THE NEW ZEALAND beekeeper

MARCH 1977

Bee more successful with printed Lily cartons

To bee more successful and to increase your sales, sell your honey in attractively printed Lily cartons.

- Printed paper cartons offer you a bright attractive package for maximum sales appeal on retailers shelves.
- Also printed paper cartons enable you to feature your name which ensures brand patronage.
- Strong sturdy paper cartons are available in 250g, 500g, and 900g sizes, in either a stock honey design or printed to your own design.
- Lily cartons are made in New Zealand under the authority and supervision of Lily Tulip Division, Owens, Illinois, U.S.A.

For further details write:
FRANK M. WINSTONE (MERCHANTS) LTD,
P.O. Box 2195, Auckland. Phone 33-409.

South Island representative:
Mr P. G. Collings,
33 Charlcott Street,
Christchurch.

THE NEW ZEALAND BEEKEEPER

Registered for transmission by post as a magazine.

March, 1977
Volume 39, No. 1

The N.Z. Beekeeper is published by Agricultural Promotion Associates, Box 176, Carterton on behalf of the National Beekeepers' Association of N.Z. (Inc.), Box 4048, Wellington in the first week of March, June, September and December each year.

Editor: Trevor Walton, Box 176, Carterton, phone 8348. Advertising manager, Alyson Mackey, Box 11-137, Wellington, phone 857-480. Advertising and editorial copy deadline for June issue: 7.5.77
Advert booking deadline: 30.4.77

In this issue....

.... we learn on page 5 that the government has imposed a price stabilisation scheme along the lines of those applying in other primary industries, read of a new super holder jig on page 10, see on page 13 what can be done with a Hiab loader in a palletised operation, hear on page 21 about wintering in three boxes in Southland and even then we're only just past halfway. Winter time's reading time. Find out what else we have to offer.

Editorial

New marketing approach pays dividends

AGGRESSIVE MARKETING of New Zealand's honey crop may carry a lesson for other primary produce exporters.

During the 1976 calendar year, the price overseas purchasers were prepared to pay for the industry's staple export — bulk white honey— rose from $800 a tonne to $1300 a tonne.

While this may seem to be no more than a moderately successful achievement, two factors make it exceptional: First, the price increases were achieved in the face of stable to weakening prices for honey over the period. Second, New Zealand exports of honey in the year to August 31, 1976 (the end of the honey trading year) were substantially greater than many previous years, thanks to a large carry-over in stocks from 1975.

How was it done?

Percy Berry, president of the National Beekeepers' Association, a member of the Honey Marketing Authority and a highly successful honey marketer in his own right, comments:

"The Honey Marketing Authority (HMA) has been using a much more aggressive marketing approach in the last year. We consider it is the job of the vendor to know his price. We know our price and we refuse to negotiate on it.

"This way we are pushing prices up and I don't think we've reached a ceiling yet.

"We've also dispensed with agreements whereby we handed our exports over to agents to sell on our behalf. Without agents, we can exercise far more options."

Using what could be termed the Berry marketing philosophy, New Zealand's beekeepers are likely to have a bouyant future ahead. Already the honey industry has started to see its product in a new light; and in so doing has changed what was in effect a buyers' market for NZ honey into a sellers' market. The HMA is now a price setter and not a price taker.

While Percy Berry refrains from commenting on the implications the HMA's new marketing approach could have on other primary produce exporters, it would be surprising if a few parellels were not drawn .

However there are some differences between honey and the Big Three (meat, wool and dairy produce) of the primary industry export stable. Aside from the question of volume — only 2000 tonnes of packed and bulk honey were exported from New Zealand last year — there is the question of end use.

Unlike most other primary industry exports, New Zealand's honey marketers are proud that their product is an ideal blending agent. In Percy Berry's words, "Because of its excellence for blending purposes overseas buyers are prepared to pay very high prices for it." And it worries him little that his bulk product has lost its New Zealand identity once it has reached a foreign supermarket shelf.

The Berry philosophy is one which revolves entirely around the best possible price for New Zealand producers.

It will do nothing for New Zealand tourists who get a boost from seeing New Zealand brand names on foreign supermarket shelves but as Mr Berry points out "no doubt the government will welcome increased receipts from what is now a valuable primary product."

On the domestic market, the NMA's improved overseas marketing performance will be reflected in higher retail prices later this year. But the fact that the bulk of the nation's honey crop is retained for local consumption means the full amount of overseas price rises will not hit the consumers' pocket.

According to Mr Berry, the 1977 honey crop looks promising and with reasonable weather this autumn, ample honey will be available to meet New Zealand and overseas market needs.

NATIONAL BEEKEEPERS' ASSOCIATION

OF N.Z. INCORPORATED

President:
Percy Berry, P.O. Box 16, Havelock North, Phone: 775-400 and 777-300 (business) and 77-843 (home).

Vice-President:
Michael Stuckey, P.O. Box 35-233 Browns Bay, Auckland. Phone 4781-284.

Executive:
Ivan Dickinson, Phone 8239, P.O. Box 55, Milton Otago.

Gavin McKenzie, P.O. Box 118, Waimate. Phone 7418.

Ray Robinson, P.O. Box 4, Waihou. Phone 598D, Te Aroha.

Tony Clissold, No. 5 RD, Gore, Phone 866, Willowbank.

General Secretary:
Graham Beard, Level P. Williams Building. P.O. Box 4048, Wellington. Phone 728-102.

Hon. Librarian:
Chris Dawson, P.O. Box 423 Timaru. Phone 80-339, Timaru.

BRANCHES

FAR NORTH
President: Mr M.D. Haines, Box 284, Kaitaia. Secretary: Mr A. van Zwijndregt, 17 Rongopai Pl., Kaitaia.

NORTHLAND
President: Mr Terry Gavin, R.D. 2, Whangarei. Secretary: Mr P. Smith, c/- Mr T. Gavin, Titoki, R.D., Whangarei.

AUCKLAND CENTRAL
President: Mrs H. Wright, Portsmouth Road, Bombay, Auckland. Secretary: Mr M.G. Stuckey, Box 35-233, Browns Bay.

WAIKATO
President: Mr R. Robinson, Box 4, Waihou. Secretary: Mr T. Lorimer, 353 Cobham Drive, Hamilton.

BAY OF PLENTY
President: Mr A. B. Edwards, R.D. 3, Tauranga. Secretary: Mr R.J. Mossop, R.D. 1, Tauranga.

HAWKES BAY
President: Mr W.J.C. Ashcroft, Te Mata Rd, Havelock North. Secretary: Mr P. Marshall, Auckland Rd, Napier.

CENTRAL/SOUTH HAWKES BAY
President: Mr D. L. Ward, Guy Street, Dannevirke. Secretary: Mr Grant Ward, Guy Street, Dannevirke.

SOUTH WESTERN DISTRICTS
President: Mr C.B. Bromell, No 28 R.D., Manaia. Secretary: Mr T.D. Rowe, Box 128, Eltham.

NELSON
President: Mr R. Lord, R.D. 1, Wakefield. Secretary: Mr L.D. Higgins, R.D. 1, Wakefield.

WEST COAST
President: Mr G.L. Jeffery, Rossiters Road, Loburn. Secretary: Mr R.F. Poole, 320 Sawyers Arms Road, Christchurch 5.

CANTERBURY
President: Mr D. Penrose, R.D. 3, Southbridge. Secretary: Mr Russel Poole, 320 Sawyers Arms Rd, Christchurch.

SOUTH CANTERBURY
President: Mr S.J. Lyttle, No. 2 R.D., Geraldine. Secretary: Mr M.R. McKenzie, 72 Timaru Rd, Waimate.

NORTH OTAGO
President: Mr B. O'Neil, 4K R.D., Oamaru. Secretary: Mr R.M. McCallum, Herbert, 8 O R.D., Oamaru.

OTAGO
President: Mr I.J. Dickinson, Box 55, Milton. Secretary: Mr J.H. Garraway, 28 Main Rd, Brighton.

SOUTHLAND
President: Mr S.M. Booth, Drummond, R.D. 8, Invercargill. Secretary: Mr A.M. Ward, 10 Beattie St, Gore.

N.Z. BEEKEEPER ADVERTISING RATES

Beekeeper Rates
Advertising at these rates is available to bona-fide beekeepers advertising products or services relating to their beekeeping enterprise only. In cases where the appropriate rate is questioned, the decision of the editor will be final.

Rates: Full-page, $60; Half-page, $40; Quarter-page, $20; $2 a column cm. No deductions for contracts will apply.

Commercial Rates
Full-page, $80; Half-page, $50; Quarter-page, $25; $3 a column cm. $20 per page loading for inside cover, outside back over and spot colour. Concessions available for contracts.

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 or 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.

KING BEE

(WHERE THE NBA SHOWS ITS STING)

Northland Branch Attrition

A fall-off in membership of the Northland branch of the NBA may result in the winding-up of the branch unless it can find the 10 member minimum needed for a branch under the association's rules. Membership of the branch at the end of 1976 was seven.

Fed Freds All-Embracing

Federated Farmers has been advised by the NBA that it no longer wished to be represented on the federation's agriculture produce section because it considered its representation on the dominion council of the federation was adequate.

New Executive Office

The Head Office of the NBA is now located on the 14th floor of Pastoral House, Lambton Quay. The building also houses the head offices of the Dairy Board, the Gear Meat Company and other commercial concerns.

NBA Empowering Act

The minister of agriculture has informed the NBA Executive that it might be possible for an empowering act to be passed this parliamentary session enabling the association to directly collect the hive levy currently collected by the HMA on the association's behalf. This suggestion was made in response to an executive request that a Honey Industry Act, making the NBA a statutory authority, be included in the 1977 legislative programme.

The matter is being further studied by the executive.

Metric Honey

In view of the stocks of imperial packaging held, the Metric Advisory Board has agreed to an NBA request that the introduction of metric honey packaging be delayed until July 31, 1977. At that point the sale of honey in imperial packs will be illegal.

No Honey Mead

Exhaustive investigations into the feasability of producing honey mead commercially in New Zealand were recalled when the NBA executive was recently approached by a former member, Mr F.W. Bartrum. Mr Bartrum wished to know the findings of studies into honey mead production some years ago and was informed that these had concluded there was no way honey mead could be marketed in New Zealand.

NBA Branch Funding

A schedule detailing the membership of each branch and the payments made during 1976 was tabled for consideration at December NBA executive meeting.

The executive secretary reported that it was apparent that a substantial increase in branch capitation grants would be necessary in 1977.

Various alternative proposals were examined and it was finally agreed, "That the 1977 branch capitation grants be assessed on the following basis:

* for branches having between one and 19 commercial members a basic allocation of $75 apply.

* for branches having between 20 and 39 commercial members a basic allocation of $150 apply.

* that there be added to all basic allocations a further allowance of 50 cents a member based on total branch membership be made.

* that for branch allowance purposes the December branch membership for the preceding year be used as the basis of computing the allowances.

McKenzie Vacancy

At the time of going to press, the NBA had not heard from Mr R.F. Poole, chairman of the Honey Marketing Authority, with regard to an invitation it had issued to Mr Poole after its December meeting to fill the extraordinary vacancy on the executive caused by the resignation of Gavin McKenzie. The executive resolved at its December meeting that if Mr Poole was not interested in the position, the vacancy will remain unfilled until the mid-year election is held.

New Advertising Rates

The executive of the NBA resolved at its December meeting to re-engage Agricultural Promotion Associates Ltd to produce the NZ Beekeeper magazine. The executive also approved new advertising rate increases recommended by the editor for the forthcoming year. These rates, which are included on the directory page, involve "beekeeper rates" which were not increased with the change in journal format in December 1975. Commercial display advertising rates remain unchanged, though an increase in commercial classified rates to $3 a column cm were approved.

Otago Conference

Otago branch of the NBA has agreed to host the 1977 conference of the National Beekeepers' Association. The conference will be held in the Northern Oaks Hall, Dunedin, on Wednesday, Thursday and Friday, July 27, 28 and 29, 1977. The previous Monday and Tuesday have also been set aside for NBA executive and NMA meetings.

The NBA executive has informed the ministry of agriculture that the Friday could be set aside for a seminar or field day if they wished to organise one.

CORRESPONDENTS

BACK INTO AGRICULTURE

Dear Sir,

An item in the December 1976 issue on the "King Bee" page, re honey houses, should I feel be of concern to all beekeepers. It points out the trend that our industry has been following over the last two to three years, which is one of moving out of agriculture into commercial light industry.

Before then our interests, both in the field and honey house, was the concern of the Ministry of Agriculture and Fisheries. Now the Department of Health, as well as local body Health Inspectors have jurisdiction over our honey houses, with the Department of Labour now appearing on the scene. The responsibility of the M.A.F. has diminished. However this trend has been the initiative of the government departments concerned and this is where the danger lies. One is left with the question where will it end? And what will be the cost to us, the producer.

The situation is ludicrous as over this period of time the numerical strength of the commercial beekeeper has reduced, but it is taking more goverment departments to supervise the industry.

May our national executive please take note and put apiculture back into agriculture.

Yours,
Paul Marshall,
Napier.

CONTACTS, PLEASE

Dear Sir,

When reading the September issue of the New Zealand Beekeeper I was interested in what Mr Jansen had to say in 'Conference Report' regarding the Kimpton agreement.

I am writing to ask you if you are able to let me have Mr Jansen's address, also if it is possible for you to let me have addresses of other honey producers in New Zealand.

I am attending the conference in Adelaide in October and I would be interested in meeting beekeepers from New Zealand.

Yours,

E. Humphreys,
Managing Director,
Honeycomb Group of Companies
Ellel R.P.,
Nr Lancaster LA2 OQY, England

Our reader address lists are for the purpose of providing them with the "NZ Beekeeper" only. Any other use could be regarded as an invasion of privacy. If Mr Jansen or other beekeepers wish to contact you, this letter provides them with the opportunity.

MUSIC POWER

Dear Sir,

Since Nick Cohn came out with his brilliant analysis of pop music in the sixties, "A wop a do bap boom. . ." I have been interested in the various themes of popular music. One major theme is the honey bee. "My little honey bee. . . " fills out many syrupy stanza for no substantive reason. While animals are often personified (my little dove/ kitten/ bird/ etc etc) and persons often foodified (my little honey/ honey pie/ sweetie/ sugar pie/ etc etc) the honey bee is neither edible nor cuddly. In fact bees have two characteristics which most adolescent pop consumers would prefer to do without — a sting and their role as harbingers of fertility.

Short of their association with honey and flowers (the latter, however, being more associated with funerals in my mind) the reason for the important role of the honey bee in pop music leaves me stumped. Do your readers have any suggestions?

Yours,
Peter Wright,
68 Lavaud Street,
Berhampore,
Wellington.

New honey stabilisation scheme

AN ORDERLY and well defined system of honey price stabilisation has been announced by the under secretary for agriculture, Mr Jim Bolger. In a letter to Mr Curtis Wicht general manager of the Honey Marketing Authority, Mr Bolger outlined the operation of the new pricing system.

"I have been given careful consideration to the price that should be set for honey this year, and the principles that should be applied in the light of government's general policy of stabilisation in primary industries.

"The fundamental objective of government policy is that primary producers should receive a price for their product reflecting long term market realisations. The intention is that short term upward or downward fluctuations in the price of a product should be smoothed out be means of stabilisation schemes that cream off surpluses in times of high prices, and use the funds when down.

"Another objective is to avoid excessive changes in producer or local consumer prices from year to year, which when taken together over a range of primary products, can have too great an inflationary or deflationary effect on the nation's overall economic position.

"With these two principles in mind, I could not agree with the HMA'S suggestion that the present formula should be revised to allow for the average payout to reach 80 cents per kg before any contributions are made to reserves. I should however be prepared to consider a revision of the formula to provide for determination of a base price which should reflect the trend in market realisations, but which should not vary in any one year by more than 10 per cent up or 5 per cent down on the actual average payout for the previous year. I agree that there could be provision for the payout to be increased beyond this base price, without contribution to reserves, up to a specified level. In the case of the meat and wool stabilisation schemes this higher price, above which contributions to reserves would commence, is known as the 'trigger price'. I consider that in the case of honey the 'trigger price' could be fixed at 5 per cent above the base price, rounded up to the nearest cent.

"The joint proposal put forward by Messrs Poole and Berry at their meeting with me on December 8 for 30 per cent of realisations above the 'trigger price' to be put to reserves makes insufficient provision for contributions to reserves. The previous scheme provided for 25 per cent, 50 per cent, 75 per cent and then 100 per cent of realisations to be put to reserves as the amount of realisations increased. This formula resulted in a reasonable contribution being made to reserves, and it is essential that any replacement scheme also provide for sufficient amounts to be put to reserves so that the stabilisation scheme can be self funding. The proportion going to reserves in the meat and wool schemes is 50 per cent, and this figure should also apply to honey realisations in excess of the 'trigger price'.

"The application of these principles to the honey price for the season will result in a base price of 66c per kg (up 10% from 1976), and a 'trigger price' of 70c per kg (66c + 5% rounded up). The payout for 1976/77 will therefore be as follows:

- If realisations are 66c per kg or less, the payout will be 66c, with any shortfall being drawn from reserves.
- If realisations are between 66c and 70c, the payout will be actual realisations.
- If realisations exceed 70c, the payout will be 70c plus 50 per cent of the amount by which realisations exceed 70c, the amounts not paid out being transferred to reserves.

"The advantage in this sort of scheme is that there is increased flexibility in the payout, while maintaining a guaranteed minimum price on the one hand, and providing for contributions to reserves on the other should realisations be more than 15 per cent above last year's payout.

The joint proposal recognises these principles but is seeking too great an increase in the base price over last year, too high a 'trigger price' before contributions are made to reserves, and an insufficient rate of contributions once the trigger price is reached.

"If overseas market realisations amount to 90 to 95c per kg, as I understand they may, and domestic market realisations amount to 66c per kg (the domestic market price being based on the guaranteed base price), then the average realisations for the year could be 78 to 80c per kg resulting in a payout to producers of up to 75c per kg. This would be a substantial increase from last year's payout at a time when most sectors of the economy are still facing declining real incomes." ◻

Ian Forbes

Apiary advisory service feels winds of change

by Trevor Walton

A COMPLETE re-organisation of the Apiary Advisory Service is currently underway. The first step was the requirement in the Apiaries Act for beekeepers to become legally responsible for the control of disease in their own hives. The second is the appointment of Mr Vince Cook as the country's first chief apicultural advisory officer.

Over the next few years, beekeepers will see the phasing out of the designation "Apiary Instructor" as existing instructors requalify as advisory officers or are replaced on retirement with advisory officers with the appropriate university degree qualifications.

According to Mr Ian Forbes, deputy director (horticulture) of the Ministry of Agriculture and Fisheries' advisory services division, the changes will be gradual. He said the ministry had decided, however, to make the changes at a time when staffing levels were particularly low, so that the effect of the changes on existing staff were minimised.

In the last year the superintendent of beekeeping, Mr Eric Smaellie, has retired along with one of his long-serving staffers, Mr Alf Bennett. In September, another long-serving member of the apiaries team, Mr Jack Varley, will also retire.

The change to a highly-qualified team of advisory officers is in part the result of State Services Commission rules which make a job like "Apiary Instructor" pretty much a dead end road. To qualify for the salary scales and promotions open to advisory officers, an instructor must have academic qualifications befitting his role. In short, a university degree.

"Most beekeepers would agree, I am sure," says Ian Forbes, "that most of the apiary instructors have the knowledge and experience necessary to be advisory officers. However, it is going to require the approval of the commission before the existing instructors can make the step up to advisory officers."

While Mr Forbes has yet to make a formal submission to the commission on the matter, there is plenty of precedent for such approval to be given. When the farm advisory service was restructured some years ago, for instance, holders of the Diploma in Rural Valuation and Farm Management who were then employed in the advisory service were given the opportunity to apply for "degree status". However, once these officers had made the grade, no further holders of this or other diplomas were employed as advisory officers.

The other major reason for the change is to meet the more sophisticated demands of apiary advisory work in an age where business efficiency and economics have become key words.

The country will be divided into apiary districts each with an apiary advisory officer in charge. These districts will be based in Auckland, Hamilton, Tauranga, Palmerston North, Nelson, Christchurch, Oamaru and Gore. Already plans are being made for Mr Murray Reid to be transferred to Hamilton to become advisory

officer there. Initially, at least, some districts may have apiary instructors at the helm.

One professional honey grader will continue to be employed, though others in the service will be trained in the skills necessary so they can assist or stand in if required.

A continuing feature of the inspection service will be the part-time hive inspectors who have proved to be an essential part of the service over the years.

"Though beekeepers now have the responsibility for inspecting their own hives," says Ian Forbes, "the ministry has the responsibility to see that owners deal effectively with the diseases they find. The apiary section is assisted by the part-time inspectors in this work.

"We also carry out check inspections as a control measure. To help in inspection work, I hope to recruit part-time hive inspectors from within existing ministry staff. These part-timers would be an important additional resource and would also save considerable extra travelling time, but there is still a long way to go, we have yet to find these people."

Ian Forbes is very much aware that the industry is a difficult one to service, with its wide geographical spread and the small number of apiarists making a full-time living from their bees.

Already part-timers are being drawn from within the ministry staff to assist in the grading of comb honey. However there is a big difference between being willing to grade honey in the store and being willing to inspect it in the hive. As Ian Forbes puts it, "You don't pick up people willing to work with bees in every shower of rain".

However, while there are difficulties involved in finding part-timers within the ministry willing to grade honey or inspect hives, there are problems ahead with the full-time advisory officers as well.

The biggest of these is the question of how they become qualified. Both Grahame Walton and Murray Reid, currently the only fully-trained apicultural advisory officers in the country, were sent to Guelph University, Ontario, for their professional training.

Nevertheless MAF is looking at the options it has for training in apiculture. Ian Forbes says the advisory services division is currently examining the training needs of all its staff and the future training of apicultural advisory officers will not be over-looked.

Figures from the past

by Murray Reid, Apicultural Advisory Officer, Christchurch

IN RESPONSE to an N.B.A. request, Grahame Walton and myself have been compiling a list of all articles written on beekeeping and allied topics since bees first arrived in New Zealand in March 1839.

Obviously there is a lot of duplication and not every article will be recorded. Grahame has had the biggest job recording references, from 1926 till the present, while I have researched the historical section from 1839 to 1926. This period makes fascinating reading.

Many of the management practices, equipment and knowledge on bees of today's beekeepers have only recently been adopted. For example, fixed frame box hives and sulphur pits to kill the bees and harvest the honey were still being used by the time of the First World War.

Also at this time some authors were trying to dispel the belief held by farmers that bees actually caused poor seed sets in their pastures, by robbing nectar and oils from the plants, so impoverishing them. Many fruit growers similarly believed that bees damaged fruit and flowers by biting them. The value of bees as pollinating agents was little appreciated.

However, statistics, to my mind, sometimes make the most interesting reading. Did you know that the first figures on New Zealand beekeeping weren't published till 1907? They were obtained by Isaac Hopkins as one of his first jobs when appointed to the Department of Agriculture as an apiary expert. He pursuaded the government to include beekeeping in the census forms sent out in 1906. At that time there were 15,396 beekeepers owning 74,341 hives and producing 456 tonnes of honey. Honey was worth 4c a lb and beeswax 8c a lb. And to keep things in perspective, a family of three could live on about $4.50 a week in 1907, according to W.B. Bray. Some other statistics are shown in the Table.

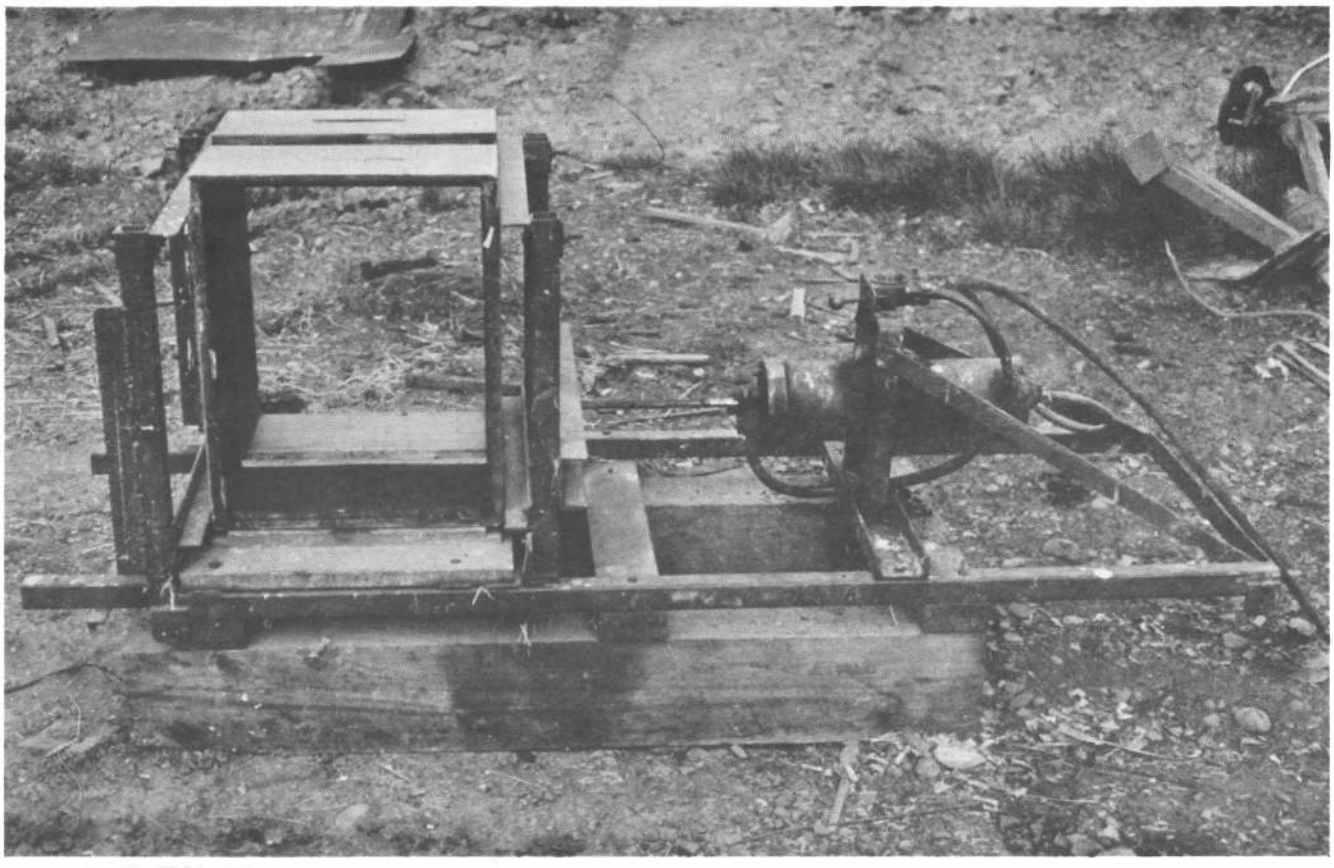
EARLY HONEY PRODUCTION STATISTICS

Year	Colonies	Honey prod. (Tonnes)
1906	74 000	455
1911	71 000	682
1916	57 500	636
1921	78 000	2000

The big drop in hive numbers between 1906 and 1916 was due to the activity of newly appointed apiary inspectors backed up by the Apiaries Act of 1907. These inspectors rid the country of a lot of diseased hives and box hives with fixed frames.

In 1975 there were 3 280 beekeepers owning 204 191 hives and producing approximately 8 000 tonnes of honey.

NEW SUPER-HOLDER JIG



by Trevor Bryant,
Apiary Instructor, Gore.

THERE ARE numerous varieties of jigs built to hold supers for nailing. Dick Franklin and his son Bruce have built one designed for three-quarter depth, but which can be adapted to full depth supers.

The frame is made from box steel, angle iron and channel iron, all of which were left over from various other building projects. The ram used, once opened and closed a bus door.

The base is 1.60 m x .610 m and bolted to a wood platform.

The ram is bolted to a frame 55.88 cm from the end of the base and must be well braced. The piston is attached to a sliding portion of the press which, when operated, gives a movement of 10 cm.

The box vice (or press) is reinforced at the end and angle iron is used at the point of contact, press to box.

The most important aspect of the jig is the super ends attached to the base of the vice. This allows the super sides to be placed into position correctly, one end aligned and clamped together. This is nailed (or stapled) and then quickly reversed and the other end clamped and nailed. Two full depth boxes or two three-quarter depth boxes can be held in the press at one time.

The pressure point on the supers is applied 5 cm from the end of the supers. This prevents splitting or breakage and allows nailing from top and sides.

The ram is activated by compressed air controlled from a small valve positioned above the ram.

Simplicity is the keynote — a good job is virtually guaranteed. Plans are available from the Ministry of Agriculture and Fisheries, Box 20, Gore.

FROM THE COLONIES

HAWKES BAY

Following a prolonged wet spring which seemed to bring along every problem possible, the weather came right over Christmas. As a result of the inclement weather the honey crop has been delayed by two weeks, which with any luck will mean a longer honey season. Apart from the odd day of rain over the last month, the weather has been fine resulting at this stage in an average honey crop. If it stays with us into February, local beekeepers will really be smiling with the prospects of an above average crop.

Branch activities included last November an afternoon at Paul Ashcrofts' Honey House, which was enjoyed by up to 30 members and friends. Subjects discussed were feeding of bees by Ian Berry, queen rearing by Paul Ashcroft, and supering the hive by Les Maultsaid. The afternoon was then finished off with an excellent afternoon tea.

On Saturday April 2, the branch is holding its main Field Day at Paul Marshall's Honey House, Wakefield St., Napier and extends an invitation to all beekeepers. An interesting programme is being arranged. We hope to see you there.

Paul Marshall,
Hawkes Bay.

WAIKATO

Well, this season will go down as one with many surprises. The first surprise was that so many hives survived the spring, probably the worst on record especially for fine days, and if queens were not raised early there certainly was no mating weather in November.

The second surprise was the amount of honey gathered in some areas in the adverse conditions, which just goes to show if the honey is there they will get it, most days. There was very little warmth till about 2pm, so the bees only worked for about three hours a day, and then in very windy conditions.

The third was not a real surprise, in that the bush looked bad and not much was produced from rewarewa, komahi or tawari. Next year should be the big tawari year, as after two years with very little flower it must come right.

Crops in the Waikato are reported to be very good except in the east and Kaimai-Mamaku areas. Inland the crop was poor, but we hope with some nice fine weather they may get through to an average crop.

C. Bird,
Matamata.

WANT TO KEEP BEES?

What are the requirements for a licence to keep bees in the city area?

The health and general committee of the Christchurch City Council was asked to clarify these at a recent meeting.

Besides collecting the annual licensing fee of $1 each January the council may prescribe conditions limiting the number or fixing the location of the hives.

Permits are normally limited in residential areas to one hive per quarter acre of land and hives must be kept as far as practicable from adjacent dwellings.

To allow for the seasonal manipulation of bees such as queen raising and swarming, one additional nucleus colony is permitted.

The general policy is to avoid undue restrictions on beekeeping and to accept reasonable applications as long as annoyance to neighbours is not likely to occur.

Chch News Advertiser, August 1976

BEEKEEPERS TECHNICAL LIBRARY

Books are available on loan to members of the National Beekeepers' Association of New Zealand. Catalogue and copy of rules supplied on receipt of stamped addressed envelope.

NOTE: – Two requests for books could not be supplied because the name could not be deciphered. Post Office returned letters marked "Not known". Please write again.

THANKS

The following books have been gifted by Mrs Doris Paterson. They were the library of the very popular apiary instructor, the late Roy Paterson. The gift is acknowledged with thanks. The books will have an engrossed book plate attached and placed in circulation immediately.

ABC & XYZ of Bee Culture – Root, 1935.
The Hive and the Honey Bee – Edited by Roy Grout, 1946.
Austalian Bee Lore and Bee Culture – Albert Gale – 334p – 1912
The Australasian Bee Manual, 3rd Edition – Isaac Hopkins, 368p – 1886
Practical Beekeeping – Isaac Hopkins – 6th Edition
The Book of Beekeeping, 7th Edition – W.B. Webster – 96p – 1900?
The Practical Bee Guide, 8th Edition – J.G Digges. 316p – 1936
Simplified Queen Rearing – Jay Smith – 126p – 1923
Australasian Queen Rearing – W.S. Pender – 60p 1926
Bees and Honey – W.S. Goodacre – 140p 1941
Handy Book of Bees – A. Pettigrew – 200p – 1870
Profitable Honey Plants of Australasia – Tarlton Rayment – 140p – 1940?
Beekeeping in New Zealand – T.S. Winter – 172p – 1948
Assorted Pamphlets and Magazines

PHOTOGRAPHS 1. National Beekeepers Conference, Timaru, July 1926
2. Apiary Instructors – Dept of Agriculture – Hawera Conference 1928.

Beekeepers Technical Library,
P.O. Box 423, Timaru,
Chris Dawson, Librarian.

BEEKEEPING JOURNALS

At the 25th International Beekeeping Congress in Grenoble, the Editors' meeting asked for an updated "World List of Current Beekeeping Journals". Dr Eva Crane, who presided at the meeting, promised that the Bee Research Association would prepare such a list, and this has now been reprinted as L11 and can be purchased, for $1.80 post free, from the Bee Research Association, Hill House, Gerrards Cross, Bucks SL9 ONR, England. This "World List of Current Beekeeping Journals known to the Bee Research Association" gives names and addresses of 111 journals, published in 37 countries.

DEFAULT INSURANCE NEARER

The NBA executive is expected to make a decision at its end of March meeting on a draft mortgage default insurance proposal for beekeepers which has been prepared by Primary Industries Insurance. The proposal, if agreed to by the executive and adopted by the company, should make the chore of obtaining mortgage finance easier for beekeepers.

John Syme (Staveley) using the Mark I forks with the controls mounted on the forks. John plans to change the design of the pallets to load from the ends.

Canterbury beekeeper uses Hiab loader for handling beehives on pallets

by Murray Reid, Apicultural Advisory Officer, Christchurch

IN THE DECEMBER 1976 "NZ Beekeeper" I described a pallet design and a fork-lift system used by Richard Beeby in Southland. Two Canterbury beekeepers have also adopted the pallet system, but have chosen truck-mounted Hiab loaders to handle the pallets.

John Syme, from Staveley, is one of the beekeepers who operates about 1500 hives on pallets. In any one season John might shift up to 90 per cent of hives from bush honeydew sites down to the clover, mixed-cropping lands, then back again to the honeydew. John doesn't feed any sugar and relies on the honeydew for all-winter feed.

The pallets measure 1295 mm x 990 mm and consist of three lengths of 100 mm x 50 mm treated pine with three base and three deck plates of 229 mm x 25 mm macrocarpa. The width of these deck and base plates vary as they are made from timber not suitable for making into supers. John plans to modify his pallets from side loading into end loading.

At present the forks are slid in under the side of the pallets and loaded over the side of the truck. Then the pallets must be swung through 90 deg. before being dropped onto the deck. By loading the pallets from their ends this reorientation on the truck deck will not be necessary and one man can operate the loader. At present two men are needed as will be described later.

With John's pallet each hive has its own floorboard permanently nailed to the bottom box which itself is stapled to the pallet. The staple gun is driven off a compressor run from the power-take-off unit on the truck. These bottom brood boxes are made 6 mm to 7 mm deeper than the standard box to give a bottom bee space normally created by floor board risers.

These bottom boxes are made from macrocarpa and paraffin waxed so they should never need replacing.

The mouse-proof entrance is created by buzzing out the leading edge of the bottom brood box. The alighting board projects approximately 25 mm from the face of the hive, but is also shaped on a buzzer for a distance of 30 mm. In effect rain dripping from the front edge of the hive falls onto the sloping alighting boards and runs off.

The second brood box is held firmly onto the bottom brood box by nail spikes driven into the edges. These boxes are secured to the pallets by synthetic twine from hay balers. The area around Stavely can suffer from very strong winds that have been known to blow full hives over backwards and scatter lids and boxes over very large areas. Hence the need to tie the hives to the pallets.

By fixing the bottom brood boxes to the pallets John has lost the freedom to swap these boxes around. If a hive gets *Bacillus larvae* disease then the floorboard and bottom brood box are simply wrenched from the pallet and treated.

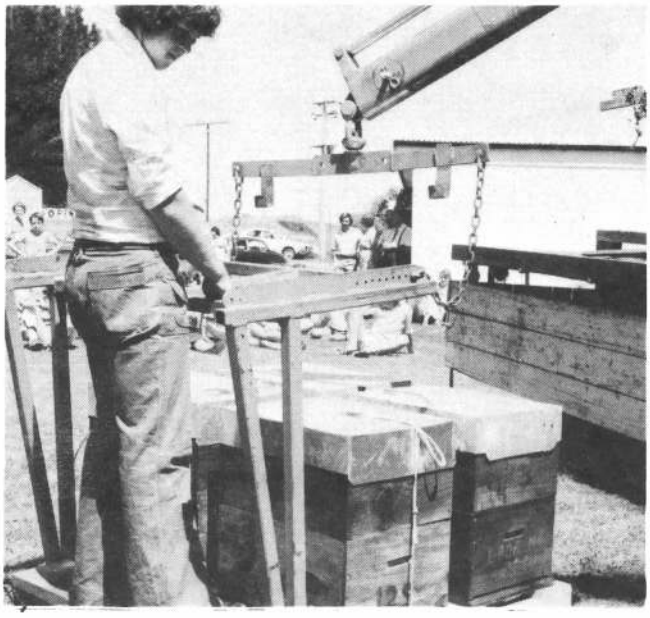
Scraping the floorboard clean is also a bit awkward, but a small inconvenience for having a very stable unit when shifting.

DON'T MISS THE CHANCE OF A LIFETIME!

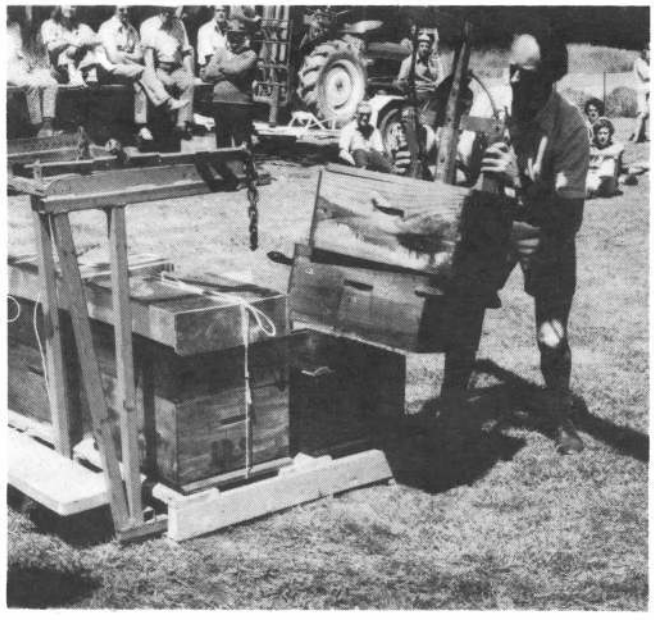
The Apimondia International Beekeeping Congress is being held in Adelaide in October. This is the first time it has been held in the Southern Hemisphere. Take the opportunity while it waits to be taken. Rub shoulders and exchange views with the world's leading apiarists, bee-scientists and equipment manufacturers.

This could be the break you have been waiting for.

READ THE ENCLOSED BROCHURE!
MAKE OUT AN APPLICATION!
WRITE OUT A DEPOSIT CHEQUE!
POST THEM!



The assistant rides on the Mark II forks to position them under the pallet and on the truck deck. John operates the boom from a hand held remote control box.



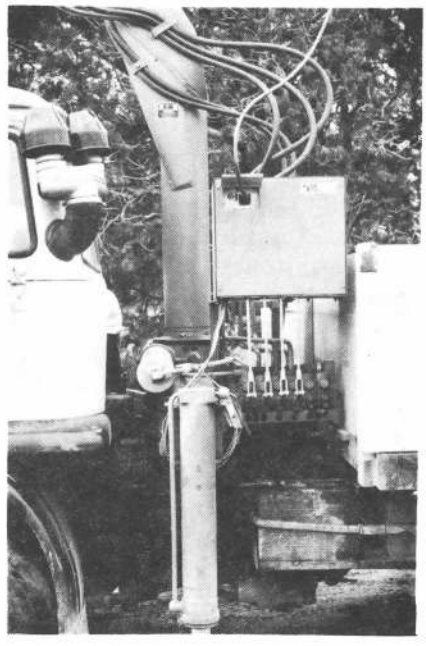
John taking off honey boxes with the Hiab at the Southland Field day at Te Anau. The pallet forks are in position under the pallet.

The hydraulic loader John adapted for handling the pallets is a Hiab 550. This unit weighs about one tonne and has a maximum lifting capacity of three tonnes. However, when the boom is fully extended to its full 7 m length, then its capacity is reduced to half a tonne.

It needs a big truck to carry this additional weight around and John has a big truck: a 4522 kg Bedford diesel with a 6 m deck. The Hiab is mounted behind the cab but probably should be over the rear axle where John had his previous loader. The increased weight on the front wheels is causing the truck to become bogged in soft ground that never used to trouble it before.

The Hiab is an expensive loader; it cost about $8 200 fitted on the truck. Massive recent price increases would put the same loader and switches at about $15 000 today. John could justify this expense because it "represents" his sugar bill. It is also used extensively on the family farms for handling wool bales, timber and so on. The conversion to pallets has cost John an extra $7 a hive; this includes the Hiab and the pallets at $3 each.

Refinements and modifications to the forks and electronic switches are being made all the time with the aim of enabling one man to operate the loader. At present one person operates the boom using hand held controls while the other person rides on the fork guiding them under the pallets and positioning the pallet on the truck deck.



The Emproc electronic control box and one of the two self levelling rams.

John intends to build horizontal self levelling hydraulics into the forks which can then be operated from the ground. He will also fit a switch to rotate the tip of the boom. The ultimate refinement John is working on is to convert all the switches to remote control so eliminating the cables to the Emproc electronic control box. John will adapt a sophisticated remote control unit as used in model aeroplanes. This will cost about $300.

John has built another set of forks that clamp onto the honey boxes and lift them off. There are four control switches on these forks each with two buttons to operate the loader. These switches are of the "all or nothing" type and their speed of operation can be pre-set.

At the moment John is busy designing a hydraulic lift that will sit on the pallet and clamp onto any honey or brood box and then elevate them when the compressed air is switched on. This will allow the brood nest to be inspected or manipulated or escape boards put in. As John keeps hivessin the bush, frequent disease inspection is an integral part of his hive management.

The truck usually carries 100 hives a load, but will hold up to

150 if the pallets are stacked three high. However, John doesn't like loading this high as he doesn't rope the pallets down.

Additional refinements inside the cab include a pannel of lights to tell the driver if the left and right hand self-levelling rams have been retracted or not, and if the P.T.O. is still on. There is also a master switch to turn on the power drive to the Emproc control box.

"Is it worth it?" I asked John this question and his reply left no room for doubt. "I wish we had had pallets 20 years ago. If nothing else they save my back".

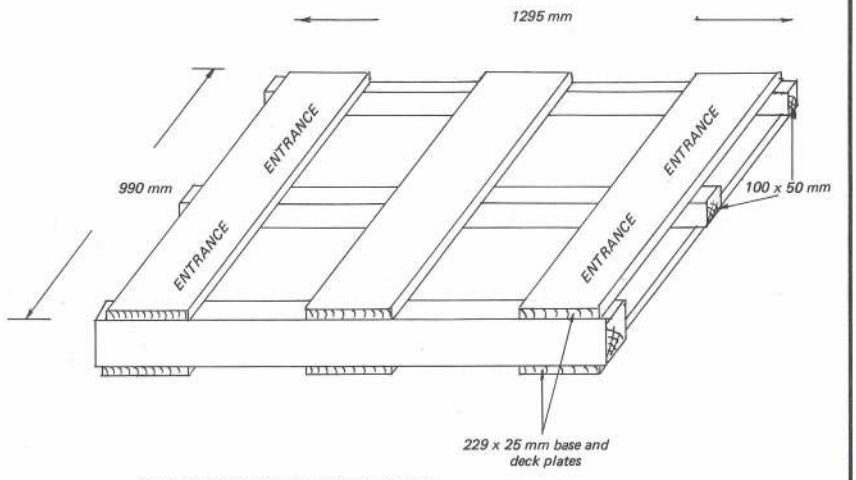


Fig 1. Modified end loading pallet to be used by John Syme.

John went on to explain that the pallets raise the working height of the brood nests at least another 160 mm. This puts the second brood box at a very comfortable height. At present day costs a Hiab loader is not for everyone, but buying when he did and in his circumstances John is convinced he has done the right thing. ◪

Australian invents better bee trap

A SIMPLE TRAP invented by a Western Australian beekeeper, Mr Ernest West, last year earned him $38 000 from the export of pollen — more than he obtained for the honey from his 1000 hives.

The pollen, used in cosmetic manufacture and as a general health food, was sent mainly to America, Japan and Germany.

It is believed to be the first to be exported from Australia.

The trap, a plate with holes in it, is fitted across the front of the hive. Returning bees are forced to wriggle through the holes, most of the pollen being knocked off and caught in a tray.

Mr West, according to a Perth newspaper, the West Australian, said his family enterprise could not keep up with the demand for pollen.

The pollen for export was gathered only in times of abundance and had not affected honey production. His hives had benefited because they no longer became clogged with pollen and during the season each hive produced about a kilogram of pollen every second day.

Mr West, who has patented his trap in about 20 countries, said the pollen was dried to prevent moisture mould and shipped out in drums. He had pollen on hand for his bees when there was a seasonal shortage.

— NZ Herald

HONEY DELIGHTS

FLIGHTS OF APICUREAN FANCY

Making the most of honey crops

by Angela Fussell

A PRETENSION to self-sufficiency is a delight. Impossible though it is for me to provide my family with all we need and desire from our 3½ acres, we do supply the table with meat from the paddock and piggery, and vegetables from the garden, not to mention a variety of fruits from the orchard. And now, at last, our bees have yielded their first crop — 40 kilos from two supers of the most gorgeous pale honey, which you must admit isn't too bad for beginners.

I am quite convinced that half the fun of working the hives is the actual dressing up — the donning of boiler suit with secured ankles and wrists to prevent the inquisitive bee from finding his way in, clean gloves, and of course, the veil, which in our family is placed over a pith helmet dating from the First World war. All in all, not a pretty sight but it's certainly worth looking like a visitor from the outer spheres in order to be protected from the bees, who almost seem to enjoy going out in search for their 'victim' instead of just ambushing him when he comes close to the hive!

Anyway the outcome of this invasion of our hives has been a predeliction for eating honey with everything — on porridge, toast, in tea, in fact virtually replacing all sugar with honey. In fact, when the children are upset or hurt, I've found that a spoonful of honey has wonderful psychological and real therapeutic properties, so with this in mind have decided to give you a recipe which will start your day off well — Honeyed Muesli.

I also had great success with pickling onions in honey — everyone who tried them said they were the nicest they'd ever had — so why don't you see if your friends and family are of the same opinion. And I have a terrific recipe for beef stew which if you like cooking with herbs and spices will really appeal. If you prefer plainer food you could perhaps adapt it, using, of course the honey from your hives.

Wishing you enjoyable and successful cooking!

BEEF PORANGI

Serves 4 to 6

2 teas. oil
1 kilo stewing beef
250g diced bacon
3 large onions
3 large carrots
starred anis (4 'stars')
saffron — 4 cloves
2 bay leaves
marjoram, savoury
thyme, rosemary
salt & pepper
honey
red wine

Cut beef into bite sized pieces and brown in the oil in a frying pan. Remove from heat and sprinkle with freshly ground pepper.

Add bacon pieces.

Peel and slice onions and carrots and add to meat. Brown over medium heat.

Place all these ingredients in a heavy (enamelled) casserole dish. Add generous pinches of the spices, a large pinch of salt and 2 teas. honey.

Turn all ingredients with spatula; cover with red wine; cover casserole and simmer over low heat for 2 hours.

The next day, cook for one hour over very low heat. Serve with buttered noodles or with boiled potatoes and parsley.

MUESLI TARATAHI

3 cups rolled oats
1 cup coconut
1 cup wheatgerm
½ cup sesame seeds
¼ cup oil
½ cup honey
1 teas. vanilla
1 cup chopped dried fruit & nuts

Put all but the fruit and nuts in oven dish, mixing in the honey and oil. Cook for about ½ hour at 300 deg. F. stirring every 10 minues to ensure even browning.

Add fruit and nuts.

If the honey is not liquid, put oil and honey in oven dish and melt while oven is heating up. Then add ingredients.

PICKLED ONIONS

1 kilo (2 lbs) pickling onions
600 mls (1 pint) vinegar
1 cup honey
1 desserts. salt

Peel onions and pack into jars.

Put honey and vinegar in pan and heat until honey is melted. Do not boil.

Pour liquid over onions and seal jars.

The onions should be ready to eat in two weeks.

SENCO

AIR DRIVEN STAPLERS CUT HIVE AND RACK ASSEMBLY TIME DRAMATICALLY.

Many leading Beekeepers in N.Z. have found by using Senco KMN–112 and Senco MIII staple guns, not only is assembly time reduced by more than half, also the quality of Frames and Hives improves dramatically.

Senco staple guns are lightweight, trouble-free and excellently suited to the Hive and Rack assembly application.

All staples are galvanised and coated with Sencote, which contributes to their uncommon holding power.

For an on-location obligation free demonstration, please contact your nearest – Able Staples (NZ) Limited – Office.

Auckland
8 Angle Street, Te Papa. Phone 666-537

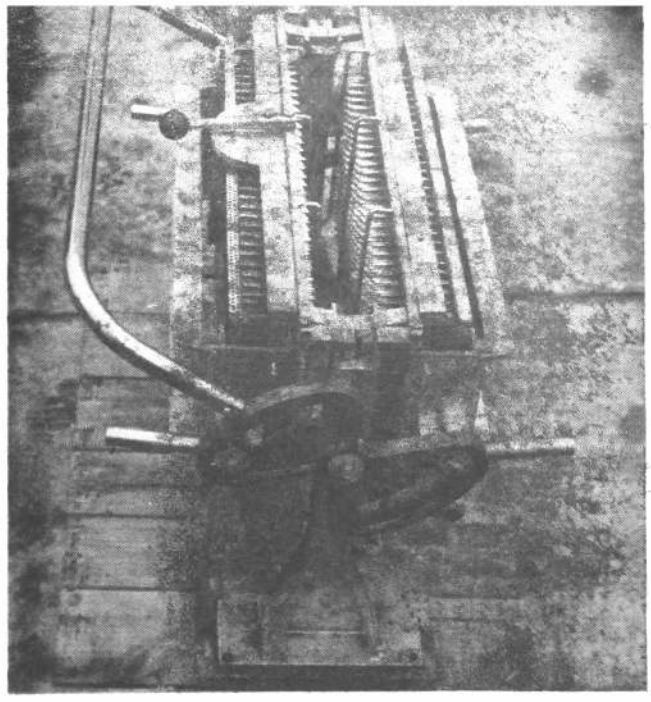
Hamilton
45 Mahoe Street, Frankton, Hamilton. Phone 85-608

Hastings
154 Portsmouth Road, Hastings. Phone 67-204

Wellington
40 Sydney Street, Petone. Phone 687-765

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

A pricking machine for ling heather honey.



A SCOTTISH BEEKEEPING BUSINESS

There are just a handful of commercial beekeepers in Britain; climatic and economic conditions are the limiting factors. The largest and perhaps most successful is Mr Athol Kirkwood's operation in Scotland. Graham Walton, MAF Apicultural Advisory Officer, Palmerston North, recently spent two days with Mr Kirkwood. His report:

MR A.M.C. KIRKWOOD's Heather Hills Honey Farm at Bridge of Cally, Scotland nestles between the fruit growing district of Blairgowrie to the south and the rolling heather country to the north. Compared to New Zealand, it is difficult beekeeping country and Mr Kirkwood has learnt the hard way. He first started beekeeping in 1954 with 100 hives, but heavy winter losses left him just four hives. Undeterred, Mr Kirkwood purchased 200 hives in 1955 which today serve as a nucleus for his 2000-hive operation.

A thorough business-like approach has been adopted, using modern apicultural and economic principles. Colony management is intensive; a visit to each commercial apiary is made every nine days during the spring and summer months. Mr Kirkwood has a full-time staff of four men and one woman. Another five persons are employed seasonally.

Three distinct honey flows are utilised. In May colony build-up is achieved from blackthorn, willow, sycamore and maple. A fine white honey is obtained in June from the raspberry orchards in the Blairgowrie district. Honeybees provide a useful pollination role, however chemical pest control measures in recent years have had an adverse effect on bee populations and honey yield. All 70 apiaries are shifted to the hills for the bell heather *(Erica cinerea)* in July and the Scotch ling heather *(Calluna vulgaris)* in September.

All hives are shifted two or three times each year; to their wintering sites, to the raspberry orchards, and to the heather hills. Small pick-up trucks capable of holding 40 hives are used. Large trucks are not practical in the rugged, often boggy, territory covered. Langstroth-type equipment is standard. During the summer the queen is confined to a single full-depth brood chamber, and the colony is wintered in one hive unit. The darker northern European bee is preferred as it winters well in the Scottish conditions, although it is less prolific.

Manley-type frames are used in the three-quarter depth honey supers. All wax foundation is manufactured on the premises using a German hand-operated rolling mill.

Colonies are requeened at least once every two years from stock selected and raised in the apiaries. Sugar syrup feeding is an essential part of the operation; over 20 tonnes of sugar is fed during the autumn and spring months. Mr Kirkwood uses a modified top-board feeder made from paraffin-dipped wood and plywood and capable of holding nine litres of syrup (see diagram). Honey is removed from the hives using a New Zealand-type bee escape board.

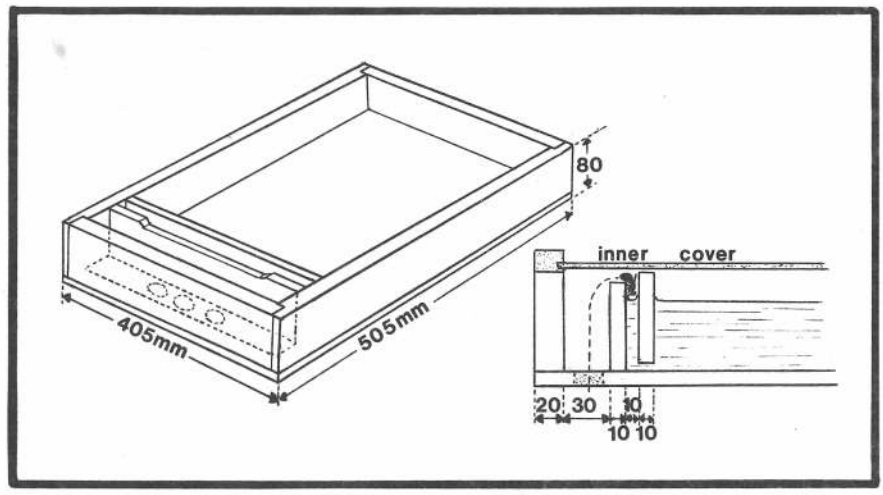
The honeyhouse complex occupies two large (23 x 18 metres, 18 x 12 metres) buildings. One building contains the extraction and packing facilities, workshop and drum storage for 100 tonnes. The other building serves as a coolroom for packed honey, and a store for hive equipment, sugar feed, and packing materials. Level concrete floors facilitate the use of pallets, each designed to hold two stacks of supers.

With the exception of the New Zealand automatic uncapping machine, the stainless steel extraction plant has two separate processing lines: one for the thixotropic ling heather honey and the other for normal flower

honey. After uncapping, the jelly-like ling heather honey passes through a pricking machine, known as a honey loosener in Europe.

The pricking machine is a Norwegian model as shown in the photograph. It is made up of a battery of spring-loaded needles and is capable of processing a frame in less than 15 seconds. The needles reduce the surface tension in each cell, but even so, it cannot be extracted in radial extractors; Mr Kirkwood uses two 16-frame tangential extractors for this task.

The extracted honey, wax flakes in suspension, and the cappings honey, all pass through a four metre heat exchanger, warming it to 43 deg C, and it is then put through a spin-float separator which removes all the beeswax. The ling heather honey is then pumped to the settling tanks. Other floral sources, including bell heather, are extracted conventially in a 72-frame radial, and then strained and tanked.



KIRKWOOD TOP-BOARD FEEDER

Most honey is bottled in the creamed state for United Kingdom distribution. The Heather Hills Honey Farm can fill 700 containers an hour. Some honey is sold as cut comb, and some ling heather is sold in bulk to the continent.

Mr Kirkwood's intensive system of management provides some control over the environmental factors in a difficult region. However, the seasonal climatic effect is so dominant that the average honey production from each hive varies markedly from year to year; from as low as seven kilogram to over 50 kg.

HOW MANY BEES MAKE ONE?

by Ian Dopson, Featherston

MANY MILLIONS OF years ago when our earth was still very young a selection of chemical elements collected themselves together in our primordial seas and formed substances called amino acids. From these amino acids came the proteins and these proteins eventually organised themselves into the first primitive single-celled animals.

These single cells had each to perform on its own all the functions of a living organism, eating, breathing, reproducing and so on.

It soon became apparent to Mother Nature that if life was going to continue and develop beyond this single celled animal then some re organisation was going to be necessary. By a process called evolution single cells grouped together and began to specialise.

The cells on the outside changed and became tougher and formed a skin, the cells on the inside changed also and specialised in various jobs. Some adapted to digesting food, some to supplying oxygen to the rest of the animal and yet others taking over the role of reproduction until a whole new and complex animal evolved, made up of a collection of small living units each doing a specialised job and contributing to the animal and each relying on the work of the others and the animal as a whole to carry on living itself.

In fact these cells have become so specialised that they are just not able to carry on living, even under ideal conditions created in a laboratory after they have been removed from a parent animal.

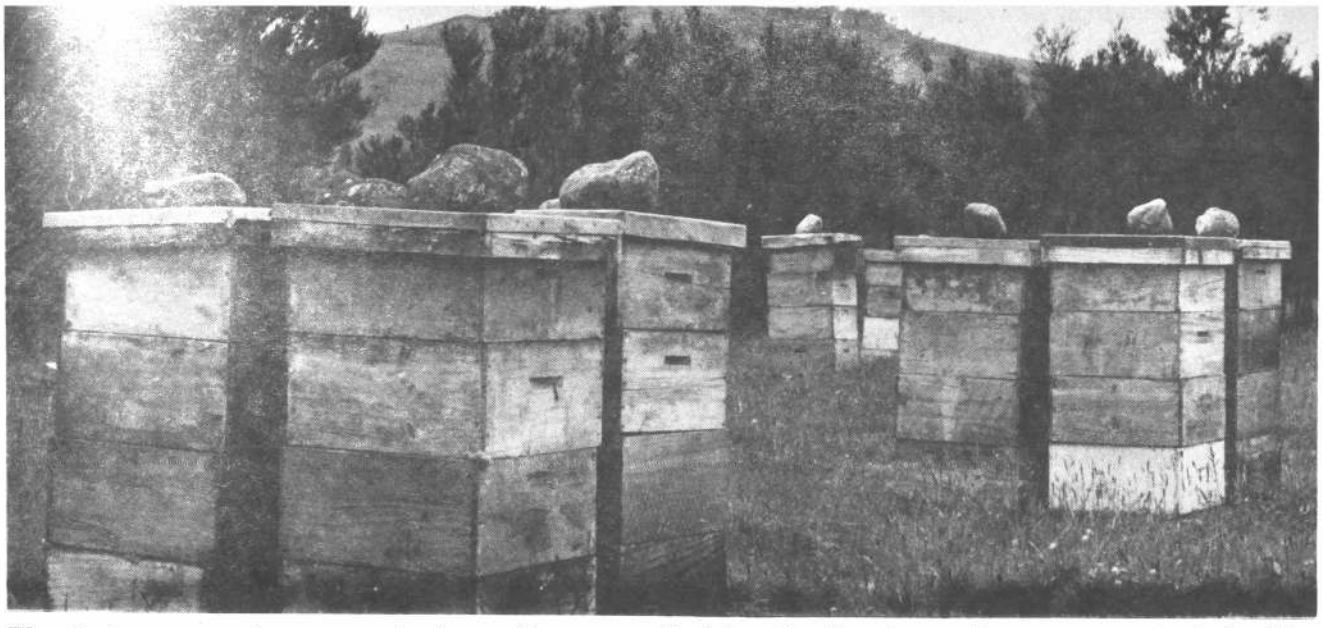
That may be all very well, you may be saying to yourself, but what has that got to do with bee keeping.

Well, if you take the overall picture of an animal being made up of a collection of small units each doing a particular job as I have described and apply that to a hive full of bees you will see that it is the hive that is the animal and not the individual bees.

The hive has the queen who acts as the reproduction system (with the aid of the drones of course) the field bees bring the food to the hive and the young workers process it into a suitable food.

We have other young workers producing wax to form a skin within which the hive may live, and current research indicates that even the drones are necessary for the psychological well being of the hive as a whole. If you take any of these bees from the hive it will soon die and if enough bees are taken from the hive the hive itself will die. So remember next time you are working a hive that you are not working with thousands of individual bees, but just one complex animal which should be treated as such.

After all is said and done, this is how the bee sees it.



The first year you leave an extra box of honey on the hives for the winter, the tonnage extracted will be down. But if you stick to the system, crops will be bigger, working expenses will be lighter and hive losses negligible.

Wintering in three boxes and no sugar

by Allan Ward, a Southland beekeeper

THERE IS NO doubt that the feeding of sugar instead of honey was in many cases in the past financially rewarding. But in spite of all that has been written and claimed in support of sugar-feeding, doubts in my mind have persisted regarding the long term effect.

However, it would seem that present day sugar prices will influence many beekeepers who have been regularly feeding sugar, to revert once again to honey. Of course, in cases where beekeepers have access to supplies of cheap sugar in the form of spillage and sweepings etc, supplementary feeding will remain a worthwhile proposition.

Now I don't pretend to be a purist to the extent that I wouldn't feed sugar on principle. On the contrary, I will certainly pour it into any hive which needs extra feed but *only if* honey is not available for this purpose.

I haven't any graphs or supporting statistical figures to prove my points, but will describe simply, some principles which, in my own business, have proved to be of great importance and have definitely simplified the business of honey production.

When we look at any type of farming venture, the degree of success of the operation, is closely linked to a single common factor: The availability of an abundance of food at all times. This is regardless of whether the venture is flock or pasture management, wool production, milk production, grain production. And so it is with the bee-hive.

Unfortunately in many parts of Southland throughout the spring build-up period, there is often a dearth of pollen and nectar which is much more critical when adverse weather conditions prevail. This is the period which we must be prepared for. When a hive's food reserves drop below a given amount, brood production falls off, and as the declining food situation progresses, so also, does the reduction in brood-rearing.

The fact that the brood being reared at this time, will eventually be the adult bees which will help gather the main crop, means that *any* reduction in brood-rearing will be reflected directly in a reduction in the amount of honey produced.

It is obvious, then, that if a hive is to continue its' maximum uninterrupted brood-rearing, so that a maximum crop can be gathered, an abundance of food must be available in the hive at all times. Probably the most common and costly mistake which is repeatedly made throughout the spring months, is now taking the risk of not giving extra stores to hives which have only border-line reserves. Perhaps this is O.K. if the weather remains fine, but not quite enough if foraging bees are confined to the hive. All of us are guilty of this mistake, to some degree, and have witnessed the heart-breaking spectacle (on the next visit) of these hives reduced to a heap of dead or crawling bees. To find one or two in this condition is bad enough, but to have a whole apiary, or worse, a series of apiaries in this state, can result in a serious financial loss for that season.

At the above stage of development, each hive has consumed

(to quote hypothetical figures) possibly $15 worth of honey since the previous summer, and if the coming season is a good one, should produce $30 worth. So in round figures — every strong hive lost in the late spring, represents a loss of around $45. That would pay for a lot of feed, whether it be honey, pollen supplement or sugar. The moral to the story is — don't take a risk with a light hive — *feed it.*

Many beekeepers frown on the practice of wintering hives in three boxes and I suspect that every year, large numbers of hives are lost because of this attitude. Why not leave the third box on, which will prevent this loss?

Now, it does take an almost ruthless approach towards your honey crop, the first year that you decide to leave an extra box of honey on the hives for winter. The tonnage extracted will certainly be down for that year, but forever after, if you stock to this system, crops will be bigger, working expenses will be lighter, and hive losses negligible.

If, when using this system, a hive is a little light when the crop is removed, the bottom box will probably be empty and can be removed and stored out of the weather for the winter, otherwise no harm comes to the bees from leaving it where it is. A common practice when "wintering down" in the accepted normal two boxes, is the exchanging of partly-filled brood combs with full combs of honey. The disadvantage here, is that valuable pockets of pollen which are necessary throughout the winter in the diet of the adult bees, are also removed in this operation.

Therefore, I feel sure that the broodnest, as formed by the colony itself, is best left undisturbed and that a solid bank of honey in the form of the third box, should be supplied immediately above. This arrangement is similar to the location of the brood nest, in relation to the honey-storage area, in naturally established wild bee-hives.

One exception to this rule, stands out clearly in my mind and in this case, the brood combs were at the top and the honey hung down below. A farmer phoned to say that he had a building which he couldn't use because of bees, so I duly arrived with the gear and was ushered down the back garden path to the little house of repose. It was a "Long drop" model, and hanging incongruously under the seat and extending away down the hole, was, firstly the brood, then huge slabs of honey. Needless to say, nothing was salvaged for the melter and the bees were gassed, the combs were cut and the lot dropped into the depths. To further digress with an interesting tailpiece: Some weeks later, on meeting the farmer, he excitedly told me that there was a strange chemical reaction going on, because when he sat in there, he could hear fizzing and popping, and when he lit a smoke, the match definitely burned with a blue flame!

The risk of depleting the pollen reserves in a two-storied hive, also exists through the spring months when full combs of honey have to be exchanged for the empty or near empty ones which, again, often contain valuable deposits of pollen. This problem is becoming more acute with the fast disappearance of natural pollen sources and the removal of stored pollen from the brood-nests must be avoided. By using three brood chambers, sufficient reserves of honey are almost invariably present for successful wintering and the pollen reserves are not interfered with.

It has often been suggested that the more honey left on the hive — the more will be used, and in one respect this is true. Brood-rearing will commence earlier and consequently there will be larger areas of brood to be fed. This is no disadvantage and in my opinion, is a decided advantage especially if the hives are to be split, as in a programme incorporating re-queening and swarm control.

Probably the simplest method of swarm-control is the making of "splits" or "tops" and this is where the use of three brood-chambers, saves much time and tedious handling of individual combs. In early spring, the middle box of a three storied hive will contain most of the brood, and this is the one which will be put on top and given a new queen. This top unit will probably need further combs of honey before reaching the re-uniting stage and in some cases, this honey can be taken from the underneath unit, (if it has definite surplus).

In many areas, in November (given suitable weather conditions), strong hives can produce a surplus of dark low-grade honey and in the case of hives which have been split, this surplus will be stored in the second box of the bottom unit. In any case, a sizeable reserve of feed honey in the honey-house is essential, because, when these top units are made up, most of their foraging bees will return to the underneath one and if these (top units) are strong in numbers of young bees they can consume their food reserves at an alarming rate. However, any extra food given, will be returned on extra honey gathered, — many times over, and one must realise that any investment in feed, will be a sure winner.

The moving of large numbers of hives, temporarily, onto spring honey-flows in Southland's climate, is very much a gamble, and a more positive approach would be in situating some permanent apiaries where these flows exist and are available, when the weather permits.

Finally, (with due respect to the findings of Ivor Forster, and others who have proved that sugar-syrup for winter feed is quite satisfactory) the very real advantage which I have found in a system incorporating three brood chambers, (one being a reservoir of natural stores), is the extended period in which bees can be left to their own devices, without disturbance, which in turn cuts operating costs, saves hives and money.

BETWEEN THE COMBS

HONEY INVESTIGATION UNDERWAY

The Ministry of Agriculture and Fisheries has initiated an analysis of selected export-type New Zealand honeys. Cawthron Institute of Nelson will be testing fresh honey for various heat and time-sensitive factors including diastase, HMF, and colour. The work will be partly financed by the Cawthron Institute using the Isaac Hopkins bequest, and the Honey Marketing Authority. This work is of some importance to the New Zealand industry in view of the complex honey standards now required in the international arena.

NZ BEEKEEPING LITERATURE

The advisory section of the Ministry of Agriculture and Fisheries is preparing a list of all published articles on bees and beekeeping. This list was originally going to cover the last 40 year period but it has been decided to make it a complete dossier of New Zealand's apicultural work. This publication will be available later this year, and should be a valuable document to beekeepers on who did what and when.

VISIT BY POLISH GENETICIST

A recent visitor to New Zealand was Professor J. Woyke from Poland. Professor Woyke is best known for his genetic work on honeybees. It was his work that shattered the widely accepted theory that drones are produced only from unfertilised haploid eggs. He showed that fertilized diploid drones could be produced under controlled conditions, but in nature worker bees destroyed them by eating the diploid drone larvae shortly after their hatching. Professor Woyke is well travelled. He has studied the genetics of the African bee in Brazil, evaluated beekeeping prospects in Guinea, and has worked in Australia with the Kangaroo Island bee project and assisted with a Queensland queen breeding course. While in New Zealand Professor Woyke visited beekeepers and apiary section staff.

APICULTURE IN THE TROPICS

A three day conference was recently held in London on "Apiculture in Tropical Climates", a region of the world that has considerable potential, and many problems, for bees and beekeepers. The conference programme examined the races and species of honeybees, bee management, hive types, honey production, pollination, and development programmes in tropical and subtropical countries. Messrs E. Roberts and G.M. Walton attended this conference from New Zealand. Mr Walton spoke on New Zealand's beekeeping development programmes in the tropical and subtropical Pacific on behalf of the Ministry of Foreign Affairs.

N.Z.'S AID PROGRAMMES

In recent years the Ministry of Foreign Affairs has responded to a number of requests for beekeeping aid from developing countries in the Pacific and Asia. Assessment surveys have been made in Bangladesh and the Gilbert Islands, finance for hives has been provided in Tonga, a training programme given to a Niue Island beekeeper, and a long-term project is now underway in Papua, New Guinea. Ministry of Agriculture staff and beekeepers have assisted with these projects.

THE AUSTRALIAN TOUR

The official NBA-IBRA beekeeper's tour to Australia to attend the Adelaide International Congress in October is advertised on page 14. This tour will be a great opportunity to see, meet and discuss apiculture at congress, and on the short tour afterwards. Group concessions will mean considerable savings on airfares and accommodation.

POLLEN AND ITS HARVESTING

In response to the many enquiries received about pollen, the International Bee Research Association has reprinted two recent articles from its Journal "Bee World". The first, "What we know about pollen", summarizes its composition and uses; the second, "Harvesting pollen from hives" describes various designs for pollen traps that are fitted to hives, with dimensional drawings. A pollen trap incorporates a double wire grid; the pollen foragers can only enter the hive by scrambling through this grid, which removes the pollen loads on the bee's hind legs.

The double reprint, "Pollen and its Harvesting" (M86), costs 35p post free from International Bee Research Association, Hill House, Gerrards Cross, Bucks SL9 ONR.

THOSE "KILLER" BEES

The press have had a field day in recent months reporting on the African "killer bees" in Argentina. The "bee" is a subject that certainly evokes reader interest, curiosity and trepidation. Add to this the dimensions of danger, death and despair and a good news story in the offing. The accidental release and spread of the vigorous African bee in South America has been fantasized in books (e.g. "The Swarm" by Saul Hertzog), films and the press.

The African honeybee is a very effective defender of its nest; more so than the European honeybee. It responds aggressively to threats, intentional or unintentional, to its home. Evidence is clear that she does not attack unless provoked. This can literally be cold comfort to the innocent passerby.

However, putting the situation into perspective, the peoples of Africa have lived with this honeybee since the earliest of times. In South America there are many pests, diseases and disasters that cause greater damage, suffering and loss of life but are less newsworthy.

This is not an apology for the African bee. We do not have it in New Zealand and let us hope it stays that way. If this bee was foolishly, and illegally, introduced it would mean a new way of thinking for the beekeeper, and the public.

Readers' queries

David Williams, our resident hobbyist adviser, is willing to answer readers' queries about problems they have with their hives. "My articles are designed to be both practical and provocative," he says. "There may be many points amateurs would wish to raise and would do so if told to write in. I would be happy to provide answers to the best of my limited ability and can always call on the literature or the experts for the really tricky ones."

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.

HANDLING HEAVY SUPERS

Dear Mr Williams,

This is my first year of beekeeping. I am elderly. My hive is securely propped up on a gently sloping roof. The problem I foresee is the handling of heavy supers at extraction time. Even using a Porter bee escape presents a problem for one old man in these circumstances. I would prefer to clear, say, four frames at a time, by some other method, and as I have power at hand I wonder if a vacuum cleaner used as a blower would provide a practical solution? I could then go through the hive, four at a time, and avoid any heavy lifting.

Would a domestic cleaner be suitable — too weak, or too strong for this purpose?

In your very useful December article you advise flushing away the honey from below settled cappings because of changes in composition due to heating. This raises a question in the conserving mind. Suggestion: Recycle this honey by using it for making mead or home brew. It has the advantage of extra flavouring from bees' legs, etc. which will give a more truly medieval flavour, or teetotalers may use nature's method of recycling: putting it through the compost heap where it will be a very welcome stimulant.

Roy Chapman-Taylor,
Auckland

No, I am afraid a domestic vacuum cleaner cannot be used as a bee blower. The usual thrust is about 12 lb even when new and this is just not powerful enough to blow bees out of a super, especially if the super is still on the hive.

I think the best thing I can suggest in your circumstances is that you fume the bees down, super by super, removing as many frames as you can comfortably handle from each super as you do it.

Benzaldehyde fuming can clear one box at a time, more or less, but I find that the Langstroth super is too deep for complete clearing — a shallow super clears nicely.

So, once semi-cleared, there is no reason why you have to take off a full super at a time. It is quite possible to handle individual frames if you wish to, as long as you don't mind shaking the last few bees off and re-fuming every now and then if the bees try coming back up through.

Or you might slip an escape board between super and hive once the bees were out of it and then work at your leisure.

As for your last suggestions, on what to do with heated honey:- mead has certainly been successfully made using it, so the suggestion is a welcome one. As for using it on the compost heap, we did have a note from a lady who used it on her rose bed. She grew marvellous roses, she said, but could we help her get rid of the wasps that kept digging up her rose bed.

LOST QUEEN!

Dear Mr Williams,

I recently introduced a queen to a nucleus I had which had become queenless. The queen was a guaranteed mated queen bought through the Wellington Beekeepers Association. The introduction was successfully done on November 16. By November 28 there were brood and eggs in two frames, and by December 4 this had increased to three frames.

When I checked the hives again on December 26, there was no sign of the queen, nor was there any brood or eggs. Had the queen disappeared abruptly I would have expected queen cells to have been developed. Can you tell me what could have taken place for the queen to disappear without queen cells being drawn out?

D.J.S. Ingram,
Khandallah

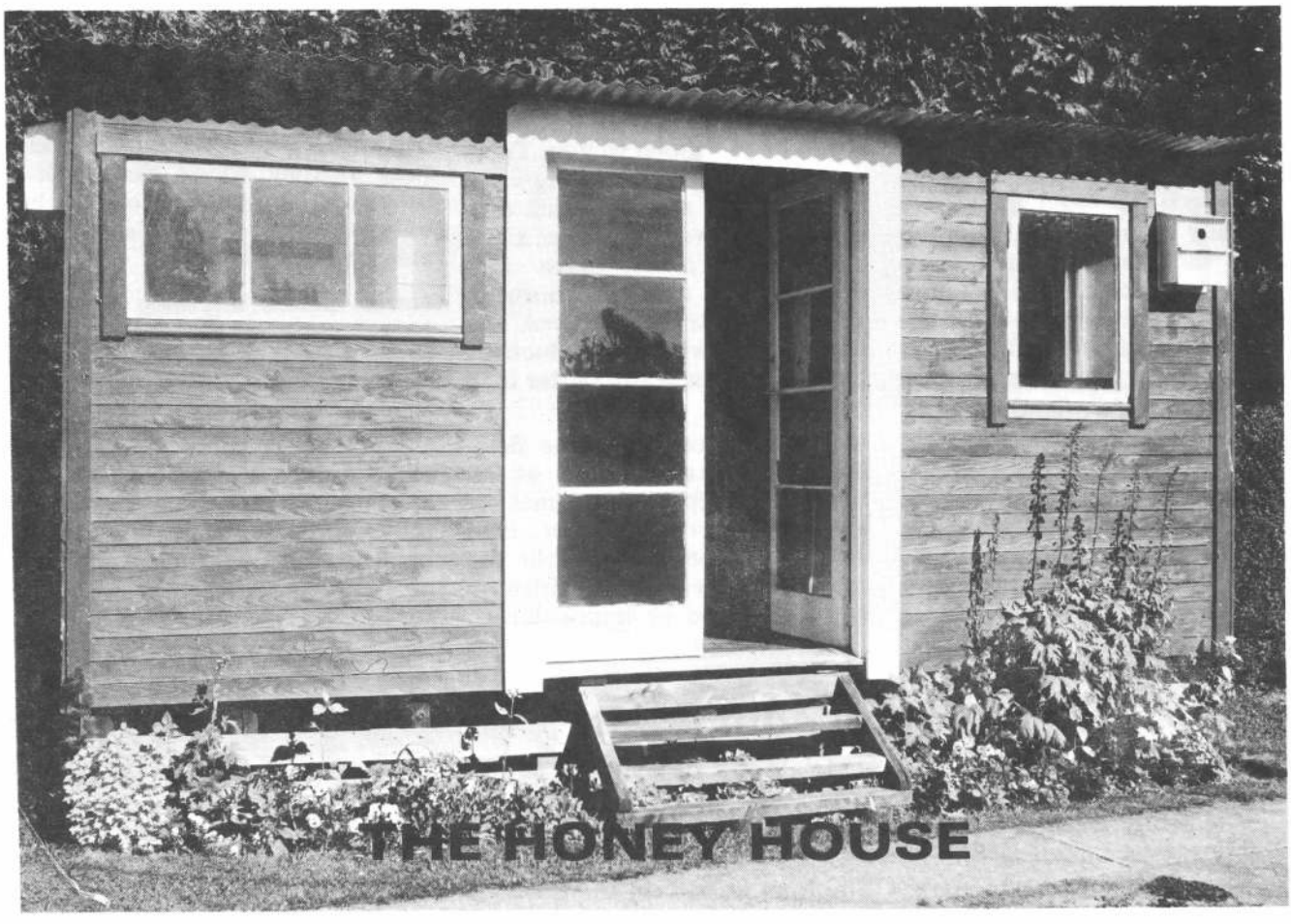
I am sorry that I cannot give a simple reason why an apparently healthy and accepted queen should vanish and leave no successor. If it is any consolation to you, it happens to all of us and one American authority claims a supersedure rate of some 10 per cent within weeks of introduction and a queenless supersedure, if that is not a contradiction in terms, of 1 per cent.

My own theory, for what it is worth, is that it is a consequence of some form of chemical breakdown in the pheromones controlling hive behaviour and that because of this molecular failure, rejection has been initiated but the impulse to raise queen cells has been held in abeyance.

The only thing I can do is offer you our sympathy, and reassure you that it remains a fairly rare occurrence.

OUR BEGINNERS' ADVISOR, DAVID WILLIAMS, HELPS YOU MAKE ...

A FRESH START



Perhaps we could discuss some aspects of honey production. First:

LET'S FACE IT, you need somewhere to play around with the end product. Extracting is a hot, dirty sticky job (remember that the extracter's best friend is a damp cloth) and should be segregated from all other activities (I cringe when I see sketches of honey houses with one bit used as a workshop — who wants sawdust in their honey?).

Personally I use a 2.4 m by 4.8 m shed built as a music room out in the garden where I practiced saxophone until the neigbours started to throw stones on the roof every time I went out there. I never even managed to get through the first line of God save the Queen.

As a music room it failed by being unsoundproofed. As a honey house it works quite well for what has to be done, but is far from perfect, being, like Gaul, divided into three parts, an entrance way centre front, extraction to the right, storage to the left.

All external windows open to let out any stray bees (remember to make any windows open outwards — who wants to let bees in?). Floors, walls and ceiling are all 100 x 25 mm tongue and grooved Douglas fir, mainly because it came cheap when an island trader broke down and cancelled the order.

In the extraction room the best thing I ever did was to pin black polythene to floor and up the walls for 1½ — 2 metres. This is most easily washable, prevents the walls becoming honey soaked (any woodwork so soaked soon develops unsightly fungal stain), and is ultra-hygienic. The floor is covered with layers of brown paper, the layers being added to rather than taken away from as cappings get dropped and honey gets spilled, as will happen.

At the end of the season the layers of paper are peeled off and burnt, the black plastic is given a good wash down with plenty of hot water and a mild disinfectant, and another clean layer of paper

put on the floor for the times someone goes in in the off season. Another quick wash when the honey starts coming in again and its business as usual.

So the only thing you need are a closed room, big enough without being too big, a honey-proofed floor covering, plenty of absorbent covering on top of that, a three point plug and the actual extraction, uncapping and storage equipment. Better yet, share it with a friend.

Keep everything 100 per cent clean, have a real clean up at the end, keep tight closed at all times especially when unused, keep fly-proof and beeproof and dust-proof, and you'll find it quite satisfactory. It wouldn't do the professional, of course, but that's not you. Keep remembering that.

A bee is a mobile honey detector. Leave a frame, a super, a section, the slightest remnant of sweetness around, and the bees will find it. I put a few boxes outside my storage area one cold July day and within seconds there were two or three bees buzzing around and within five minutes there must have been 50.

Last season two hobbyists came in to use my extractor and, in spite of being advised to keep both shed and station wagon closed at all times, found it more convenient not to. I was out at the time and came home to find the door open, my friends gone, and the extractor clogged with drowning bees. The bees had invaded and the visitors had abandoned the situation as hopeless.

Never let it happen to you. There are some insect repelling light bulbs on the market which may or may not work for bees, some commercial plants have fans blowing out through doorways which keep the place cool and the bees out while in production, but prevention is still better than cure.

If you are working in the field, keep all boxes covered at all times — a spare hive mat or even a sheet of paper held down will keep out all but the most inquisitive bees. (Incidentally it seems to be impossible to buy mats these days so you will have to make your own — nothing else works quite as well.)

Extract in the evening when activity is minimal, with all doors and windows screened to keep bees and other insects out. Even moths can be a real pest at night if you don't take these precautions.

After extraction the supers should be piled back on the hives they came from. Do this at night or the bees get over-excited and start swirling round the neighbourhood and in and out each other's hives. Both activities mean trouble.

Never expose anything for the bees to clean up, neither cappings nor equipment nor frames, or chaos will follow as sure as day follows night. Commercially it is the practice of some operators to make dumps of extracted supers at some distance from hives for the bees to lick clean. This may be a necessity for them, but cannot be recommended in any way for us.

Handling extra tough combs

THIS MAY NOT be quite the place for this one but as we are touching lightly on the subject of extracting, let's include it in.

If your combs, however dark, when put on, have now nice white cappings, then uncap and extract without a second thought.

There is, however, a tendency for those much worked on by the bees to have cappings as tough as leather and as dark. This is due to resins and other additives worked into them as well as the trampling of myriads of tiny, but cumulative feet.

These are difficult to uncap and are best left on the hive or kept for spring feed. Why make the job more difficult than it has to be?

Also, some operators concern themselves with getting into every little corner and uncapping every single cell. Such preciseness is unnecessary. Large areas should certainly be decapitated, either with the tip or the heel of the knife, but a few cells make no difference at all.

The time wasted on them would be better used getting on with the job. The bees won't interfere with capped cells when you put your frames back on to be cleaned up, while thanking you for the little extra when they get the frames back for the next honey flow.

Spring cleaning of frames takes place in autumn! You've extracted your honey and piled the supers up on the hives to let the bees clean them down. After that you have cleared the bees out with escape boards and removed the supers to your storage area ready to pack them away for the winter. Before you seal them away, they are to be scraped clean.

This is a leisurely business. Cover the floor with spare sheets of paper, plant yourself firmly in the centre of it in your oldest clothes and shoes with the supers piled alongside and hive tool in hand.

I don't like a hive tool too much wider than a top bar and actually use an old wool chisel stolen from somewhere which serves very well as long as it isn't too sharp.

It is useful for separating supers and then frames, taking out drone comb if too bulky, clearing up top and bottom bars, scraping the floorboard and doing anything else that comes up. A surprisingly versatile tool.

Most use a normal hive tool, specially designed for the job and relatively inexpensive, but one gets accustomed to one's own little ways and finds things that fit the hand and one's system, and this applies even to hive tools.

Now, with hive tool at the ready, take each frame out in turn, scrape top and bottom bars free of wax and propolis, being particularly careful the last centimetre or so of the top bar where the bees like to add a little bump of propolis.

Scrape the ends and edges of the frame ends and scrape the sides of the top bar down to bare wood. If using Hoffman frames (and you should be) and are a perfectionist, add a smear of petroleum jelly over all scraped areas. It helps discourage the bees from re-propolising and makes the job of separating easier next season.

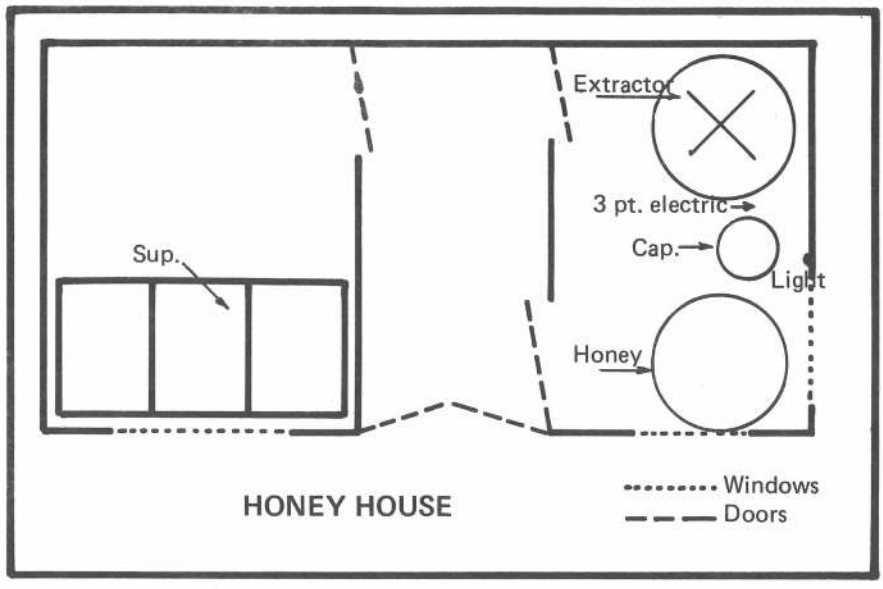
Put the frames from the first super into a spare as you finish each one and scrape any excrescences from hive walls — bees like nothing better than joining everything to everything.

When everything is cleared and lubricated, store away safely until needed.

Frame hygiene is relatively easy for the hobbyist. He can do it all, all the cleaning and scraping, repairing and replacing, in just a few hours.

Never succumb to the temptation to keep poor frames in circulation. True, there is nothing the bees like more than a good, thick, tough, heavy dark comb and there is no reason why they should not be allowed it as long as it is worker and not drone comb. Oh, yes, I know the experts claim that dark combs may darken the honey, but the effect is minimal for the hobbyist who is after a good general run of honey and doesn't have to worry about pay-out.

Drone comb is a nuisance. Even in frames where the queen has not filled out the worker cells in the frames of the brood chamber she always makes a point of laying in the drone cells, which are usually toward the bottom and are bulky and with a tendency to catch adjoining frames, and are unwanted anyway. A few drone cells keep the bees happy, a lot are merely a nuisance and combs containing these areas should be cleared out and culled,



HONEY HOUSE

the comb going down for melting, the frame having the wires tightened up and new foundation inserted.

Drone comb frames should not be set aside for honey production. Sooner or later necessity or carelessness will cause them to creep back into circulation and the whole cycle starts again.

There can be no excuse for this. Trading your wax in for foundation is simplicity itself, while replacement only takes a few seconds per frame. The bees do the real work drawing it out again.

So the rules are simple. Don't replace unnecessarily. Do replace when the time has come (but don't expect to get too much wax out of dark combs, because it doesn't happen).

Queen excluders suffer a similar fate to frames in being the site for the deposition of wax and propolis. Left on for a year, they may be completely sealed except for a few small holes to provide passage up.

No excluder should be used early in the season, nor should one be left on after removal of the honey crop. The wooden rim should have been lightly smeared with petroleum jelly before placement to make removal easier and the bulk of wax on the bars may be carefully scraped clear, but take care not to distort any of those or the queen will head up there like a homing pigeon.

If you have access to a steam hose, a quick blast with this does a marvellous job of renovation.

All scrapings get melted down with other wax fragments, of course.

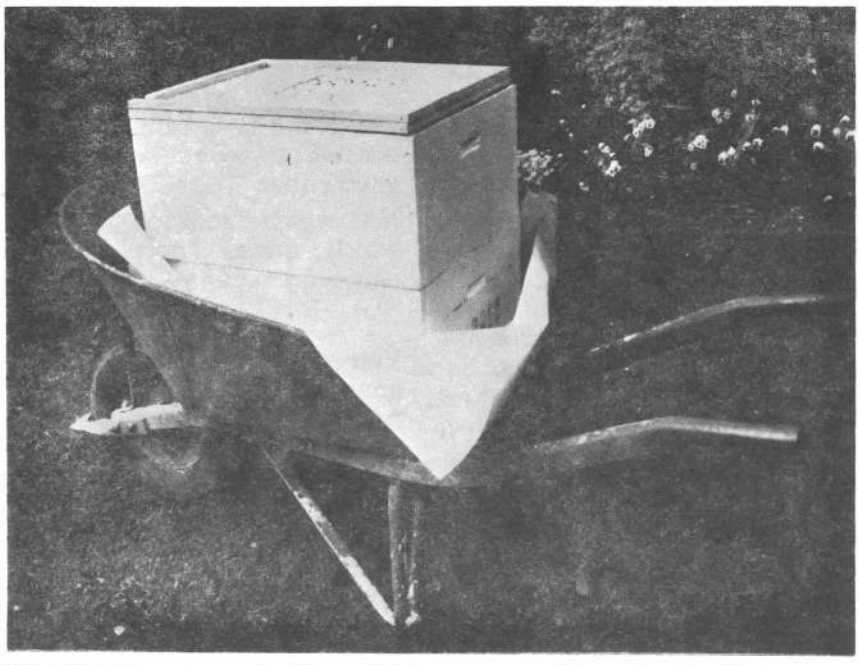
THE HONEY

HONEY ITSELF is infinitely variable. I had two hives in a back garden just up the road here. One box on one hive produced dark, strong honey. Other boxes on the same hive and all frames on the other hive were smooth and golden, pure liquid sunshine.

How can this happen? How can adjacent hives head for completely different honey sources? Merely chance, or do bees claim territory as birds do?

We know, thanks to Von Frisch and others, how scout bees first locate and then communicate news of their find back at the hive.

Presumably bees are source-loyal. They are certainly time-trained in that they know a certain plant's peak nectar concentration hour or the best time to join the picnic table, and appear then at that source and at no other time.



Wheelbarrow super trolley. Note paper — its easier to throw away paper than wash barrow.

The flower species/nectar concentration/time must, of course, be linked so that it may be impossible to say that the bee is flower-loyal but rather that is trained, or has trained itself, to respond to sun orientation and nectar source. Take away the source and it will untrain itself, slowly, turning up, finding nothing there, until the urge, the stimulus, wears off.

It then lingers around the hive, perhaps for some days, until redirected to search for and find another source, inspired by another seductive dancer.

So the first information is tentative. Information is conveyed by the dance and by offering of free samples from the scout. The source is sought and found by the initiates, this confirmation 'fixes' the relevant data which then fills a vacant space in the forager's 'programme tape' and remains there as there are no great breaks in routine.

Whether a spell of bad weather could, by itself, break the pattern without some other contributing factor, such as accompanying decreases in nectar secretion or the natural progression to maturity following pollination etc. is unknown.

Probably not, because the hive springs into activity as soon as rain ceases or temperatures rise without any noticeable pause for reorientation even though it may take a while for nectar levels to build up to acceptable levels.

Granulation

One dictionary defines crystallisation as 'the aggregation of molecules with definite internal structure and a solid exterior of symmetrically arranged plane faces'. For the non-technical man it may be easier to recognise one than to describe one.

However, the dictionary definition does indicate the process by which crystallisation takes place, whereby random molecules in an amorphous mass (the opposite of crystalline is 'colloid') are aligned and held there by molecular attraction to form units in an ordered state.

This change to the crystalline form can be vast or it can be slow.

For honey purposes there is an optimum crystallisation rate. If crystallisation is too fast, or even too complete, the material becomes too dense, producing a lard-like substance whose taste and texture can be unpleasant, if too slow the crystals are large and gritty, with a texture too coarse to make comfortable eating.

The effect is thermo-reversible, so that the internal crystalline structure may be broken down simply by raising the temperature.

Crystals need a nucleus upon which to build — these nuclei are usually impurities or artifacts.

In honey the order of crystallisation is dextrose, levulose, sucrose. Commercially the process can be and often is done by blending into freshly extracted liquid honey some 5 percent to 10 percent of finely granulated starter on a continuous basis, packing the mixture into containers of the production size whether it be barrels or pots, and storing in a cool room at 10 deg C to 12 deg C for three to five days.

All honey will eventually crystallise naturally if left to itself, although the rate at which it does so is determined by the honey source with dark honeys taking significantly longer than the finer grades, while high or low temperatures may delay it almost indefinitely.

It is not wholly necessary to add starter. Liquid honey already contains starch and yeast particles, wax fragments, pollen and dust grains, and minute crystal nuclei, all of which will act as focal points. Adding starter accelerates the process and to some extent determines the size of crystals subsequently formed, as an aid to a fine or coarse textured product.

Again the process is reversible and the change liquid-granular-liquid may be repeated as many times as you care to, although the most practical use for this is to make removal from a container for repacking easier or to reliquefy honey of a texture not suited to your palate and re-crystallise under better conditions.

Re-liquefication takes place at 50 deg C or above, so that leaving the material at this temperature for a while will clear it — a favourite way for the odd jar is to immerse it for most of its depth in boiling water and allow it to cool there. This does not work for a glass container

which usually prefers to splinter at this point.

The Americans, most of whom consume honey in its liquid form only or as comb honey, sterilise it to prevent granulation by incorporating in their production line a sequence whereby the extracted honey is heated to 70 deg C to kill the yeast nuclei, strained to remove other particles, and then cooled as rapidly as possible. Prolonged exposure to this temperature and shorter exposure at higher temperatures renders the honey unsuitable for consumption by man or bee.

The hobbyist may prefer to take honey liquid. There is nothing quite so nice as the flavour of freshly extracted liquid honey but unfortunately a little of this flavour is lost even if stored as a liquid, and a lot if crystallised. The main argument against liquid honey is domestic, in that children can spread it over an unbelievable area at every meal. Chairs, tablecloth, clothes and bodies all need to be washed after every meal.

To crystallise, seed it and store away in a cool, dark place. One good way is to put the mixture in jars or icecream containers, put these into boxes, put these into plastic bags, and store on shelves in your sub-floor garage. Results may be variable but are always edible.

For the small scale operator it is convenient if the mixing may be done in a large container such as a bucket or drum in which the finely granulated seed honey may be added to the liquid and the whole thoroughly stirred to ensure an even distribution. This takes some effort, but the goo is still mobile enough to pour or ladle into appropriate containers.

Putting individual tablespoons of seed into the individual jars and then stirring is never successful, although it works well enough after you've washed the jar, the bench, the floor, the spoon and yourself.

There is some danger of fermentation — there must be because all the text books mention it — but if only full sealed frames are extracted and the produce treated as above i.e. either stored liquid or seeded and stored, and if it is eaten within the year, it is unlikely that fermentation will ever trouble you.

The process of fermentation is a complex one, with the action of yeasts and bacteria causing changes in physical and chemical properties. In the case of honey 'the acid products of fermentation' is a favourite phrase, but fermentation depends upon there being an above average moisture content either from the extraction of 'unripe' honey, that is honey from which the bees have not had the opportunity to complete the evaporation down from the nectar level of 80 percent to a storage level of some 16 percent, or from allowing the hygroscopic extracted honey to absorb atmospheric moisture. Refrain from the first, prevent the second.

But, if your honey becomes strong smelling and seems to be foaming in a sluggish sort of way in the top layers, throw away where the bees cannot get at it, because it won't do them any good either.

N.B. which stands for 'nota bene', which means 'note well', so please do.

You should by now have just requeened with your bought-in Autumn queens, should have checked that the hives have at least one super full of winter stores, and should have reserved at least two frames per hive for spring feeding, the frames identified by hive so that they go back in the same ones they came out of.

Extracting should be in full swing, followed by bottling, cleaning up and settling down.

Updating life membership lists

THE FOLLOWING is a list of Life Members assembled as the result of a search of National Beekeepers' Association records.

If any member has reason to believe a name has been ommitted please write to the executive secretary accordingly. It will also be noted that in some cases addresses could be out of date and in others they are unknown. Members may be able to assist in this direction as well.

J.R. Barber Mangaotaki Road, Pio Pio.
A.R. Bates, 47 Farmers Road, Matamata.
H. Cloak, Fairview, R.D., Timaru.
J.W. Fraser, Ryal Bush, No. 6 R.D., Invercargill.
Ivor Forster, Box 96, Oamaru.
N. Glass, Waikaka, 5 R.D., Oamaru.
R.V. Glasson, Blackball, West Coast.
J. Glynn, Box 5, Balfour.
M.G. Gordon, Box 252, Hastings.
A.M.W. Greig, 54 Hamurana Road, R.D. 2, Tauranga.
W.T. Herron, Greenvale Apiaries, No. 5 R.D., Gore.
A.A. Lennie, 17 Newcastle Street, Invercargill.
J. McFadzien, Box 157, Havelock North.
Mr T. Palmer-Jones, Wellington.
T.E. Pearson, Bridges Road, Darfield, Canterbury.
E.W. Sage, No. 3 R.D., Ohaupo.
T. Winter (Address unknown)
R.S. Walsh, 3 Selborne Street, Grey Lynn, Auckland 2.

That sticky mess of cappings

by David T. Hampton
Toronto, Ontario, Canada

YOU ARE A hobby beekeeper. It's fall and you have extracted your first crop of honey. You've packed it neatly into clean glass jars and have put them away. You've scrubbed your extractor and other equipment and stored it for next year. But there is still something left over.

That's right. You've still got that big pail of wet cappings. It looks like sticky, uncooked porridge. You know that it's about half honey and half wax and it is too valuable to throw away. But how do you get all of that honey separated from all of those bits of wax.

You have an idea, a dreadful idea. You just pour the whole sticky mess into a big pan and put it out in the bee yard. You think the bees will take the honey and leave the nice wax. You come back in a couple of days and what do you see? A horror. It has rained, and the pan is full of sticky rainwater and drowned bees, wasps, flies, moths and ants. What a waste! You'll never do that again.

So the next time you put a roof over the pan to protect if from the rainwater. You come back in a couple of days to find—nothing. The bees removed the honey alright, but the remaining pile of wax bits were all blown away by the wind or strewn all over the place by birds or curious animals. There must be a better way.

There is. And this is what you can do; Select your strongest colony, or your only one if you have only one. Put a tray feeder on your top super and make sure that the bees can get easily from the super into the feeder.

Spoon your wet cappings from the pail into the feeder. (Fig 1) Don't press them down. Just leave them loose. Put a sheet of canvas or oilcloth over the feeder and replace the hive cover. Leave it for three or four days.

Come back and have a look under the canvas. You will see something encouraging (Fig. 2.) First, the cappings will have settled a bit. Second, the bees will have removed the liquid honey from between the lumps of cappings and taken it below into the hive, And third, the bees will have started to construct big, thick, crude honey-comb. But these irregular combs contain no honey. Put the cover back.

In one week come back and be ready for a surprise. When you lift the canvas you will see a remarkable sight. (Fig. 3) The feeder tray which was formely full of a sticky mess of honey and wax will now look like a box of coral. Crack off a chunk and chew it. Surprised? That's right. Not even the taste of honey. It's pure dry beeswax.

Remove the dry wax from the feeder and melt it down in a double boiler. Pour it into a mold for use later in candle making or sell it as is.

What have you done?

1. You've turned a pail of sticky cappings into a block of pure beeswax.
2. You've fed your bees (not the neighbourhood insects) with your finest honey which they will store for winter.
3. You've done it without causing robbing or fighting among the bees.
4. You've kept control over the whole operation.
5. And you've done it without waste.

Feel better now?

One more thing: If you make a little course-meshed screen platform for under the cappings, the bees will be able to get at the honey at the bottom of the feeder more easily.

Reprinted from October 1976 edition of "Gleanings in Bee Culture".

Fig. 1

Fig. 2

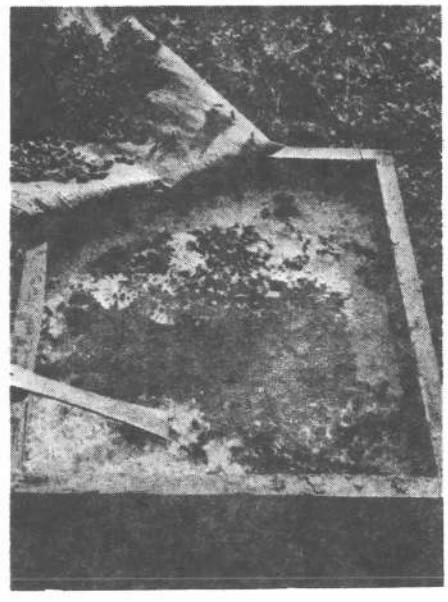
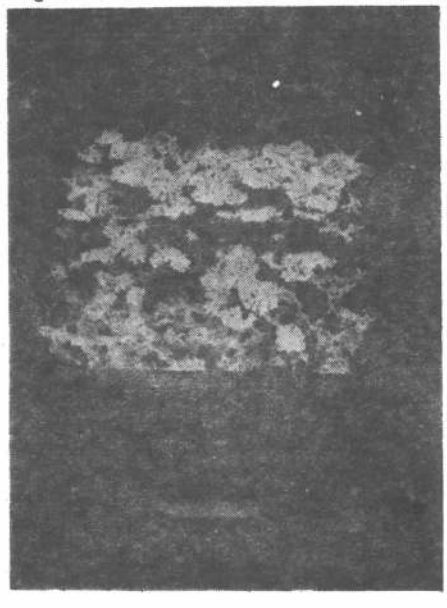


Fig. 3



WANTED TO BUY

Beehives and gear on west coast. Small lots considered anywhere in South Island. Price and particulars to:

K. Everett,
C/- N.Z.E.D., Private Bag,
Roxburgh.

Wanted 2 frame extractor, any condition.

W. Paterson,
329 Ocean Beach,
Mt Maunganui, Ph. 54-400.

HONEY EXTRACTOR
Wanted 2 or 4 frame hand or motor. Also capping knife.

P.C. Hay,
20 Matariki street,
Dunedin.

. . . . Motorised hive barrow with reverse gear – write:

H. Cook,
Peria, R.D. 3,
Kaitaia.

FOR SALE

500 ½ depth sugar syrup feeders and bottom boards.

Newtons Apiaries,
Phone: 326, Rakaia.

Penrose Uncapping Machine (Manual)

Fine Line Honey,
63 Norbiton Rd.,
Foxton. Phone: 8809.

25 Producinghives. Newly assembled appliances for additional 50 hives. Located in Far North. For particulars contact:

Donna Febus
R.D.4,
Christchurch

200 hives for sale on site or for removal, or possibly 600 as going concern. Apply:

R.W. Bruce,
Box 19,
Mount Somers, Mid Canterbury

HELP WANTED

Progressive honey producer requires immediate help in northern Alberta, Canada. Permanent position for right man. Write Box 99, Girouxville, Alberta, Canada, TOH 150.

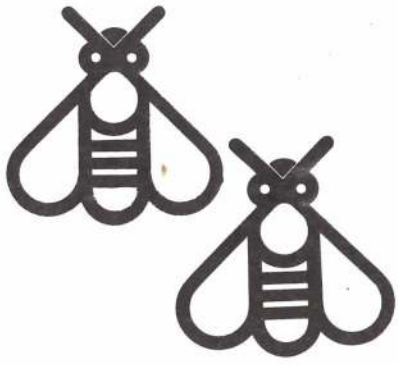
Is that hobbyist down the road a member of the NBA? Get him to become one, or buy him a subscription to the NZ Beekeeper for Christmas. Only $7.50 from the friendly lady at the NBA, Box 4048, Wellington.

OTHER PUBLICATIONS

INTERNATIONAL BEE RESEARCH ASSOCIATION regularly publishes new information on bees, beekeeping and hive products, for beekeepers and scientists all over the world. IBRA Representative for New Zealand: G.M. Walton, Advisory Services Division, MAF, Private Bag, Palmerston North. Catalogues of publications and details of journals and membership $0.55; specimen copy of journals: **Bee World** $1.10, **Journal of Apicultural Research** $1.10, **Apicultural Abstracts** $1.55. INTERNATIONAL BEE RESEARCH ASSOCIATION, Hill House, Gerrards Cross, Bucks. SL9 ONR, England.

AMERICAN BEE JOURNAL Subscribe now to the oldest bee magazine printed in the English Language. Amateur, professional and scientific news makes ABJ an attractive buy for any beekeeper. World - wide crop and market page an outstanding feature. Order direct, your personal cheque or currency. 1 year $US 6.35, 3 years $16.55 – American Bee Journal, Hamilton Ill. 62341 USA.

BRITISH BEE JOURNAL
MONTHLY: Single copies 18p plus postage.
OVERSEAS: Annual subscription £3.50 sterling or $7.00, post paid.
Keep up-to-date by taking out a subscription now direct from us at 46 Queen Street, Geddington, Kettering, Northamptonshire, England.



Do you have questions or problems about beekeeping in different areas? Learn how to solve them by reading "Gleanings in Bee Culture". A magazine made up of articles by well known professors and beekeepers, like yourself, who tell how they have succeeded in beekeeping. Subscription rates are: 1 year $6.00; 2 years $10.80, 3 years $15.30, 85c extra per year for Foreign and Canada.

Gleanings in Bee Culture, P.O. Box E, Medina, Ohio 44256.

BEE CRAFT - The official (monthly) magazine of the British Beekeepers' Association, contains interesting articles. Annual subscriptions: £2 (Post paid).

Write: The Secretary, 21 West Way, Copthorne Bank, Sussex, England.

Don't sit at home
and annoy
your family
with your

GRUMBLES

write
to the
Editor,
NZ Beekeeper
Box 176,
Carterton
AND LET THE WORLD KNOW ABOUT IT

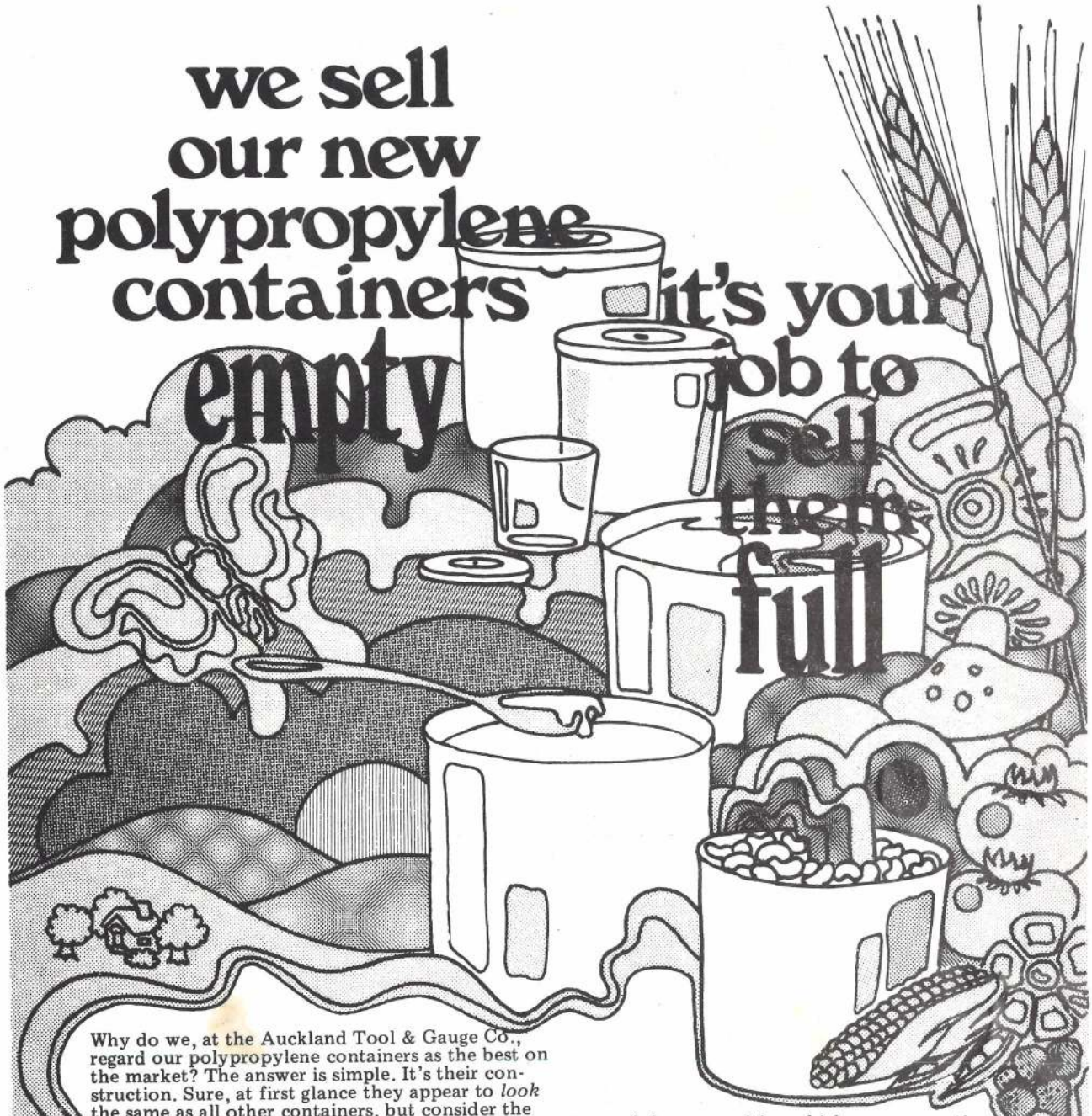
WE ARE THE BEEKEEPERS' VOICE

AUSTRALASIAN BEEKEEPER Senior Beekeeping Journal of the Southern Hemisphere. Complete coverage of all beekeeping topics in one of the world's largest beekeeping countries.

Published monthly by Pender Bros-Pty. Ltd., P.O. Box 20, Maitland, 3N. N. S. W. 2320, Australia, Subscription by Bank Draft. In Australia or New Zealand – A $4.80 per annum (in advance), post paid.

we sell our new polypropylene containers empty

it's your job to sell them full



Why do we, at the Auckland Tool & Gauge Co., regard our polypropylene containers as the best on the market? The answer is simple. It's their construction. Sure, at first glance they appear to *look* the same as all other containers, but consider the advantages:

The material used in our containers is FDA-approved polypropylene. Polypropylene has the distinctive quality of being able to withstand both boiling and freezing temperatures.

The heavier-than-normal construction of our containers adds to their rigidity, resulting in a wide range of uses.

Because they can be sterilised after their initial use, our containers can be re-used in the home, the workshop, the factory etc.

With no seams or joints plus tight fitting polythene snap-on lids our containers provide hygenic packaging in eye appealing colours which will present your honey to its best advantage.

To give you, the customer, a choice, we produce a range of four capacities which are proportional to each other, 250 gram, 500 gram, 1250 gram and 2,000 gram.

The colours available immediately ex stock are Red, Blue, Green, Yellow, Orange, White. Special colours are available on request against minimum quantity orders. To interested parties we would be pleased to send on request a sample range free of charge.

A silk screen service is available at a small extra cost. If you have a use for our containers please contact our sales manager today.

Auckland Tool & Gauge Co. Ltd.

Hillside Road, Takapuna, Auckland 10, N.Z.
Phone: 449-398. Telegraphic & Cable:-
"SPARKMOLD", Auckland.

CA1082

Alliance

Quality Bee Supplies

from A. Ecroyd and Son Ltd.
P.O. Box 5056, Papanui, Christchurch.

APIMONDIA INTERNATIONAL BEE CONGRESS

Those interested in group travel to and from the Apimondia Congress and a saving of up to $150, write for full information to:

KEVIN ECROYD,
Box 5056,
Papanui,
CHRISTCHURCH.

COPPER SMOKERS :

A shipment has just arrived from the USA of four-inch copper smokers, with asbestos-lined shields. Price $21.50 each, plus postage. (3lb. to 7lb.).

BEE BLOWERS :

Good stocks just to hand. $235.00 each, F.O.R., Christchurch.

25 Sawyers Arms Rd., Christchurch 5. Phone 526-044. Telegrams & Cables "Acorn".