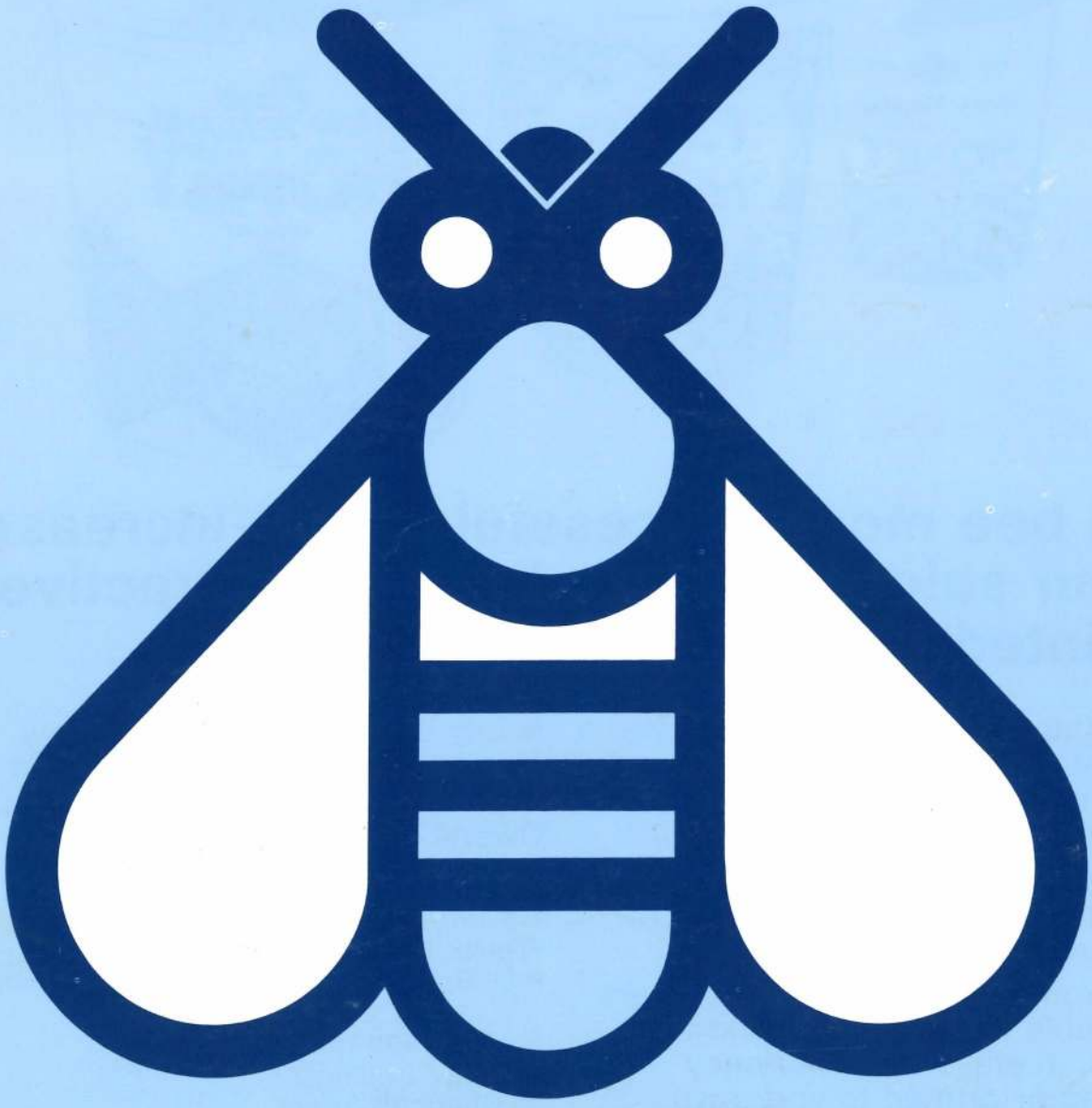
THE NEW ZEALAND beekeeper



MARCH 1978

(INDEX ISSUE)

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THE NEW ZEALAND BEEKEEPER

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In this issue. . . .

. . . we give you an index for all issues back to December 1975, we editorialise below about the problems of the Food Hygiene Regs and detail what they mean on p. 17, we have a close look at Apimondia through NZ eyes and for those who want to expand their skills, Nick Wallingford demonstrates a new method of queen cell preparation. As usual, there's lots more besides.

Editorial

by Trevor Walton

Depends on your sense of justice

THIS MONTH we feature a summary of the Food Hygiene Regulations 1974. Thanks to an amendment in October 1976, they will apply to honey packing houses as from April 1, 1979.

Since the amendment was made, the Health Department has not told the NBA how it will interpret the regulations. But given the number of anomalies and questions they raise it would seem that the NBA should hire a top-flight solicitor to make his own interpretations. Certainly, the sums which could be saved if the regs don't apply in full to all packing houses would be worth the investment.

After speaking to the legal section of the Health Department, it appears that the department has given no thought as to how the regulations will apply to the honey industry. "Interpretation is really a matter for the courts, you know," says their office solicitor.

Such a reply would be cold comfort for a beekeeper involved in a legal battle to find out what the bureaucrats meant when they drew up the law.

The most important apparent anomaly relates to honey houses where honey is extracted and bulk-packed for retail packing elsewhere. This applies to all beekeepers who supply solely to the HMA or a private packer.

The regulations state that "the sorting, grading or pre-packing of fruit or produce on orchards, farms, market gardens, or produce stores, for sale by wholesale" is exempt from the definition of "packing". That this should apply to honey as "produce" seems logical. Honey is generally known as produce. When it is sent to the HMA, it is carefully graded and checked for contamination (thereby achieving the purpose of the regulations, which is to prevent contamination of food) before being cleared for retail packing or export.

The Health Department solicitor says, however, that their official interpretation of the amendment was that all apiaries would be subject to the regulations. She also says that the word "produce" is qualified by the words preceding it like, "fruit". In her book, honey is not a fruit or vegetable, so wholesale honey packing houses are not exempt.

Our response is equally logical: If the regulations only mean fruit and vegetables are exempt, why don't they say so? If honey is not "produce", why isn't it spelled out?

If our interpretation is correct, it could save bulk suppliers thousands in honey house upgrading costs. Except, that is, if they have gate sales of pre-packed honey – for then they would become packers for retail and all which that implies.

However, there is a way around that one. The "packing" part of the regulations does not apply to goods which are "weighed, counted, or measured in the presence of the purchaser". This means if you pack in front of the customer, you won't have to fit an electronic scanner for inspecting re-used glass jars that are going to be packed with honey.

The regulations have special sections dealing with the special problems encountered in bakehouses, breweries, delicatessens, eating houses, egg pulp factories, and with meat and fish, milk and yoghurt, ice cream, and cordials and other beverages. Yet nowhere in the regulations is the word "honey" mentioned once.

Is this unique product "perishable" or "readily perishable" under the regulations? When does it become a food – in the hive, on the truck, before or after extraction? Is extraction "manufacture"? What of cut comb honey? What of comb sections?

For regulations which spell out the type size of notices excluding dogs from the premises, and stipulate that rubbish bin stands should be precisely 300 mm from the ground, the absence of clear definitions of what is required of honey packing houses can only be regarded as negligent at best and arrogant at worst.

However, there is a small area for joy. The regulations stipulate that toilet paper should be provided at all times in the "toilet accommodation". They also stipulate that a notice telling workers to wash their hands should be installed "in the toilet".

Just precisely where you put the notice would largely depend on your sense of justice.

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Beekeeper rates

Advertising at these rates is available to registered beekeepers advertising products or services directly relating to their beekeeping enterprise only. In cases where the appropriate rate is in doubt, the editor's decision will be final.

Full page $90, Half page $50, Quarter page $25, 1/8 page $15, $2.50 a col./cm. Production charges will be made for single insertions of a minimum of $5. (This does not apply to classified advertisements.) No deductions for contracts. Colour extra.

Subscriptions

The NZ Beekeeper is distributed free to all beekeepers owning more than 49 hives who, after paying their compulsory hive levy, automatically become members of the National Beekeepers' Association of New Zealand (Inc.).

Beekeepers owning less than 50 hives and others who may wish to may not wish to join the association, will pay an annual subscription of $7.50 which includes the cost of a subscription to the NZ Beekeeper.

CORRESPONDENTS

HONEY CROP PROSPECTS

Dear Sir,

Bumper crops have gladdened the hearts of many beekeepers throughout New Zealand, with some reporting as high as eight, nine 10 and even 11 tonnes per hundred hives. History always repeats itself in these rare seasons, and hundreds of tonnes have been lost because many beekeepers had too few storeys to put on their hives, or were on holiday at the seaside during the height of the honey flow, or started extracting too late to take full advantage of being able to return extracted combs to the hive for refilling.

The importance of early extraction and an extracting plant capable of emptying many supers quickly, so combs can be re-cycled, becomes significant in seasons such as this.

The five-sided top-box, made from scrap timber or boards from old houses and placed above a queen excluder as a final super, has long proved an investment among extensive honey farmers and the problem of wax moth control in storeys seldom used does not occur in them. They can be stored at little cost under rough shelter outside until the season they are needed.

People often argue against the assertion that much honey is lost through under-supering. This year a beekeeper owning 1000 hives has taken 5000 storeys of honey. How could he have achieved this had he owned only 2000 storeys? The failure of many beekeepers to gather all the nectar available to their bees makes the "average" crop for a district different from the "averaged potential" crop.

Notable among the honeys I have seen so far this season are choice clover and rewarewa. There has also been some thistle, pohutukawa, willow, manuka, kamahi and astelia.

The New Zealand crop forecast is for 6910 tonnes which is 100 tonnes above average.

All districts have predicted above average crops, except Canterbury and the West Coast — Nelson region which are about one-fifth below average as at January 1978.

Yours,

Colin Rope
Honey Grader,
Advisory Services Division
M.A.F.

KING BEE

New Man on Ag Chemicals Board

The appointment of Michael Stuckey, NBA vice-president, as the association's representative on the Agricultural Chemicals Board has been formally gazetted by the government. His term is for three years and starts on April 1. The appointment of Mr Stuckey is part of an on-going NBA policy to have association executive members appointed to such bodies.

No response to tax request

It took 15 months for the Department of Trade and Industry to approve beeswax and propolis as items to be included in the Export Tax Incentitive Scheme, so no immediate action is expected on an NBA submission asking that packed honey and queen bees be included within the tax incentive scheme.

North Otago gets wool report

Details of the Wool Stabilisation Scheme have been forwarded to the North Otago branch of the association for their study. The branch requested at the annual conference that the scheme be studied to see whether its "individual account" principle could be applied to honey stabilisation.

Become conservationists

In line with a conference remit which requested that the NBA and beekeepers support the efforts of conservation groups in saving our native bush because it is an important source of honey, the NBA has requested all branches to endeavour to join seminars or other regional meetings organised by the Native Forest Action Council or the Forest and Bird Society. The association has also written to the minister of the environment on the matter.

DSIR report to North Otago

The DSIR report on gamma ray sterilisation of BL-contaminated equipment has been forwarded to the North Otago branch of the association. The branch proposed a remit at the 1977 annual conference that the process should be investigated. The report is the topic of an article on page 5 of this issue.

HMA and NBA to hammer out export policy

Following a meeting in Auckland between the chairman and chief executive of the HMA and the president and chief executive of the NBA, a joint proposal on private honey exports is to be prepared for consideration by the two organisations. Particular problems include devising an equitable levy system for all exports and ensuring that competing local exporters do not undercut each other's prices.

Cost likely to rule out radiation control of B.L.

THE NBA conference remit concerning the sterilisation of B. larvae-contaminated equipment has been considered by the staff at the DSIR Institute of Nuclear Sciences. They feel that, although certainly feasible, radiation sterilisation is unlikely to prove an economic venture.

The remit made reference to present medical sterilisation practice, which is carried out in New Zealand at Tasman Vaccine Laboratories (TVL), Upper Hutt. Replying on behalf of the institute, Mr P.B. Roberts said that as with heat or chemical treatment, such practices are viable when the initial contamination of each item is already quite low and radiation is then a convenient means of ensuring a high level of sterility in a large number of items.

"We have no information on the number of B. larvae organisms likely to be present in hives which have been subjected to a foul brood outbreak, but it is probably so high as to require several times the sterilising dose used at TVL to ensure an adequate kill." (An estimate of the actual dose required could be made if B. Larvae spore numbers per hive are available.)

"The cost of new hives is understood to be about $10, in which case the cost of transportation to TVL and suitable packaging alone would appear to make the proposal a doubtful economic proposition. In addition, you would have to bear any charge TVL might wish to levy, bearing in mind that the procedure might not be suitable for their standard operation."

Only two references to the irradiation of B. larvae were found, both Russian. One indicates that B. larvae spores are of average radiation sensitivity and that adequate sterility could be expected from a single sterilising dose at TVL provided that the initial number of spores was below about 10 000 per item.

"Subject to any further information you may be able to give, this provision is unlikely to be met in equipment already exposed to foul brood," said Mr Roberts. "The pre-treatment of fresh equipment to reduce the risk of later outbreaks is almost certainly possible, if this were thought worthwhile. The other Russian work shows that irradiation of honeycombs to prevent foul brood was being carried out in 1966.

"Unfortunately, we have only a translation of a summary lacking many of the details. It seems likely that these were 'clean' honeycombs, without overt signs of exposure to the disease, irradiated prior to storage or shipment."

Mr Roberts said in his reply to the association that further assistance would be given to the NBA if it wished to pursue the matter.

B.L. statistics reveal a growing problem

LATEST B.L. statistics released by MAF advisory services division show that the incidence of the disease has grown rapidly in the last four years.

Last year, more than 3 per cent of apiaries were found to house diseased hives and more than one hive in 200 was destroyed because of B.L. infection. Taken over the last five years, this represents an increase of slightly less than 50 per cent in the number of infected apiaries and an increase of slightly more than 50 per cent in the number of infected hives.

The figures show that the number of diseased hives has grown steadily during the period.

The biggest disease hotspots are Nelson and Southland, where fully 7.34 per cent and 5.92 per cent of apiaries were found to be infected last year.

BACILLUS LARVAE DISEASE STATISTICS FOR YEAR ENDED JANUARY 31, 1977.

District	No. of Apiaries	No. of Hives	No. & % Diseased Apiaries		No. & % Diseased Hives	
Auckland/ Northland	2 342	19 980	47	2.00%	128	0.64%
Hamilton	2 008	32 454	62	3.09%	119	0.37%
Tauranga	1 162	18 189	17	1.46%	43	0.24%
Palmerston Nth/ Hawera/Hastings	2 596	32 560	36	1.39%	77	0.24%
Nelson	940	11 389	69	7.34%	145	1.27%
Christchurch	2 092	25 204	30	1.43%	72	0.28%
Oamaru	2 428	32 446	66	2.72%	95	0.29%
Gore	1 960	27 517	116	5.92%	302	1.10%
Total N.Z.	15 528	199 739	443	3.17%	981	0.55%

FIVE YEAR TREND IN B.L. INCIDENCE

Year	% Diseased Apiaries	% Diseased Hives
1972/73	2.21%	0.34%
1973/74	2.20%	0.40%
1974/75	2.68%	0.42%
1975/76	2.68%	0.51%
1976/77	3.17%	0.55%
Five year av.	2.59%	0.44%

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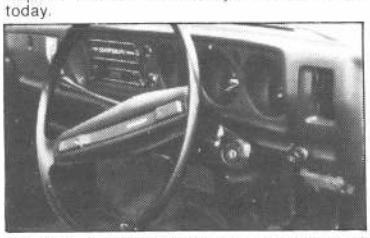

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DATSUN

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NMH/1

Part of the crowd as host Wick Baker gives his welcome address. Rotorua Club President, Ray Collett, second from right.

Arataki's boom, and truck equipped for feeding out.

Rotorua hobbyists enjoy Arataki outing

A TOTAL of more than 40 men, women and children from the Rotorua Amateur Beekeepers' Association made it out to Waiotapu, "the thermal wonderland", and to Arataki's extracting plant, to be welcomed by Wick Baker. It was an occasion they will not forget.

Wick, who finished an Agricultural Diploma Course at Massey in 1954 has been with bees all his life and still remains keen — a tribute as much to the man as to the trade. In fact he is a jack of many trades — apiarist, carpenter, mechanic (particularly when the truck breaks down miles from home with a load of hives aboard).

Arataki, one of the biggest operations outside North America, has a total of 14 000 hives, 9 000 of them centred on the Waiotapu plant and ranging from Turangi to Pukekohe. These figures were a little daunting to club members, some of whom bought their first hive as recently as last week, but the extraction plant (possibly the only one in the world to use geothermal steam) matched hive numbers.

The extraction and storage shed is enormous, over 8 000 sq ft, with ancillary buildings, including the original smaller extracting room, ¼ as much again, right on the main Rotorua-Taupo highway, which is handy for transport both in and out.

Our visit was made in November at what Wick called "the crisis point" of the year. Stocks were building up, feed was low, weather chancy, and they were feeding flat out and by the tonne.

The sequence is, one tonne sugar, 160 gals hot water, stir 10 minutes, pump into tanker, drive around the out-apiaries pumping it out into ... plastic-bag-covered frames! — each of which can hold 1¼ gals and be filled in seconds, and are largely re-usable, being tested for leakage before recycling.

Two of the most admired units were the section-buffer which cleaned them clean as a whistle in whistle-stop time, and the cut-comb cutter and packer which seemed to be operated by using both hands and both feet at once.

These were in addition to the automatic uncapper, the wiring benches (where wiring with four wires per frame is done under contract and the fastest can wire seven supers an hour), and other gear.

Early feeding is done to augment whatever natural food Arataki can get into them by following the feed around, from heath to bush and the hope of a rewarewa flow and on to clover.

Arataki does some pollination service, including that of Kiwi fruit. It's very demanding work because the weather has a great effect on the flowering time and demand for hives may be at only a day's notice. Unlike most crop pollination, kiwi fruit flowering is late in the season and hence charges for pollination must be higher than other stone and pip fruits to compensate for loss of honey.

Honey, when the crop is in, is extracted and pumped into giant storage tanks where it sets solid. With amateurs, that would be a major disaster. With them, when they want it out, they warm it from the bottom up and ship it over to Havelock North in 7-tonne tanker loads for packing. The four storage tanks can be allocated separately, i.e. two light, two dark, or any other combination, including stocking up with water if empty, in case of fire.

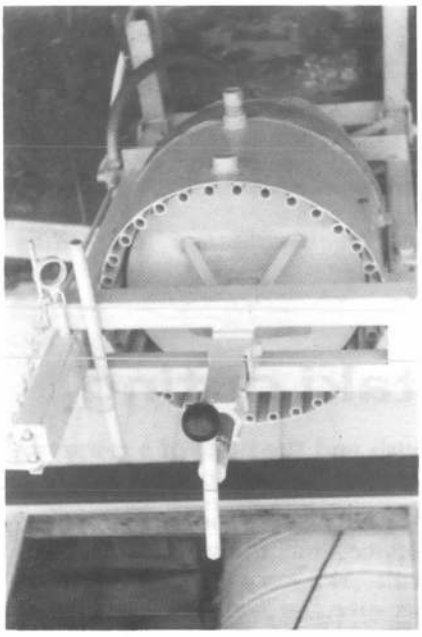
There were many impressive features of the place — the sheer size, the talk of tonnes, the hundreds of supers sitting round, the streamlined assembly lines for supers and frames using compressed air and staples, and so on — but one other thing that impressed everyone was the cleanliness of

the place. We beginners who get honey to the elbows every time could only admire a plant distinctly unsticky in every area. This is due to good management, good hygiene, the use of drip trays, automation and plenty of hot water.

Outside we saw the trucks complete with boom for loading and unloading hives, a paraffin wax dipping plant, palletised supers and outside storage. The afternoon finished with afternoon tea, courtesy of Wick and wife Dawn, and enjoyed almost as much, if more tidily, by the grown ups as the children.

If these are field trips, give me more of them! Our thanks to Wick, who gave up his precious Sunday afternoon, and Dawn, who made the day complete.

D.W.



Press looking down from top showing lid in position.

Press showing lid in filling position with beekeeper Lindsay Hansen.

Press in fully inflated position.

New wax press on the market

by Lindsay Hansen

RAY AND LINDSAY Hansen are Taupiri, Waikato, beekeepers and with 800 hives between them, they needed a wax press that would handle the yearly melt up.

After looking at what was offering on the open market, they realised it was going to be an expensive outlay as they didn't have an air compressor or hydraulic pump to power a press.

After consulting Ray's two other sons, Lucien and Martin, who work as sawmill engineers, it was decided to let them chew it over and make a press of their own design. The result was a wax press (or any other sort of press) beyond all expectations. To keep costs and noise to a minimum it was decided water had to be the source of energy.

After a lot of thought and discussion, Lucien and Martin set about making the lifting part out of a wheelbarrow tyre. After completing and testing it, the rest of the press was made.

Tests showed that with 40 p.s.i. of water, a press of two and a half ton could be obtained, which was thought to be more than adequate. With the bowl lifting up rather than the lid coming down it made for easy filling.

The pressing bowl and lid is an all steel construction with steam heating pipes in the bottom. The only moving parts are the tyre and the screw on top. Once set, these seldom need shifting.

Changing a tyre (no tube) is very simple and could be changed by the operator in half an hour or less. In the case of mains water pressure being more than 40 p.s.i., it would be necessary to fit a regulator and guage.

This press has done a season's work without any need for maintenance or modification. After Ray had pressed the first 100 kg of wax his comments were, "This was something I would have only dreamt about, it is simple to use and in 50 years of beekeeping I have never seen pressings so free from wax".

It is portable as long as there is a water supply, it is quiet and the capital cost is attractive. Since the press has proved a success Lucien and Martin have looked at producing them commercially and have put a price tag of $625 complete with regulator and fittings.

BOOK OF THE CENTURY

by Chris Dawson, NBA
Hon. Librarian.

IF NOT the book of the century, it gains my award of "Book of the Year." It has just come to my desk — the ideal book for Mr Average Beekeeper.

The author is Ted Hooper, who has kept bees for thirty years commercially and for his enjoyment, lectures on beekeeping at Writtle Agricultural College. He has written his "Guide To Bees And Beekeeping". No book from the American or British publishers over the last 20 years exceeds the excellence of this one.

The author has the ability to explain in simple terms the best techniques for profitable colony management without any of the fancy frills that British and European keepers of bees are prone.

Associated with the text are good photographs and drawings that illustrate the techniques being described. Drawings such as those which show how to hold the hive tool and how to turn a frame covered with bees to allow examination of both sides without endangering the queen are more useful than a hundred words.

Colony management and handling of bees is clearly explained even to small details that most authors would overlook. I like the caption which reads "Let the cool smoke drift into the hive under the crown board. Do not pump it in."

There is a growing awareness of the need for apiarists to raise their own queens. Ted Hooper provides a simple method that can be expanded to raise larger numbers when necessary. Here again, the small details are included. For instance, he describes how to dispense small dots of diluted royal jelly to cell cups by the use of an eye dropper.

It is grand to see that he is trying to make beekeepers aware of the need to breed bees with desirable qualities. He says "Persistent swarming is another inherited trait that can be reduced by culling." I wonder how many New Zealand beekeepers really believe this is true. Some of us have proved that it is. He further says ". . . . it is not possible to envisage a useful bee from which the swarming instinct has been entirely eliminated. It can however, be greatly reduced . . . ." He is right.

Remarkable colour prints

The foregoing would be sufficient to make a good book but, as if to seal a bargain, the production of colour photographs of exceptional quality places this book in a class of its own. Magnified colour plates of a four inch queen with attendants, a three inch pollen gatherer on a willow catkin and a one inch bee egg, all in full colour, are some of the remarkable illustrations and pen drawings on nearly every page.

I wish to congratulate Ted Hooper on producing "Guide to Bees and Honey." It is going to be a "Best Seller" of beekeeping literature.

It consists of 260 pages of text and plates, sewn bound in hard cover with a beautiful dust jacket. It is published by the Blandford Press of Poole, Dorset, England and is marketed by Ross Haines Ltd, Auckland.

West Coasters enjoy glacier country

THE ANNUAL field-day of the West Coast Beekeepers' Association (S.I.) held at Alan Braid's establishment south of Franz Josef Glaciers, must surely rate as one of the best held for many years.

The buildings and residence set in parklike grounds and surrounded by well kept gardens and lawns not far back from the main south road, and near the towering mountains, looking so sparkling fresh after being so well washed with beautiful West Coast rain, is as pleasant a site for a field-day as could be found anywhere.

Visitors were welcomed with an excellent morning tea, dispensed by Mrs Braid and helpers in her residence before Alan opened proceedings officially, and conducted the very representative gathering of about 40 over his establishment. The visitor from the greatest distance was from Peru, making those from Canterbury seem quite local.

John Smith gave an informative talk on grading of honey and of how samples were taken and demonstrated some of the implements for taking samples, and apparatus for grading moisture content, and colour.

Mr Dickinson gave an address on HMA matters and reviewed the recent conference remits of NBA and answered questions.

Keith Detlaff demonstrated a method of attaching foundation to back bars by using three small spots of commercial glue instead of running in melted beeswax to prevent sag that occurs when no sealant is used at all.

Jack Varley expertly operated a projector and showed slides that John Smith took when on a study

turn to page 25

APIMONDIA

by NZ delegate, Ivan Dickinson.

Apimondia mechanics

THE FIRST meeting, held on Sunday evening, October 6, dealt mainly with formal matters requiring the approval of the General Assembly.

These matters included the Report of General Assembly, at Grenoble, France; the report on activity of the executive council, and reports on the auditing commission and the International Beekeeping Technology and Economy Institute of Apimondia.

The approval of the budget for the period 1977-79 was also asked and after discussion was approved. This approval will mean an increase in subscription. On this matter several delegates expressed concern at the increasing costs and urged caution in view of the effect this has on developing countries.

A number of countries were known to be unfinancial and Britain expressed their opposition to the voting rights being given to these countries. It appeared that this concern is expressed regularly at Congresses and yet it still goes on.

The redrafting of the Regulations of Apimondia also created discussion in as much that in the transcription from French to English several sections were not in their correct meaning as set down by the Executive. The draft regulations were approved subject to these corrections being made.

Approval of the 1977-79 calendar was approved with some delegates asking for more activities in their respective zones.

At this meeting several new members were admitted. They were: Kenya, Canada, (readmitted after payment of outstanding dues), Costa Rica, Columbia, Congo, Ecquador, Greece (readmitted following compliance with Apimondia Regulations which due to political reasons they did not meet previously), Libya and Paraguay.

Election of Officers

Surprisingly this involved a considerable amount of time and confusion due to the elaborate method of voting. All positions must be nominated for and then a secret vote held irrespective of how many nominations, even if only one nomination has come forward a secret vote must be held. Dr Eng-V-Harnaj was re-elected President, R. Banker Vice President and the executive members were also voted for.

The second meeting was held before the conclusion of the congress. The assembly conducted the business in full view of the assembled gathering and it was pleasing to see at this meeting that the appropriate name card was in position for New Zealand.

Approval was also given for the setting up of a new standing committee to be related to the International Marketing of Honey. This was a subject that was raised several times during sessions and the session on marketing desired this approval.

It has also been requested that all organisations of Apimondia to study all aspects into honey promotion.

New Honorary members elected included Prof. K. Doull of Australia, Dr Eva Crane of England and Mr R. Bovey of Switzerland.

Next Venue

The final matter to be dealt with by the assembly was the venue for the next Congress. The two countries seeking the Congress was Finland and Greece. This debate turned out to be a very moving debate between Finland and the Executive Council who had at the previous Congress given Finland the approval to make preparations to hold the Congress there. However the Executive now appeared to have reservations on Finland's financial ability. This was a most disturbing session on the whole. Congress and many delegates were I consider confused over the issue.

NEW ZEALANDERS SCORE

Among the awards and presentations made at the Congress, a number were made to New Zealanders.

The New Zealand Court Stand sponsored by A.K. Ecroyd & Son Ltd, D.F. Penrose and the New Zealand Honey Marketing Authority, was awarded a gold medal.

And Mr D.F. Penrose received a gold for his uncapping machine.

For their stand the New Zealand Honey Packers Association received a silver medal.

Mr Peter Pearson of Darfield New Zealand also was awarded a bronze medal for his Brood Nest Inspection Barrow.

CONGRESS

Was it worth it?

On a secret vote, Greece was given the Congress for 1979, voting being 16 to 11 in favour of Greece and having heard all arguments prior to the meeting, I voted for Finland. The main reasons for my vote being that Apimondia had provisionally approved Finland by asking them to proceed with preliminary arrangements and that there was serious doubts as to whether Greece's application was in order in view of the fact that their membership had lapsed. The case of Greece was not even presented by them as they did not have a delegate present and the case was put by Mr Boreneck of France.

I must report that it was gratifying to note the interest and manners in which papers presented by the New Zealand Departmental officers were received and I congratulate them. Other papers were to be presented by New Zealanders but due to heavy programme committments these could not be given. It is unfortunate that this was the case as a lot of time and effort was put into preparing material.

APIMONDIA Congress is a large gathering and there is no doubt that member countries can benefit from such meetings. However, there are areas of concern and these were expressed at assembly meetings.

In particular, there is the financial ability of a country to sponsor a Congress that requires such elaborate and expensive organisation. Even though they endeavour to keep the cost down, most host countries require considerable finance over and above that received through Conference Registration.

It was fortunate that quite a number of National Beekeepers' Association members were able to attend the Adelaide Congress and I feel derived some benefit from the experience. Those companies and members promoting New Zealand honeys and beekeeping products did much to make world beekeepers and honey buyers aware of what New Zealand has to offer. Many overseas visitors to Adelaide expressed to many New Zealand participants their interest in New Zealand and its beekeeping.

Much was achieved for New Zealand by New Zealanders.

PROTECTING HONEY BEES FROM PESTICIDES IN SEED CROPS

This paper was presented by V.A. Cook, Apiary Instructor, Ministry of Agriculture and Fisheries, Oamaru, to the XXVI International Congress of Apiculture held in Adelaide, Australia, in October 1977. The paper has been edited for reasons of style and space.

THE NEW ZEALAND economy is based on the efficient production of wool, meat and dairy products. The combination of pastoral agriculture and a temperate climate with abundant sunshine and plentiful rainfall, provides conditions conducive to commercial honey production. Beekeeping has become an integral part of New Zealand farming by providing a vital pollination service.

The most important insect-pollinated pastoral crops grown are crucifers and legumes. They include kale, turnip, swedes, rape, white clover, red clover and lucerne. All these crops are important sources of nectar and/or pollen, and they all depend, more or less, on honey bees to pollinate them.

Therefore, the relationship which exists between these plants and honey bees is of great mutual benefit to farmers and beekeepers.

The most important crucifer and legume seed growing districts are in Canterbury and the northern part of Otago. Beekeeping in these areas is basically non-migratory and there are sufficient permanent commercial apiaries to obviate the need for an organised, paid pollination service. There are approximately 50 000 hives on permanent sites in the main seed producing districts.

Unfortunately, cruciferous and leguminous crops are susceptible to infestation by insect pests which sometimes have to be controlled with insecticides. If any

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3 Garlands Road, Woolston, Christchurch. Phone 897-091

insecticide is applied to a flowering crop there is a danger that bees will be killed.

It can be stated, however, that honey bee mortality, resulting from pesticides being applied to these crops in New Zealand rarely, if ever, occurs. The reason for this is that a combined extension, regulatory and research approach successfully deals with the problem.

Many years ago it was found that an extension programme alone was inadequate to prevent honey bee mortality. Despite warnings of the dangers pesticides posed for bees, serious bee mortality occurred in 1955 when flowering kale seed crops were dusted with lindane.

The Apiaries Protection Regulations 1957 were subsequently passed and they are now included in Section 35 of the Apiaries Act 1969. This legislation prohibits, during the period September 1 to March31, the application of pesticides which are toxic to honey bees, to cruciferous and leguminous crops when they are in flower, or to flowering plants within the crops, unless a permit is obtained from the Ministry of Agriculture and Fisheries. The purpose of this legislation is to protect honey bees from pesticides, while ensuring maximum honey production and also adequate pest control.

The registration of apiaries is essential to the successful implementation of this legislation. Beekeepers are required under Section 4 of the Apiaries Act 1969 to register their apiaries with the ministry. Each apiary is registered in terms of the location, property owner and number of hives. The apiaries are given code numbers and plotted on maps which can be taken into the field.

If a seed grower applies for permission to treat a flowering crop the application is considered jointly by the apiary instructor and farm advisory officer for the district concerned.

Factors considered are:

- Pest infestation level and desirability of the treatment suggested in the application.
- The toxicity rating to bees of the formulation to be used.
- Estimated loss in seed production from pest damage if the crop is not treated.
- Estimated loss in honey production from hives within a 3km radius of the crop, if treatment would necessitate their temporary removal.
- Estimated loss of pollination if hives should have to be moved.
- Any other factors relevant to the application.

As a general rule, treatment of flowering crops with persistent, highly toxic substances is not permitted. Their use is generally allowed only before or after flowering. It must be stressed, however, that should the circumstances warrant it, a permit would be issued authorising the treatment of a flowering crop. Beekeepers who had registered hives within 3 km of the crop would be advised to move their bees out of harm's way. Treatment of a flowering crop may not take place until 96 hours have elapsed following the issue of the permit.

I wish this point to be clearly understood. There is not a blanket ban on growers spraying flowering crops; they may spray if they have a permit.

The use of less persistent pesticides, which are known to be toxic to bees, is permitted on flowering crops, provided they effectively control the target pests and they are used in such a way that bees are not endangered. A good example of this concerns the control of clover case-bearer moths (Coleophora spp.) on white clover crops.

Case-bearer moth caterpillars damage the developing clover seeds by feeding on them. When crops have to be treated insecticides must be applied at peak flowering, and this is of course potentially very serious for the beekeeping industry. Fortunately, however, case-bearer moths can be satisfactorily controlled on flowering crops if one of the three insecticides bromophos, dichlorvos and trichlorfon is used, at the recommended rate of application, in the evening when no bees are working on the flowers. Late evening application gives the best case-bearer moth control, and with these particular insecticides, treated crops are perfectly safe for bees to work on the next day.

In practice, the protection of honey bees from pesticides applied to cruciferous and leguminous crops is achieved almost entirely by extension methods. The relevant legislation is only rarely invoked. Even in the control of case-bearer moths on clover crops permits are not usually issued to individual growers. The safe use of the correct insecticides has become accepted as standard practice in clover seed growing areas.

The extension methods used include newspaper articles, ministry pamphlets, journal articles and radio and television broadcasts. Talks and demonstrations are given at field days and at meetings of farming and beekeeping organisations. Liaison is maintained with pesticide manufacturers and distributors and advice is always readily available for individual seed growers.

Despite the extension emphasis of this work the existence of the legislation must not be underrated; indeed it is essential. There are, from time to time, cases where pesticides highly toxic to bees would be applied to flowering crops if the deterrent of 'breaking the law' did not exist.

The ministry's bee protection work could not succeed without continuing research to determine the effects of pesticides on bees when applied to various crops. This work is undertaken by scientific staff of the Apiculture Section of the Ministry's Wallaceville Animal Research Centre. Their work, which entails detailed laboratory experiments and field trials has shown the danger of accepting overseas information regarding pesticide toxicity to bees as being applicable to our local conditions. It has been found, for instance, that the systemics demeton-methyl (Palmer-Jones et al., 1957) and mevinphos (Palmer-Jones and Forster, 1963)

formerly claimed safe to bees overseas, are highly toxic under New Zealand conditions.

The success of our work to protect honey bees from pesticides applied to cruciferous and leguminous crops depends upon the co-operation of many people. An integrated programme can be planned in terms of extension, regulation and research, and I am convinced that this approach, and only this approach, can have the desired effect of fully safeguarding the interests of beekeepers and farmers.

But in the final analysis it is the people involved who determine the outcome of the programme. Research personnel must be of the highest calibre for their work is of a detailed and highly complex nature. Extension workers must have a good working know-

Polish techniques in bee breeding

by John Smith, Apiary Instructor Ministry of Agriculture and Fisheries, Christchurch.

RECENTLY I was privileged to visit Poland to study with Professor Woyke of the University of Warsaw. The topic of my studies was the commercial production of queen honey bees in Poland by the use of artificial insemination.

Before my visit I knew little about the country and found it extremely hard to get any background information. I made many visits to libraries and talked to many people who had spent even a day in the country but alas, much of what I read or was told was so hopelessly out of date that I am sure I visited a different country from that visited by most of the people I had spoken to.

However, I did learn that Poland was a land of palaces and peasants. I certainly saw beautiful palaces, in some cases being lovingly restored to their former glory to be used as working offices. I think the more correct term would be working museums.

The working conditions of apiary staff at one of the offices certainly left me green with envy. It would be extremely pleasant for example, to sit at a wooden inlaid desk with a four-armed bronze candelabra hiding my telephone from view, even though I did have to look at a blank space upon the wall where until recently Leonardo De Vinci's "Young Woman with Ermine" had hung over the mantlepiece.

The peasants (and here I use the word in its true meaning), were plentiful. The farming industry is still in the hands of individuals, with 75 per cent of the land in private ownership. The farms are small by our standards, only 10 to 20 hectares, with each one supporting a complete family from grandparents and parents to children, and keeping the inevitable few hives of bees.

There appeared to be an excess number of hives for the countryside to carry. With the type of flora available I could not see how it could sustain the present density of up to 10 hives per 20 ha. There are, I was told, over 2 million hives of bees in Poland, and the average hive holding is 10.

Although beekeeping in Poland is a big peasant industry involving a great many people, fantastic things are being achieved.

The collection and packaging of honey is highly organised. While in Krakow I visited one station which was not only packing over 1200 tonnes of honey a year but was apparently turning a similar amount into particularly delicious mead. Honey drinks are extremely common throughout the country, and in most of the major towns there is one shop which sells nothing but honey and honey products. The honey meads produced at Krakow, while not particularly high in alcohol content, certainly could have played havoc with my legs when I was invited to sample the various types at eight in the morning.

However, the real purpose of my visit was to have a careful look at the production of queens by the means of artificial insemination. I therefore considered it was much more important that I became trained as a technician than to undertake a tour as a privileged overseas, officially wined and dined, guest.

Most of my time was actually spent in Warsaw working at a microscope. However, I was able to see enough of the bee breeding work being undertaken in Poland to be extremely impressed by it, and to be left somewhat bewildered trying to think how we could possibly hope to duplicate even a little of this work in New Zealand.

Perhaps the most significant thing in Poland, from a beekeeping point of view, is the importance attached to the honey bee. At each breeding station, be it private or government, the directors and heirarchy considered that the men working on honey bees were equally as important as those who were dealing with cattle, sheep, pigs, horses and other animals. In fact, at one station where I was shown many pampered bulls and the very sophisticated artificial insemination set-up, the director took great pains to assure me that the bees were considered equal in importance to the bulls within his sheds.

In fact it would be correct to say that while he referred to stud bulls, he was equally able to refer to his stud bees because of the testing undertaken and the records kept.

At this particular breeding station, I was shown the bee stud book, which listed 20 000 queens

ledge of bee behaviour, the crops being grown, the pests that affect them and the pesticides used in their control. But above all they must be expert in dealing with people. They must be unbiased and respect the interests of all the parties concerned.

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PALMER-JONES, T.: FORSTER, I.W.; GRIFFEN, L.A.M. 1975. Effect on honey bees of Metasystox applied from the air as a spray to chou moellier. New Zealand Journal of Science and Technology 38:7 (June 1957).

PALMER-JONES, T.: FORSTER, I.W. 1963. Effect on honey bees of Dipterex, Thiodan, and Phosdrin applied as sprays to white clover. New Zealand Journal of Agricultural Research 6:3 (June August 1963).

complete to their birth-weight. It was impressive from its completeness and also because the staff had not lost sight of the overall intention which was to increase production from each hive. The records showed that hives headed by the specially bred queens were producing up to 500 per cent more honey than those of the normal queens.

The technique of artificial insemination of honey bee queens is not new. The Polish have certainly smoothed off the rough edges and in one case I met a technician who was able to artificially inseminate up to 120 queens a day. Even at one third this figure, the production of queens by artificial insemination in New Zealand would be economically viable.

It would be nice to report that the Polish had ironed out all the bugs from the whole operation. They certainly have not, but it is going to take considerable time and effort within New Zealand before we can even attempt to emulate the stage they have reached.

We should not forget they have at least a 15 year start on us, but I can visualise that we shall, within a few years, certainly be engaged in the production of queens by artificial insemination.

One other thing which impressed immensely in Poland was the use of queen mating areas. It is now commonly accepted that drones congregate in certain areas; over particular trees, or in individual gullies and attract virgin queens to them for the purpose of mating. High in the Tatra Mountains I was taken into the middle of a very dark forest to see one such drone congregating area. Here it had been discovered that the drones were congregating around one small clump of trees, or in fact one tree, within the forest.

Through the government agency the surrounding area had been cleared of all undesirable bees and drones.

The government breeding station then took in hives in order that their drones would saturate the area. The hobbyist or peasant beekeepers were then allowed to bring their virgin queens to the area to have them mate with the selected drones. Here was in action the perhaps complete reversal of the accepted New Zealand way of mating queens. In New Zealand there is a tendency to select the virgins, or to select the breeder queens, and then completely ignore the drones. The selection and mating with selected drones can be achieved of course in two ways — the first is by artificial insemination; the second by making use of the drone congregating areas. If one thing stands out in my mind above all others in Poland it was the use of these drone-congregating areas to improve the bee stock of the country.

Throughout the coming year I hope to have the opportunity of addressing branches of the National Beekeepers' Association about my experiences in Poland, and I will be able to explain in depth the methods used in the production of queens, the production of drones, and the artificial insemination methods and techniques used.

Professor J. Woyke, head of Apiculture Section, Warsaw University, artificial inseminating a queen bee.

The queen rearing apiary at Warsaw University. The frame carrying boxes are used to minimise robbing.

The long hand of bureaucracy reaches the honey industry

This article by NZ Beekeeper editor, Trevor Walton, summarises the main points of the Food Hygiene Regulations. It assumes the regulations will apply in full to all honey packing houses as from April 1, next year. The editorial on page 1 discusses some of the anomalies and questions raised by the regulations.

DON'T SAY we didn't remind you. But as from April 1 next year all packing and processing plants handling honey for sale will have to be registered by a local authority under the Health (registration of premises) Regulations 1966.

Up til then, all honey packing houses are exempt from the provisions of these regulations and the Food Hygiene Regulations so long as they are registered as apiaries under the Apiaries Act.

If you extract your honey for sale in a 44 gallon steel drum in the back of your garage, the regulations will have you out of business. If you use this set up just for your family, you are in the clear.

What do the regulations mean for a commercial packer?

- Your packing plant and food area (retail sales area) has to be physically separated from non-food areas (super storage areas, boiler houses, garages, etc), to the satisfaction of a local body inspector.
- You have to have a certificate saying you are registered. You get this from your local borough or county council.
- You can require your local authority to deliver you with a copy of the Food Hygiene Regulations and Amendments, though they may require payment first. (Interesting enough, they don't have to do this until they issue a certificate of registration, or unless the premises has changed hands. Catch 23?).
- Your local body cannot register your premises without the approval of the Health Department unless you are only packing for sale direct from the premises.
- If application of the regulations to your packing house is likely to cause you "undue hardship", the local body may issue you with an exemption certificate subject to what other conditions it may require, but it must let the Health Department know. This exemption shall cease to have effect when the occupier ceases to use them or after six months following his death. The local body can then issue a new certificate of exemption to the new occupier, if it so wishes.
- You have to stick up the following notices: In a conspicuous public part of the premises, your certificate of registration (or exemption). In every toilet and near every changing room, a notice calling on workers to wash their hands thoroughly before starting work and after using the toilet. In a place "most likely to be seen by the workers" a notice in plain capital letters telling them not to spit, or smoke, use or chew tobacco. In a conspicuous public part of the premises, a notice saying Animals are not permitted on these premises".
- You have to install an adequate first aid kit in a first aid cabinet with the words "First Aid" on the front.
- Everything has to be kept clean and tidy and free of material which may harbour vermin or anything which could become offensive. And there must be a good supply of cleaning materials, equipment, detergent etc.
- No animal is allowed on the premises, unless it is a cat which does not have access to unpacked food and which is being kept to control rodents. Customers' cats are not allowed.
- Appropriate receptacles have to be provided for rubbish. These have to be emptied once a day, washed, cleaned and inverted to dry unless they are approved disposable containers. Filled and empty containers not being used to collect rubbish at the time must be kept stored and covered in a separate room or enclosure — or, in a yard on a stand made of impervious material which is sited 300 mm above a paved area which has been suitably drained and graded. In the case of disposable containers, all you need is a device specially constructed for them. (Our pick is that a suitable rubbish cart would do the trick).
- Your "toilet accomodation" must be kept clean and in good repair and supplied with toilet paper. (Note here the reference is to toilet accomodation. In the case of the notice to wash hands, it is required to be installed in the "toilet", not the "accomodation". We suggest you use your commonsense in this regard).
- You have to provide wash-hand basins with nail brushes, approved towels or hand drying facilities and piped with hot and cold water.
- "Readily perishable" food must be stored under refrigeration. Honey does not fit the definition of "readily perishable".
- Food — honey, pollen for sale etc — must "as far as practicable" be stored at all times where it is free from contamination by odours, animals, birds, vermin, insects, dust, other food products or any other article. (The "far as practicable" would seem to be the let-out for the odd wax moth or scavenging bee, though it does imply full cover and protection for supers waiting extraction.)
- All food stored in bulk must be done in an "orderly" fashion, so as to ease inspection and the detection of insects, vermin etc. When stored on racks, shelves or rails, these should be at least 200 mm above the floor and be capable of being readily cleaned.
- You will not be able to use an appliance (including a truck or trailer), package, table, bench, container etc in the making, preparing, storing, carriage or delivery of food for sale unless it is kept clean, does nothing to taint or poison the food, and is easily cleaned. *"Every part of an appliance that comes into direct contact with any moist or readily perishable food for sale shall have a smooth, impervious surface which is free from cracks and other defects."*

- All seals, corks and other capping devices which come into contact with food must be clean, new and protected at all times from contamination.
- All surfaces touched by your produce, including utensils and containers must be scrubbed clean with hot water, a suitable detergent and bactericidal solution every time they have been used. At the end of the working day, they must be left in a thoroughly clean condition.
- All bottles (other than new ones) must be inspected before a viewing light on an efficient electronic scanner before being filled with food.
- All food in store or on display must be fully protected from contamination by customers.
- Unnecessary contact with food must be avoided. "Sticky substances" must be served packed or prepared with a scoop or suitable implement.
- You may not display for sale any food that is "ordinarily consumed" in the state in which it is sold, unless it is thoroughly protected against contamination. (This means wrappers or boxes for comb honey.)
- Everyone engaged in any part of the food manufacturing process must wear a light covered outer overall or smock and a device to restrain hair from touching food or food contact surfaces. The health inspector can also approve other types of clothing he thinks are suitable. This clothing must not be worn off the premises.
- People engaged in the retail sale of food must wear clothing "adequate to protect food against contamination". *This clothing must not be worn off the premises* and should be stored in a suitable cupboard when not in use.
- You will have to provide at least one set of clean protective clothing each week to every worker and ensure that it is laundered as often as it is necessary to keep it clean.
- Everyone handling food must keep their hands, clothes and body clean; their finger nails short and clean. If you suspect you or one of your staff is harbouring a communicable disease, that person will have to stay away from the premises until a doctor has given the all-clear in writing. This requirement is additional to the requirements of the Venereal Diseases Regulations.
- You may not clean the floor of a food premises with other than a vacuum cleaner or similar dustless device while food is being prepared.
- Floors in food premises must be made of impervious, easy-cleaned material, adequately graded and drained with angles between floors and walls rounded off to a height of not less than 75 mm from the floor OR should be of wood with boards cramped tightly together and with all angles between walls and floor rounded OR meet the above requirements and have a smooth-surfaced material fixed to the floor with a suitable adhesive.
- Walls must be non-absorbent, dustproof, smooth and easily cleaned. If they are likely to be wet or "fouled", they must be impervious up to 2 m. Their surface must be painted or have an approved surface.
- Ceilings must be smooth, dustproof and permit easy cleaning. Trusses must be fully enclosed. In rooms where food is manufactured, prepared or packed, the ceiling must be non-absorbent, light in colour and capable of being readily cleaned. No part of any ceiling in a food premise may be less than 2.4 m above the floor.
- Lighting must be bright enough to allow effective inspection and cleaning, shall be reasonably free from glare and distributed to avoid shadows.
- Ventilation must be sufficient to give comfortable working conditions, prevent condensation forming on walls etc, and remove objectionable odours and fumes.
- Your workers will need lockers and changing accomodation located so that food is not contaminated. If you have more than four workers, a separate changing room constructed of smooth-surfaced materials must be provided. If there is at least one worker of each sex, there must be separate changing rooms for each sex.
- Toilets must be provided in a ratio to the number of workers, in accordance with the Drainage and Plumbing Regs. Wash-hand basins must be provided at the rate of one for every 10 workers.
- Hot water must be provided at a temperature of not less than 63 deg C at all sinks and appliances used for washing containers and utensils. The inspector determines the storage capacity needed.

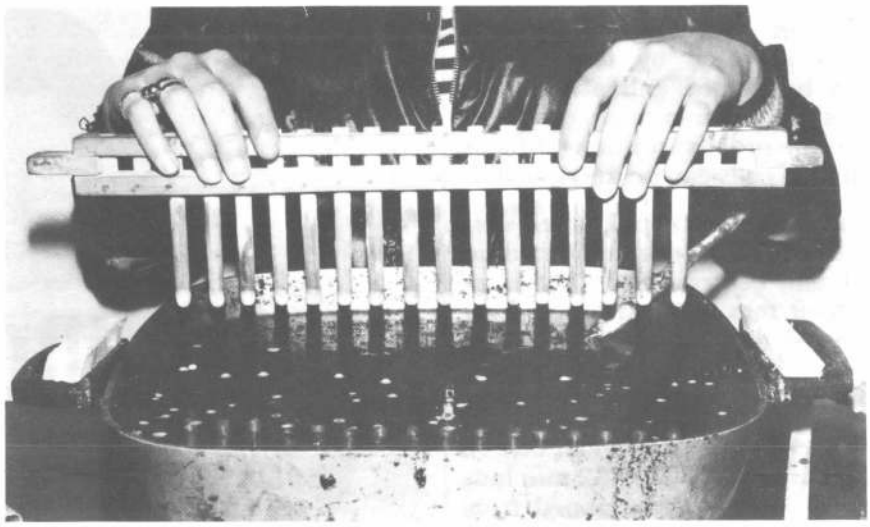
THIS IS NOT COMPREHENSIVE. APIARISTS PLANNING TO BUILD HONEY HOUSES IN ACCORDANCE WITH THESE REGS SHOULD GET IN CONTACT WITH THE LOCAL HEALTH INSPECTOR TO GET HIS INTERPRETATION OF WHAT WILL BE REQUIRED OF YOU.

Making wax queen cell cups

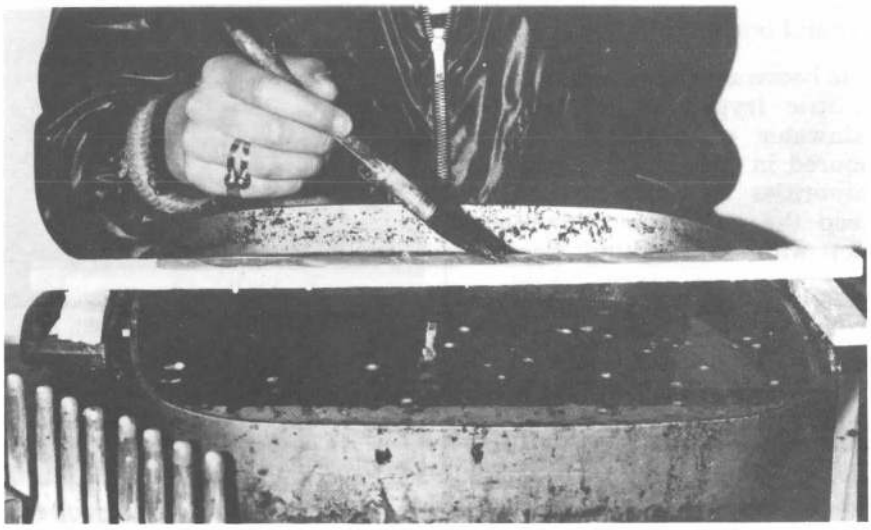
by Nick Wallingford,
Dannevirke.

MAKING LARGE numbers of wax queen cell cups and attaching them to bars to use in grafting queen cells can be fairly tedious. To cut down the time involved, cups should not be handled individually, but rather dipped and fixed to bars in one operation.

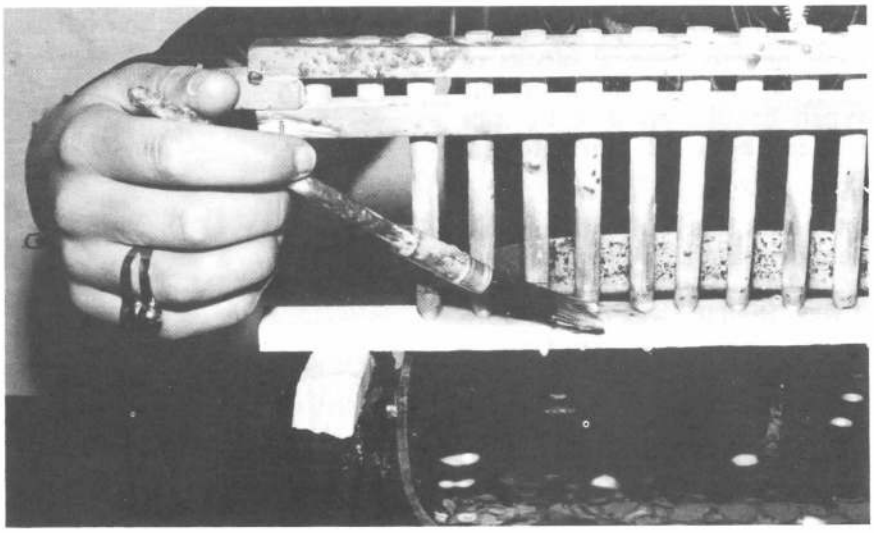
The system used by Dudley Ward of Kintail Honey, Dannevirke, is



"If the wax sets fairly quickly and evenly on the tips, then the wax temperature is right." It's important that the wax doesn't get too hot, as bees won't accept cups made of scorched wax.



Painting 2 mm to 3 mm layer of wax onto the cell bar.



Without taking the cups off the dipping stick, place them on the waxed cell bar and paint around them with more wax.

similar to ones in use overseas, both in Australia and the U.S. Cells prepared by this method can be dipped and attached to bars with a minimum of labour and an orderly routine of handling the cells can be developed.

The cell cup dipping stick consists of 16 dowels, mounted on 20 mm centres. The dowels are 8 to 9 mm in diameter and are tapered and rounded at the tips so as to produce a nicely rounded cell cup.

The cell bars to which the 16 cups are affixed are 432 mm long and 10 mm thick, ripped from 20 mm timber. They fit into special grafting frames with notched end bars so that two bars can slip snugly into a frame, one about 50 mm below the top bar and one about 100 mm.

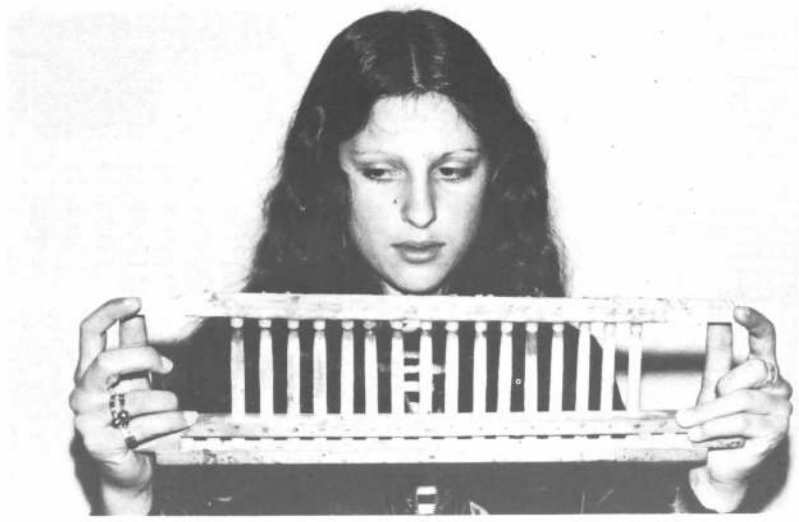
The beeswax is liquified in an old electric frypan. A little bit of rainwater or distilled water is poured in the pan to allow any impurities to settle out and to keep the wax from direct contact with the heating element.

Bees will not accept cups made from beeswax that has been scorched. The wax should be clean; broken foundation on cappings wax is ideal. It should be held at a temperature just above the melting point of beeswax (62 deg. C).

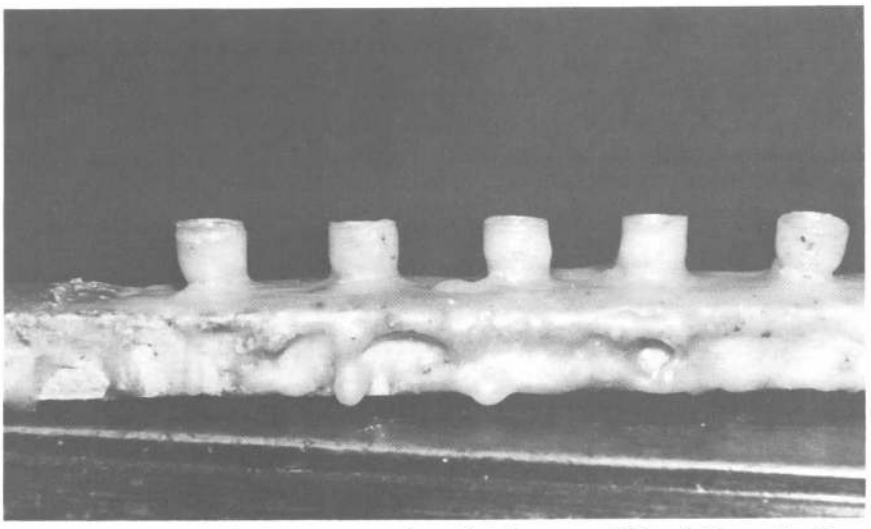
The dipping stick should be soaked in a solution of soap flakes for some time before and during use to help the cups slip easily from the tips. Several blocks of wood should be placed on the frypan handles so that the tips will go about 12 mm into the wax.

If the wax sets fairly quickly and evenly on the tips and if the cup has a delicate lip without a collar of wax, then the wax temperature is right. Three to five dips with a few seconds between is about right. Put the dipping stick and cups into cold water to set the cups firm after the last dip.

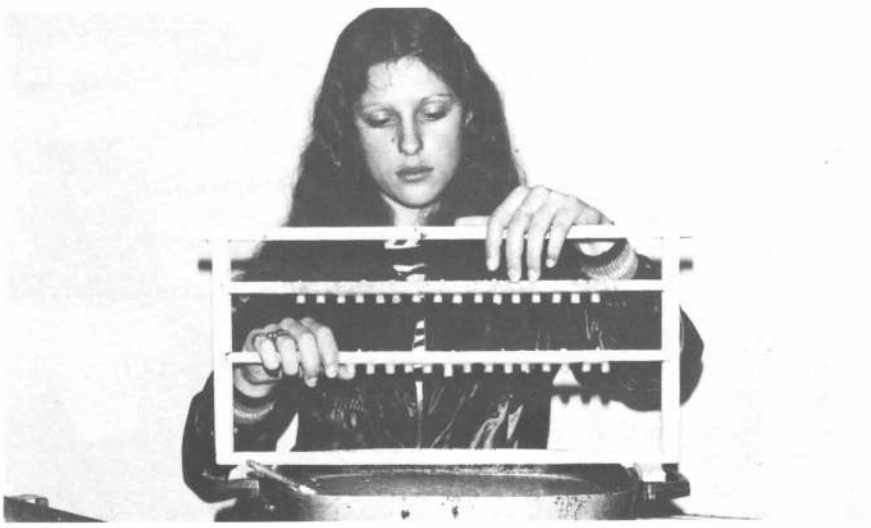
Next, paint about a 2 mm to 3 mm thick layer of wax onto the cell bar with an old paint brush.



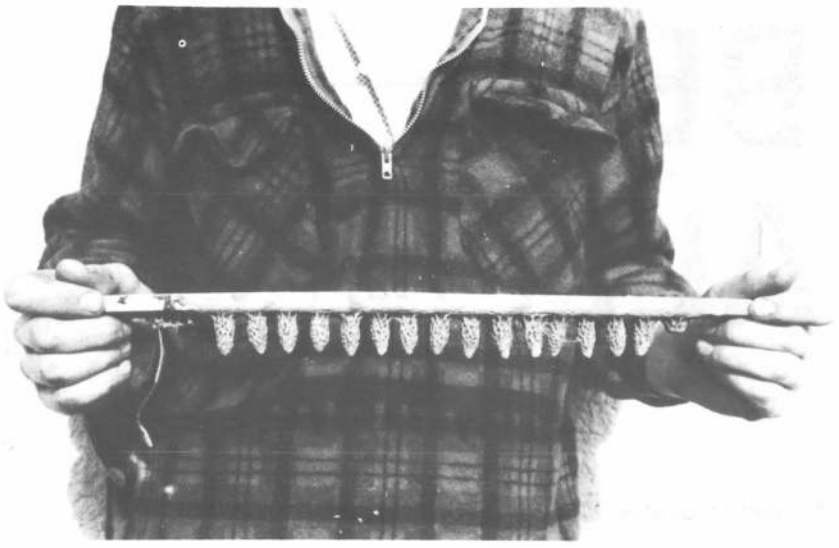
After immersing the dipping stick and cell bar in cold water, slowly work it loose with your fingers.



The final result: If done properly, all 16 cups will be left on the bar. With practice — and well-soaped dipping sticks — 50 to 60 bars can be made an hour.



Fitting the completed bar in a grafting frame. Each queenless starter hive is given 2 frames or a total of 64 cells.



After the bees have done their work.

Without taking the cups off the dipping stick, place them on this wax and hold in place with one hand, while painting wax around them with the brush. Use plenty of wax so they will be firmly attached.

Immerse the stick and bar in water again to set the wax and help to loosen the cups. With one hand at each end of the stick, slowly work the bar loose with your fingers. If done properly, all 16 cups will be left on the bar. If one should stick, it can be waxed on separately but, with practice and well-soaped dipping sticks, the bars can be done at a rate of 50 to 60 an hour.

The completed bars are placed in the special grafting frames, each frame holding two bars. Each of the queenless starter hives is given two frames or a total of 64 cells.

After grafting and starting a bar is transferred from each frame to an empty frame and these four frames, each with a maximum of 16 started cells, are given to four finisher hives. In these the queen is confined below a queen excluder and brood is periodically shifted up into the top box to insure an adequate number of bees to tend the cells.

The cells can be left here until ready to be distributed to hives or nucs (10 to 11 days from grafting) or they can be removed to an incubator after they are sealed (five days) and held at a temperature of 33 deg. C. to 35 deg. C.

The completed cells are removed from the bars by running a hive tool down the bar, peeling the cells off in a long strip. Care should be taken to not cut into the base of the cells. The cells are then separated and carried in cotton-wool in an insulated box. After the virgin queen emerges in a hive, no collection of wooden cell blocks or plastic cell cups is necessary as would be the case with other systems of cell cups.

BOOK REVIEW

THE BEE BOOK — A History and Natural History of the Honeybee

by Dorothy More. 144 pages. Published by David and Charles, London, and marketed by Leonard Fullerton in New Zealand.

BECAUSE OF the good reception given her book "Discovering Beekeeping" we asked the author for more. With commendable speed she has had sent to us her latest effort.

Many hours of careful research have been used in compiling this book. It is no dusty dry history — it is full of life and interest to all who work with bees.

The writer is obviously a bee mistress who has studied the fine points of bee behaviour and she has the ability to translate her research and practical experience into excellent reading.

This book is quite different from any other book on the subject.

It tells of the progress of the craft of beekeeping through the ages and brings the story to today. There are many interesting facets relating to uses of the products of the hive. Honey as a preserver, healer, beautfier — wax as a product with a wide range of uses — candles, death masks, etc.

Photographs and drawings illustrate the text on nearly every page.

It is a modern book in every way, printed on good paper with a colourful dust jacket and sewn bound in hard covers.

New Zealand readers will notice that the dates of the introduction of bees to New Zealand and Australia are incorrect, but this information, collected from the earliest of Isaac Hopkins writings, is an error that many historians have copied.

The printers did not wisely choose the size of type and width of column. Had these been larger, much of the unused white space on many of the pages would have been used to advantage and reading would have been easier.

Reviewed by Chris Dawson, Timaru.

BEE ALL!

by Alison Crafar, Eltham

BEING MARRIED to a beekeeper certainly has its sweet moments but on the whole, during the honey flow, the days one way or another seem to come to a sticky end.

I remember years ago an elderly beekeeper's wife telling me all beekeepers were eccentric. She'd met dozens of them and they weren't ordinary fellows. I wasn't told a thing I haven't since found out for myself. Here's an instance.

In the bathroom I noted something missing. Surely I was imagining things. Not a drape anywhere. The windows were stark naked. So began a rampage through the house, my voice rising a tone as every member of the family was interrogated.

"Martin! What did you collect those tadpoles in today?"

"Are you sure you girls aren't making a see-through blouse?"

"It must be your father. I knew it — I knew it!" And there they were, very securely clipped with spring clothes-pegs around the top of an open drum, straining pollen and wax from the honey.

Some years back I discovered it was much less trying on the emotions to dish up the family soup with a cup. Far too much time, with blood-pressure rising, had been wasted peering into and scraping around a sticky goo, only to discover that the honey had worked overtime on the rivets of my soup ladle leaving me with either the handle or the scoop but never the two ends intact.

If I complained loud and long enough about myself and the children being neglected over the summer months, there came an occasional invitation to accompany him on a visit to the apiary.

The day was always sweltering. The car always parked where we could watch operations, that is, out in the open with the sun beating down on us unmercifully. The windows were always shut in case the appetisers the younger children had brought along, attracted the bees.

Dad transformed himself from an ordinary every day father into a man from outer-space. Picking up his space gun, he advanced stealthily and proceeded to attack the earth creatures. The children were in their element while I slowly died from the heat.

Even on holiday bees couldn't be forgotten:

"What a magnificent old homestead dear."

"Too much manuka — ruin the season — couldn't take the risk."

"Have you seen the rich blues and greens of those distant hills?"

"Far too much rainfall — season too short — wintering down too costly."

"Could we stop here please? I'd like to see through the local art shop."

"If we stop another mile along the road, I can see the local beekeeper while you have lunch."

No. I didn't know he was bee crazy when I married him. He didn't know it himself or he could never have persuaded me that I was the honey of his life. The war had made it difficult to find jobs, especially for those youths whose careers had been cut short, so scrub cutting became a temporary job for many. It was while on this job that my husband fell in love with a swarm of bees.

I must admit they've had their uses. Only three seasons ago a car load of louts rolled in the back gate, with half gallons under their arms, presuming to entertain our teenage daughter. Her father persuaded them otherwise with arms full of the latest swarm.

Up until recently a hive has been kept at the back gate and pity help the energetic fool who cut the clover patch in the lawn. If you happen to come across a middle-aged beekeeper emphatically stating that his wife doesn't understand him, please sympathise. It's perfectly true. My best rendition of a raving lunatic, to date, occurred one night when I found myself sitting bolt upright in bed shrieking: "This is the finish! I've suffered bees at breakfast, dinner and tea but I'll not sleep with them."

I'd been stung between the shoulder-blades.

FROM THE COLONIES

WAIKATO

Over the years one hears some real home truths expressed. Quote: "There is nothing that makes a poor apiary quicker than neglect" (Donald Bates) or, "Where there is fern there is blackberry" (Maurice Deadman) after filling top feeders with fern, but the one I think of at present is a saying of the late Morton Bates, "It's not hard work taking off full boxes of honey".

Waikato has had a season where the latter is the case, and has had the best flow from clover for the last 25 years, and how much honey has been lost is anybody's quess, but it is quite considerable.

Our season started with continued bad weather and looked as if very low yields would be obtained. It was cold and wet, and strong westerly winds blew continuously causing pollen shortages till mid-December in inland clover pasture.

January was a dream, everything went, and it is just lovely to have all the hives full, all boxes out and hives everywhere wanting boxes you didn't have.

Tawari had a big flowering giving 4 to 5 boxes but if only we had had better weather for it.

A lot of extracting has been done and a lot of boxes put back and very quickly filled again.

Thistle is very good in many places so further honey could be obtained from this source.

Cliff Bird,
Matamata

SOUTHLAND

The weather was very patchy up to mid January, but came right and it looks as though Southland will produce its' biggest crop for a number of years. Six to 10 tons per 100 hives? Well, we had better wait until it is in the drums, but it certainly looks good.

The Annual Field Day was held on January 28 at the Pukerau Community Centre, alonside Mr George Toogood's home apiary.

It is the only field day I have attended that had to be held indoors because it was too hot outside.

Vince Cook was the opening speaker followed by Tony Clissold N.B.A. then Ivan Dickinson H.M.A. In the afternoon Ivan Dickinson, Harry Cloake and Kevin Ecroyd formed a panel and spoke and answered questions on their own impressions of the Apimondia Congress held in Adelaide.

Sylvian Borneck, a French beekeeper, gave a very interesting talk on beekeeping in France. This was followed by our apiary instructor, Trevor Bryant, who gave some statistics of BL in Southland and a sharp reminder to beekeepers not to become too complacent about it.

Mr Toogood demonstrated to the hobbyist how to remove honey from the hive with a blower, the honey was later extracted.

Our thanks, from the branch, go to Mr and Mrs Toogood and family for a most enjoyable day.

Stewart Booth,
Drummond.

WELLINGTON BEEKEEPERS ASSOCIATION

This year's crop is shaping up to be a real 'bumper' and I'm in that dreadful predicament of being completely out of equipment and the honey is still pouring in. I've repaired every junkie frame and put them on and still haven't gear to supply the bees' needs.

The only way out of this is to start extracting capped frames and return them to the hives as soon as possible. Once the bees stop working it's hard to get them moving again.

It's great news from the Ministry of Egg and Fish. They are running another beekeeping course. I attended the one at Massey a couple of years ago and it was so great it took me weeks to come down out of the clouds. For the beginner it's a must. If enough support is given to these courses, I hope they will become a regular event, and once the toe is in the door, perhaps more specialised courses can be run.

Extract of letter to secretary from Graham Walton, MAF apiary Advisory Officer:

"A three day "Beginning With Bees" course will be held at our Flock House farm from 1 pm Tuesday March 7 to 12 noon Friday March 10. Full programme details will shortly be finalised, however, you can anticipate that the course will be on similar lines to the 1976 Massey University beginners' course.

"We hope to cover all aspects of introductory beekeeping, including a day in an apiary and a visit to a honey house. Numbers will be limited to 25. The total cost for the course, including accommodation, all meals, and tuition fees is currently assessed at $34.50. Transport can be arranged between Palmerston North and Flock House.

"This course is for new beekeepers, not for established beekeepers.

"Application forms are available from: The Registrar, Flock House Farm Training Institute, Private Bag, Bulls. Applications close three weeks before the course begins. 'BEE' in early or you will miss out."

F. Lindsay,
26 Cunliffe Street,
Johnsonville.

WEST COAST

As so often happens after a rata year, the following year's honey crop is below average in most yards.

The early spring was excellent for queen rearing and there being an abundance of stores and prospects were good for the approaching honey flow. But the wet weather coincided with the flowering of the main nectar source, preventing the bees from venturing out, so they seemed to stay at home and occupy themselves with rearing queen cells and then swarming on the odd hot fine day.

The weather took a turn for the better on January 20, and has remained perfect ever since.

Some beekeepers have completed one extraction and some are partway through.

Peter Lucas,
Harihari.

HAWKES BAY

From a wet winter and early spring, Hawkes Bay went into a dry spell which had all the hall marks of a drought. However, the rains came mid December to bring some relief, but the dry period left its mark on the honey season. A lack of pasture growth and the slowness of lambs to fatten, had many farmers carrying a high stock rate on their properties, all of which helped depress the honey yield.

With the season now coming to an end it appears that the crop will be no more than an average one, with some areas towards the hills being better than the coastal districts.

The Branch was pleased to be host to Mr Neil Price of England, who at a hastily arranged meeting showed films on Ling Heather honey production and his comb cutter, which was enjoyed by those present. Also at the same meeting was Karl Luttgersheiden of Hamburg who is travelling through the country. He gave us an insight into his work with beekeepers of Turkey where he is stationed on a West Germany Government aid scheme to that country.

Paul Marshall,
Napier.

BAY OF PLENTY

After a long cold spring and a considerable amount of feeding, those hives not on the bush showed very strong tendencies toward swarming. The bush produced well, but in some areas the rewarewa started late. The pasture areas were patchy, and in some areas were very dry, very early, but came away after a short spell of rain in late November, followed by steadily rising grass temperatures right through December. Despite being patchy and the honey flow being cut off by the drought, an average to good crop has been obtained, leaving the hives well-found for winter with plenty of stores and pollen.

R. Hale,
Tauranga.

NOTES FOR SOUTH CANTERBURY

Now February has arrived, most beekeepers will now know or be able to estimate the result of the 1977—78 season and generally all will be pretty happy. But it has been a season of "if's" and "but's".

The spring turned out to be the best for many years with a very good willow and native bush flow. Warm windless days made queen raising a dream and the clover commenced to produce earlier than usual. Everything was away to a good start but, "if it would only rain", was the cry. We were facing a real drought unless rain came soon. But it did rain in late December and with the exception of the coastal and McKenzie country the season was saved.

Those who have hives in the foothill country have a real good crop, above average I would say, and even hives in the drier districts will not be very much below average. Some beekeepers were caught out a little, did not expect the flow to be so good and so were a little slow in getting the supers out. Some hives are pretty full in the brood nest as a result.

With the promise of a minimum payout of 81 cents a kilo, everyone down here is feeling pretty satisfied.

Harry Cloake,
Fairview, Timaru.

HONEY DELIGHTS

Honey as a cosmetic

by Angela Fussell

EVEN AT the dawn of history, honey was recognised as a sustainer of life: Cavemen braved the stings of thousands of angry bees to grab combs of honey, encouraged by the thought of the life giving and delicious properties of this amber nectar.

As a source of quick energy, because of its predigested natural sugars, honey has no equal. Easily assimilated, its vitamins and minerals boost its value as a health-giving food.

But not only has honey been used as a food throughout the centuries: Those same vitamins and minerals turn honey into a powerhouse cosmetic. Balms, lotions, and unguents using honey as a main ingredient have been found to repair sensitive skins that cannot tolerate much activity; the hydroscopic nature of honey attracting and holding moisture to the skin.

Thus dried ageing tissue is restored at least as long as the applications of honey are used.

Of such great value is the bee industry that all parts of honey production can be used. Beeswax is the basis of all good lipsticks, and pollen, perhaps nature's richest food, enriches the honey itself. And whereas honey as a food is like any sugar, too much of which should not be consumed, there is no limit to external application, for only a fraction is absorbed by the skin.

Honey can restore a more youthful appearance by the simplest dab on the face or in complicated creams and lotions.

Here is a trial facial. Splash warm water across a freshly washed face, dip two fingers into a teaspoon of raw, unheated honey, and using upward sweeping motions, lightly spread it into every area of your face. Allow the honey to remain for 20 minutes before rinsing away with warm water. Daily applications of honey can refine and soften skin that has hardened from exposure or poor care.

Honey is also helpful to use after removing makeup. Directly after its use, a final rinse in a mixed solution of apple cider vinegar and water will bring a final glow to the skin.

Another honey treatment with minimum preparation is to mix ½ teaspoon of lemon juice with two tablespoons of honey. Blend together and spread over the face. Allow this to remain on for 15 or 20 minutes before rinsing away in warm water and blotting the skin dry. This softens and deep cleans, leaving the skin refreshed and free of accumulated oils that a cleansing cream cannot reach. This mixture is also excellent for the neck.

Honey and almonds together are a marvellous cosmetic combination. Try this recipe for softening the neck, face and elbows:

250 g	pharmaceutical lanolin
125 g	raw honey
125 ml	sweet almond oil

Melt the honey in the top of a double boiler, then beat in the lanolin. As this melts, add the almond oil and stir until well blended. Remove from the heat and beat thoroughly, then pour into jars. This must be kept in the fridge except for the jar in use. Label the jars carefully so that they are not mistaken for food.

Remember when using a home-made, natural skin food that it lacks commercial preservative or chemical additives, and should not be expected to be less perishable than food. So make up small quantities, refrigerate when necessary and use daily for good results.

from page 9

course in Poland, while John gave the commentary. The slides covered beekeeping in general and artificial insemination of queens in particular. Other slides showed ordinary life in Poland. Folk appeared to dress as we do and attend church better. As regards trees and buildings they appeared to be the reverse of us in New Zealand.

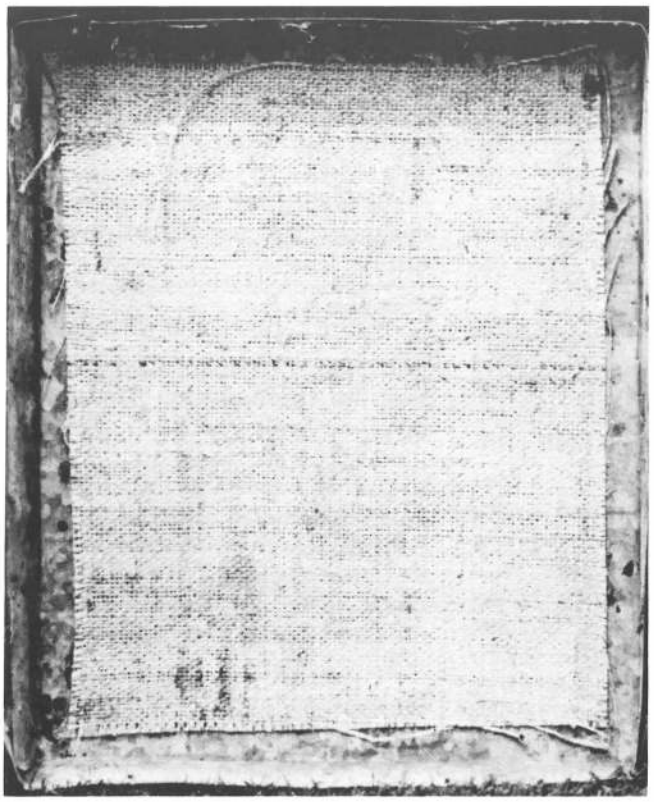
No cost or labour was spared to retain or restore old buildings to their original appearance and trees were planted along roads and streets hard against the seal verge and no mature trees are allowed to be removed unless there is a young one growing to take its place, and the planting of nectar-producing flowers is encouraged to be planted beneath trees/ plants that would be classed as weeds here.

The last item was a demonstration of artificial insemination of queens which couldn't be completed because one vital item was missing.

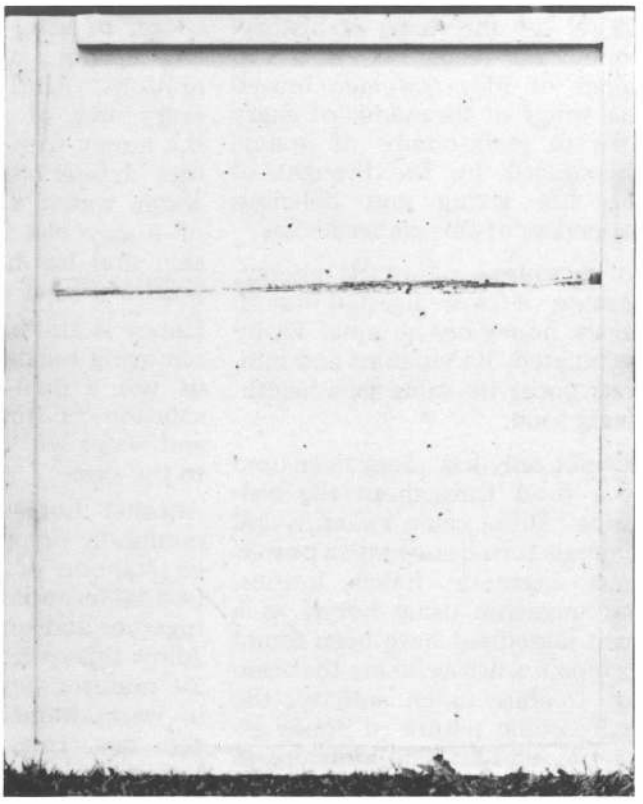
A very pleasant field-day came to an end with comments being that "I could listen to John Smith for hours".

by Peter Lucas, Harihari.

Bringing in the harvest



A home made fume pad.



The pseudo lid.

SUPER REMOVAL, like all hive operations can be done in many different ways. But since we are beginners, we have to be inflexible and follow the rules.

Once the simple fail-safe methods have been learned by heart, then — and only then — can the alternatives be tried. That said, you'll understand why this article sticks to the basics.

FUMING

There are two substances used here for this — benzaldehyde and carbolic acid under one name or another. The benzaldehyde is obtainable from bee equipment stockists and, while expensive per 500 g, a little goes a long way.

The only piece of equipment is a false lid with a wooden rim and a tin top painted black to absorb the heat of the sun, like an upside down oven tray. A layer of sacking is glued to the inside of this.

To use, remove hive lid and mat while smoking gently — and please do not tell me you have given up smoking: that joke came in with the Ark and should have gone out with it — sprinkle a little liquid benzaldehyde on the sacking of the false lid; invert over the hive in the hot sun, wait three minutes, remove and take off the now-clear super.

Repeat on the next super down or the next hive as required.

Note that one sprinkling of the chemical will last for several hours and will also unpleasantly perfume your garage or honey house or wherever you store it when home, so be warned.

It must be a sunny day so that the black painted tin may absorb the heat, pass it through to the sacking, where it will volatilise the chemical and the fumes will drive the bees down.

Do not leave it on too long or all the bees will exit via the front and do keep all honey covered at all times. Do work quickly and quietly and do use two or more fume lids if you have more than two or three hives to do.

There are some advantages in this method of super removal:

- You buy the chemical but make the lids, so it requires little expenditure.
- Convenience — you go to the hives once and once only.
- Ease of operation — the bees are so busy fanning they are too busy to sting.

BEE BLOWER

The bee blower, as its name suggests, blows bees out of supers and enables you to take bee-free boxes away. The blower comes complete with a metal frame and chute that is placed in front of the hive and onto which each super is lifted to allow the bees to be blown down, out, and into the hive entrance. The commercial people don't bother with that, they just take the lid from the hive and blow straight in, which works well enough and is less trouble.

The main problem with these machines is expense. They cost some hundreds of dollars and the price never gets less. This is a bit beyond the amateur, although some clubs might afford one.

PORTER BEE ESCAPES

These have been written of before and will not be dealt with at length here, although no account would be complete without them.

They are, in essence, simple, non-return valves whereby, built in to an escape board inserted between supers and brood chambers, the bees pass down and leave the supers clear.

The escape boards have to be inserted a day before removal and the supers must be completely bee proof, but they work well.

SHAKING OR BRUSHING

This involves taking frames one at a time and either brushing the bees off with a soft brush — I have known 100 mm wide paint brushes, an old-fashioned feather duster, one of the new fluffy lambswool dusters on a stick, and an ordinary hearth brush to be used — or shaking violently and depositing bees on the ground in front of the hive.

This is a long, slow, heavy, sticky job with a grave danger of breaking new combs or dropping old ones, but it can be done.

One objection is that you are dealing with the bees physically, roughly and directly, and they have a right and even a duty to resent this, and often do, and even if they don't they often find the honey and make life a misery for you.

And talking of misery I did hear of one amusing episode regarding a recently arrived English beekeeper. Back home, he routinely left the honey on his hives until the first frosts. At that time the bees all clustered down the bottom and allowed him to take the honey from the top.

He tried it here and waited — and waited — and waited — and each time he looked in, the supers were full of bees waiting to say 'G'day to him. Autre temps, autre moeurs!' To coin a pun. He has now changed to a more positive approach.

So, for the amateur, it comes down to fume or escape. You would probably use escapes if the hives were in the back garden, fumes if they were in the country. And escapes may be simple, but you still have to insert and this can be a nuisance.

That said, I now expect a storm of protest from all those who have used a vastly superior method for years, only to have it snubbed in this list! Right, let's hear you! I've started the argument myself, as you will see if you just keep reading. From the theoretical to the actual.

The third box and beyond

THE RULES OF the timetable (first laid down in the NZ Beekeeper for June 1976 and now, hopefully, adopted by you all) could be said to be over-strict, but we need strict rules to survive.

Slight variations, not in timing but in peripheral activities, may be permitted.

For example, I frequently have a third box on my stronger hives from the beginning of November (which somehow sounds much later than 'the end of October') but this box will only be there to *take frames with foundation only.*

We certainly don't want the queen romping up through three boxes of full combs, do we?

To test the effect this extra box had on colonies, I put one such box on each of my four home hives a month before the honey flow. Results were:

- My two medium strength hives did not touch it. They had enough to do building up down the bottom.
- My two strong hives each drew out comb on all the central frames and, by mid-November, had each stored substantial honey in 3-4 middle combs.

This useful pre-season experiment shows only one thing — that the third box will be used by strong

colonies if provided, if weather conditions are right.

What it does not prove is that they actually needed this box. What honey they gathered could quite well have been accommodated in outside frames of the two bottom boxes.

The third box, while not really a nuisance, hindered my queen cell checks a little because it meant that the box had to be removed before the second box could be comfortably tilted, and so on.

Whether the third box actually spurred the bees on to greater activity, helped reduce any swarming tendency, or had any other effect is unknown. It certainly didn't seem to do any harm!

SUPERING UP

When supering up during the honey flow some authorities recommend putting the next empty box under any partially filled super. This is not a good idea.

Reasons not to do this are:

- This procedure produces an artificial gap of one empty super between bees and honey.
- It also means lifting off one heavy super, putting on the empty, and then replacing the heavy (if it isn't heavy, why are you putting on an empty anyway?)
- Makes future checks on progress needlessly difficult.

Putting the spare super on top of the hive is far more in keeping with the bee's natural inclination to move steadily out from the brood nest. So either wait until one box is full and almost sealed, remove, extract and replace.

Or, better by far, just put the empty box on top and let the bees work away without interruption so long as the bottom box is substantially full. (If the bottom box is not nearly full they will just fill up the centre combs through as many boxes as you are foolish enough to put on.)

If the bees have space ahead of them they will also have plenty of space to spread the nectar through as it is brought in before evaporating it down to honey. And you will be able to take the full supers away at your convenience.

As we have said before, never let the situation arise where nectar gathering is brought to a halt by shortage of space in the supers. If you do, the bees stop working. They are slow to start again even after the situation has been remedied because they have to build up scout bees and dancing troupes again.

The less interruption during the honey flow the better, therefore keep examinations and other disruptions to the minimum.

Readers' queries

Mail your questions to: "A Fresh Start", 26 Otonga Road, Rotorua. They will be answered by Mr Williams personally and suitable ones submitted for publication.

POOR MATING

Dear Mr Williams,

First of all, a word of appreciation for your advice to beginners in the NZ Beekeeper, also your replies to queries, all so ably and interestingly written.

I have one question I would ask.

In a recent purchase of mated queens one was introduced successfully, but her irregular brood-pattern suggested a poor mating or damage of some kind, in transit. Not surprisingly, the bees decided to supersede her — a fine big cell. Provided this queen was poorly mated, is there any reason why her egg should not produce a good queen?

Yours,

Douglas Todd,
Gore.

Many thanks for your kind words. We aim to please!

As long as your queen is merely an irregular, and not a drone layer, you have nothing to worry about. It is most unlikely that her erratic laying will be genetically transmitted to her daughter.

Yours,

David Williams.

RECIPES GALORE!

Dear Mr Williams,

In the June issue of the NZ Beekeeper there was a letter from a Mrs Sylvia King of Rotorua asking about recipes using honey.

Two years ago I had a visit from Mr Don Appleton of England. Following his visit he sent me a number of publications of the British Isles Bee Breeders Association. I have copies of these for sale.

The majority of them are leaflets costing 30c, 40c or 60c. Some of the titles available are Natural Honey; Bees, Honey and Weather; Honey Bees for Top Fruit Pollination; Raise your own Queens by the Punched Cell Method. There is one booklet available entitled Mary Workman's Honey Recipes. This contains 78 different recipes, all using honey in them. The price of this publication is $2.

The profit from these all goes towards the above association to help finance all the work they do in regard to bee breeding.

I was wondering if you would like either to give me Mrs King's address, get in touch with her yourself about these or maybe even mention these in your page in the Beekeeper.

Thanking you very much. I do enjoy reading your page.

Yours sincerely,

Pam McAdam (Mrs),
9 Manning St,
Hamilton.

Many thanks for your letter and the kind offer of recipes.

Unfortunately I did not keep the address of the lady who wrote and, as it was a box number, it might be difficult to trace her.

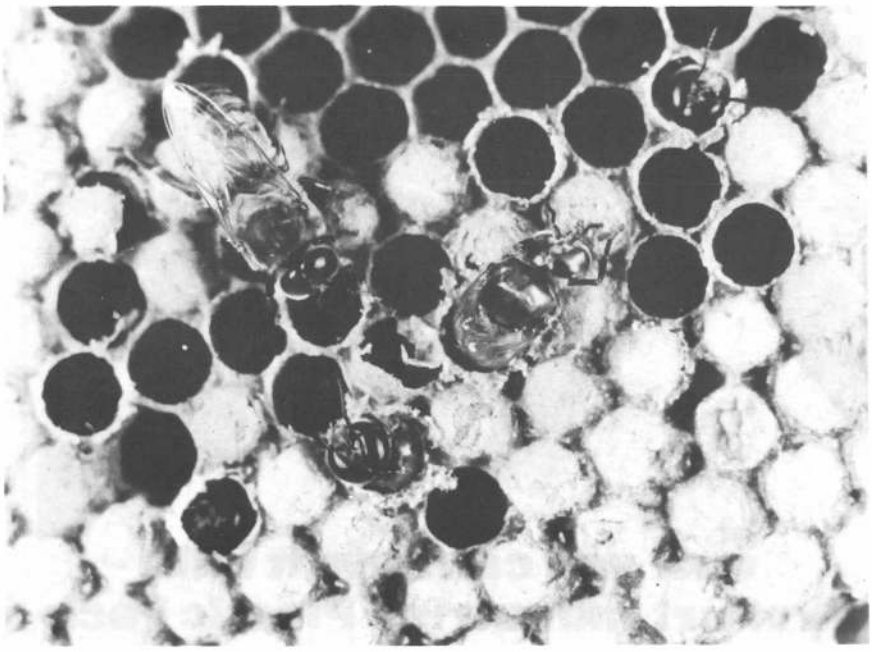
I will, however, pass a copy of your letter round our local Rotorua Beekeeping Club and also to the editor of the Beekeeper in the hope that he may care to publish it.

Regards,

David Williams

SUBJECT INDEX

December 1975 to March 1978



This first-class photograph by Mr M.C. Cullen of Christchurch shows drones emerging from their cells.

BEEKEEPERS TECHNICAL LIBRARY

BOX 423, TIMARU

BOOKS DONATED

The Library is pleased to advise that the following books have been added to the collection:

Queen Rearing by Harry H. Laidlaw Jr, and J.E. Eckert. 170 pages – revised and enlarged edition.

Beekeeping by J.E. Eckert and F.R. Shaw. 536 pages – 1976 edition.

The Dancing Bees by Karl von Frisch. 190 pages – a new printing.

The Honey Cookbook by Juliette Elkon. 190 pages.

Arthritis and Folk Medicine by D.C. Jarvis, M.D. 144 pages.

Honey Recipe Book – 36 pages. Published by Iowa Dept of Agriculture and Iowa Honey Breeders' Association.

Bees by Tancy Baram – 28 pages. A children's Wonder Starter book.

Bee Hunting by John R. Lockard. 72 pages.

Honey. A comprehensive survey by Dr Eva Crane. Full details next issue.

An *assortment of booklets* has been donated by Messrs Dadant and Sons of Hamilton, Illinois, U.S.A. These are filed under relative subject.

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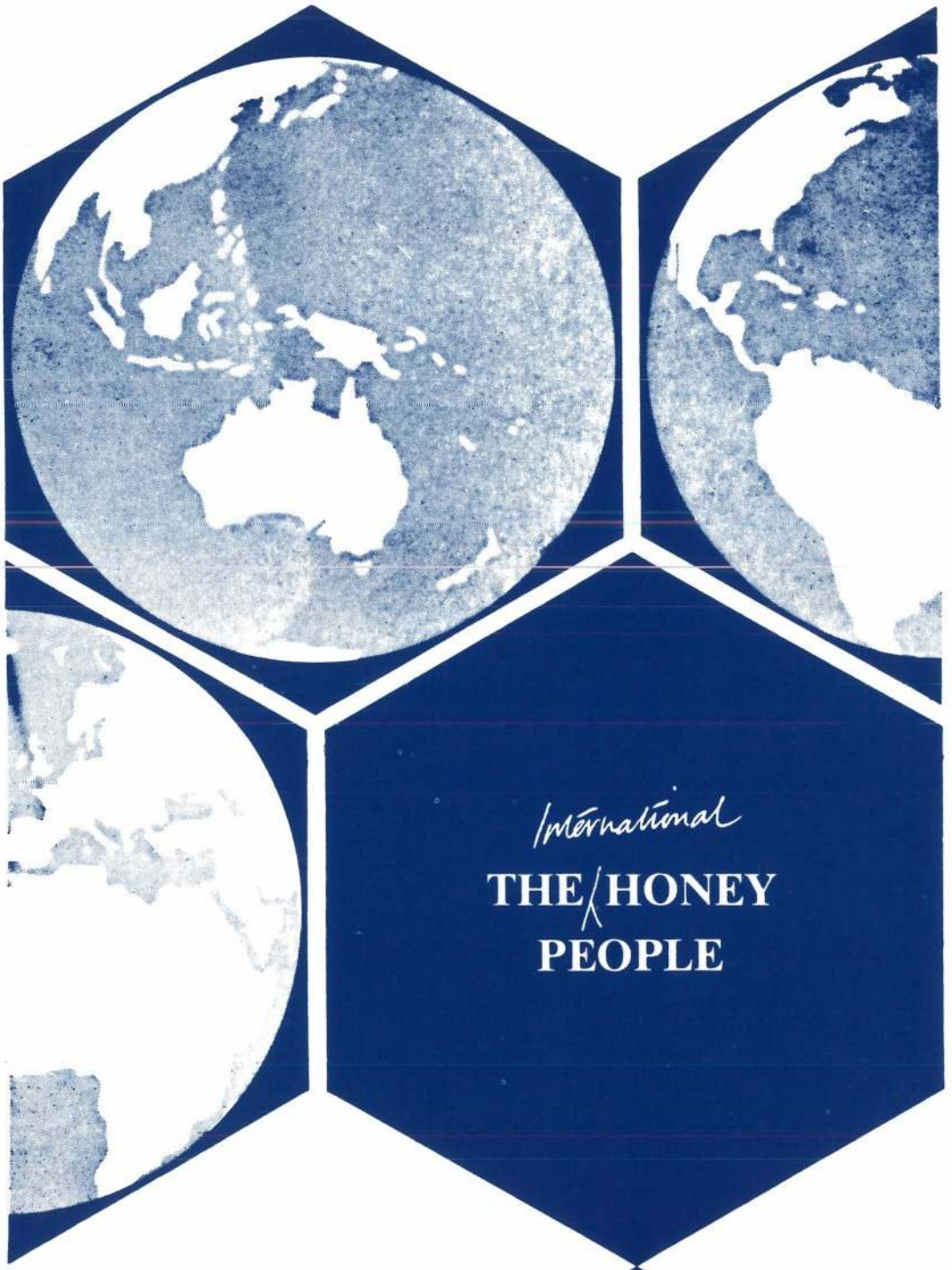
Books are available to members of the National Beekeepers' Association. Send stamped addressed envelope to the Librarian for copy of catalogue and rules.



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2-frame Reversible, Stainless Steel	$385 (approx.) motor extra if required
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2-frame Bench Model, Stainless Steel	$198 (approx.)

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