etrog citron is used only for ceremonial purposes in religious rites of the Hebrew people. It has a pronounced protuberant tip with persistent pistil even on the ripe fruit.

Candied citron is highly esteemed as a confection. Supplies come from the Mediterranean countries and Puerto Rico. Citron peel must be cured in brine or sea water prior to being candied.

The citron tree may be grown in the various countries of the world where lemon and limes are grown, as it is only slightly less resistant to frost injury than they are.

Editor

Dear Sir,

A friend took over the magazines while I was ill in February and to add to the confusion I forgot to make up the postal file. I remember telling her to send a bank draft by airmail but neither of us can remember to whom it was sent. The treasurer has now returned and is checking the accounts.. Please continue to send the NZ Beekeeper as it is one of the most popular magazines we receive and members are asking what has happened to it.

Ivy Jaques
Bee Farmers' Assoc.
Doncaster, England

Dear Sir,

I received your issues of your magazine with very many thanks.

Best wishes.

Yogarathna
See letter above. **Editor**

Queen quality competition

From Reg Clarke

The year 1990 will be remembered in New Zealand history as the year the Commonwealth Games came to Auckland. At the same time, there will be another "sporting" contest underway that the news media will certainly not notice. Yet for our Industry it may be of equal importance.

Last July, Conference approved a remit that an annual queen-quality competition should be held, and Executive recently gave authority for a subcommittee to be set up to run it. The members are Terry Gavin, John Dobson, and myself. The committee has yet to decide on a number of important details; these need to be carefully thought through so that we start with a sound and enduring set of rules. As far as I am aware, nothing like this has been attempted before, so there is no convenient precedent to draw on.

The competition will set out to measure and compare only physiological quality. All those other less tangible qualities derived from the queen's genetic inheritance lie beyond easy measurement; except as they are seen in the ultimate honey crop. But one point is very clear in the research on queens. It is this: given a queen mother of a certain quality, her full breeding potential can only be realised in a daughter whose physique and reproductive organs are as good as they can possibly be. Queens respond in a very elastic way to production technique: from the same queen mother, daughter queens can be produced that range from small intercastes weighing about 160mg and barely capable of egg laying, up to queens of over 300 mg capable of laying over 2,000 eggs a day and heading a strong colony for two or three years. The purpose of the competition is to encourage queen producers, under the stimulus of competition, to refine and optimise their technique and so produce queens of the maximum quality inherent in our breeding stock.

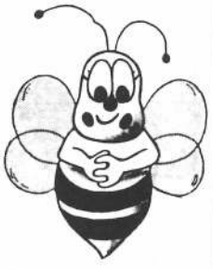
These competition queens will naturally be produced as an elite class of stock, pampered and pre-selected. They will not be representative of commercial stock. That could only have been achieved by random selection of stock to be tested. It would be difficult to prevent producers knowing which queens were to be tested, and would have excluded every producer who does not advertise queens for sale. Despite the creation of an elite class of competition stock, this is bound to affect commercial stock. Firstly, most producers will see the commercial advantage of transferring this quality into their commercial stock. Secondly a good result in the competition will be a powerful marketing tool, but it will not have lasting value unless customers see evidence of that quality in the queens they buy.

Queen evaluation will be based on the standard physiological measures of weight ovariole number, spermatheca volume, and sperm numbers. Nosema infection levels will also be measured. The most important measures are the size of the reproductive organs, and full mating as evidenced by the sperm count. Weight is a good guide to producers, but is too variable and subject to manipulation to be a useful competition measure. Nosema infection ought not to present in a high quality queen, so will be heavily penalised. The scoring system being devised will reduce these measures to a single score. When all the results are in, queens will be graded into Gold, Silver, and Bronze award classes, and those not up to award standard. The awards will be presented at the next Conference, and those who do not qualify for an award will not be publicly identified. We hope this will be seen as learning experience, that competitors will return each year determined to do better, and that the overall standard will increase each year. This learning aspect will be greater if competitors are willing to discuss openly the techniques used. While that might be seen to be giving away a competitive advantage it is important for the good of the Industry that the competition be used as a tool for increasing the overall standard of queens.

Entry is open to all NBA members, so that the enthusiastic amateur can measure skill against the professional queen producer, and those commercial beekeepers who raise their own queens can also measure results against the best that specialists can achieve. Improvements made will show up in the honey tank, and for the commercial beekeeper the competition should be seen as a cost-effective quality assurance measure, and an essential part of a well-run business.

The competition is to be self-supporting financially, so there will be an entry fee to cover administration costs. In addition, entrants will pay the usual laboratory fees for the queen tests. In return they will get their results direct from the laboratory, and will receive a copy of the competition report which will contain a full analysis of all the results. It is hoped that the report will also include a discussion of the techniques used in relation to the results.

Those wishing to enter, or requiring further details should write to me at 81 Lakings Road, Blenheim, or contact Terry Gavin or John Dobson. And so, without benefit of elaborate opening ceremonies — let the competition begin, and may the best queen win.



Marketing in Japan

By Sue Walker

I have had associations with Japan for some 30 years; on a business level with my father and later my husband, and on a personal level with my many close Japanese friends of all ages and walks of life. These opportunities have given me a good understanding of Japanese culture and customs and they provided me with the motivation to undertake a three-year university course studying the Japanese language.

I have been involved in beekeeping, more as a hobbyist, for the past 12 years and have taken a keen interest in the development and progress of the industry. To complete my university qualification I wrote a comparative study of apiculture in both Japan and NZ paying particular attention to trends and market opportunities. It was this study which sparked the idea of combining my two interests — bees and Japanese; a dream a mere dream, but it seemed worth chasing and so in 1984, Honey Land NZ was established with the explicit, even if naive aim, of exporting honey to Japan.

At this point I should like to emphasize that it's okay to dream. It is dreams which harness our imagination, and provide the fuel boost to raise our sights and shoot for the stars.

However, don't expect it to be easy. Countless obstacles lie in the way, but with patience and persistence, each can be overcome.

Today, five years on, it's appropriate for me to stop and reassess the situation. I should like to share with you some of my opinions, experiences, and lessons learned on the way. I only hope that it will be of some value.

First, why did I choose Japan? Apart from my personal interest and connections with this country, I also assessed through my reading and study the potentials that Japan offers us. I should like to identify some of these potentials.

(1) New Zealand's favoured position: Japan is a country of about 120 million and ever-increasing wealth. The Japanese have an awareness of, and a respect for, New Zealand. They identify with us as a country of small islands, they respect us for our nuclear-free stance, and they admire us for the clear green image. These facts offer us great opportunities over our competitors, and are worth millions in advertising.

(2) The Japanese custom of gift giving: Initially I did not have enough honey to sell it in bulk. The market in Japan is very competitive with prices from such places as China and Argentina being almost impossible to meet. It seems that with the sale of bulk honey some of the advantages associated with the NZ product image are lost.

In the bulk market honey is regarded more as a commodity negotiable at world prices rather than a high-quality market.

Many of you probably know about the custom of gift-giving, but its importance is worth emphasizing. It is a ritualised part of life centred on two main gift seasons. Can you imagine the equivalent of two Christmases every year, with the necessity to buy gifts for all your colleagues and acquaintances! Then, as well, there are all the other occasions demanding gifts, such as a visit to someone's home or souvenir gifts for all friends on returning from any sort of holiday or trip. I have been with friends who have spent the equivalent of hundreds of NZ dollars on gifts to take back after a two-day weekend from home!

Price may be important for everyday necessities but it's not so crucial for gifts. It's fine to be extravagant for a gift and to buy a luxury item. The whole process is based on reciprocity; according to what you give, you will receive, and what you receive you will give. What a headache!

These gifts are very often food, all beautifully packaged and discretely showing the name of the prestigious shop from whence it was bought. Honey fits well into this category.

One important consideration to bear in mind, is that in Japan it is the women who control the purse strings, and therefore the women do the shopping. It is usual for the wives to take charge of the salary, and for the husbands to receive pocket money! So, in designing packaging feminine appeal is crucial, and I might add that in Japan, there is a sophistication in tastes that would easily match that found anywhere in Europe.

(3) Style of life: Japan is a country with rising levels of income and full employment, but the pressure on land and the consequent rocketing prices of it in the cities make it more and more impossible for the Japanese to buy their own homes. This results in an increase in disposable income and spurs the consumption boom, particularly in luxury items. It also means that the majority of people live in apartment blocks and condominiums, incredibly small compared to our living space. This puts great pressure on storage, making it preferable to shop daily rather than keep a good larder. This means the Japanese housewife prefers to buy in small quantities and once again presentation plays an important part in their choice.

I believe that this has significant implications for NZ honey exporters who should evaluate carefully the size, quantity, and presentation of their retail packs, whether they be for gifts, or for everyday consumption. I cannot over emphasize the need to study your targetted market — those who purchase the product ie. the women, and those who consume it i.e. the household.

It is appropriate here to look at the consumption of honey in Japan. It has continued to increase over the past two decades, and is now more than 40,000 tons a year, or 345 gm per person a year. Most of this, about 65%, is eaten in the home, although according to a recent article in Tradescape, industrial use is increasing. Apparently the industry has succeeded in exploiting the special appeal of honey amongst the health-conscious by promoting products, especially drinks, containing honey. This article predicted a continuing increase in consumption, with a levelling in household demand.

But let me tell you my story.

Arriving in Osaka, on my first visit travelling alone, I was booked into a hotel full of Japanese business people.

Not one other European in sight. I ordered a Japanese breakfast complete with the usual rice, fish, pickles and soup — but where was the soup spoon? A quick and surreptious glance at my fellow breakfasters for enlightenment revealed that not one of them was eating this food. All of them ate in western style: coffee or tea, toast or buns. I suspect that this is of significance to us beekeepers. On subsequent visits to Japan, I found more and more families eating a western breakfast, which would take the housewife perhaps 10 minutes to prepare, as opposed to traditional fare a full scale meal, taking maybe an hour! Perhaps increasing pressure on a housewife's time, and western style breakfasts with the need to provide 'spreads' creates an opportunity for us.

I might add that in the past there was a reluctance on the part of the Japanese housewife to buy foreign food. However, the imbalance in Japanese world trade has forced this government to encourage its people to buy 'foreign', and gradually the traditional preference for locally-produced goods is being overcome. More and more the emphasis when shopping is on the quality of a product, and in my opinion, providing N.Z. can assure top quality in both presentation and content of honey. It will more than satisfy market demands.

All of this paints a glowing picture. With such attributes the Japanese market really seems attractive, and easy pickings. However, there are some substantial difficulties of which I will outline a few.

(1) The distribution system: Some of you will be aware of the complexity of the Japanese distribution system, sometimes viewed as a conspiracy to keep overseas products out of Japan. Yet, it is a natural result of historical and social developments of the Japanese economy and is based on a rigid code of ethics. It represents a network of multi-layer long-term personal relationships sometimes involving up to three wholesalers and a retailer. It is these wholesalers who have pivotal control over the distribution network, not only providing the link between the manufacturer/producer and the retailer, but also sharing business risks with both their clients and their customers, offering financial, transport, and storage facilities.

Most table honey goes through packers who blend and package the honey before passing it down their own distribution channels. Of the 110 or so packers in Japan, 60% of all honey sold goes through the top five companies. This is what I call "big business" and although I did meet an executive of one of these companies he was interested only in bulk honey with price the main consideration.

So where can one break into the system? Well, there are a significant number of smaller companies functioning as importers, wholesalers and retailers who are seeking foreign speciality goods ready packed for the customer.

Another option is offered by the direct mail order companies who aim at targetted markets with Japan — such as the gift or tourist market.

After all, it is important to remember that 2.5% of the Japanese market is equivalent to the total N.Z. market, so you need only target 2.5% of this market to double your base. 'Niche' marketing is a viable option.

(2) Other problems relate to price: A quick look at the honey prices quoted in the Tradescope article will probably amaze you; retail prices in the vicinity of 300 yen is for 250 gm! This seems a magic figure, but, and there is a big **but,** the costs are high as you will have gathered from my description of the distribution network. It is generally accepted that the importers price is only 30% of this final figure, and when you allow for all your own costs involved in getting your honey to this market, it loses some of its appeal.

One of the crucial requirements in negotiating with the Japanese business world is to guarantee **price stability.** This is easier said than done! One quick look at the price fluctuations in our own bulk honey price over the past two seasons, and then add to that currency fluctuations in the value of our dollar against the yen, will illustrate the havoc that can appear in ones regular pricing.

However, the adverse effects of these can be offset somewhat by allowing a margin in your original negotiated price, and then, as far as currency changes are concerned it is wise to take forward exchange cover once your order is confirmed.

While I am talking of business negotiations, it is probably appropriate to add the other two major requirements which affect the pricing. The first is **continuity of supply** and again in the content of the Japanese distribution this is a key factor. Remember that Japan is a big market and if your product takes off then make sure you can supply. Perhaps it's better to state in the initial stages, your maximum suppliable quantity and make sure you can deliver. Failure to do this would result in a loss of face for your agent or importing customer that may not be recovered. This may involve you in the need to carry a lot of stock, so allow for this in your costings.

The other crucial requirement is **consistency of quality,** something that must be rigidly observed and guaranteed at all times. Business in Japan is built on trust.

(3) One other problem area: Customs clearance in Japan. Honey is defined as a liberalised item, though subject to a 30% tariff rate on CIF value. The importer is required to submit to the customs authorities on importation declaration and evidence of honey sources and country of origin. N.Z. enjoys a favoured status, with Japan accepting our honey export certificate confirming the absence of antibiotics. On a government level this is the only document needed to accompany our honey, but in practise I have found otherwise several times my Japanese clients have been denied clearance of the honey pending further information on documents. On one occasion they even queried the authenticity of Ted Robert's authority to sign certificates! And then again, even the demands don't appear to be standardised and in my experience, different tests have been requested at different ports.

Now I make sure a full range of documents with various analyses accompanies my honey shipments.

It is impossible in this space to cover all the relevant material and thus I would urge you, if you have an interest in this market, to learn about it. Certainly no way is better than a visit there.

Finally, I should like to share a few points on **business practise.**

It is important to realise that there is a different attitude to business in Japan. In Japan much more emphasis is placed on the relationship, rather than just the product, and it takes time to establish credentials and earn a reputation. If I was asked to sum up the Japanese business scene in one word, I would chose "trust", a slow process indeed. However there are ways to hasten this. The first is by ensuring a **good introduction.** Again let me illustrate from my own experience. In the early stages of business, I was making a sales trip to Japan. Several months prior to this I sent out about 20 letters to various companies in Japan who were already importing N.Z. honey. I did not receive one reply. I had tried to short-circuit the introduction.

However, just before my departure I contacted Trade Com and they made official appointments with five different companies. From this introduction two positive and continuing sales eventuated. Although using the services of Trade Com may appear costly, the fact that they are an official government agency gives them prestige which will open doors to your advantage in Japan.

Likewise, Japanes friends or acquantances in important positions may act as "go-betweens", giving you the all important 'letter of introduction.'

continued on page 14

An inexpensive wasp trap

By John Glasson

Some years ago, before wasp poisons were available, I had some feed honey in an unused honey house. It was Autumn and some wasps had found their way into a tier of five supers of honey and almost cleaned it out.

The wasps' nest was on a high cliff face, where I could not reach it to destroy it. The shed was buzzing with wasps and many were climbing on the window. I cut a honey tin in half lengthways to make a 10-litre tray which I filled almost to the top with water with 5 mm of kerosene on top. Over three weeks I collected 10 litres of wasps from this trap. The wasps fell into the kerosene, died immediately and sank into the water.

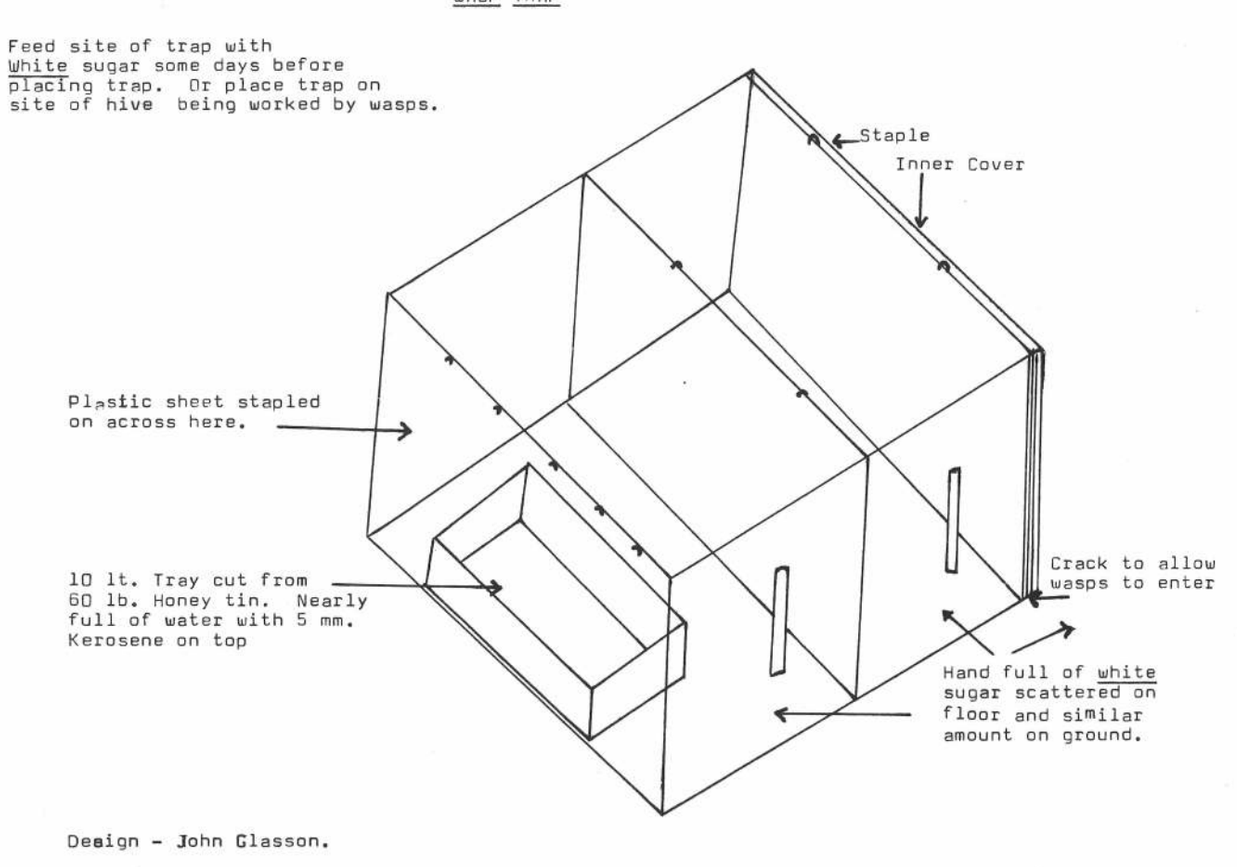
In March and April this year wasps were around in really large numbers on the West Coast. At one mating yard with about 100 nuclei, the wasps attacked every one and even cleaned a few out. Several wasps were inside every nuc.

Remembering my earlier experience, I decided to build a trap along the same lines. At this time of the year wasps are attracted to white sugar but, because of the wasp problem, no white sugar was being fed to the nuclei. I removed a nucleus from the site where it was being robbed out by wasps and assembled a trap in its place. Two supers were placed on their sides, together on the ground. One super had a sheet of plastic stapled across it to make a window at one end. A 10-litre tray, cut from a 60 lb honey tin, was placed inside hard against the window and almost filled with water with about 5 mm of kerosene on top. A handful of sugar was spread around the base of the trap inside the boxes and another handful sprinkled around the entrance. An inner cover was placed at the open end and hinged by staples at the top. At ground level a crack was left to allow the wasps to enter.

The wasps found the sugar almost immediately and all the wasps visiting this site over a period of a few days were killed. Two traps were set up at that yard and within two weeks each trap had killed approximately a two kg honey container full of wasps.

It was found necessary to clean out the dead wasps and add fresh kerosene after a few days as the kerosene seems to evaporate. Also sprinkle more sugar if required. Within days of setting up the traps the wasps ceased to be a problem around the hives. With this success I set up traps at various yards which had wasp problems and gained similar results. In some instances a few bees found their way into the traps but, as it was getting cooler in April, most traps contained only wasps. As yet I have not experimented with other baits but I believe sardines or fish placed in a similar manner to the sugar may work.

If the wasps are bad at a yard set up several traps. Take care that cattle can't chew the plastic or knock the traps about.



Proposal for a joint beekeeper/NBA closed-population breeding project

By David Yanke

SECTION I — AN INTRODUCTION

It is safe to say that everyone in the industry believes that a breeding programme resulting in improved bee stocks is a good idea.

Up until now no one has been able to justify the creation of a central breeding programme for an industry of our size; but times have changed to the point where a breeding programme can be justified.

I believe that breeding cannot be left to the queen producer: he has neither the time nor the resources to do the job properly. No one in New Zealand is doing any breeding to improve bee stocks. This is not for the lack of trying. The best result a queen producer can hope for is to maintain the status quo. It can be shown through computer simulation that unless matings are absolutely controlled and measures taken to prevent loss of sex alleles, it is not possible to make any significant improvement in bee stocks. Ideally the queen producer should have a central breeding programme from which breeding stock can be drawn.

Besides believing that we can do better than the status quo, I believe that our commercial bee stocks are beginning to show the effects of inbreeding. Until last year, there had been no legal importation of new genetic material into New Zealand for almost 40 years.

Our commercial bee stocks are generally ultra yellow and ultra gentle and yet we have a feral population which is generally dark and aggressive. So for 40 years the battle lines have been drawn. Queen producers have battled against great mating odds to give the industry what it wanted: a yellow, gentle bee. That selection pressure has resulted in the gentle, yellow, Italian type bee available from most queen producers. But, how productive is it? How hardy is it? And how much of that gentleness is a result of loss of vigour? We don't know because we have nothing to compare it with. I am sure that over the years we have lost sex alleles from our commercial bee stocks and brood viability has been affected and, as the genetic base of our bee stocks has narrowed, there has been a loss of vigour.

So where does that leave us? At best it leaves us with commercial bee stocks which can be improved. At worst our commercial bee stocks have a serious brood viability problem, lack vigour and have lost resistance to the diseases of the honey bee. As usual the real situation probably lies somewhere in between.

Today the world is lean and mean and for a business to survive it must be run as efficiently as possible. Now, more than ever **Quality** pays. The status quo is no longer good enough. Beekeepers need quality queens heading their colonies. They are a very important factor in the efficiency of the business.

My proposed closed population breeding programme will provide the industry with the improved breeding stocks it now needs, and the improvements will be significant and ongoing. The Western Australian Department of Agriculture breeding programme has shown a 10% or more increase in honey production per year. New Zealand access to improved genetic material from WA is a good thing and will continue, but it is only part of the answer. We still need a programme here to improve NZ bee stocks and ensure that an adequate number and frequency of sex alleles is maintained.

This programme will do that but it will require the support of the NBA and the co-operation of queen producers and major honey producers in providing the foundation stocks upon which the programme will build.

SECTION II — DETAILS OF THE PROPOSED CLOSED POPULATION BREEDING PROGRAMME

Concept

To suit the times this will be a lean version of the WA Breeding Programme. it will be a closed population breeding programme involving the maintenance of 20 lines in which matings are completely controlled by instrumental insemination using pooled semen.

TABLE I

ACTIVITY	APPROX DATES	HOURS REQUIRED
Breeder selection, wt taken, data correlated	Jan 20	8
Graft #1	Jan 21	4
Graft #2	Jan 25	4
Set up Group 1 nucs, 70 nucs + put out cells.	Jan 31 & Feb 1	8
Collect and pool semen Grp 1 Initial CO2 treatment. Inseminate 70 virgins.	Feb 5,6,7,8	80
Set Groups II nucs.	Feb 3,4	8
Group II inseminations	Feb 8,9,10,11	80
Final weight, Honey taken off, Extracted	Feb 15-20	60
Select 5 best Q's in each line to evaluate. Introduce after catching old Queens.	Feb 25-26 G.I. Mar 4-5 G.II	32
Q. Check and equalise	Early Apr	16
Q. Check, initial colony weight taken.	Early May	16
Feeding	Rounds May, Jun, Jul, Aug, Sept	30
Hygienic behaviour test.	Late Sep	16
Check 3rd box given.	Oct	20
Checks, 4th box when needed. Drone comb.	Nov, Dec	24
Checks, 5th and 6th box given when needed	Jan	20
	TOTAL HRS	426

All colonies will be managed identically.

The programme will be initiated with the donation of five tested queens by each of 20 participating queen and honey producers. These 20 original lines will be maintained, and improved progeny will be made available to the participants each year.

In exchange for their cash contribution each founding participant will get his surviving queens from the previous season's evaluations, plus one instrumentally inseminated daughter of the best overall queen of the 20 selected breeders.

It can be done at reasonable cost because it is being done privately in conjunction with my established queen-breeding business. If the programme was run by DSIR or MAF, the cost of the programme would be much higher because of the institutional costs. For instance the WA Dept. of Agriculture programme costs almost $100,000 a year when all costs are taken into account. I will show that once the programme is established it could be almost self funding.

Selection Criteria

The selection criteria to be used will be net colony weight gain and hygienic behaviour.

Brood viability will be monitored and maintained above 90%.

By using net colony weight gain, winter hardiness will be accounted for and the testing for hygienic behaviour will select for resistance to brood diseases.

Yellow colour will be maintained by simply using only yellow drones when collecting semen. Excessive defensive behaviour will not be tolerated.

The hives being evaluated will be kept in a single dispersed apiary. The valley provides a few minor spring flows with the major honey flow beginning in mid-December and finishing in early February. There is no late bush flow so there is a long period of dearth beginning in February which is not broken until September at the earliest. I believe it is a good place for the evaluations because after a long period of dearth the colonies build up for one major honey flow occurring over a relatively short period. The selection criteria under these conditions will ensure that resulting stock will have to be hardy to be productive.

Timetable Details

Each line will be evaluated started in the autumn of the first year, with an initial colony weight taken in May.

Any feed given will be recorded and deducted. In early October the queens will be tested for hygienic behaviour using the pin-killed brood method and scored 0.5 kg or 10 kg, depending on the percentage of pin-killed larvae uncapped and removed. This weight will be added to the final total.

The colonies will be weighed on January 20 and breeders selected. The final weight will be taken on February 10 before honey is removed. Weight of empty honey supers and initial colony weight will be deducted to give net weight gain.

The reason for the January 20 weighting is so that breeders can be selected as early as possible which will in turn allow the release of breeders to participants early enough to allow them to be used for some late autumn queen rearing.

I believe it will be shown that the colony with the best total weight on January 20 will also be the best on February 10.

The best queen in each line will be selected and seven daughters will be reared from each of these 20 selected breeders. When the virgins are six days old they will be inseminated with pooled semen collected from drones reared in those 20 best colonies plus semen from WA stock at 10% by volume.

Once these daughters are laying, the five best in each line will be introduced into the evaluation hives thereby releasing the old queens which will be passed on to the participants.

The timing of the breeding work proposed is important. Conventionally, and in WA, breeders are selected in autumn and breeding work is done as early as possible each spring.

Rearing of the drones for inseminations is then difficult and costly. For example, I bought 100 ul (mm3) of semen last season from WA for $A1,000. It seemed a lot but Lee Allen, the Chief Apiculturist in WA, assured me that it did not cover the cost of production. By doing the inseminations in early February the drone rearing is very much easier and less costly.

Early February inseminations allow the queens being evaluated to be set up in the evaluation hives by early March. That releases breeding stock to participants in time for late autumn queen rearing and gain for early spring.

With the queen in place in the evaluation hives in March after equalisation the evaluations can begin in May, so winter feed consumption would be taken into account in the total colony weight gain.

A spring programme on the other hand, even begun at the earliest, would not release breeders until late October which means they would miss most of the spring queen rearing.

Fig. II

DESCRIPTION OF COST	COST
Labour Cost D Yanke 336 hrs @ $25/hr	$8,400
Technician 90 hrs @ $25/hr	$2,250
Feed Costs 1.6 tonnes @ $965/tonne	$1,544
Other — Farm work expenses	$1,040
Repairs and Maintenance	$1,800
Vehicle Expenses	$640
Administration	$1,100
Standing Charges	$1,750
TOTAL	**$18,524**

Fig. III

One Off Establishment Costs

Lab (Portacom) Purchase Price	$4,400	
Transport Peria	$350	
Fit Out	$500	
		$5,250
Lab Gear Equipment		
II aparatus, microscope, glassware, etc		$3,000
Hive weighing gear		$300
		$8,550

Hive weighing gear required April 1990 — the rest not until January 1991. Loans and donations of equipment could reduce these costs. **All of this equipment would remain the property of the NBA.**

Fig. IV

Potential Programme Income

Each original participant whose donated Q's form the 20 lines of foundation stock, will pay an annual fee of $500.00 starting in year 2. For that fee he receives the surviving Q's of the line founded once released from evaluation, plus one instrumentally-inseminated daughter	20 x 500 = $10,000 of the best overall Q.
Other breeder sales	10 @ $200 = $2,000
Sales select tested queens	20 @ $50 = $1,000
Honey sales — bulk	$3,000
TOTAL	**$16,000**

Evaluations then could not begin until December so at best you could evaluate them on how they handled the major honey flow. A proper judgement of spring build up could not be made.

Almost as important, it allows the cost of the programme to be kept to a reasonable level because it lets the programme fit into my queen rearing business without seriously affecting production. Most of the breeding work would be done before the autumn queen rearing for export begins. Hive evaluation work over the year can fit in with my other work because it would not demand much time on a week to week basis.

SECTION III — PROGRAMME COSTS

I now detail the management and labour involved with the programme.

During the last week of January and first two of February, I shall require the assistance of a technician. That technician will assist in the final lead up to and during the intense two-week period in which the queens to be evaluated over the next year, are inseminated. Over that two-week period we shall collect large amounts of semen (over 700 ml each week) and inseminate over 140 queens with the semen which, after being collected, is pooled and homogenised. That task will keep two inseminators busy over that period. See Table I for labour input.

Conclusion

Queen breeding is my passion; part of the reason I am putting this proposal forward. I should love to be part of such a programme. I believe I have the experience to run one successfully given the support of NBA and participating queen and honey producers. A breeding programme resulting in significantly-improved bee stocks could easily become a reality.

Legal Framework for Programme

I suggest that I report to a supervisory committee appointed by the NBA. Say, three participants in the programme, one being an NBA exec. member, one a honey producer, and one a queen producer. The supervisory committee would monitor the programme, collect subscriptions from contributors, and arrange to make up any cash shortfall from Trust Funds, or whatever, leaving me free for queen breeding. They would also prepare an annual set of accounts for the NBA from the full financial records I would keep.

What I Would Like You to Do

Please give this proposal careful consideration. If you want to discuss any aspect and especially if you wish to participate please contact me as soon as possible so we can get underway.

Fig. V

Budget Summary

One-off establishment costs		$8,550
Annual running costs	18,525	
Annual income		
Participants subscription	10,000	
Queen sales	3,000	
Honey sales	3,000	16,000
DIFFERENCE FROM TRUST FUNDS		2,525

SECTION IV — COST AND RETURNS

To determine programme costs I valued myself and the technician at $25 an hour. The technician would be required for approximately 90 hours.

Other costs were based on the estimate that the programme would represent 20% of my business costs.

The programme has the potential to generate enough income to almost make it self-funding. I have shown one possible way to generate income, other methods can be considered.

Marketing in Japan

continued from page 10

The second key is an attitude of **respect** — this doesn't mean subservience, but it does mean politeness. In my case, the fact that I have struggled to learn their language is taken as a sigh of respect for them and certainly gives me an advantage. However, it is not necessary to go that far — sometimes the knowledge of a few words can be enough, but even more important, a knowledge of their customs and expectations can be of great benefit.

Initially my husband was greatly annoyed in his business negotiations by the practise of speaking together for such a lengthy time in Japanese, about trivia and only then, in the last five minutes of the interview dealing with business. However, he could understand better and certainly tolerate easier, when I explained that this is their way of establishing credentials, building a rapport. A difference in style.

Although most executives in large companies will speak English, it is always better to take your own interpreter. Once again, not only does it give you prestige and ensures complete understanding, but it also gives you time for careful consideration and to record the negotiations. I really believe that in dealing with Japanese business people one should focus on mutual respect and goodwill. Established on this basis there may be no limits as to future possibilities.

Heating management system saves fuel

Energy conservation in the home or in large commercial premises has been made easier by the introduction of a heating management unit by a British manufacturer.

Heat/Save, from Cobden Electronics, incorporates a micro-processor and is offered in a range of complexity to suit the particular application.

Economies are achieved by the use of a highly accurate control system and sensitive thermostats. For example, the system can detect the drawing of half a basin of water from the hot water tank and turn on the boiler long enough to replace just that loss — no more.

The system is particularly easy to use, employing the latest digital technology and user friendly displays. Control can be switched to manual operation in the event of failure. No external thermostats are needed, making the system easy to install and unobtrusive when fitted.

The health of our charges (part III)

By John Heineman

Besides diseases honey bees also have to cope with a small number of predators here in New Zealand.

WASPS (Yellow Jackets) were inadvertently introduced. First came the German wasp *(Vespula germanica)* and later the Common Wasp *(Vespula vulgaris).* There is no need to distinguish between these two species for our purpose, for their life cycle is the same and eradication measures similar for both. When these immigrants arrived they found our environment much to their liking and have spread throughout the country. This has happened in double quick time for they left their natural enemies behind. Not only have they become a menace for the bees but are proving a general pest affecting fruit growers, the public, and even bird life in some of our native forests. The density of wasp nests varies from area to area depending on food sources available, also the wasp population fluctuates from year to year depending on the climate. I am sure that by now every reader will know what a wasp looks like.

To us beekeepers they are not simply a nuisance because they post a very real threat to the continued existence of colonies.

Usually a wasp nest does not overwinter as a colony. In late summer/autumn a considerable number of young queen wasps emerge, mate, and look for a likeable place to hibernate. The parent nest dies out. So during the winter, spring and early summer we don't see many wasps about. The surviving young queens will start new nests and it takes time for these to develop fully. So when you see a wasp during the winter and spring time screw its neck for it means nipping a potential nest in the bud.

When wasp numbers reach their peak late in the season bees and beekeepers will feel the consequences. It is the weaker units, such as nuclei, which become the preferred targets. Once the wasps get a real run on those we cannot do much other than pack up and shift to a safer site. The bees will defend their house up to a point but can become overwhelmed. Not only the honey will be taken but the larvae are grabbed to satisfy the wasps protein requirements (baby snatchers). In contrast to bees, wasps go for meat and fish as protein sources. Larger colonies can also fall victim if the wasp population is very dense in the vicinity of the beehives. But even in less extreme cases a lot of damage may occur. Wasps are able to stay active at lower temperatures than honey bees. Consequently they will sneak into the hive, by the front door and any other gaps, while the bees are more or less clustered and have lowered their defences. They will fill up from the colony's stores and leave the hive. If that goes on for a time, and a fair number of wasps are involved, it is on the cards that you will finish up in spring with a dead colony, dead through starvation because the wasps have robbed the larder.

If you do see wasps about the chances are that a nest is not far away. Try to follow the wasps to their place of residence which may be in the ground, in a bank, among rocks, under a house, etc. Best done early morning or in the evening when bee traffic does not distract.

You may find that tracing the wasps takes time which can be frustrating. You can catch a few wasps in a jar, screw the lid on quickly and place them in the fridge till they are properly chilled and temporarily knocked out. They can then be handled without risk of getting stung. Tie a short length of sewing cotton to the wasp, white is best. After revival the wasp will fly back to the nest, cotton and all, and will be easier to follow.

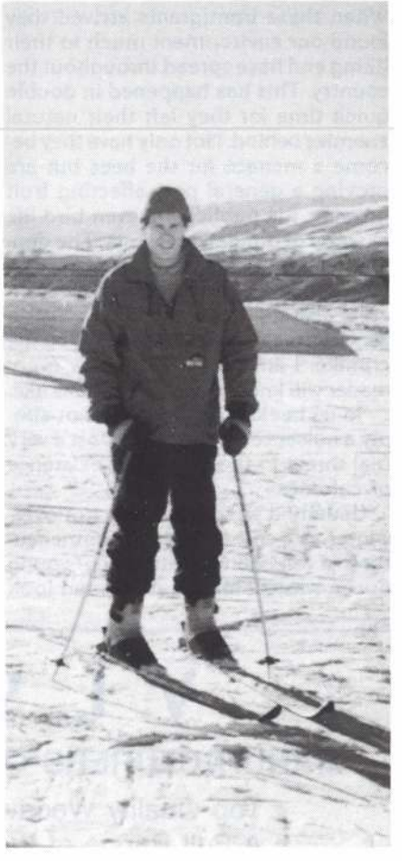
After finding the nest gather your courage and have a go at eradicating it. Do the operation after dark when all wasps are at home and after you have properly evaluated the situation during daylight so that you come prepared and organised. Wear protective clothing.

continued on page 18

Post Conference '89 ski party

(Left) Maria McCaw and Ian Berry looking like they are for real.

(Below) Frank Linsay, described by his wife as a kamikaze skier.



(Left) Nick Wallingford's daughter. Note the firm left foot to the fore.

Southern North Island's Field Day, October 14

(Right) A use for grandma's old wringer. Mary-Anne Thomason flattens a pollen patty. See also front cover.

(Below) It was a freezing day at Gary's. Reg Clarke, delivering his talk about the scientific approach to queen bee raising looks as if he wished his long johns were thicker.

(Below) Stewart Tweeddale also appears to be suffering from the cold.

continued from page 15

Have a torch or extension light. Different situations will dictate what you will use to put an end to the pest. If the nest is in the ground, bank or rocks, away from inflammable surrounds, petrol, diesel, or kerosene can be used. Fill a bottle with half to one litre of fuel and simply stick the neck into the nest's entrance. The bottle acts as plug, the fuel will drain and the fumes do the job. Don't light it. Make sure that any extra entrances have been blocked. The nest can be dug out afterwards and burned.

Under or inside buildings a borer bomb has been proven to be very effective. Block up ventilators, etc., with wet newspaper except for the one used as the entrance. Do that last after every wasp has returned. You will have seen to your own entrance and exit route before. Place the bomb near the nest and light it. Then get away from it smartly. Good idea to tell neighbours and maybe the police or fire brigade about your operation as escaping smoke could raise a false alarm. An alternative to the bomb is the borercure aerosol. This works too and has the advantage that it does not need to burn.

Another way of killing a nest is by making use of an insecticide such as carbaryl or maldison. This has to be blown into the nest. A blower can be made simply by using a length of garden hose fastened on to a bike pump. Pour a quantity (two to three tablespoons) into the hose, place this end into the nest entrance and blow. A vacuum cleaner with the hose attached to the outlet works very well.

Borer bombs and aerosols are available from most hardware shops. Insecticides come from stock firms and garden centres.

A nest in the open can be sprayed with any of the earlier named fuels. Do not light.

Sometimes access to a nest can be very difficult. Sprinkle the insecticide powder where the wasps must walk through it when returning. They will carry it into the nest. That can be slow because it may take days to achieve a kill.

Wasp baits can be used: they certainly attract wasps and kill them, but it is really the nest we want. Never use syrup, honey, or jam with baits. The bees will go for it. Fish or meat-based baits are safe for they won't attract bees.

Whatever method of eradication you decide to use depends on the situation of the nest. Use common sense and **please play it safe.** Read labels and don't run undue risks.

Wasp stings are not pleasant and some people are allergic. I can put up with a good number of bee stings during a day's work but one good wasp sting causes a swelling which turns into a hard lump and itches for days.

Mirex was a good poison to mix with bait but for some reason it is now not available.

Stuart Ecroyd Bee Supplies now has another preparation for sale. As we have no experience with it I cannot judge its merits. Research is being done to compose an effective bait.

Research has also been going on to find the natural enemy of the wasp: biological control. First results are promising. Let us hope that that will reduce the wasp pest to such a degree that we can live with it in reasonable comfort. I think it will be too much to expect total eradication.

Naturally it is important to have hive equipment in good repair. Put in entrance guards in good time, use tunnel entrance bottom boards or wasp guards.

WAX MOTHS. Two species: the Greater Wax Moth *(Galleria mellonella)* and the Lesser W.M. *(Achroia grisella).* The first confines its activities to the warmer areas while the second is spread throughout the country. The greater wax moth causes the most damage in the shortest time but the lesser wax moth too can create a proper mess given the right conditions.

Wax moths don't affect bee health in a direct way but they do a lot of damage to combs, stored combs mainly, but also tho those inside the hive if the population is too small to properly cover the combs.

The moth lays its eggs and after they hatch the larvae feed on honey and pollen, bees wax, and the left-overs of brood rearing. They tunnel through the comb down to the centre and leave a silky (cobweb like) substance and excrement behind. In warm conditions great damage can be done in a very short time. Combs are turned into rubble. The grub of the greater moth can grow from an initial one mm. to up to 25 mm. long. They often gnaw small depressions into the wood of frames, supers, and bottom boards after which they pupate. In time this will also cause damage to the woodwork. Having boarders in the house damaging the interior fittings in this manner must mean stress to the colony besides the direct loss of equipment. Strong hives will suffer loss than weaker ones. The colder the climate the slower the process.

Comb honey may have eggs laid on it before storing. When the eggs hatch they spoil the product. The same goes for combs with feed honey. Pollen, too, is a favoured dish for the moth larvae.

As cold will kill all stages of the wax moth, put comb honey, feed combs, and pollen a few days in the freezer and then store moth proof. A bag of pollen can be kept in the freezer. Sort dry and extracted combs into three grades: culls, dark, and white. Culls should be rendered as soon as possible. Brood and extracting combs can be stacked with a sheet of newspaper between the supers and a tablespoon of PDB (paradichlorobenzene) on each sheet. The stack should be covered with a split board, hive lid, or something similar. PDB chrystals give of a gas which is heavier than air. Therefore put it on top of each super. It is readily available from bee equipment merchants. As the PDB evaporates some eggs may not be killed so the operation may have to be repeated after three to four weeks. Air supers a few days before returning to the hives.

A lot less trouble is experienced in the colder parts of the country. In the first place the climate does not suit the Greater Wax Moth and secondly cold frosty days will retard development. However an increase in wax moth activity has been very noticeable over the last few years as winters have been mild. Stored old combs and supers which did not go on to hives on account of poor flows are the victims. It pays to be on guard.

Naphthalene crystals used in the house to combat moth damage in clothing are not suitable for use against the wax moth. The fumes are readily absorbed into bees wax so that combs would become contaminated.

RODENTS: mice and rats. Mice really like to set up house in a corner of a nice, dry, and snug bottom super of a two-storeyed hive if they can get in. They drag in rubbish for a nest, gnaw out combs, and sometimes the wood of frames and supers. Not infrequently mother mouse will give birth to a litter and the show smells to high heaven. This must tell on the colony as extra strain. If they can get into stored supers the same sort of damage can be expected. Mouse guards, traps, saucers or tin lids with poison under the hives plus a pussy cat will all help to reduce the mouse population.

If a rat gets into a tier of stored supers beware. I have seen a stack of 10 f.d. supers with good extracting combs reduced to a heap of bits of wax. Poison placed in the proper manner, covers on the tiers, and a fox terrier are the weapons.

SOME OTHER INSECTS and **ANIMALS** seem to be attracted to beehives at times. There are the slaters (wood lice) and earwigs who like to hole up between lid and inner cover during the winter months. Sometimes you can

see the odd one scuttle over the top bars when opening up a hive. I don't think they cause any harm, just after a warm possy.

One may see a bird near the hive entrance, probably feeding on some dead bees or even snatching a few live ones. I feel it is not important. Good luck to you bird!

Then there is friend hedgehog who often likes to hibernate under a hive and after waking up may be seen roaming amongst the hives. In time you might even come across a nest with little young ones. There are some funny stories about damage caused by hedgehogs. Don't believe all you hear. Old world beekeeping is full of stories and superstition.

If there is no strict necessity to interfere in nature then "live and let live" is a commendable attitude.

DRIFTING is a problem which can affect bee health as well as the beekeeper's pocket. It is the result of disorientation or a strong wind which makes bees enter hives other than the one occupied by the colony to which it belongs. Now you may immediately say what about those guards turning away intruders and what about that marvelous orientation ability of honey bees.

Visualise a concrete block wall with a concrete slab in front or an expanse of gravel with a very neat row of similar coloured bee hives.

Out comes a young bee embarking upon her first orientation flight. There are really no marked differences between the hives in this neat row, just an uninteresting grey concrete background and a very clean concrete floor or gravel surface. She must feel like us trying to find the right room in a long hotel passage without having the number of all those similar looking doors. The young bee will be terribly confused and more than likely will enter the wrong door. She will probably be accepted for she is young and good looking and has a long working life in front of her so will be a gain for her new family.

The wind is fair streaking parallel with the wall. Field bees are returning, either just making the end of the row flying against the wind or overshooting if she flies with the wind. Again she is accepted by the hive she enters for she is bringing goods: nectar or pollen.

Orientation becomes very difficult if there are no landmarks, nothing to distinguish between one hive and the next.

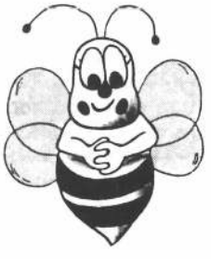
Lack of shelter from prevailing winds makes it extra difficult for a heavily-loaded and exhausted bee to navigate to her own landing strip.

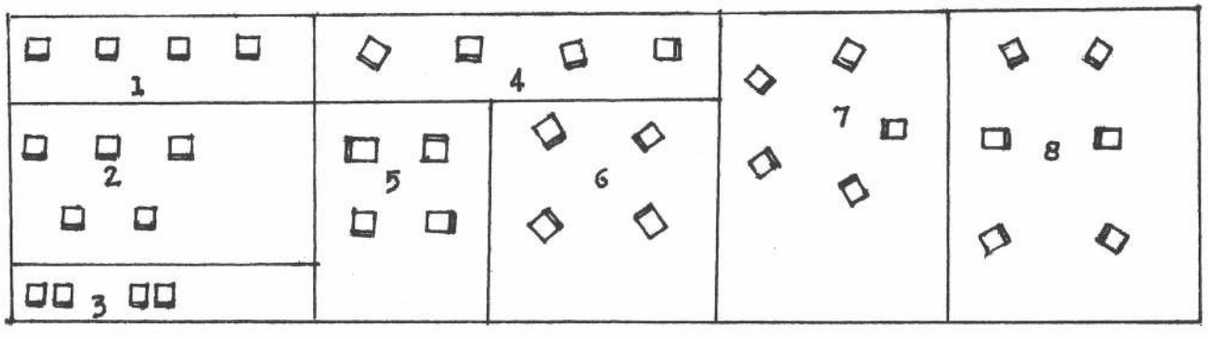
The big danger of drifting is of course bees from a diseased colony entering a healthy colony and spreading infection.

It also causes weakening in some hives, over population in others. The weak ones won't gather any surplus and the very strong hives may swarm. Problems for the beekeeper all along: very time consuming and most unprofitable.

When placing your hives forget all about neat straight rows, leave or create those landmarks such as shrubs, fence posts, rocks, and pay attention to shelter from prevailing winds. Different colours help. Colours bees can distinguish are black, white, blue and yellow. If your hives are painted white it is easy enough to put a coloured strip above the entrances.

Some hive owners like to place hives in pairs, close together, entrances along-side each other. It does not seem a good idea for the above reasons.





Hive entrances are indicated by the double lines. Patterns like 1, 2 and 3 are bad news while 4-8 are set-ups which should assist to alleviate the problem of drifting.

Literature: Aglink FPP 536 and FPP 196; Honey Bee Pests, Predators and Diseases by Roger A. Morse; Practical Beekeeping in N.Z. by Andrew Matheson; S.C. Jay in Australasian Beekeeper No. 8, Vol. 90 and the Apiarist No. 61.

FROM THE COLONIES

Waikato

The weather in the Waikato is terrible. Farms are so wet that I have sites I simply cannot get to. It is even wetter than last year, although warmer.

A good willow flow helped early buildup and bees are gathering barberry at present despite the severe gusty winds we are experiencing.

Hives are strong and there will be swarming if the weather eve. picks up. Many dead hives are reported with beekeepers being caught because they believed hives had gathered sufficient stores even though they didn't produce a crop to extract. The dead hives I found had died April/May, a time one doesn't expect to have to feed bees.

Our Advisory Officer, Murray Reid, organised a branch members' inspection day to try and find the source of BL in areas of persistent trouble. October 7 was the day and a social was to follow. The weather on the 7th was bad enough to force a postponement to October 14, but we held the social anyway. Over 40 attended. The evening began with an extended happy hour, followed by a very nice buffet meal, an excellent speaker, and general discussion; all very relaxing and we should do more of it. A.C. Andrew Matheson spoke about his trip to Iran and showed slides of the country, its people, and beehives. Andrew's talk was very well received and many questions followed.

On October 14 Murray Reid had some 18 inspection teams out with commercial beekeepers and hobbyists mixed together, which was a good idea. The Hamilton/Cambridge areas were covered and BL was found in several areas with some unexpected spots being located.

The shortage of honey has one benefit. I saw a two-kilo pot of honey in a supermarket recently priced at over $10.00!! One would like to think that if a good crop of honey eventuates in NZ this season, that price will not reduce.

Ray Robinson

Westland

Westland has experienced one of the best winters and springs in years. The contrast with last year is incredible. Last year, September saw record flooding and weeks of incessant rain. This year it's been so dry the authorities saw fit to impose fire restrictions for fear of forest fires.

Hives have, naturally, responded to the warmth and sunshine, and reports from all areas indicate members are busy getting back into business, eg. making up losses in hive numbers from last year and making increases.

With no wasps about at this time of year it is amazing the amount of honeydew that hives in dew areas have been able to gather; along with the abundance of gorse pollen available, due to the fine weather, hive strength, bee health, and morale are high. Hives not in dew areas, on the other hand, have required considerable feed, as they build up towards a population that we haven't been able to achieve for quite a few years.

So, given a reasonable December and January, Westland could well produce a better than average crop.

Sandy Richardson

North Otago

At last Coastal North Otago has had good rain into spring; even to the point where stock from Central Otago have been moved in for grazing.

However, further inland, from Kurow West, only a little rain has fallen and it is still very dry.

Most hives are in good order because of a plentiful flowering of willow and dandelion. However, bees on board could be in trouble if the weather clouds over in November as it usually does.

Drought relief is finally in place, but it has been painfully slow to get implemented.

Treasury sure does not like to hand out money without cast-iron security to the point where it becomes another obstacle to obtaining your loan. Let's hope we have a successful year.

G.R. McCallum

Hawkes Bay

A combination of a very wet winter and spring and pressure of work getting pollination hives in the right places regrettably forced us to cancel our September field day, so branch activities have been almost non-existent over the past three months. At this stage our committee hopes to put together an autumn field day and to visit another branch field day in the summer. Details will be in the buzz sheet as soon as they are finalised.

We were thrilled to have Ted Roberts with us for our October branch meeting. He outlined the plans and preparations for our annual "hive inspection day" on November 14 and, given fine weather, we shall surely again be successful.

It is with regret we have just learned that Richard Wimsett leaves us shortly to further his studies in other parts of the world. While we are sorry to lose him we do wish both him and Heather all the very best in their travels.

Gordon Sutton

Marlborough

The spring rush is on at the time of writing. Let us hope that promising starts do not end in another drought or a spate of cold easterlies.

A flood localised to the hills behind Blenheim overtopped a few stop banks while we all slept and drowned three sites. We found boxes from one site, 200 metres from the normal river channel, about 45 metres up a tree.

On August 26 we collected in Reg Clarke's honey house to celebrate St Bartholomew. That allowed us a good chat and some mental preparation for the season's workload. With us were representatives from the Waikato and Canterbury fraternaties.

On September 23, in conjunction with MAF, we held another disease inspection day. Some beekeepers, unfortunate to have AFB, were lucky to have it discovered. Future events include a spring field day to cover spring management on October 15. We shall have a display at the local A and P show in early November.

It is pleasing to see supermarket prices rising a bit. I hope the price cutting lot have learned a lesson so we don't have a repetition of two years ago. That lines no one's pockets. It just makes holes — perhaps that is what they wanted!! Hives generally are strong. Odd swarms are already reported. We have a good willow flow. The norwesters have set in. The barberry is about to begin flowering.

James Jenkins

Nelson

The month of the year says winter has gone, but has it? July and August from a settled weather viewpoint have surpassed September and early October.

Where the basket willow was the only variety the bees have had to work otherwise they would have had a very lean time. As the barberry is coming into bloom one hopes the sun will shine for a change.

From what most local beekeepers have said hives came out of the winter reasonably well, but as the numbers of bees have increased so have food difficulties and there has been a lot of robbing. I have not seen anything like it at this time of year. However, it does reflect the acute shortage of nectar.

We had a very interest talk on queen bee quality by Mr Reg Clarke of Blenheim at one of our NBA meetings some two or three months ago. The theme of the demonstration was the necessary elements in the very early stages from grafting to the production of the virgin,

the following seven to 10 days after her emergence, and the pollen and nectar qualities available to her which made her not only large enough but able to lay sufficient eggs for two seasons or more.

Denis Anderson also spoke and showed slides on a similar line, although from the opposite direction. Queens raised under difficult and stressful conditions produced very poorly and in some cases, half moon disease was present. Queens raised under those conditions were little better than no queens. One could conclude well-fed queens are very much better than run of the mill stock.

It appears that our branch is having the big get together again at Rotoriti early in the new year.

Our branch had the annual disease inspection of hobby hives in mid-September with fairly good results.

Be optomistic for next season, it has started.

Ron Stratford

Southland

Best spring and willow flow for many a year, but things are dry. Had only half our normal rainfall. I expect it is saving it up to dump it all in January.

We have just lost our apiary officer in Gore and now have a MAFQual Co-ordinator instead. That means temporary inspectors are now inspecting our hives. An advantage of this new system is that we may gain a clearer picture of how much disease is about and the standard of our beekeeping in the hives inspected.

Wasps are becoming more of a problem down south. It is a combination of warmer seasons and beehives. The wasps camp close to the apiary and use the bees to feed their nest in its development stage. In the autumn they use the honey from the hives to develop queen wasps and to exist during the winter.

Consequently, beekeepers are finding dead hives and hibernating queen wasps during the spring inspection. The only solution is for the beekeeper to eliminate as many nests as he can find.

Alister Lee

Bay of Plenty

After such a poor honey flow last season, hives told the story in full when beekeepers came to inspect their colonies for spring management.

In many cases it was a process of picking up the dead ones. Those who suffered worst were those who had not or could not afford to pour the sugar into their hives to keep them over a very cold and wet winter. Maybe one good thing is that possibly the better hives survived to carry on for a potentially good season.

The Bay branch held a disease-athon on September 9 which was superbly organised by Andrew Matheson, MAF. It turned out a total success. It weeded out the BL beekeeper in the area. A 'pot-luck' dinner organised by Roy Hyde of Matata completed a very worthwhile Saturday. Finally let's just hope this rain gives us all a break for pollination, otherwise the bees reared in our hives this spring won't know how to locate the pollen source. Keep smiling.

Karl Christophersen

Southern North Island

(South Western Districts)

With the new honey season only weeks away, optimism and hope are rising.

We are optimistic because hives are in better then average condition for this

time of year: two boxes full of bees, not an uncommon situation in mid-October, as if the bees were ready to bring in the honey crop tomorrow.

A mild spring has been a big factor and any food around from willow, gorse, tree lucerne, and barberry has been readily obtainable.

Yet there are still blind spots in our countryside, where pollen sources are absent.

We had a very practical demonstration on how to make up pollen substitute patties at our Wanganui field day (Saturday 14th October). Same recipe as in Buzzwords Sept. 1989.

A feature of our field day at Gary and Helen Tweeddale's honey house was Reg Clarke's talk on queen rearing.

Reg said all factors of management that affect size of the queen must be attended to, because size of the reproductive organs is related to the weight of the queen. He gave special attention to nutrition of the new queen in the queen raising and finishing colonies. Our appreciation to you Reg for the careful and patient experiments you are making.

The Tweedale family demonstrated an easy system of feeding syrup to pollination hives.

Kiwifruit pollination is next on the work programme for some of us.

A long haul for some hives from the Manawatu to Tauranga, and busy nights for those serving orchards in the New Plymouth, Wanganui, and Horewhenua areas.

John Brandon

Otago

A fairly well attended Branch meeting was held in September and, of course, members devoted a fair bit of time to chewing the cud about Seminar, Conference and Social Evening. We enjoyed our part in playing host and, going by remarks of many who attended, things went very well. The weather, too was remarkably good.

When budgeting for the event we decided that there was no need for the Branch to make a profit. And that is the way it has worked out. We do fall a little short on both the seminar and social accounts, but not unduly. We should also like to thank our sponsors; without those receipts things would have looked pretty grim. Special mention should be made not only of Tecpac's generous donation in cash, but also the evening tour of the factory and grand hospitality afterwards.

Since then we have had a lot more of that good conference weather. August and September have been very dry in most parts of the province but now, early October, we have been blessed with a few days' welcome rain. The grass is very green indeed. Bees have had a few days at the willow, and the kowai trees are a picture. Fruit trees and many others are full of flowers. It is a good time to be alive. Hives have generally wintered well and are now pretty strong.

For one reason or another there are more beekeeping outfits up for sale in this part of the country, than has been the case for many years.

Clive Vardy, our AAO stationed at Cpre is also leaving the MAF. Thanks Clive for the service you have given us and Good Luck to you and Mrs Vardy. With Clive gone there is not a single Apiary Advisory Officer left in the South Island! It makes one wonder.

John Heineman

Poverty Bay

Rain, rain, and more rain. That just about sums up our spring. This year's odd weather patterns has seen rainfall records broken on the East coast with the second wettest September on record since 1923, the last being in 1976. Consequently hive inspection has been put back as beekeepers have been unable to get out as often as they wish.

But it has not all been bad. Most hives that have come through are in reasonable condition and have worked well on willow between bouts of bad weather. We have had a great flowering of kowhai this season, certainly the best for several years, leaving great patches of briliant yellow in the countryside and a joy to bees. With the water tables so high we may even get a reasonable crop of honey off the Poverty Bay flats this season, something we have not been able to achieve with the drought over the past couple of seasons. Here's hoping for a good crop and mild weather.

At time of writing a lot of work is being put into preparing hives for kiwifruit flowering. With hydrogen cyanamide treatment on vines that means the first hives will be going into pollination as early as October 20, at least a week earlier than last year. About 75% of growers have applied hydrogen cyanamide, far more than last year and this trend looks to increase.

This spring has seen us release 10 boxes of wasp parasites in the Gisborne East coast region, and with Peter Pegram's good work a further six were released in the Wairoa area. This marks the second year's release by contributors with the final top up release in smaller numbers scheduled for next spring. We do not appear to have the Common Wasp here yet; certainly if it is it's in low numbers. In the long term we may have a chance of holding the spread somewhat.

Barry Foster

Library Notes

From John Heineman

PRACTICAL BEEKEEPING, Handbook for Australia and New Zealand, by Ray Chapman-Taylor and Ivo Davey. Published by Inkata Press, Sydney and Melbourne, 1988, 168pp.

Messrs Chapman-Taylor and Davey are well known Auckland beekeepers. They are the authors of a previous book "Beekeeping for Fun" and have followed with this one also aimed in the first place at the amateur beekeeper. It is a very interesting book indeed and there is no doubt that those who attempt to make their living from bees could do worse than take notice for there is something to be gained from it.

For those not so young, and without a strong back, there is a full description of a management system using half-depth supers.

The text has been enriched and clarified with many very good drawings and diagrams and b/w photos.

It makes one envious of the ability of these two gentlemen in "putting it across".

It will certainly make a nice Xmas present for some. However seeing the price of $39.95 was a bit of a shock if comparing it with Andrew Matheson's Practical Beekeeping in NZ. The book has been passed on to the library by our Editor. Thank you Mr Burgess.

Mr R. Clarke, Sunflora Apiaries, Blenheim has donated a copy of the discussion paper QUEEN PHYSIOLOGICAL QUALITY, which was presented at the recently held pre-conference seminar at Dunedin. I think everyone present was impressed by his thoughts and his methodical work towards improving this aspect of queen quality. We have heard some very favourable comments from persons who have bought some of Mr Clarke's queens. Thank you Reg.

HONEY DUMPLING SAUCE

1½ cups honey
2 tablespoons cornstarch
1½ cups water
1/8 teaspoon salt
1 tablespoon butter

• Mix the ingredients and cook until clear. Add ½ teaspoon vanilla. Serve on the hot slices.

Easy beekeeping

By Shiel B. Wright

Beekeeping is a breeze — all one has to do is set up a hive in a reasonably sheltered location then sit back and wait for the bees to "fill 'er up". Great stuff. Read somewhere that too many beekeepers interfere with the hive, don't give the poor old bees a chance to work properly. Well — perhaps I was a bit guilty in that regard, but now I've found out that they don't like being disturbed, life is a lot easier. For a start, reduced running costs for the vehicle, more time to go to town and keep up with the news about other beekeepers whilst we down a few brown frothies. If anything needs watching, it's that publican, he seems to be a master in the art of getting a good collar at the top of the glass.

Naturally I endorse those valiants who want all of us to heed what nature is telling us — don't I get the call sometimes when out in the middle of a paddock? Got to be a bit careful up at the Murphy place; they can see virtually all the farm from the house. Once his missus implied that calls of nature might best be answered back at my own place. Dammit, don't reckon I could have lasted the distance without bursting. Some people just have no feelings.

Back to the bees. Yes, I know that they need plenty of tucker to carry them over the winter, and far be it for me to take too much honey from the hive. As they will only need two boxes, sorry, supers, to live in over the winter, it stands to reason that anything over that is surplus to their needs, so off it comes.

Harvesting is done at the end of each month, from December through to April, and by that stage they don't seem to be drawing out foundation let alone filling up the combs with honey. The last inspection sees the hive reduced to two supers, all fully drawn and filled frames removed, and only the incomplete frames of honey left on. Reckon that as their numbers reduce with the colder weather the demand for food will fall off. I'm told that as they cluster over winter they need virtually no food, so there is no sense in leaving too many filled frames on the hive.

Someone asked a while ago how many hives were lost over the winter. Bit difficult to say really, as this year I won't know until I go out in October. Seems that some of the yards are not as good for wintering over as others. For instance, that yard at Murphy's has never been much good in winter. Most of the hives seem to pack it in: nothing but dead bees bums sticking out of the combs by the time spring arrives. May have something to do with the wasps! They seem to be more numerous around the hives lately. Looked into methods of wasp control written up in the bee journals, but they all need too many hive visits to put into practice. Can't afford to put too many kms up on the vehicle, and anyway the guard bees at each hive should be capable of

keeping them out. Been considering closing the yard at Murphy's if the losses continue to be as bad this winter as they have been in the past. With the rural downturn Murphy has been growing cash crops, that means his pasture area is reduced, he seems to be forever using the plough. Reckon on having to find another farm site if he keeps it up.

One of my mates suggested that it might be a good idea to feed sugar syrup to my bees in the spring. He reckons that the little beasties would appreciate some nice fresh, new fodder. So I looked into getting some sugar; went to the local warehouse to sound them out. They surely know how to charge, so much so that I looked for the sign of the wounded bull over the doorway. Adding the cost of the containers needed to handle the sugar in syrup form meant outlaying a wad, so I've decided to give it a miss for now. There is a rumour that the deregulation of imports will bring the sugar price down with a bump and the mate who let it slip is usually good for the right oil. It was him who said that the honey price for the season was worth waiting for. I'm still waiting for the prices to rise!

It certainly is worth having some good mates to turn to for advice when things don't go right. Fred reckons that these jokers supplying woodwork for the hives have got the wrong idea. Because bees were around long before machinery was invented, he says that they don't appreciate all the fancy shaping that the suppliers seem to insist that we have. Well, as luck would have it, we got our hands on a lot of timber crates which fell off the back of a truck. It's true, I tell you no lie. Anyway, Fred said here was our chance to show those smart-alecs a thing or two, so we borrowed Charlie's saw bench and got to work. In no time at all we had a stack of supers made, even if the rebates did vary a little in depth here and there. No fancy corners either. Then we started on the frames. Not for us the fancy shapes of the side panels, the slot on the top bar or that sloping bit under the ends of the top bar. We missed allowing for the width of the sawblade on the first couple of hundred or so, but as the guide was loose on the sawbench, it did not matter much. That slot on the top of the side bars posed a bit of a problem, so we decided to do away with it and nail from the top bar into the end of the side bar. The same for the bottom bar. Fred allowed we perhaps should have planed the planks, but bees were used to walking around tree trunks so they would feel more at home with the rough sawn wood we were using. I remembered reading about gluing all the joints when assembling the frames, but could not remember which glue was specified. We had a look in the back shed and found something with a glue label, smelly and sticky as hell, so we reckoned it would do. All this work was tiring, and naturally we needed refreshing. When Wally turned up with a couple of jars about four o'clock we suspended operations for the day.

The next few days were wet, and the tarpaulin covering our timber got blown away one night, so all the timber was a bit damp when we started assembling the frames. Things went well till we ran out of nails. Fred had a box of wire nails on his truck, and reckoned the boss would not miss a few. They were really a bit large for the job and we split quite a frew frames, so having the glue was a bonus. Had to be a bit careful when we stacked the frames in the supers, some slipped down into the super because they were a bit short on the top bar. A nail in the end of the bar proved to be the perfect solution, as leaving the nail protruding a bit meant the frame would now hang on the super.

It was at this point we remembered we had forgotten to drill the side rails for the wire. This minor mishap was forgotten because we figured that further refreshments were the next item on the agenda, and so went down the road as Wally was having to stay at home and look after the kids whilst his wife went to a funeral. This time it was our turn to supply the jars.

Luck was with us when we came to putting foundation wax on to the frames. Went to a garage sale and the chap had been a beekeeper some years before and was clearing out the rubbish before moving away to Foxton. Amongst the bits and pieces was a box of foundation wax, most of it in pretty good order, so we struck a price agreeable to both parties and whipped off home with it. When we came to fit it to the frames, we remembered that we had not drilled holes for the wire, and when we looked in the back shed we could not find the wire anyway. Fred said that the wire was not needed, so we started. We melted down some old wax I had in a tin, and with Fred holding the foundation sheet in the frame, I poured hot wax at various points around the frame to attach the foundation. Our first efforts were not very square in the frame, usually because I spilt hot wax on to Fred's fingers.

We got better as we went on and I reckon by the time we finished we had a pretty good rhythm going. Naturally this took a lot out of us and as the weather was hot we set up the beach brolly on the patio and got the first of the jars out of the fridge. Wally went crook when he called in because we had not waited for him, but he settled down after a couple of glasses.

With the supers full of frames ready to go, we tidied up the yard the next day and found we had a lot of offcuts. These were all different sizes, but with a bit of careful sorting we got enough bits to make some lids and bases. Fred said that there was bound to be some swarms around in December and it would be good thinking to be ready to take advantage of them. We knocked up 10 lids and bases altogether, but as I had nothing to cover the lids with, we filled the joints and cracks with some filler Fred had on his truck. Although it stunk to high heaven we reckoned the smell would be gone by the time December came round. We also unloaded some bricks from the truck to sit the bases on, Fred said he would tell the boss they must have fallen off when he went round a corner a bit fast. So there I was, ready for the new season, and still the best part of winter to go.

At one of the club nights a chap from the Ag Dept. talked about diseases of the honey bee, and that got me thinking. Some of the things he described seemed to fit the bill with what had been happening with my hives. That one about Nosema and lots of dead bees out the front of the hive rang a bell. He also described in great detail American Foulbrood, and I remembered having a couple of stinky hives at Murphy's place. Naturally I had taken out all the stinky frames and burnt them, but apparently I should have destroyed both hives. Must go up there shortly to see how they are doing with the new brood frames from the other hives that I fitted. He also mentioned lots of other diseases, but Fred says that we don't need to worry in our area, no one has seen anything like that for years. It's good to have a mate who knows just what he is talking about. Then the chap we were listening to said it was a good policy to replace queen bees every two years, to prevent loss of production and to aid disease prevention in the hive, Fred pointed out that it was all very well for him to talk, he did not have to dip into his pocket to pay for them. If the bees sensed that the queen was failing, didn't they automatically replace her anyway? Fred banks on getting new queens from the swarms he seems to have gathering near his hives every year.

So that's it for this year. I can now sit back and take it easy over the rest of the winter. The club was pushing some stuff to kill off wax moth in stored supers, but as mine are high and dry in the shed I don't reckon that it's need-

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HONEY: Facts and Fantasies

From the American Beekeeping Federation

Honey varies in taste, aroma and color, and provides quick energy. These are all facts — but what's fantasy about this most sweet of nature's treats is less clear. One man lived on a honey, milk and orange juice diet for several months and claimed it met all his nutritional needs. A lady who was extensively scalded by boiling water was reported to be miraculously cured when she used honey as first aid.

Many scientific facts are known about honey. Most types are approximately 18% water. About 98% of the remaining solids is carbohydrate — mainly a mixture of two simple sugars called fructose and glucose. The remaining part is a sprinkling of enzymes, vitamins, minerals, amino acids and complex sugars. Darker honey has more mineral content on the average. Each honey has a different ratio of sugars present, the reason some crystallize more readily than others. Crystallized honey is not spoiled and can be reliquified easily in warm water. It should never be heated over 140°F, and the cap should be loosened to avoid pressure building up in the container as it heats.

Although the components of all honeys are approximately the same, no two are exactly alike. Different plant sources, locations and climatic conditions combine to produce an immense number of different products, some only available on a limited basis from quite localized geographic areas. That's why on the grocers' shelves one can find eucalyptus from Australia, leatherwood from Tasmania, rosemary from Spain and gallberry from the Georgia coastal plain. Sometimes honey contains honeydew, a sugar solution collected from certain plant-feeding insects, further adding to the variety available. Honey may also be blended to suit particular tastes.

The bacteria-fighting capabilities of honey are well documented. Since the sugar content is so high, honey soaks up water like a powerful sponge. Therefore, living organisms in honey tend to lose much of their life-supporting moisture to the honey and their growth is effectively stopped. A small percentage of hydrogen peroxide is also present in honey which kills many bacteria present. Honey has been used successfully as a dressing for wounds and first aid for cuts, abrasions and burns. The pollen in some honey has been reported to be responsible for desensitizing some persons who're allergic to that specific pollen.

Few foods are as stable as honey. It requires no refrigeration and is used extensively in preserving fruits, jams and jellies. Honey found in tombs and sunken ships' sealed crocks, some for over 2,000 years, has still been found to be edible.

Besides being one of man's first sweets, honey supplied one of his first alcoholic beverages. Diluted honey, when attacked by certain yeasts, produces a honey wine called mead. Mead was consumed in great quantities before the advent of grape wine and refined sugar which led to a proliferation of other yeast-derived and distilled alcoholic beverages.

How healthy is honey? Don't be led astray by wild claims about this sweet's curative powers. Realize, however, that it does have some unique properties and that although we may know what the components are — this product of the honey bee may just be something more than the sum of its parts.

Increasing our honey consumption

By Sue Jenkins

A story told by a beekeeper. He and his wife were at a breakfast party. About 15 couples sat in a circle and one of the 'get to know everyone' questions asked was: 'What do you have on your toast each morning'. The beekeeper and his wife were the only ones who ate honey!!!! Mind boggling isn't it?

If we could get everyone to eat honey on his or her toast, I wonder what New Zealand's honey consumption would increase to.

Encourage your friends to use it in their baking, food preparation. With a tablespoon (that's 15g) here and there, the quantity would soon mount up.

Here are a couple of easy and delicious recipes using "smallish" quantities of honey. Pass one or two of your favourite recipes to friends. And why don't honey packers print recipes on their labels, or have a recipe sheet for the taking at their retail outlets?

HONEY BAKED CHEESE CAKE

Easy and delicious. Use either softened or liquid honey in this recipe.

Pastry base:
1½ cups flour
120g cold butter
2 tbsp honey

Filling:
225g cream cheese
2 eggs separated
4-5 tbsp honey
grated rind and juice of 1 lemon
2 tbsp self raising flour
½ tsp cinnamon

Make the pastry base by cutting the butter into the sifted flour. Stir in the honey and knead lightly. Press into a 23cm flan dish. Prepare the filling by beating together the slightly softened cream cheese and the egg yolks. Stir in the lemon rind and juice, then stir in the sifted flour and cinnamon. Whisk the egg whites until stiff and fold lightly into the cream cheese mixture. Pour into the base. Bake at 180°C for 15-20 minutes then at 160°C for a further 25-35 minutes until the filling is set. Serve hot or cold with fruit or cream or ice-cream. (serves 6-8)

HONEY CAKE

From Eastern Europe comes this delicious honeycake with its rich, spicy flavour.

½ cup dark honey
1 tsp cinnamon
¼ tsp nutmeg
¼ tsp cardamon (optional)
75g butter
½ cup sugar
3 eggs
1¼ cups flour
1 tsp baking soda
grated rind of 1 lemon

Combine the honey and spices in a saucepan and bring to the boil. Remove from the heat and cool. Cream the butter and sugar until pale and fluffy. Separate the eggs. Beat the yolks into the butter-sugar mixture until smooth. Stir in the cooled honey-spice mixture. Sift the flour and the baking soda, add the grated lemon rind. Beat into the batter. Whisk the egg whites until stiff, fold gently into the batter. Place the mixture into a greased and floured 22cm ring tin and bake at 180°C for 30 minutes. Allow to cool. Leave a day in an airtight tin for the flavours to mellow.

Danger from carrying uncovered beehives on trucks

From Dudley Lorimer

Over the past decade the growth of the kiwifruit industry has provided beekeepers with an additional source of income by way of pollination fees. However, inexperience in shifting hives, especially by some who have entered the industry during this period, is creating a hazard. Bees escaping during road transit can enter other vehicles and easily cause an accident.

In late November 1988, a beekeeper transported some fifty uncovered hives of bees three miles through a shopping and residential area and a further 60 miles over one of the busiest highways in the North Island, and all in bright sunshine. Ignoring the danger involved, it is pertinent to ask what kind of fees were exacted for those hives with their absence of field bees?

The tolerance of people should not be taken for granted. It would need only one serious accident, perhaps involving loss of life caused by bees entering a moving vehicle, to destroy the special relationship existing between beekeepers and the general public.

The use of covers from August to May should be mandatory. I suggest that branches elect a sub committee to deal with complaints and to recommend disciplinary action where appropriate.

Another incident of an uncovered load of bees happened in August 1974. Two trucks, fully loaded with beehives, one covered, one not, travelled from the Waikato to the eastern Bay of Plenty. The morning was cold and foggy until the trucks reached the Rotorua Hill, some ten miles from where the trucks were to be unloaded. From there sun and a warmer temperature brought bees from the hives on the uncovered truck to pepper the windscreen of the covered truck following.

The hives were placed at Awakeri to produce field honey. Those from the covered truck averaged two supers, while those from the uncovered truck, which had lost their field bees, averaged a mere half super of honey each.

There appears to be a theory that there is no noticeable loss of bees from hives in transit. I trust I have proved this assumption to be false.

As a trainee I was once a passenger in my employer's truck when transporting uncovered beehives. Some bees escaped to enter a following car which had pulled out to pass. The lady driver panicked and flailed her arms, and all that prevented the car hitting a power pole was the presence of mind of a six-year-old passenger who grabbed the wheel.

I have never forgotten that episode, which explains my concern at the lack of responsibility shown by some beekeepers. In fact, some not only don't use a cover when transporting beehives, they don't even own one.

Weather Studies

Research seeks better flood predictions

Better use of weather radar to predict such problems as floods and droughts is the aim of a new three-year research programme being carried out by scientists from the UK Natural Environment Research Council (NERC).

Researchers from NERC's Institute of Hydrology, at Wallingford, near London, are leading the UK part of the project with collaboration from the Universities of Birmingham and Lancaster. Other research is being carried out by groups in France, Italy and Portugal. The work is being funded by a grant from the Commission of the european Communities, which is giving about £60,000 to each of four research groups.

Weather radar has been used for several years to improve assessments of how much rain has fallen in particular river basins, and, more recently, it has been used for rainfall forecasting. The radar can provide an assessment of rainfall over an area while using the traditional raingauge produces an assessment for just one point.

The aim of the new research will be to seek a better connection between forecasts and assessments on the one hand and hydrological models used for forecasting and predicting river flows on the other. The models, in the past, have generally used raingauge measurements.

The ability of a radar beam to detect raindrops over large areas greatly improves the accuracy of the spatial coverage of rainfall information. This has great poential for improving the forecasting of such hazards as floods and droughts, and improving the design of drains and channels in urban and rural areas.

An additional impetus to the research is that increased carbon dioxide in the environment could cause greater variability in rainfall which will in turn call for better forecasting and prediction techniques to assess the consequences of the climatic change.

The first part of the research programme is a calibration study — comparing radar and gauge measured rainfall in several different climatic and topographic environments. The second part will be to use the detailed resolution possible with radar to improve hydrological models, and the third part will be looking at stormwater drainage design and operation by using these improved catchment behaviour models.

Euro Study on Effects of Climate Change

The Atmospheric Impacts Research (AIR) group at Birmingham University in the English Midlands is to carry out a £96,000 contract study of the effects on European agriculture of possible long term changes in climate resulting from increases in carbon dioxide in the atmosphere. It aims to map the spatial shifts in Europe of critical boundaries of agricultural potential that are likely to occur as the climate adjusts to higher concentrations of CO^2 and other trace gases in the atmosphere.

By around 2050 these concentrations may be double those of pre-industrial levels, leading to increases in global mean annual temperatures of between 1.5°C and 5.5°C. Over Europe, temperatures are estimated to increase between 3° and 7°, with the greatest increase at high latitudes. Rainfall may also increase, but perhaps not enough to compensate for higher rates of evaporation and transpiration that can be expected with higher temperatures.

An important overall effect may be a lengthening of the growing season for crops, many of which are limited by temperature, and a secrease in the amount of moisture available for crop growth. There may be increased frequency of moisture shortage similar to that which occurred in the spectacular drought of 1976. The higher temperature would be beneficial for warmth-loving crops such as sunflowers and vines, but would be disadvantageous for hardy crops such as traditional varieties of barley, pasture grasses and soft fruits.

Earlier studies by members of the AIR group indicated that CO^2 induced warming could lead to a quite marked geographical shift of climates in northern Europe. For example, the climate of Iceland just south of the Arctic Circle could become similar to that of northeast Scotland today, and southern Finland like that of central Germany, 1000km to the south.

Cost effective timber coater

A timber coating machine, introduced by a British company, allows small to medium sized building companies to treat their own timber. It is claimed that the resulting savings allow the cost of the machine to be recovered in a few months.

The UTC, from Trentham Associates, handles plain or moulded timber of section up to 300 x 100mm, in any length from 750mm. Output is 45m/min.

The motor is explosion proof allowing low flash materials and solvents to be used safely. The starter has overload protection.

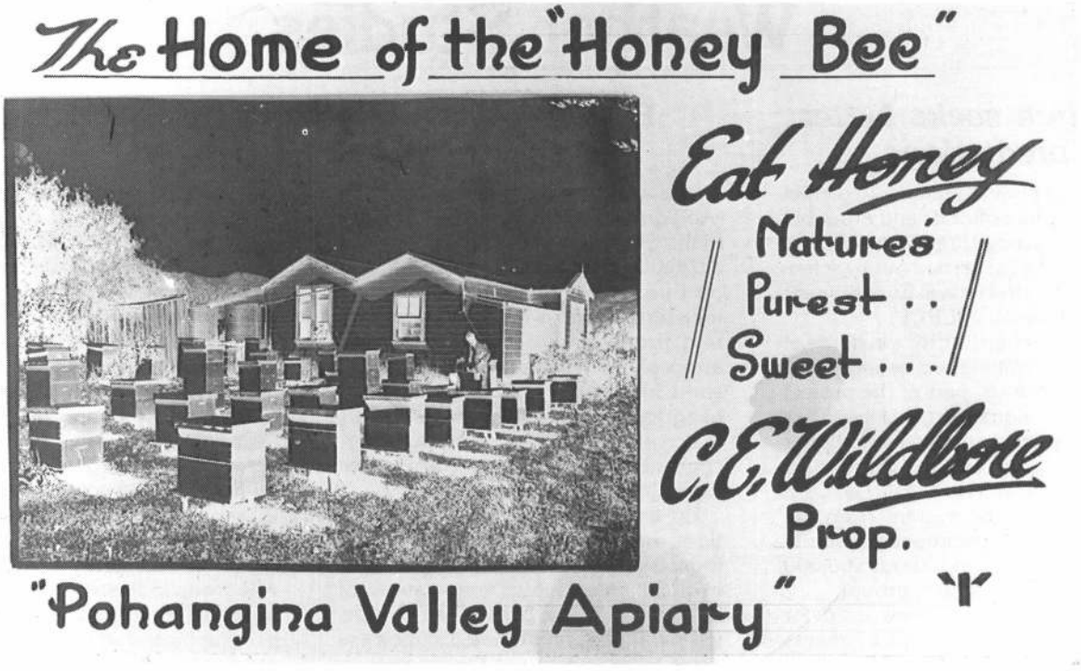
The machine can be easily wheeled around a site or from one site to another. Optional material change tanks allow the coating type to be changed in minutes. Most gloss paints, stains and varnishes can be handled.

HONEY SOUR CREAM SPICE CUP CAKES

½ cup shortening
1 cup brown sugar
1 cup honey
3 egg yolks
2 cups flour
¼ teaspoon salt
1 teaspoon ground cloves
1 teaspoon allspice
1 teaspoon cinnamon
1 teaspoon soda
1 cup thick sour cream
3 egg whites

• Cream shortening. Add sugar and honey and cream well again. Add egg yolks, one at a time, and beat well. Sift dry ingredients and add alternately with the sour cream, beating after each addition. Fold in stiffly-beaten whites of eggs. Bake in greased muffin pans in a moderate oven (350° F.) 30 minutes, or in a greased cake pan for 40 minutes.

Note: If brown sugar becomes hard, put it in the bread box over night.



(Below) The same apiary, taken around the turn of the century, and by the look of things during spring. Rumour has it that Ted Roberts has hives in the area.

Honey puts no tax upon digestive system

The word "sugar" to most people means the sugar of commerce, derived from sugar cane or sugar beets. To the chemist it is the name for a large variety of materials with varying degrees of chemical complexity and great variation in both uses and characteristics. As stated in the preceding paragraph, when ordinary cane sugar is digested, it is split into two simpler sugars, dextrose and levulose. A sugar of this category which splits into two simpler sugars is called a disaccharide. The simple sugars into which it is split are the monosaccharides.

The sugars of honey are primarily monosaccharides, that is, they require no digestive change before they can be absorbed. In honey also may be found small proportions of sucrose (cane sugar), traces of maltose (malt sugar) and sometimes also less well-known sugars. For example, melezitose (a trisaccharide sugar) has been found in some honey-dews derived usually from coniferous plants, and sugar alcohols have been found in other honey-dews. Naturally, our concern is chiefly with the sugars of honey which occur in amounts large enough to be significant.

Levulose has been called the queen of sugars. It is almost twice as sweet as cane sugar, and besides its sweetness, it carries to the human senses something that might almost be called a flavor. In a pure state this sugar is difficult to obtain, but it occurs naturally in mixtures with other sugars not only in honey but in many fruits. it dissolves in water readily and when dissolved, it crystallizes out only under circumstances that are difficult to produce, so that if one finds crystals in honey they are not crystals of levulose but of dextrose.

Dextrose (sometimes also called "*d*-glucose" but not to be confused with commercial glucose syrup) is a sugar of quite different nature. It is almost half as sweet as cane sugar, dissolves in about its own weight of water at ordinary temperatures, and crystallizes from a water solution quickly when it occurs in more than an amount equal to the water of solution. It is this sugar in honey that forms crystals. It should be noted that in an average honey the per cent of dextrose is roughly twice the per cent of water, hence we may expect that on standing, dextrose crystals will be thrown down. It is because of this that honeys granulate.

If crystals form in honey quickly, they are usually small, whereas if they form slowly, they are coarse. These differences involve no chemical differences, only a difference in the size of the crystals. On the market we find specially processed finely crystalline honey of smooth texture.

In addition to its sugars honey contains as its minor components a considerable number of mineral constituents, seven members of the B vitamin complex, ascorbic acid (vitamin C), dextrins, plant pigments, amino cacids and other organic acids, traces of protein, esters and other aromatic compounds, and several enzymes.

The Average Chemical Composition of Honey

	Per Cent
Water	17.7
Levulose (fruit sugar)	40.5
Dextrose (grape sugar)	34.0
Sucrose (cane sugar)	1.9
Dextrins and gums	1.5
Ash (Silica, Iron, Copper, Manganese, Chlorine, Calcium, Potassium, Sodium, Phosphorus, Sufur, Aluminum, Magnesium)	0.18
Total	95.78

HONEY SQUARES

¼ cup honey
2 cups sugar
3 tablespoons water
¼ teaspoon salt
1 cup nut meats, broken
1 teaspoon flavouring

• Cook honey, sugar, water and salt until soft-ball test is given. Take from fire. Add nuts and flavouring. Beat until creamy. Pour on buttered pan. Cut into squares.

The long arm of coincidence

THE FEATHERED HONEYGUIDE
from Mark Sunlin, California

Native Africans never developed the art of beekeeping themselves, although this is not to say that they were not interested in honey. Quite the contrary, many tribes were and remain the most avid of honey hunters. In fact, the Boran people of Kenya in East Africa have an altogether unique method of locating bee hives: a little bird tells them.

The little bird is called, appropriately, the honey guide, or, also accordingly, *Indicator indicator* in zoological *nom de plume*. H. A. Isack, of the National Museum of Kenya, and H. U. Reyer, of the Max-Planck Institute in Sweewiesen, West Germany, recently reported their own close observations on how the Boran people interact with this wiley bird to uncover honey.

On beginning a honey hunt, either the honey guide or human may take the initiative: the tribesmen sometimes whistle to summon the bird, or, alternately, the bird summons the tribesmen by giving a "tirr-tirr-tirr" call and fluttering about in the tree branches to attact attention. This done, the honey guide flies away for several minutes, presumably to double check the location of the target hive. Returning to the tribesman, the bird flutters noisly and encouragingly from tree to tree, clearly urging his human partner to follow. As they come closer and closer to the hive using these follow-the-leader tactics, the bird's flights from tree to tree become shorter and shorter and increasingly lower to the ground until the hive is reached, at which point a different call is used — translating, no doubt, to something like **"Eureka!"**

On the average, Reyers and Isack found, the tribesmen who hunted alone without the aid of the honey guide took 8.9 hours to locate a hive of bees. But with the help of the honey guide their average hunting time dropped dramatically to only 3.2 hours.

In the 1930s, George Adamson, of **Born Free** fame, also noticed this cooperative, symbiotic (or mutually beneficial) relationship between bird and Boran. Adamson additionally noted that "African tradition insists that some of the honey must be left for the bird, for if not, the **next** person who comes along will be led to a snake or some other dangerous beast." And so to this day the Boran — who mistakenly believe the birds are interested in the honey — dutifully place some of the comb aside on a tree for their helpful partners, although, as Adamson notes, "it is the grubs contained within the comb which the honey guide is really interested in."

Ornithologist William Shields, of Syracuse (New York) University, has pointed out that in the partnership between honey guide and humans it was the **birds,** not humans, who originated the idea, for honey guides had been guiding badgers to honey even longer than they had been guiding humans. This likely came about by the birds presenting themselves as an alluring target for the omnivorous badgers to chase until reaching the more-desirable honey. The badgers — who, like humans are after the honey — are sloppy eaters, tearing open the hives and inadvertently leaving plenty of high-protein grubs lying about for the birds.

THESE TWO ARTICLES, ONE FROM THE US, THE OTHER FROM NZ, ARRIVED ON THE EDITOR'S DESK ON THE SAME DAY. HOW IS THAT FOR COINCIDENCE?

THE AFRICAN HONEY GUIDE
31.12.1905

from **Kenya Diary** by Richard Meinertyhagen, pub. by Eland books. Sent in by Elisabeth Gamlen, Waiheke Island.

"I had the most delightful experience today with a small bird known as the honey guide (Indicator). While working in the forest I became aware that a small bird was endeavouring to attract my attention by chattering at me from only a few feet away, evidently in a great state of excitement and often flying away into the forest but always in the same direction. He was so persistent that I decided to follow him. His excitement then increased and he would keep some 20 yards ahead of me, usually fairly high up in a tree, but he never for a moment lost sight of me. After some 150 yards he was joined by two others, and their united chorus left me in no doubt as to the direction they wished me to take. The three birds finally came to rest in a smallish tree, and as they refused to leave it I was convinced that the honey they required was close at hand. A short inspection found the bees' nest under a strip of rotten bark, and my men soon laid it bare and spread the comb, rich with golden honey, on the ground.

As soon as it was clear to the birds that we had discovered the honey they sat fairly still in the tree within a few feet of us with very obvious feelings of satisfaction. Their little breasts were puffed out, and they would constantly throw their heads back and utter a low churning sound. But their greed was not untempered with jealousy, for with an angry call one would lift his headfeathers and make a dash at one of the others. Then would ensue a regular scurry through the surrounding trees, but the three birds would soon return to watch anxiously our operations.

Having spread the comb out on a bare piece of ground we sat and watched from a distance of some 25 yards. The birds came down at once but did not feed on the ground. They each took a large bit of comb and flew off with it out of sight, and as soon as they had finished that bit they returned for more. I tried to follow one to see it feed, but could not locate it in the thick trees.

There is no doubt that these birds deliberately attracted my attention in order that I should follow their guidance to the bees which they had already located. I imagine that man is seldom used as the means by which these birds obtain their food. Such animals as squirrels, monkeys, etc. and perhaps the honey badger (Mellivora) are probably the usual media . . .

Natives tell me that if, after finding the honey, none is left for the birds, they will guide one next time to a snake or to some noxious beast. But I fancy this is pure imagination for none of them can quote an instance."

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Easy beekeeping concluded

ed. Had a few frames go all funny last season. Well quite a few really, but they were stored outside under a tarpaulin over the winter. They also were pushing wood preservative, but to preserve my hive timber would mean going over every super I have, and would take too much time. One of the blokes at the club was skiting about how he is using the same super boxes for their seventh season, and he repaints them every two years. Some blokes just seem to like looking for work. Mind you, a few of my supers do seem to have a bit of rot in the corners, but Fred says that's because we used a bit of poor quality timber when we made them a couple of years ago. It surely gives me peace of mind to have Fred around.

LAMB CHOPS WITH HONEY-MINT SAUCE

• Select rib, loin or shoulder lamb chops. Set the regulator of the range for broiling. Place the chops so that there is a distance of about three inches between the top of the chops and the source of heat. If the distance must be less, reduce the temperature accordingly so that the chops will broil at a moderate temperature. When the chops are browned on one side, season, turn and finish the cooking on the second side. Frequently during broiling, baste with honey-mint sauce. Chops cut 1-inch thick require 12 to 15 minutes for broiling.

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