

The New Zealand
Beekeeper



1984
Spring

The New Zealand BeeKeeper

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

CIRCULATION 1,400

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FOOTROT FLATS

by MURRAY BALL



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OBITUARY

Mr Sheel B. Wright is dead. He died during the New Plymouth Conference, a stake driven through his heart. Suitably interred, he was weighted down against resurrection by some 120 beekeepers.

For too long Mr Wright had ruled supreme. For years his negative and inefficient hand controlled everything from the cradle to the grave. While his ghost may linger with other organisations it is unlikely to do so with the Beekeepers. If it did try to sneak back into the Conference it was to be shocked out of its shroud by the "get up and go" of the participants.

So many conferences consist of little but useless waffle. Often they are platforms for dreary, diehard drabs seemingly intent on impressing each other with long-winded, pompous, often meaningless diatribes. Nothing is really discussed. Nothing is solved. No one seems to realise that a conference should be constructive, a positive meeting of minds.

At New Plymouth it was different. A certain excitement, a determination, permeated the air. Everyone was reaching forward. It seemed understood that while nationally we are in a muddle, this was no time for despair. Rather it was a time to grasp the problem by the throat. All realised that we must get out and meet the world, not with something as good as, but with something better.

The speakers were worthwhile and well chosen. From the man from Inland Revenue to Messrs Reid, Matheson, and Van Eaton from MAF, and Dr Barry Donovan from Lincoln, all had a worthwhile input. Not one tended to induce sleep. Particularly remarkable on the morning after the somewhat taxing social evening on Wednesday night.

The "Buzz" groups during the final day were something of an eyeopener. These groups were chosen at random by a form of ballot. Each group was given a leader, a deputy, a problem, half the time it needed, and told to get a wriggle on.

And get a wriggle on they did. I was coopted as deputy on the one selected to examine the circulation of this magazine. Absent was the negative "committee" approach that might have been expected. Positive views only were voiced. In a matter of minutes a plan of action was formulated. By the results from the other "Buzz" groups the same enthusiasm was evident.

Other groups echoed the same feeling and approach. Those pertaining to packaging and queen breeding, for example. Clearly the members understand international standards and requirements. Their knowledge is available to all members of the Association.

Much of this positiveness may be in the nature of beekeepers, of course. As a "new chum" I can only guess. However, I do know that royal jelly is supposed to have some remarkable properties. Bee stings may also have certain effects. It is reasonable to suppose that all beekeepers have been stung at some time. Since most beekeepers have a sense of humour there could be a connection.

A future "Buzz" group might look into this; might care to determine whether a sense of humour, the subsequent ability not to take one's self too seriously, helps beekeepers see the facts of life much more clearly than their contemporaries in other organisations.

As one who has sat in on a number of conferences, is used to being bored to death, was expecting to be so bored again, it was a refreshing surprise. So were the attitudes of the beekeepers. It was a great pleasure to meet so many nice people and learn something of their trials and tribulations. I am now convinced the industry can only advance. I look forward to being part of this advance. I look forward to watching the industry grow from just another export industry to a significant export industry.

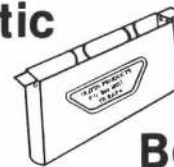
The next conference will be in Greymouth. Let us hope that there we can look back over the preceding year and see the positive advances made.

Then we can all do a two-step on the grave of the late Mr Sheel B. Wright.

Michael Burgess,
Editor.



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To the Editor

Dear Sir,

It usually takes a great deal for me to have recourse to write letters to editors. The inclusion of the editorial from the Australasian Beekeeper frankly annoyed me as I had been given no opportunity to answer the criticism put forward. I do so now.

(1) The most obvious benefit is the increased efficiency correct bee space provides and not just the extra comb as intimated.

(2) You cannot increase hive population simply by adding additional cell space, that was never claimed.

(3) Ten frames per box, the correct bees' space, does give a cleaner brood nest which is easier to work and remove.

(4) No, I did not mention honey supers, nor did I think it necessary as beekeepers do just as is stated: viz the number of frames can vary from six to ten. In some instances beekeepers don't bother to put any frames in honey supers, choosing to mash the resulting harvest. I was concerned about the heart of the honey bee colony-the brood nest.

(5) It is suggested New Zealand manufacturers will now have to run a double inventory. It would appear from his comments that Australian manufactures run three-fold inventories: viz eight-10-12 frame supers, so who is better off?

Metrication is not new in New Zealand. Most beekeepers have accepted the change and the majority welcome the improvement it has brought, particularly the recognition of bee space. I cannot believe in all honesty that the Editor of the Australasian Beekeeper read my article in the *Apiarist* properly. If he had then he would have trimmed all the existing end bars in his colonies to 33 mm by now.

A further article on the subject has been submitted to the *Apiarist*, which may help readers gauge for themselves the benefits of change. Last, but not least, contrary to the beliefs of our Australian counterparts, the frames are fully compatible with the old imperial standard.

Re *The New Zealand Beekeeper*. Your efforts to brighten the magazine are appreciated but one major criticism expressed to me by several beekeepers is that the magazine is becoming dominated by one or two authors and there is less technical content.

I would express the view that while this may be the case it is up to the industry to submit copy and I challenge the beekeepers of New Zealand to pick up the pen. Don't worry too much about the English language, you have an editor who will straighten things out.

Dr H. Shimanuki in his preliminary report and in personal correspondence to me stated: "New Zealand beekeepers are second to none." Let us therefore hear from you.

T. G. Bryant,
Apicultural Advisory Officer,
Tauranga.

Dear Sir,

Massive earthquake strikes West Coast! That could have been the message from my article in the last issue about a cappings rendering unit. The diagram showed the melter sitting level, and the honey/wax separator on a dangerous lean.

The text provided a clue about where the melter should really be: "It sits on a slope . . . so the molten honey and wax runs out one end and through a conventional . . . separator . . ."

The block pictured under one end of the melter is to make the meter sit on a slope, and the separator should be flat on the floor. That is, unless you have some gravity-defying beeswax!

A. G. Matheson,
Apicultural Advisory Officer.

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COMMENT

JOHN SCOTT

This column brings back childhood memories of the old pink covered "Sydney Bulletin". I used to read my father's copy and took particular delight in a regular feature entitled "The Other Fellows Mind". It was headed by a sketch of one person peering into the open cranium of another and presumably shaping the innermost thoughts of that unfortunate individual.

I shall not be as revealing as that, but there are two thoughts I'd like to share with you: one relates to breeding—bee breeding to be precise. From what I've heard of queen breeding in New Zealand I don't think we are exploiting the gene pool available in the way we have with dairy cattle and sheep.

As beekeepers you may not be aware of the dairy cow production trials carried out in Poland over recent years. The female progeny of bulls in New Zealand, the United States, and a number of European countries were run together under the same environmental conditions and ranked according to their milk production. Our team scooped the pool: a real tribute to the breeding programme run by the NZ Dairy Board.

Other New Zealand achievements in this area have been the development of performance-recording schemes for sheep and beef cattle breeders. The schemes, called Sheeplan and Beefplan, use information based on the performance of stud animals to calculate breeding values for those animals. This gives the breeder a forecast of how the progeny of an animal will perform in comparison with the average of the flock or herd, and it enables the breeder to select sires and dams which will improve that performance. Schemes such as these are recognised internationally and overseas buyers wanting our animals for breeding are increasingly seeking performance records to use as a basis for their selection.

I am tempted to also mention some of New Zealand's major achievements in plant breeding and the selection of varieties for particular conditions and markets, however, space prevents me from doing so.

How relevant is all this to beekeepers? The point I make is that there are basic genetic principles which apply to animals and plants and which also apply to bees. Sure, there are differences and difficulties. In nature, queen bees mate in the blue yonder with many haploid drones.

There are also hassles in measuring the performance of colonies in relation to honey production, pollination efficiency, and disease resistance and the association of this performance with individual queens and drones.

There are ways of selecting progeny and controlling mating. I believe we are bound to adopt a more scientific approach, to shift the emphasis from rearing bees to breeding bees. This is certainly one topic area the beekeeping industry could consider when tackling its goal of establishing a long-term plan for the industry.

The other thought I will put to you came to mind during the remit session at the recent New Plymouth NBA Conference. It concerns advisers and their qualifications. Those of you who attended will recall the discussion on the relative importance of academic qualifications as against practical experience.

I don't think there would be any argument between us that the ideal advisers would be tops in both—say 20 years practical experience plus university training in all the relevant science arts and management subjects. Of course if these were the criteria we wouldn't recruit anyone. What we therefore have to do is strike what we think is the right balance between practical and theoretical training.

We also have to meet certain standards set for the job by the State Services Commission. If these standards are inappropriate or if our assessment of the right balance is wrong then we at least try to change the system.

For my part I believe that we are recruiting the best possible people now, but judgement on that will depend on what each of us expect or want from the service. What do you as beekeepers want? Is it just someone with whom you can chat over day to day problems or do you want an adviser who can help you identify fresh opportunities and to reach new levels in management?

The door is open for dialogue between beekeepers and MAF as to the most appropriate advisory servicing. However I should point out that MAF is essentially in the business of helping those individuals and those industries in agriculture and horticulture to contribute to sustainable increase in net export earnings.

* * * * *

PRACTICAL BEE KEEPING IN NEW ZEALAND

by Andrew Matheson, Apiary Advisory
Officer, MAF

An up-to-date guide not only for commercial beekeepers but also beginners and hobbyists. It covers a wide range of subjects including The New Zealand Beekeeping Industry and its history, nectar and pollination sources, Honey bee management, hive products, how to start with bees, bee biology, beehive design and construction, bee pests and diseases, using honey bees for pollination, and much more.

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HIVE PRODUCTS

PETER J. BRUNT, Course Supervisor, Nelson Polytechnic

The chances are that you enjoyed your honey on buttered toast this morning at breakfast as much as I did. Possibly you gave credit to the 50,000 or so workers per hive, and to your own skill in persuading them to collect excess honey for you.

Alas, you probably never gave a thought to the skill of the wheatgrower and the baker who made the bread, or considered how the butter on your toast was produced by the combined efforts of the dairy industry.

Yet that butter spread on your toast is like wax produced by bees. Butter and honey belong to the same group of chemicals called lipids. Honey and bread also share in a common group of chemicals called carbohydrates.

In this series of articles about hive products the physical and chemical properties of the products listed below will be briefly reviewed. Then the biology of their production and/or collection, their nutritional significance, their importance as health foods, together with their other commercial uses will be discussed.

These products can be placed into two categories:

- A Products manufactured by bees:
 - * beeswax
 - * royal jelly

* bee venom

B Products carried into the hive to undergo further processing:

- * nectar to become honey
- * honeydew to become honey
- * pollen
- * propolis

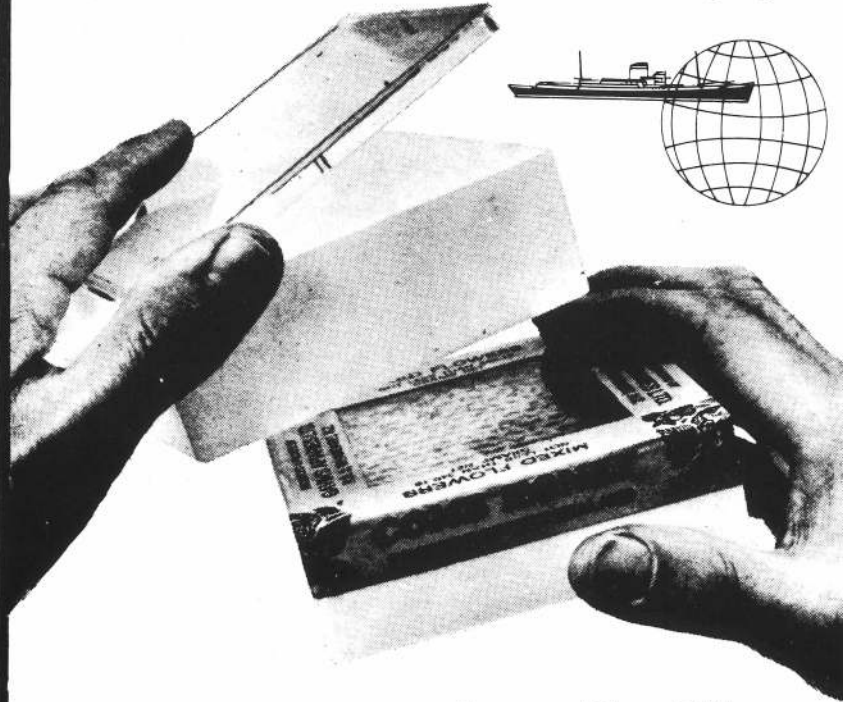
All these products have economic value though not necessarily in New Zealand. There are other products which we will not consider, e.g., water, bees, and brood. The later two, or course, do have economic value: brood is used as food and fish bait.

Further products like the insect hormones and pheromones could be considered but, though much is known about their chemistry and biology, they have as yet not been economically exploited. Our focus then will be on the seven above because of their economic significance to beekeepers.

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HIVE PRODUCTS (cont.)

although they did agree that beeswax was different from mineral waxes. That is not true because their physical properties are quite different. See table one.

Table One: Comparison of beeswax and plant wax from Myrtle (*Myrtus*)

Property	Beeswax	Myrtle wax
Melting point range	63-65C	46.7-48.8C
Density	0.959-0.975	0.985
Refractive index	1.447-1.465	1.436
Texture	plastic, relatively brittle, hard soft	

Their physical differences indicate some chemical differences.

Recent research has shown that beeswax is unique in the animal world, that it consists of many different substances. These are: hydrocarbons, monoesters, diesters and triesters, hydroxyesters, free alcohols, free acids, and acid esters.

What are these compounds?

Hydrocarbons

These are groups of carbons linked together in chains. Most of us know of natural gas. The early hydrocarbons are components of this gas. The early members are as follows:

Table Two: Hydrocarbons

Name	Formula	Expanded formula
Methane/Marsh gas	CH ₄	CH ₄
Ethane	C ₂ H ₆	CH ₃ CH ₃
Propane/Rock gas	C ₃ H ₈	CH ₃ CH ₂ CH ₃
Butane	C ₄ H ₁₀	CH ₃ (CH ₂) ₂ CH ₃
Pentane	C ₅ H ₁₂	CH ₃ (CH ₂) ₃ CH ₃

and so on, building up a -CH₂-group at a time. Pentane for example has five carbons in it, and is called C₅ compound in which the carbons are joined thus: -C-C- if they are joined in this manner the substance is a *saturated* hydrocarbon. If, however, the carbons are joined thus: -C=C- they form an *unsaturated* hydrocarbon. So an unsaturated hydrocarbon with 22 carbons and a -C=C- at position four would be represented C₂₂:4. Hydrocarbons make up 14 percent of beeswax with 10 major components and 66 minor ones. Of the major components three are saturated:

C₂₇:4 (4 percent) C₂₉ (2 percent) C₃₁ (1 percent)

and two are unsaturated:

C₃₁:1 (1 percent) and C₃₃:1 (2.5 percent)

The other five major and 66 minor ones make up a mere 3.5 percent of the total.

Mono-di-and tri-esters

An ester is a product of an organic acid and an alcohol. An organic acid is a compound in which one of the terminal CH₃ groups has been changed to an acid or -COOH group. Most have heard of formic acid, certainly of acetic acid in vinegar or rather rough or sour wines. Some may have used propionic acid in preserving, and others may have been too near a bleaching cow and caught a load of butyric acid. Rancid butter often smells of this.

Table Three: Organic Acids

Acid name	Acid formula
Formic	H COOH
Acetic	CH ₃ COOH
Propionic	CH ₃ CH ₂ COOH
Butyric etc	CH ₃ (CH ₂) ₂ COOH

Alcohols, on the other hand, always contain a hydroxyl or -OH group joined to a carbon.

Most of us are familiar with methylated spirits and know of the contempt "Methos"—people who drink it—are held in. Drinking meths often led to blindness, even death. The major material in it is methanol, the first of the alcohols. Ethanol is the alcohol in beer, wines, and spirits. Drinking too much will lead to beer gut or an accident.

Table Four: Alcohols

Alcohol name	Alcohol formula
Methanol	CH ₃ OH
Ethanol	CH ₃ CH ₂ OH
Propanol	CH ₃ CH ₂ CH ₂ OH
Butanol	CH ₃ (CH ₂) ₂ CH ₂ OH

This list continues like the hydrocarbons and acids.

Some of these alcohols have more than one -OH in them. Such a one is that favourite of those who make almond icing for wedding cakes and the like—glycerine or glycerol. Glycerol has three -OH groups and can be represented:



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HIVE PRODUCTS (cont.)

CH₂-OH
 CH -OH
 CH₂-OH It is very sweet.

Each of these -OH groups can react with an acid. If one -OH reacts it is a monoester, if two it is a diester, and if three a triester. Altogether these three ester types make up 52 percent of beeswax. Then there are other types of esters that make up a further 15 percent of the total. So esters in their various forms make up over three fifths of the total content of beeswax.

Beeswax and butter are chemically similar because of the high concentration of these triesters. Beeswax is harder than butter because it has longer acid chains. So in beeswax there are five saturated monoesters: C₄₀ (6 percent) predominates; two unsaturated monoesters C_{46:1}, C_{48:1} (both 2 percent); hydroxyester C₄₆ (1 percent) and five diesters C₅₆, C₅₈ and C₆₀ (all 2 percent), C₆₂ (3 percent) and C₆₄ (1 percent). There are a total of 44 major esters and 134 minor esters compounds.

Free Acids

There are three free acids i.e. acids not combined with an alcohol. C₂₄ (6 percent), C₂₆ and C₂₈ (both 1 percent). The total free acid content is 12 percent. So the other 4 percent is made up of five other major acids and 10 minor ones.

Others

Six percent of the total consists of as yet undescribed compounds.

Twentyone components have been mentioned by carbon chain length. These account for a total of 56 percent of the wax but only four compounds make up more than five percent each: three esters -C₄₀, C₄₆ and C₄₈ and one acid -C₂₄. The remaining 44 percent is made up of a very large number of minor components probably in excess of 300, see Table Five.

Table Five: Composition of beeswax

Constituent	%	Number of components in fractions	
		Major	Minor
Hydrocarbons	14	10	66
Esters	67	44	134
Free acids	12	8	10
Free alcohols	1	5	?
Unidentified	6	7	?
TOTAL:	100	74	210+

Major components are those forming more than one percent. Minor components are those forming less than one percent. Much of the early literature considered one of the esters to make up more than 50 percent of beeswax.



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HIVE PRODUCTS (cont.)

Recent research has shown it to make up a significant but mere six percent. This great diversity in the number of components gives beeswax its low melting point and relatively soft, plastic texture.

The ratio of these various compounds in beeswax seems to be held constant by the particular species of the Apidae producing it. Of the other species of honey bee, *Apis cerana*, *A. florea*, and *A. dorsata*, found in the East have similar wax called *ghedda* wax. Wax from bumble bees *Bombus* spp has an even lower melting point at 30-40 C.

BEESWAX PRODUCTION

This remarkable substance is produced by the wax glands of the honey bee. The abdominal plates (sterna) of the adult worker bee have long extensions which underlap the plate in the segment behind (see figures A and D from *The Hive and Honey Bee*). These underlapped parts of plate IV, V, VI, and VII, each have two large, smooth glistening oral areas called the mirrors (Mir). Internally these areas are covered by the wax-secreting glands (A, D Wx Gld).

The wax glands are specialised epidermal body-wall cells. In the wax production phase of the worker—between days 12 and 18 of the adult life—they thicken tremendously, become glandular in structure, and begin secreting wax. The wax is discharged through mirrors as a liquid. There it hardens to small flakes in pockets (D Wx

P) between the mirrors and the long underlapping parts of the preceding plate.

These wax plates are about two mm long by one mm wide, though their shape varies. After wax formation by the glands is over they degenerate, becoming a flat layer of cells.

There are eight of these wax glands four on each side. Two scales are produced on each segment, one on each side of the mid-ventral line of the abdomen.

Several factors seem to be crucial for wax production. The first is consumption of large amounts of honey by relatively young wax producers. Various figures are given in the literature as to the kgs of honey consumed per kg of wax produced which ranges from 3-20 kg of honey per kg of wax.

At least eight kgs of honey is required. If a kg of sugar/kg of wax is considered a ratio of 10 or more is thought correct.

At this time of high productivity the bees also need a second important ingredient—pollen. Pollen is required by the bee to keep up its own body protein, otherwise wax formation reduces its body weight, for the bees own protein is removed and not replaced.

Wax production is a high energy intensive operation, the bees use a large amount of energy in the form of honey to convert it to a lower weight of wax.

(to be continued)

INDUSTRY PLANNING REPORT. AUG. '84

The winter issue of 'The NZ Beekeeper' ran a report by NBA President Ian Berry on the Beekeeping Industry Planning Workshop held at Flock House in May last. This workshop was the first important step towards establishing a much needed, formal planning scheme for the future of the National Beekeepers Association, and the beekeeping Industry in New Zealand.

Those who attended Conference '84 in New Plymouth took part in another vital step of the ongoing planning process. After an introduction to the system of planning at the pre-Conference seminar, very ably conducted by Michelle Forsyth, MAF Adviser, Hamilton, members joined in discussion groups on the final day. Discussion was based on the six industry goals and their objectives which arose from the Flock House deliberations, and many worthwhile suggestion came forth. Congratulations to everyone on their contributions and effort. We intend that this should become a regular part of National Conferences.

The considerable information gathered is being collated into a series of 'action plans' for the coming months. Each branch will receive a copy of these and activities will include both the Executive and branches, as we seek efficient management of our resources. We hope that everyone will take the opportunity to work towards the betterment of our industry through a united and well-planned approach to our problems.

A fuller report of our planning process will be included in the next issue of 'NZ Beekeeper', so watch this space.

Allen McCaw, Vice-President.

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YOUNG BEEKEEPER OF THE YEAR

At a recent function of the Bay of Plenty Branch of the NBA, Steve Weenink was chosen Bay of Plenty Young Beekeeper of the Year.

This contest, the first of its kind for the beekeeping industry, is intended to highlight the development of new beekeeping enterprises by beekeepers in the district.

A branch committee which set the criteria for the award and made the selection, included beekeepers David Warr and Arthur Edwards and Apiary Adviser Trevor Bryant. It considered over a dozen applicants.

The two finalists Steve Weenink and Peter Townsend, were then visited by the committee. The management and development of their businesses were evaluated together with their personal goals. They were questioned extensively about their ambitions and general beekeeping.

The final selection and presentation of prizes was held at the Erinlea Lounge on June 21 in the presence of some 50 beekeepers and kiwifruit orchardists.

President Bruce Stanley of the BOP Branch outlined the history of the award and why it was important. David Warr and Arthur Edwards then introduced the two finalists and gave a short summary of their beekeeping background.

The two gave three-minute speeches on the future of beekeeping in the Bay of Plenty. Both showed a good grasp of their subject.

They were then individually asked 10 questions on beekeeping, each out of the hearing of the other.

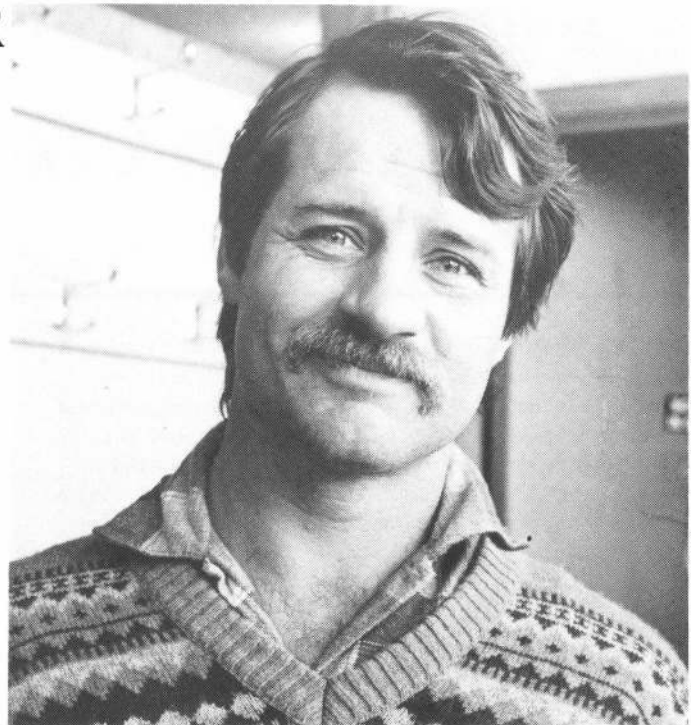
While the judges retired to select the winner, Murray Reid, Chief of Apicultural Advisory Services, MAF, summarised New Zealand beekeeping over the past 20 years. He said that young beekeepers becoming involved in kiwifruit pollination were in the right place at the right time, with the Bay of Plenty in the forefront of one of the most exciting developments in beekeeping history.

David Warr then announced that Steve Weenink was the winner of the Young Beekeeper of the Year Award and that Peter Townsend was runner up.

President Bruce Stanley presented the prizes which included hand-lettered certificates for both prepared by Gloria Warr.

Steve Weenink received a gift certificate for queen bees from Golden Grove Apiaries, a stainless-steel smoker from Ceracell Foundation Ltd, and a comprehensive book about honey from Hughes and Cossar Ltd.

Runner up Townsend also received a gift certificate for queens from Golden Grove Apiaries and a book on bees and beekeeping from A. Ecroyd & Son, Christchurch.



Steve Weenink, Young Beekeeper of the Year, 1984.

PLEA

Your Editor would appreciate it greatly if contributors sending typed copy would please double space. It saves him having to retype it. Many thanks.

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THIS SPACE TO LET

Editors are often dogged by spaces like this, tear their hair seeking fillers. Anecdotes make good fillers, so how about it beekeepers? Murphy's Law says there is at least one good story up each jumper.



CONFERENCE '84

OPENING ADDRESS

JOHN SCOTT, Deputy Director of Advisory Services, MAF.

This is the second time I've had the chance to speak to you at an annual conference. I met you last year at Nelson and put forward my views on the importance of planning and the part I thought you should play in this. A controversial topic and I was provocative.

I welcome this second change because there are things that have happened this year in your organisation that I want to comment on, and also because I should like to share with you what is happening in MAF.

First, I sat in for a while at a planning workshop at Flock House with your Executive, some MAF staff, and representatives of interested groups.

It was a heart-warming experience to join that band of grizzled individuals to see them working as a team, to hear them debating strengths, weaknesses, and opportunities. I was impressed by the way they accepted the discipline required by planning and their concern for the industry as a whole.

I believe, however, that this could all go for nought unless you too contribute. I cannot see your executive imposing their decisions on you without consultation, without feedback, without seeking your ideas, and your response will determine the effectiveness of the whole planning exercise.

Now I should like to shift the focus from beekeepers to planning in the MAF and, as I said before, share some of the experiences and conclusions with you.

The results we are looking for from this contribution lie in the following areas:

Agricultural development and productivity

Plant health

Quality assurance

Agricultural policy

These four "result areas" have a bearing on our relationship with you folk—with the beekeeping industry.

Agricultural Development and Productivity

Much of the work of our apicultural advisory officers is directed to this end and I'm sure you will be aware of examples of advisers passing on information, ideas, technology, which have led to increased productivity.

Bee Health

This is an area where we have responsibilities under legislation, responsibilities we share with all beekeepers to monitor disease and take appropriate action when disease is present.

We take this job seriously. It can, and very occasionally does, give rise to conflict. For our part I believe we must show a proper concern for the rights of the beekeeper and,

at the same time, ensure that what has to be done is done. There is probably a continuing need for action by both MAF and the industry to publicise the hazards of diseases to all beekeepers, particularly newcomers and hobbyists.

Quality assurance

The certification of export produce is a case of the NZ Government saying to the Government of the importing country that we know its requirements and we verify that this consignment meets those requirements.

Agricultural policy

Our input to Government policy—that is, the information and advice we give to the government of the day. An example that comes to mind is the representation we made to the Government last year for assistance to Southland beekeepers.

A major difficulty we face is in deciding how limited MAF resources can best be allocated between all the opportunities that exist in this country for increasing net export earnings.

We look at present export earnings. We look at indirect contributions. We assess the vigour of our industry, the likelihood of it achieving its potential for growth and, finally, we allocate resources on a "best bet" basis.

At present about three percent of ASD's resources is directed to your industry, and I believe we would want some pretty strong evidence of growth in productivity to justify a change in this.

The planning exercise your Executive has initiated is certainly a move in this direction and I would look in particular at Goal No. six:

DEVELOP A LONG-TERM INDUSTRY PLAN

In conclusion, may I comment on a statement from Dr Shimanuki who said: "New Zealand beekeepers have a reputation second to none".

I urge you to preserve that reputation.

* * * * *

LIFE MEMBER

John Heineman, our Honorary Librarian, is now a life member.

John arrived here from Gelderland, a province of the Netherlands, in 1952. Unlike so many of our immigrants, John did not come to bring civilisation to the colonials, he came to be a colonial. He immediately identified with his local community and was as immediately accepted by it. As soon as possible he became a New Zealand citizen, a citizenship of which he is most proud. Congratulations, and "Good on yer", John.



CONFERENCE '84

President's Report to the 1984 Annual Conference

A year ago you made me National President. It has been a satisfying and enjoyable year. I have met many interesting people and come to know many fine people better. However, it has been a lot of work, so I should like to thank those who have helped carry the load.

My wife, Pat, and everyone at Aratiki Honey who helped carry my share of family and business matters while I attended to NBA affairs; Stuart Goodman, our Executive Secretary, and the staff at the Pork Industry Board for their helpful and efficient service; our new Editor, Michael Burgess, and our new Advertising Manager, Elisabeth Burgess, both striving to improve our "New Zealand Beekeeper"; Trevor Walton, our retired Editor, and his team for their past service and for assisting with the smooth changeover of editorship; the five other members of the Executive for their help and cooperation and for enabling us to deal with our work in a calm, relaxed, and efficient manner; the many from the branches who helped over the year; and last but not least the MAF and other government people whom it has been my pleasure to deal with.



President Ian Berry NBA

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I cannot name them all but I must make special mention of Murray Reid and his apiary advisory officers. Without their help my job would have been much more difficult and time-consuming. To these people—and to many others who have helped—Thank You.

The motto of our Association is "Better Beekeeping—Better Marketing". For the second season in a row better beekeeping has been the main concern. The 1982-83 season saw the lowest-ever recorded production per hive in New Zealand. During 1983-84 it was very bad in many areas. Some members are facing financial problems with poor, sometimes complete failures of the honey crop two years in succession. Neither did the long, difficult spring of 1983, with its big bills for sugar to keep bees alive, help.

Chalk Brood was the big news of the year. It seems unlikely to be so important in the future; rather it will be another minor problem to live with. In fact, some of us may have been living with it for some time already.

On the brighter side, pollination fees are rapidly becoming a larger part of more beekeepers' incomes. It may not be long before most beekeepers in the North Island and the Nelson and Marlborough districts will be receiving at least some income from pollination fees.

While production was down, there has been sufficient honey carried over from previous years to meet the needs of the NZ market. Fortunate, because it is important that the domestic market be well supplied to reduce possible pressures to import honey.

Foreign honey could introduce serious exotic bee diseases. With keen competition it is also fortunate that we have not had to export much honey in the past two years. The comb honey export market has become difficult through the Middle East war and from increased competition by other exporting companies.

We must bear in mind that there is no point in producing a product unless it can be sold at a price that can at least cover costs. If the market becomes over-supplied there are five courses that can be undertaken:

(1) Store surplus honey until the market improves. Our two main products, honey and beeswax, are relatively non-perishable and can be stored for a long time at low cost. This simplifies the marketing of our products compared with almost all primary products except wool.

(2) Find alternative markets. That could include new uses for honey, such as dried honey.

(3) Cut costs to reduce, or at least hold honey prices, and so make it more competitive with other spreads. Cooperative bulk buying of packaging materials and the rapid reduction in internal transport costs are two examples of worthwhile cost reductions.

(4) Increase consumption of honey by increased promotion. However, we must bear in mind that promotion costs could increase retail prices and so reduce sales.

(5) Reduce production. The NZ honey crop can be adjusted by about 2,000 tonnes a year by feeding more or less sugar. When honey stocks are low more honey can be extracted and more sugar fed. When there is a surplus of honey less honey can be extracted and less sugar fed for winter and spring stores.

For many years marketing, better or otherwise, dominated our industry conferences. Then conferences took three days instead of the present two and were noted for their lively debates and a general lack of cooperation between the different sections of our industry.

Fortunately those days seem largely over and beekeepers are now working together and moving forward in a manner that suggests a bright future for our industry.

New developments in industry planning, beekeeping education, and "Trees for Bees" programmes are three examples of the result of greater beekeeping cooperation.

I have heard it said that the more cooperative attitudes are due to changing personnel within the industry. Frankly I doubt it. The industry has always had its share of rugged individualists, it still has, and probably always will.

I believe the reasons for changing attitudes within our industry have been the correction of several bad faults in the foundations on which our industry was built. These faults have now been corrected, and I feel we owe a great debt to those within the industry who saw these problems and after many years came up with the answers.

We are now placing more emphasis on forward planning, but I feel we should reflect briefly on past mistakes to ensure that history does not repeat itself. As I see it among the main problems that caused so much strife in our industry were:

(1) The Seals Levy. This system where one section of the industry was forced to pay a substantial levy to another section of the industry, without any apparent benefits to the payers. It was also complicated, expensive, and difficult to administer.

The present hive levy by comparison, where the levy is paid on hives by almost all commercial beekeepers at a fairly low rate, seems a much more practicable, reasonable, and readily acceptable way of providing industry finance.

(2) The blocking of the economic channels of export for our honey by restricting exports to one single channel. Not only did it keep export prices unnecessarily low, but the way it was administered did nothing to promote harmony within the industry.

(3) The demise of the Honey Marketing Authority and the formation of the NZ Honey Producers' Cooperative has solved the problem of suppliers of bulk honey not being able to organise and control their own affairs without the overview of the Board.

(4) The present NBA voting system, where votes are allocated on a scale of one to 12 per member, depending on the number of hives, and the fact that delegates can now carry those votes to conference and vote according to the wishes of branch members at remit meetings.

The old system, where two hobbyists at a branch remit meeting could outvote a commercial beekeeper, and that imbalance could be carried through to Conference, was most unsound.



CONFERENCE '84 PRESIDENT'S REPORT (Cont.)

One of the main achievements of the NBA during the past year was the planning meeting held at Flock House last May.

This meeting laid the foundations for a system of organised planning for the future of the industry. It should be one in which all members can contribute, should they wish.

During the meeting we set out the strengths, weaknesses, opportunities, and threats of and to beekeeping in NZ. It became evident that the industry has a lot going for it. Some of the more important strengths are:

(1) Beekeeping is important to the NZ economy. Without honey bees to pollinate we would have no kiwifruit, no apple and pear, no stone fruit industries; and white clover, on which so many of our pastoralists depend, could become an endangered species.

(2) New Zealanders eat a lot of honey, more per person than in almost any country in the world. And so they should. We provide a wide range of top quality honeys attractively packaged at reasonable prices. If Australians ate as much honey they would be importers, not exporters.

(3) We are now free of export controls for our products. We can now select the most profitable channels of export. We have, of course, weaknesses as well as strengths.

The planning meeting pinpointed 42. Among these were climate, low and variable profits, high cost of sugar for bee feed, and low level of securable assets for borrowing.

The planning meeting saw opportunities for reducing production costs: increased queen exports, "Trees for Bees", more hives for pollination, increased cooperation among beekeepers, to name a few.

Balancing these were threats such as decreases in pollen and nectar sources, protectionism in international trade, overstocking particularly in horticultural areas, and inadequate financing ability.

Leading on from our analysis of strengths, weaknesses, opportunities, and threats (SWOT for short) we developed a list of goals and objectives.

What are the prospects for the next year? Hopefully, a larger crop of honey. With two poor seasons in a row some packers are already running short, and stocks should be built up.

With the low carry-over of honey expected at New Year 1985, a third poor season could bring honey shortages to NZ late in 1985. With the rapidly increasing number of hives needed for pollination we have now overstocked in some of our honey producing areas. This could lead to bigger fluctuations in the honey crop. In average or below average seasons the overstocked areas will produce less than if not overstocked.

On the other hand, in high production years, when hives produce well, no matter how many there are in the area, we could see some very big crops.

During the next year we hope to see our planning scheme firmly established, and we also hope to take a big step forward with education with the introduction of our National Certificate in Beekeeping.

Mr Nick Wallingford and Mr Keven Hearle, both from the Bay of Plenty Community College, and Mr Lawson Robinson from the Education Dept, have put in a lot of good work to bring this project to completion.

It seems likely that by 1 December 1984 Telford Farm Training Institute will have a certificate, approved by the NBA, for students who complete the beekeeping course under Mr Paul Marshall.

"Trees for Bees" and honey promotion should make significant progress, and we may hope to see an apiary advisory officer stationed at Whangarei before long, filling a long felt need in Northland.

We hope to encourage members and others to take a much more active interest in our journal "The NZ Beekeeper", so making it not just one of the best beekeeping journals in the world but The Best. If we can do this we should be able to increase our circulation and this could mean even more improvements.

Our journal has a big part to play in the most important role of the NBA, that is, to provide the means by which all involved in the industry can communicate freely. Good communications should help us to work together for both the good of the industry and of New Zealand.

The change of government has brought a 20 percent devaluation. This devaluation, while pushing up some costs, should help us to market our products in several ways. So I conclude by predicting that 1985 will not bring marketing problems to our main products, and that we shall need to place the emphasis on "Better Beekeeping" rather than "Better Marketing" for at least one more year.

Ian Berry



Deaf beekeeper Grant Brewster, New Plymouth, at Conference '84 with his interpreter, Clare Vale.

* * * * *

Well-known aero-naval historian and researcher, R. D. (Dick) Layman of San Francisco, tells me that the first report of the Wright Brothers' historic flight was in a beekeeping journal. Dick, who fills the city editor's chair for the San Francisco Chronicle, also says that the ANZUS debate has given New Zealand bold headlines in U.S. newspapers for the first time in his long journalistic career.

CONFERENCE '84

MARKETING AT HOME AND OVERSEAS

Precis of a paper given by Mr Percy Berry

To assess the relationship between overseas and domestic sales we need to know how much honey is available for export, the types and suitable markets, and the price being fetched on the domestic market.

The domestic market is entitled to be looked after first, and at reasonable world prices because, to keep exotic bee diseases out of New Zealand, honey imports are forbidden.

Normally we export enough honey to establish a world price. The better the world price the better our domestic prices will be.

The recent devaluation could mean export prices higher than those on the domestic market while the price freeze continues.

Stocks of honey suggest that a few export containers will not cause domestic shortages. It would be as well however for exporters to let each other know how much honey they are shipping.

World markets change rapidly. Exchange rates, tariffs, interest rates, etc, are all factors that must be considered by exporters.

Wars, such as that in the Middle East, can also affect markets.

However, marketing has always been a challenge full of options and opportunities and not a few hurdles.

Some beekeepers are assessing the advantages of either selling directly overseas, selling to New Zealand honey exporters, or both.

Local honey exporters buy from producers who prefer not to export themselves. Some buyers hold stocks in time of plenty to be sold when honey is scarce. This helps to stabilise prices and ensures a domestic supply in poor years. When overseas prices and exchange rates are favourable they can also export for good prices.

Shipping companies are now well placed to help with marketing. At one time they shipped from wharf to wharf only, but now many are accepting containers at factory doors to be delivered into the stores of overseas buyers.

That gives them a greater understanding of the export business and the knowledge so gained can be used to help increase our sales as well as their tonnage.

Our government trade representatives overseas are also increasing their activities. Both they, and the shipping companies, are more than willing to help locate prospective buyers. It is then up to us.

Always be prompt with a prospective buyer. He is a busy man. Carry samples as well as literature and photographs. The more information you have the better, because it helps the buyer make a decision.

Many buyers are responsible to seniors who want the right goods at the right time at the lowest possible price. The best training for any salesman is to serve first as a buyer. That is the quickest way to learn a buyer's problems. It also teaches a salesman a buyer's tactics. For example,

a buyer may express more enthusiasm than he feels for a salesman's products.

That leads the salesman to consider the buyer one of his best prospects. The buyer then suggests the price is too high, in the hope that the salesman will weaken and reduce his price.

That is a legitimate tactic. The buyer is not only concerned about our price to him but our price to a competitor. Many salesmen do not at first quote their lowest price, and much business is completed by "haggling" until a final price is reached.

My own approach is to quote a firm price and stick to it. In the short term I may lose sales but in the long term that approach is likely to establish satisfactory trading relations.

It is also essential to convince the buyer that there is no chance of a competitor buying at a lower price than the one he has bought at.

All kinds of ploys may be used, even after the sale has been completed to bring the price down. The only way to deal with any such ploy is to stand firm on your quoted price.

Once a sound relationship is established with a reliable buyer business can then be conducted by means of telex or cables. Not even samples are needed unless there is a change of product.

Where communications are good and banking is reliable, the "Irrevocable Letter of Credit" against goods shipped is usually satisfactory. Sometimes it is wise to have an ILC confirmed.

Take the necessary documents, including the bill of lading to your bankers. If they are convinced that the documents meet the conditions set out in the Letter of Credit from the buyer's bank, then they will credit the amount involved to your account.

Sometimes these matters can be left to professionals such as customs agents.

To succeed as an exporter you must fully understand world markets. One way is to check shops in the country or countries concerned to see what the consumer is paying. Then it is a matter of finding the most economic channels from the producer to the consumer.

Probably the best single point of reference is the United States Department of Agriculture's "National Honey Report". It gives early information on market trends and related matters.

While the USA is an importer of honey, it also exports to a variety of markets. A large volume of honey is also handled by the Commodity Credit Corporation.

The CCC is a large concern and its honey activities act as a stabilising factor in countries outside the USA. Some packers in the USA feel that the Corporation is less than helpful to them.

* * * * *



CONFERENCE '84

EXCERPTS FROM THE ADVISORY SERVICES' DIVISION REPORT

Some changes have taken place among apiary staff during the past year.

Mr Bill Rodie, Apicultural Advisory Officer, Palmerston North, retired on 14 September after 35 years with the MAF. He will be replaced early in 1985 by Mr Cliff van Eaton, presently at Gore. The Gore post, and that at Oamaru, left vacant by Mr Kerry Simpson who has taken two years' leave without pay, will be filled by two new advisory officers early in 1985.

A new position for an apiary officer was also created in Whangarei. Brian Milnes, now resident in Auckland, will move to Whangarei as AI, North Auckland. Colin Rope, AAO, Auckland, will continue to serve Greater Auckland and the Hauraki Plains.

Some 30 field officers were engaged throughout the year to assist apiary staff with disease inspection, apiary registration, export certification, and general advisory programmes. Twenty of these officers hold full warrants under the Apiaries Act 1969 and have as much authority to administer the Act as do apiary staff. They are located in each region and may act in the absence of an apicultural advisory officer.

Some beekeepers were also engaged as part time inspectors. Their help is appreciated.

EDUCATION AND INFORMATION

A number of short courses were held at Telford and at Nelson, Tauranga, and Gisborne community colleges. Most beekeeping "Aglinks" were revised and some new ones published. "Practical Beekeeping in New Zealand", a text book by Andrew Matheson should be available shortly. A valuable source of information, it will fill a gap in beekeeping literature.

HONEY STANDARDS

Submissions were made to the Codex Committee to attempt to establish a world trading standard for honey. This is proving difficult because of differing interests between producer and exporter countries. Negotiations have been going on for four years and hopefully all problems will be resolved at the sub-committee stage before the crucial and final negotiations begin early in 1986.

QUEEN BEE EXPORTS TO THE USA

As part of a long-term plan to gain access to the US market for queens, especially queens produced December to February, Advisory Services Division brought Dr H. Shimanuki to NZ. Dr Shimanuki is from the US Dept of Agriculture (USDA) Beltsville laboratory. He is a recognised expert on bee diseases and nutrition. He was shown our beekeeping systems, our strains of bees, and the MAF's extension and regulatory functions. He has carried out laboratory work on halfmoon disorder, but so

far has been unable to find the cause. The USDA is considering amending its "Honey Bee Import Regulations".

APIARY COMPUTER

Mr John Smith, Apicultural Advisory officer, Christchurch, has been developing a computer programme for the apiary register. Most, if not all, regions should have their apiary records on computer this season. The annual state of inspection forms will also be prepared on the computer.

INDUSTRY PLANNING WORKSHOP

The concept of strategic planning, or management by objectives, was introduced to NZBA industry leaders at a Flock House workshop last May.

RESEARCH

Liaison was maintained with MAF, DSIR, and university scientists working on projects allied to beekeeping. Discussion is continuing between the Advisory Services Division, the Research Division, DSIR, and Wallaceville over the appointment of a scientist to work on diseases of bees in NZ both native and introduced.

The appointment has been accepted in principle, a scientist identified, and negotiations are underway to fund the appointment. The beekeeping industry will be asked for some financial assistance.

A PhD student from Dunedin began work on high-country legume pollination, and kiwifruit pollination studies continue at Massey University, MAF Ruakura, and at the Entomology Division, DSIR, Lincoln. Scientists from Auckland University and the Division of Horticulture and Processing (DSIR) have studied flower physiology and fruit development.

INTRODUCTION TO BEEKEEPING

**at Massey University
21-23 November 1984**

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For brochure and enrolment form.
(Closing date: 31 October 1984).



CONFERENCE '84 SWOT

Precis of a talk given
by Michelle Forsyth, Horticultural Advisory Officer (Economics).

You probably wonder what I can tell you about beekeeping industry planning. The answer is NOTHING. One person cannot tell you how to plan your industry. It requires the support and participation of you—the industry—to prepare a beekeeping industry plan.

So we have the first problem. There are hundreds of you all needing a say in the direction your industry should take. How is it possible for everyone to have a say? For that you need a formalized system so each step in the plan may be considered and understood by all. A system that has been adopted by many dynamic commercial industries, non-profit making groups, and Government departments. It is not rigid, inflexible. On the contrary it is flexible and allows group participation and fresh thinking.

There is nothing new about this system. It involves the usual steps you take every time you make a decision, whether it be in the family, or in your business.

Normally you may not prepare a formal plan for your business but you will still think it through formally. Consequently the only thing new about this system is its structure. That is necessary because of the size and diversity of your organization.

The winter issue of *The NZ Beekeeper* ran a report of an executive meeting at Flock House in May on beekeeping industry planning. There this system was presented and used to prepare the first steps of an ongoing plan.

Do you need an industry plan?

From your list of remits for this—and previous—conferences it seems you could solve many heartaches with a plan. For example:

That the NBA work towards more positive recognition of beekeeping as a business.

That the NBA approach the Rural Bank for continued support.

That the NBA approach MAF on possibility of complete and ongoing inspection of registered queen breeders apiaries.

Conference requests the NBA executive to approach the Department of Health.

How much clout have you with these organisations if you are managing by crisis? If you manage from crisis to crisis you are not coming to grips with the issues facing your industry. You have no control over your destiny.

You must examine the issues facing you and plan the course of your industry so you are in control.

Look at the marketing situation and see how you can use it to advantage.

Anticipate the help you will need. That is important with the MAF, which has few enough people to spread over agriculture, horticulture, fisheries, and apiculture. We must plan our inputs. How can we help an industry that has not identified its problem—the direction it is going?

That may sound harsh. As individuals you may know where your industry is going. But is each individual plan the same?

If they are, are you making it clear to the organizations with which you are dealing?

A formal plan can help. It can be a discussion document within your organization and can be used when seeking long-term support from other organizations.



Yer eats yer lunch while yer gets on with it. A high powered lunch-time session during Conference '84. From Left: Murray Reid, Nick Wallingford, Cliff van Eaton, Andrew Matheson, Michelle Forsyth, Ian Berry, back to camera.





CONFERENCE '84

SWOT (Cont.)

There will always be crises where you have to approach these organizations for immediate help. It will be simpler then if you have developed a good working relationship and your demands are not always for special aid.

When you plan your future you are managing your resources of time, money, etc.

Management is the prudent deployment of resources to achieve a goal.

You must plan your business and personal life to achieve your goals. How else would you know where you are, where you want to go, the best way to get there?

That is called Management by Objectives. You set your objectives, then take action to ensure you achieve them.

It is important to define an organization's purpose (its mission). That must be clearly defined because it gives a foundation for all future decisions and ensures everyone expects the same from the organisation.

If you can't define the mission ask what results you need from the association. This should define the general areas of the NBA's mission: Better beekeeping, better marketing. That general statement describes your direction in the next two to five years.

From the direction and priorities indicated in the goals, objectives are set. Objectives are more specific than goals and describe the area you want to work in, the result you

want, and a measurement of what you want to achieve, and a target date for completion.

To decide what options are available in setting objectives, a situation analysis must be made.

A method called SWOT has been developed to analyse situations. The advantage of a formally prepared situation analysis is that it ensures nothing is overlooked, and it may provide fresh thoughts on how the present situation can be built.

A SWOT analysis looks at the present for its strengths and weaknesses, and at the future for its opportunities and threats. Knowing these we can prepare objectives, not only to build on strengths, but to prepare for threats.

The situation analysis covers a broad field and ensures an in depth view of the situation at present and how we can foresee the future. It also, gives a firm foundation to see what areas results can be achieved.

Next comes the action plan. That is a plan of activities to achieve the objectives, who will carry them out, by when, what could go wrong, and what contingency plans are possible.

It will identify the need for resources: money, people, in your organization and outside.

It will also identify possible problems and what will be required if they arise.

* * * *



Delegates to Conference '84 hastily grabbed by Vice-President Allen McCaw after our Editor's camera fluffed.

CONFERENCE '84

APICULTURE SECTION, WALLACEVILLE ANIMAL RESEARCH CENTRE ANNUAL REPORT TO 1984 CONFERENCE

KIWIFRUIT POLLINATION

Effect of pollen traps on kiwifruit pollen collection by honey bees

From 1979 to 1982 high-efficiency (HE) pollen traps were fitted to hives of honey bees taken during the blossom periods into kiwifruit cultivar 'Hayward' orchards for pollination.

Pollen collected each day by low-efficiency grids fitted on hives of trapped and control colonies was assessed by weighing.

In 1979, when HE grids were horizontal, trapped colonies collected significantly less kiwifruit pollen than did controls, but in 1981, when HE grids were vertical, the reverse was true. In 1982, HE grids were also vertical, but kiwifruit pollen collection by trapped and control colonies did not differ significantly.

It is concluded that pollen traps cannot be relied upon to give a consistent increase in kiwifruit pollen collection every year.

Competing pollen sources for honey bee colonies in kiwifruit orchards

Hives fitted with low efficiency pollen traps were sited in orchards at Te Puna, Bethlehem (Tauranga) and up No. 1 Rd and also No. 3 Rd (Te Puke). Each orchard had two such hives in it. On the sixth day in each orchard, the percentages of kiwifruit pollen collected were 18, 21, 85 and 95, respectively.

The percentages of kiwifruit pollen collected in two orchards near Tauranga did not differ significantly, nor did those in the orchards at Te Puke. However, the differences between those near Tauranga and those at Te Puke were highly significant.

The major competitor near Tauranga was honeysuckle (*Lonicera* sp.) which constituted 65 percent of all pollen collected.

Role of wind pollination

Experiments were undertaken in T-bar and pergola-supported kiwifruit orchards at Te Puna this year to determine the extent to which wind could affect pollination of kiwifruit.

Two methods were used to exclude bees from flowers, but allow unimpeded access of wind-borne pollen to stigmas. In one, flower buds were enclosed in fine-mesh bags and, when flowers had opened, the stigmas alone were exposed through an opening in the bag. In the second, all floral parts were excised from unopened flowers, leaving only the stigmas.

Hand pollination of other mutilated flowers showed that the amputations did not affect the development of fruit. With both methods it was noted that bees did not approach the hidden or mutilated flowers.

Preliminary analysis of results has shown that export-

sized (≥ 72 g) fruit apparently develop after wind pollination alone. Of all the fruit reaching ≥ 72 g, over 24 percent was derived from flowers apparently pollinated without bee assistance.

On the other hand, non bee-pollinated flowers produced 95 percent of the fruit which did not reach export weight.

Microscope slides coated with a sticky substance confirmed that wind-borne pollen is carried to the vicinity of female flowers.

Preliminary analysis of data relating to fruit weight and seed numbers showed that fruits from non bee-pollinated flowers require between 14 and 39 percent less seeds to reach weights comparable with those of fruit from bee-pollinated flowers. This applies to the 85-108 g range of fruit weights.

DIAGNOSIS OF BROOD DISEASES

As in previous years, samples of brood from colonies showing signs of unusual brood conditions have been examined microscopically at Wallaceville. American brood disease (*Bacillus larvae*) was found in a few samples. Others had the outward appearance of 'Half-moon disorder' but no causative agent was detected.

If there is to be a chance of eradicating a disease before it becomes widespread, a fast diagnostic service is essential. Because the Apiculture Section is away from Wallaceville for long periods in the summer, it cannot be relied upon to give a rapid service.

In 1981 it requested that a search be made for an alternative group able to undertake the work, and expects to be handing over the diagnostic service this year.

* * * * *

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CONFERENCE '84

HONORARY LIBRARIAN'S ANNUAL REPORT

All NZ Beekeepers up to the present year have been rebound. A job well done. My compliments to the binder.

General Secretary Stuart Goodman arranged the word processing, duplication, and stapling of the catalogue. Copies are now available for \$2.00 each: a most reasonable price considering the production costs. With the catalogue is a new Information and Rules sheet, kindly typed and duplicated by an Otago Branch member at no cost to the library.

The I.B.R.A. has now valued our library. The value is based on replacement costs at UK and US second-hand dealer prices, plus a loading for freight and sundries. It does not, however, cover the cost of binding The NZ Beekeeper or items gained during the past nine months.

The value is a surprising £4,905.00. At the rate of exchange since devaluation that is almost \$NZ13,000.00. A good deal above my one estimate.

A few new books have been added and a fair number of papers, pamphlets, etc, have been received thanks to the thoughtfulness of our MAF officers and editors.

The volume of requests for material fluctuates, it is at least as large as last year, and I would say it has increased lately.

Some members have had to wait for their requests, partly because of demand and partly because some inconsiderate borrowers are not returning books in time. There are only a few of the latter but it is most selfish of them.

I have begun making files and folders to store papers, pamphlets, and magazines. That will protect them and make reference easier, all at very little cost.

I should like to complete volumes for, say, the past five years of the A.B.J., Gleanings, Australian Bee Journal, and the Speedy Bee. Much interesting information would then be available. Can I call on N.B.A. members to help fill the gaps?

Overheads are being kept to the very minimum so funds can be spent to best advantage.

My thanks to everyone who has assisted in any way, and remember, **YOUR LIBRARY IS AT YOUR SERVICE.**

JOHN HEINEMAN
Hon. Librarian

REPORT FROM NICK WALLINGFORD, BOP COM. COLLEGE, BEEKEEPING TUTOR

Following a proposal by the Bay of Plenty Community College to the NBA executive in November 1983, I have spent considerable time planning a comprehensive course for beekeepers.

The course is intended primarily for semi-commercial beekeepers, those working in the industry, and motivated hobbyists.

Obvious limitations are imposed by a correspondence course, so within the main course are two, two-day, "residence" courses to be held at several places around the country.

Evaluation of progress will be made by study questions at the end of each module, tutor evaluation at the "residence" courses, and practical evaluations by selected commercial beekeepers.

So we may have a certificate that carries weight with lending institutions, and a qualification recognisable outside our immediate industry, the Authority for Advanced Vocational Awards is being approached to act as certifying authority.

A proposal from the NBA with the collaboration of the BOPCC will be presented at AAVA's next meeting.

All going well we plan to begin the course in 1985. Details will appear in summer issue of The NZ Beekeeper.

Excellent facilities have been provided for the beekeeping industry's use at the College. A combination class room and demonstration honey house, a grafting room, a 30-hive demonstration apiary, and other related equipment are both a credit to the industry and a marvellous opportunity for beekeepers and beekeeper training.

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Current developments in greater wax moth control

By: A G Matheson, Apicultural
Advisory Officer, MAF, Nelson

The greater wax moth (*Galleria mellonella*) is a serious pest in many parts of the world. The control measures that are presently used are often unsatisfactory, so several scientists are working to develop better techniques. This article looks at control methods that might become available to beekeepers in the future.

In New Zealand, wax moth control in stored combs is achieved largely by use of chemicals; the moth-retardant paradichlorobenzene (PDB), or the fumigants methyl bromide and ethylene oxide (EtO). Pesticide usage is coming under increasing scrutiny around the world because of the possible health and environmental effects. For instance, ethylene dibromide (EDB), used for wax moth control in the United States, has recently been banned there because of concern over bromide residues in honey, and the possibility that EDB might be cancer-causing.

Most future prospects in wax moth control involve a move away from pesticides. What is being developed at the moment?

1 Bacterial control

Perhaps the most promising area of research involves a bacterium which infects insects of various types and produces lethal toxins. The bacterium is called *Bacillus thuringiensis*, and is available commercially as powders which contain spores and crystallised toxin. Various strains of *B. thuringiensis* (or *B. t.*) have been developed, and these are specific to different insects. The types used against the greater wax moth have no effect on the honey bee. (They also have little effect on the lesser wax moth.)

There are two different ways of using *B. t.* against greater wax moth in the beekeeping industry. One is to impregnate foundation with bacterial spores and crystals of the toxin. Wax moth larvae burrow near the midrib of a comb, and eating the toxin quickly paralyses their mouthparts and prevents further damage.

The usual method of getting *B. t.* spores into comb foundation during manufacture is to make a suspension of the bacterium and use this to lubricate the rollers. The bacterial spores and crystals are squeezed into the beeswax as the sheets are extruded.

Unfortunately this method is not without problems. The spores and crystals are distributed unevenly throughout the foundation, a problem which gets worse as bees move impregnated wax about and add fresh wax (containing no *B. t.*) to the sheet of foundation.

Some spores leach out into the honey. This causes no health problems for humans (or bees), but *B. t.* must be registered as a permissible additive. In the United Kingdom the limit for bacterial solids in beeswax has been set at 1% by weight.

Combs built on impregnated foundation are protected against greater wax moth infestation for only one year. It seems that the warm and moist conditions inside the hive cause a deterioration in the viability of *B. t.* spores and toxin crystals. This problem must be overcome before the foundation impregnation method can be used. Microencapsulation of the bacteria (as is done with some pesticides overseas) may offer one solution, and another might be the development of more virulent strains of bacteria.

The other way of using *B. t.* to protect combs is by spraying a suspension onto each side of the drawn combs. Readers of US beekeeping journals will be familiar with advertisements of Certan™, a commercial preparation of *B. t.* which is now being used by the industry there. This is sprayed on to the combs with a conventional spray unit.

In a commercial situation labour costs would prohibit this type of operation. It seems likely that suspensions of *B. t.* like Certan will only be of real benefit to the

beekeeper if they can be applied to a stack or building full of supers, by a misting apparatus that disperses the liquid evenly over the combs.

Agents representing the company which makes Certan have shown some interest in having the product registered in New Zealand, and if developments are made with application methods this product could become an effective control agent against the greater wax moth.

2 Other types of biological control

Two other biological control agents have been considered for use against the greater wax moth. One is a virus, which rejoices in the name "multiple embedded nuclear polyhedrosis virus of *Galleria mellonella*", or MGmNPV for short.

This virus can be produced in the laboratory and in field trials. In both cases a suspension of the virus in water was sprayed onto empty drawn combs, which were seeded with wax moth eggs. The virus suspension reduced wax moth infestation virtually to zero, if applied at a rate of at least 1,000,000,000 viruses per comb.

The stumbling block for this method is likely to be cost. As with *Bacillus thuringiensis*, each comb has to be sprayed individually with the preparation, which means that labour costs would be enormous unless some new delivery system is invented. The cost of the virus (materials only) was US 22c per 10 frame box in 1980

The wax moth virus could perhaps be embedded in the foundation, but the same problems would occur as with *B. t.*

Using insect pests of the greater wax moth has been investigated too, including a small braconid wasp called *Apanteles galleriae*. It is very common in wax moths in



the southern USA, but seems to have little effect on its abundance. It seems, then, that this insect offers little hope as a potential control agent.

3 Irradiation

Gamma radiation is being mentioned in beekeeping journals quite frequently at the moment, mainly as a possible means of sterilising AFB-contaminated equipment. It also offers hope for wax moth control, though not by treating equipment.

Irradiating insects before their mass release is a commonly-used pest control technique. In these programmes, large numbers of insects (usually males) are reared indoors, sterilised with radiation, and released. The sterile adults mate normally with fertile insects, but no offspring is produced. This can dramatically reduce the insect population in a short time, but the effects of such a drop may not be long-lasting.

The programme currently underway with greater wax moth is more subtle in its approach. Male moths are given a dose of radiation that does not cause sterility, but induces some genetic defects.

What effects these genetic problems create depend on whether subsequent matings are with normal individuals (outcrossing), or with other irradiated individuals (inbreeding). Through six generations of outcrossing, the number of eggs that hatched was reduced, and the number of adults produced was 25% or 40% that of normal matings (depending on dosage). If irradiated moths only mated with other irradiated moths, then the reproduction rate dropped to less than 10% of normal after six generations.

How would this effect be used in the field? The answers to this are being worked out at the moment, but through the use of computer simulations some idea can be obtained. There are two possibilities for using irradiated moths. One is mass release, to achieve quick results (innundative release), which has a similar effect to mass release of sterile insects. Another option is to release only a few moths

(inoculative release) and allow the mutations to build up and decrease the fitness of the species as a whole. The theoretical models indicate that even a very few moths would have considerable impact on a population, because of the effects of the mutations.

4 Juvenile hormone

The last possible greater wax moth control measure discussed in this article is almost as bizarre as irradiating moths before releasing them. It involves the use of insect hormones to interfere with the wax moths' normal growth mechanisms.

Insects grow in stages, with a moult occurring between each one. The timing and type of each moult is governed by the relative concentration of two hormones in the blood; the moulting hormone (or ecdysone), and the juvenile hormone (JH). Treating insects with JH "jams" the system and can prevent normal development.

Egypt is a country where the greater wax moth is a serious threat to the beekeeping industry, and where a lot of effort is being spent in trying to control it. The use of artificial JH or juvenile hormone analogue (JHA) is one method that is under study at the moment.

In the laboratory many wax moth larvae that are dipped in JHA solutions of various strengths are either killed outright, stopped from pupating, or end up as malformed adults. The total reduction in normal emergence ranges from 31% at low JHA concentrations to 85% at high concentrations (500 ppm).

Field experiments involved dipping pieces of muslin into JHA solutions and placing these in the hive. The drop in emergence of normal greater wax moth adults again depends on the concentration of JHA used, with complete inhibition of normal emergence at 1,500 ppm JHA.

But what about the bees, doesn't this JHA affect other insects too? Yes; direct application of JHA to honey bee larvae in their cells kills them, and they are removed by hive bees. But exposing bees to the vapour from the JHA-soaked muslin has a startling effect — it increases the area of capped brood by up to 36%.

The work on JHA is continuing at an Egyptian university, and it will be interesting to see if, in the future, this technique will find a place in practical beekeeping.



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Conclusion

While perhaps most of the research programmes described in this article are "long shots", and may never come to anything in practice, it is only out of imaginative work such as this that any future breakthroughs in wax moth control will come about.

In New Zealand, meanwhile, wax moth will continue to be a problem, especially in stored combs. Methods of reducing damage include:

- Management: Sort combs before storage and keep lights and darks separate. Don't allow culled combs to accumulate and become riddled with moth.
- Cold: Storing combs in cold, draughty sheds between honey seasons can eliminate the wax moth problem in some areas. Wax moth present in empty combs and comb honey can be killed outright in a freezer: a few hours at -18°C or several days at 0°C .
- Chemicals: Available chemicals include paradichlorobenzene (PDB), ethylene oxide, methyl bromide, and carbon dioxide. Any chemicals used against wax moth will have to be registered this year under the Pesticides Act, 1979.

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PLEASE NOTE
NEW POSTAL ADDRESS

EXECUTIVE COMMITTEE ELECTIONS 1984

The result of the 1984 election for two vacancies in the South Island and one in the North Island is as follows:

SOUTH ISLAND

Gavin Edward White 826 votes
Keith McCready Herron 782 votes
Peter John Lyttle 434 votes
Alister Lee 400 votes.

Messrs White and Herron were therefore elected.

NORTH ISLAND

Tony Lorimer, the only nomination, was elected unopposed.

Keith Herron is a partner in a Southland family beekeeping business. His company produces comb honey for export, packs honey for the local market, and breeds queens for its own use. It should also be noted that Keith has a very dry sense of humour and may be lethal if within reach of a microphone.

Gavin White comes from Golden Bay and is actively involved in turning the Nelson area from a minor into a major honey producing area.

He runs over 1,000 hives and produces queens for the local and export markets. He also cuts comb for export and packs honey for the local market.

As if this were not enough he owns a half share in a kiwifruit orchard and is well into pollination. With a foot in both camps he sounds like the kind of man we need.

PUBLIC RELATIONS PART ONE

MICHAEL BURGESS

What is news? Television, radio, and the daily paper.

Frequently advertising copy masquerading as news turns up on a chief reporter's desk. From there it makes a short trip to the waste basket. Because the item does not appear in the next day's paper the sender often considers he is being discriminated against, or perhaps he doesn't know the right person. Should he take the chief reporter to lunch or would a bottle of scotch for the editor help?

Neither will, or course. What will help is for anyone who has what he considers "news" to determine first what is indeed "news" and what is "advertising".

The two are so frequently confused that the difference needs spelling out.

Advertising is simply a statement, or an offer, by a company. As long as the company breaks no laws, does not infringe good taste, it can say what it likes as often as it likes in the space it has bought.

As a rule of thumb "news" is something "new", a "first" or "last", a "biggest", "smallest", or most "unique", or it

may be something said by someone important: the Governor-General or the Pope.

If Bloggs Apiaries sell 100 lb of honey who cares but Bloggs? But if Bloggs sell 100 lb of honey for astronauts to eat in space because NASA considers Bloggs honey the best, that is news.

If the same company buys 100 queens that is not news because 100 queens are frequently bought by many companies. But if it is the first shipment of queens from Outer Mongolia, the first as a contra-deal for lamb chops with Spain, or an entirely new strain, then it could be news.

If the Pope insists on eating Bloggs honey that is news. If a pop star insists on having it, then Bloggs have probably paid him to say so and the statement is advertising.

If you are still not sure whether or not you have a news item then call your local radio station or newspaper and ask.

They will not laugh at you if you have not. The news media is always searching for items. At the very least they



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now have a "tame" beekeeper. If a bee story breaks they may well call you for comment.

The three mediums for news are television, radio, and newspapers. All have what might be described as "magazine" sections as well, but those sections will be dealt with in a later article.

TELEVISION

Considered the most prestigious by many. For TV the item must be visual, the more visual the better. The 6.30 p.m. news is a show as much as a news programme. The more "Ohs" and "Ahs" it can raise the better.

On national TV the most you can hope for is one minute, probably less. Count the number of items on the 6.30 p.m. national news and divide the answer into the time available.

There are longer slots available after the regional news and in such programmes as Country Calender, but they should be considered as magazine programmes rather than news.

If you are asked to appear on national TV don't forget the minute maximum. The question and answer session with the reporter on camera may well run on for five or more minutes but don't let that bluff you into thinking you will get that time.

The reporter is looking for more material than will be used so the film editor can cut back to the two or three questions and answers he thinks will most interest viewers.

Frequently I have heard those interviewed complain that the item was mutilated, the best bits were cut out. What is important and what not is usually a matter of opinion and context. Since both interviewee and film editor are both human it may be impossible to determine which is right.

To prevent that remember you will not get five or six minutes, keep your answers clear and concise, and stick to the main points.

The reporter will not know your field so will discuss the interview with you first, determine the questions he will ask. Marshal your thoughts before that preliminary discussion and ensure that you feed the reporter the pertinent points. Then you will likely be asked the questions you want.

National TV is sudden death. They either want it now or not at all. No use saying you're busy this afternoon so how about Monday week. The exception is, of course, something that won't happen until Monday week and you're giving that much notice. That is a courtesy always appreciated.

However, once you've made an appointment be prepared for a last minute change of plans by TV. If the Prime Minister is assassinated your crew may be needed urgently elsewhere. Your interview may even be lost in the long grass.

TV news, like all news, is very much a matter of the moment. If it's one of those days when nothing happens you stand a better chance than on one where all hell breaks loose.

Whom to contact? The chief reporter, never the editor. If there is no TV office in your district then Radio NZ acts as TV's agent. It will pass on anything of interest.

RADIO

Both national and local radio have many more news bulletins than TV, much more time to fill, so your chances are better.

A radio news item can take one of several forms. It may be a few paragraphs read by a news reader, a report by a reporter, an interview between a reporter and you, a few paragraphs recorded by you and introduced by a news reader, or a general mixture.

Regional radio is frequently scratching for items so you'll be welcomed like a long-lost brother. Unless, of course, what you're offering is really advertising. They'll still welcome you then—but at a price.

Sometimes a radio station will send a reporter to interview you, or the interview may be over the telephone.

If a station phones you the usual procedure is a few minutes chat on the subject, then the reporter will give you half an hour to marshal your thoughts. During that time he or she will decide what questions to ask based on the preliminary discussion. The follow-up call may be on a phone connected to a tape recorder.

Before you are recorded you will be told that is the intention and asked if you mind. You will not be tricked into saying something before you know you are being taped. Don't worry about your "ums", "ahs", and "sort ofs". They can be edited out of a tape. So can foul ups. If you foul up an answer don't hesitate to say: "Scrub that. I'll start the answer again". The foul up can also be edited out.

Again, contact the chief reporter, never the editor. If you can give notice of something that will happen a few days hence he will diary it and a reporter will follow up later.

NEWSPAPERS

Newspapers fall into three groups: morning, evening, and weekly. Morning newspapers begin to function around two p.m. Evening papers start around eight a.m. and like to collect most of their news by about 10.30 a.m. although they are open for "hot" news (should your wife have octuplets) much later. Weekly papers usually function nine through five on weekdays.

Always call the chief reporter with the exception of some weeklies that might not have one. Then it's the editor. If he thinks you have a story then a reporter and perhaps a photographer will be sent to see you.

If you are concerned that the reporter may not have the facts right then you may ask him or her to read the story back to you after it has been written so you can check its facts.

However, you may check for facts only. You have no right to demand that the story be altered otherwise, nor may you interfere with the reporter's English.

It would matter little if the reporter did let you rewrite the story. The final word on presentation lie with the sub-editor, not the reporter. The sub-editor may decide to completely rewrite the story anyway.

How your story appears will depend on the value placed on it and how much space there is that day.



PUBLIC RELATIONS (Cont.)

If you don't like the headline it's no use calling the reporter and complaining. The reporter did not write it. The sub did.

A final point. Most newspapers belong to The New Zealand Press Association (NZPA). A story given to one is passed on to NZPA if it is likely to be of more than local interest. If NZPA agrees they pass it on in turn to other newspapers. If NZPA thinks the story is of international interest then they pass it to such organisations as Reuters. Much the same applies to radio and TV.

* * * *

NOW HEAR THIS

As a result of the recent Industry Planning Workshop Dudley Ward and Gavin White have been given the task of formulating a plan for the promotion of honey in New Zealand.

They have written asking for help, and would like to hear from NBA members with their ideas or samples of promotional material that may assist them.

Don't store your ideas in a memory bank, put pen to paper or give them a buzz. They want as many different ideas as possible and then a few more.

For Gavin, write RD 1, Takaka, Tel. 58-088, and Dudley is at 97 Guy Street, Dannevirke, on Tel. 8301.

Please do your best for them, folks, It's in your interests.

BEEKEEPERS CODE OF ETHICS

(As agreed to at a combined meeting of beekeepers from the Bay of Plenty, Waikato and to a lesser degree, Auckland, held in Tauranga on Thursday 28 June, 1984.)

We, as members of the aforementioned branches of the National Beekeepers Association, do agree that:

1. we, as beekeepers, should respect the prior territorial rights of existing apiaries unless the said apiary site has been left vacant for a period of two seasons or more.

2. any grouping of ten (10) or more hives shall be deemed an apiary for the purpose of this code.

3. the territorial right of any apiary shall be a distance, in radius, of 1.6 km in every direction from that apiary, and no new yard shall be located any closer than that.

4. we should make every endeavour to have all our existing apiary sites plotted accurately on the MAF apiary map.

5. we will ensure that every apiary is clearly marked with our official identification mark as issued by the MAF.

6. in the event of any territorial or other dispute where agreement cannot be reached, we will call on advice from a mutually acceptable mediator from within the industry.

The Bay of Plenty Branch encourages discussion and suggested changes to this agreement. Please discuss it within your Branch and send any comments to:

Secretary, Bay of Plenty Branch NBA, P.O. Box 340, Tauranga.

A confession. . .

We freely admit that our knowledge of the bee-keeping industry is virtually nil. Irrigation equipment is our game. So we're in no position to try and blind any apiarist with science, nor high-pressure him into buying something. But we do know that quite a few of our

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BK/9/84



FROM THE COLONIES

BAY OF PLENTY

These notes will be short this time, as there are other articles from our branch in the issue already.

It's been a busier winter than usual, with a number of special-type meetings.

One was held in June to present Steve Weenink with the Young Orchardist of the Year Award. This is a first time for this award, and the branch hopes that it will continue for the next few years.

Another very important meeting was held in July to discuss the pressure for sites throughout the Bay of Plenty and the Waikato. There were about 60 beekeepers present from the BOP, Waikato and Auckland areas. The discussion was friendly and out of the evening came a set of proposed guidelines to assist beekeepers in their relationships with other beekeepers.

This Code of Ethics was discussed at Conference in New Plymouth and has been taken up by the NBA on a national level. If your branch has any feelings on the matter, be sure to send them to the NBA which is compiling information on the guidelines.

The branch has also prepared a sheet giving accurate medical information on bee stings and what can be of use should a severe reaction take place. We will be distributing this throughout the area, to orchardists, schools, etc, to better inform people who are stung occasionally.

Nick Wallingford,

WAIKATO

In previous notes mention has been made of the strong feelings Waikato Branch members have expressed about hives coming off kiwifruit pollination and being placed very close to hives on permanent sites, thus lessening their chances of a honey crop. A combined meeting of about 60 Bay of Plenty, Waikato and other interested beekeepers, was held at Tauranga on 28th June and was chaired by Bruce Stanley. The meeting came up with a code of ethics, agreeing to keep apiaries 1.6 kilometres apart.

One wonders about the future of beekeeping in our area. People with no experience in beekeeping are picking up swarms with a view to making money out of pollination. Hives are being stolen and must be tucked away out of sight and will probably never be registered or inspected. If any of them should be come diseased and it is not recognised in time to be controlled, the whole industry could suffer.

The price of honey on the local market borders on the ridiculous. Last year packers paid \$1.45 per kg; this year they paid \$1.50, but honey on shop shelves is selling cheaper than last year!

Members of our branch were very sorry to hear that Mr Jim Barber's house burnt down. Unfortunately very little was saved in the house, though he was able to save his new car.

Branches throughout NZ should make an effort to get older beekeepers to tell of their experiences in the industry so that early days of NZ beekeeping are recorded for future generations.

Spring is almost upon us, hives are becoming short of stores, and the willow has just started to break buds. Let's hope we have a lot better season than last year.

Petrol has taken a big jump in price and one wonders if the day may come when it will be cheaper to run the truck on whisky, NZ made, of course.

Ray Robinson.

AHAURU

In reading through the branch notes for this time last year I was struck by the extreme reversal in our weather so far this winter.

Last year was very cold with considerable snow in the high country. This winter has been very mild with little snow and very few frosts. From reports received from other parts of the country it appears to be general throughout both Islands. The result is a rather unseasonal response from some tree and shrubs in this district.

Colonies, on the other hand, appear to be about normal for this time of the year. The milder weather has given them more cleansing flight time which augurs well for their overall health. With a late rata vine flow in coastal areas, most hives went into winter well provisioned. However, with the increase in flight time and general hive activity, stores will no doubt be consumed at a greater rate than usual.

From word that has filtered in on the grapevine (rata vine down here) it is interesting to see the variety of work members turn their hands to during the winter. It has been said that one is building a retirement home, another is working a gold claim, another is building a honey house, some are packing honey, and one had gone on holiday. I guess bee work gets fitted in here somewhere.

What with spring just around the corner, it will be hive tools instead of shovels, hives instead of holidays—but we haven't been skiing yet!—and pollen patties instead of packing pots. Winter—it's gone already!

Sandy Richardson.

NELSON

"There are many wild bees about and a fair scattering of hives—we don't really need a pollination service!"

That has, in the past, been a by-word in many areas of the Nelson region, where pollination was as much incidental as planned.

It is interesting to note how the pressure of change backfires. With the concentration of horticulture and the

From the Colonies (Cont.)

overlapping of spray programmes, the wild bees have been decimated and the old hives have been moved out to safer areas.

Planned pollination is now a must and our branch has moved accordingly to satisfy the grower by providing a list of approved pollinators, bound by standards, contracts, and agreed arbitrating procedures. With the projected needs for kiwifruit running into thousands of hives, laying a sound foundation for an efficient service now is crucial. For many of our members survival is already pollination-oriented instead of tonnage per 100 hives.

Apart from a few localised exceptions, reports on the effects of last season's conditions are disappointing. Honey production was poor, queen rearing difficult, and winter stocks low. Having to rely on bush fringe areas as recovery sites after pollination, knocking the wasps into submission before moving bees in, is good thinking, even if it costs a few kilos of mirex-baited goodies.

Resulting from Dr Shimanuki's pointers to improved bee health, some of us invested in Fumidil B in autumn feed to this spring's cell-raising and queen rearing programme. By starting right we stand some chance of finishing right.

On the toxic spray front, there is reason to believe that Vapona has a fumigant aspect that could, in certain conditions, kill bees in the hives overnight following a late application in the vicinity. This hazard will be tested in a

controlled situation and the result reported in due course. My entry for the Winter issue went missing—

Fred Galea,

And yours was not the only one to go missing. This, and other matters have been taken up with Wellington's Chief Postmaster. I had an experience last week where a packet, mailed in the urgent box at the postal centre, took *six days* to travel the twenty or so feet to the box it was addressed to.

Editor.

OTAGO

Sorry folks that you were unable to catch up on our bit of news in the last issue. It was mailed to the Editor together with the library notes, from there on I don't know what happened.

Anyway you will have heard that some of us in South Otago and the coastal part once again finished up with a lousy crop while further inland and north of Dunedin the going was a bit better.

The winter up to the present has not been too bad. I have seen the ground a lot wetter before. Last weekend was a bit rough but they are pleased with the snow for the skifields and electricity generation.

SPRING 1984—AUTUMN 1985

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Italian Queens for delivery in the
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TELEPHONE 893, MANGAKAHIA
TELEGRAMS: WHITELINE, WHANGAREI.

Ken called in the other day and like us his returns are pretty low. He is probably the poorest beekeeper in the country for he told us that while taking off his little bit of honey he got stung through the soles of his boots and can't afford new ones. If anyone has a spare pair and feels charitable, please. Size more or less 14.

At our annual meeting Charlie Foote received the Branch Life Membership. It was well deserved. In his forty-plus years of beekeeping, Charlie has always been ready to serve the Branch and to do his best for Otago beekeepers.

It was a pity that Mrs Foote who has helped out on so many occasions, looking after the multitude at meetings, field days, and conventions, could not be with us that evening because of health reasons. We wish her a speedy recovery so she can enjoy life again.

Together with our Southland neighbours we had a good Convention Day at the Telford Farm Training Institute. A very well received item was a demonstration by the Telford Horticultural Tutor on propagation of plant material.

Our Branch is doing its little bit in the "Trees for Bees" programme, through the labelling of trees and shrubs at several nurseries. It all should help.

And now we are all looking out for a good spring.

John Heineman.

POVERTY BAY

So far this winter the weather has been generally mild and most hives are coming through in fairly reasonable condition. We just experienced the coldest peak of winter with snow covering much of the high country—good news for skiers.

Indications are that spring is very close with wattles bursting into yellow flower. After a dry season in 1982, a wet/cold one in 1983, hopefully 1984 will be a balance of the two and will provide the makings of an abundant nectar secretion.

Our local beekeepers' club was privileged to have President Ian Berry at one of our meetings. We were able to extract much information on various topics.

Local beekeepers were also given the opportunity to attend a two-day course run by the local community college and MAF.

The first day concerned hive management. The main point from this I felt was bee nutrition, the importance of not only feeding carbohydrates but protein also in the form of pollen substitutes.

The second day was devoted to business management: budgeting, computers, and loan application. Very interesting, especially as the rural bank has become a little more lenient in lending for beekeeping businesses.

Plans were made for a queen-rearing course in spring, and the community college will also be running various beekeeping courses again this year.

At the two-day course we had a look through the college apiary, which Allan Barker, the tutor, is developing rapidly.

The 25 hives were in good condition and some will be used for various tests and experiments, information from which will benefit all interested in bees.

The college will also grow various "Trees for Bees" to show students propagation techniques. The results must be of benefit to beekeepers.

Well, best start looking at gear for the coming season as it will be here sooner than you think.

Peter Lamb.

SOUTH CANTERBURY

As I write coastal South Canterbury is under a mantle of snow, the heaviest fall for many years. This may be a good omen as I do not recall a poor honey season following winter snowfall to such low altitudes. Here's hoping anyway.

Up to this snowfall, the winter has been dry and mild with very few hard frosts. This has allowed the bees to gather some pollen and to have cleansing flights.

Two Branch meetings were held, the first the Annual Meeting to elect the Branch Officers for the following year. Also at the meeting the local noxious weeds inspector addressed the meeting about the policy of weed eradication. Many of these weeds are of value to beekeeping as nectar and pollen sources.

The second meeting was to discuss remits to be presented at Conference and to elect a delegate. As only a few remits were on the Conference Agenda two speakers were arranged. The first, Mr Frank Scarf, Water Resources Engineer for the South Canterbury Catchment Board, spoke on the Board's programme for planting trees for river control, and for areas of reclaimed river beds to be planted in suitable trees for commercial timber production. He also stressed how aware the Board was of the need to, where possible, plant trees useful to beekeeping and for aesthetic value.

The second speaker, Mr Danny Gresham, YMCA Work Skills Co-ordinator, spoke on the progress being made with the programme to provide work skill and experience to unemployed youth.

This programme provided with considerable finance by local beekeepers, has established a nursery to propagate trees and shrubs suitable for nectar and pollen production, not readily available from commercial nurseries, for farmers, local bodies, or others interested, free of cost.

This winter over 17,000 trees and shrubs have been distributed by local beekeepers and others.

The speaker emphasised the need for continuing financial support by local beekeepers to ensure the programme could continue, as indications were that over 20,000 trees and shrubs would be required to meet the demand next year.

This support has been indicated by local beekeepers, as without a doubt, this programme could greatly assist the pollen shortages experienced by some beekeepers.

About 30 unemployed youngsters have had work experience as a result of the scheme, and about one third have been placed in permanent employment.

Mr Danny Gresham has arranged a Field Day to be held at the Adair Experimental Farm, near Timaru, on August 18. The programme will relate to bee farming with special emphasis on the Work Skills scheme, tree planting for

pollen and nectar sources, and other related subjects. Suitable speakers to deal with these subjects have been arranged. The South Canterbury branch must be commended for the interest it has taken in this departure from the usual, an activity which must be to their advantage in the year ahead.

Harry Cloake

SOUTHLAND

Southland has had a relatively mild winter with some very cold spells.

A successful Otago/Southland convention was held at Telford Farm Institute in June. Sessions included plant propagation for beekeepers, industry planning, and wood-ware construction. The good meals and facilities provided were much appreciated.

A beekeeper monitoring survey for the 1983-84 season showed that most outfits would have a small operating surplus for the year, but by the time personal drawings and interest and principal charges were deducted, 82 percent of the enterprises surveyed would have no cash surplus.

Concern has been expressed about rising costs. Major expenses coupled with low retail prices and returns to bulk producers, do not make for good returns.

Here's hoping for a good willow flow and settled spring weather.

Les Foster

SOUTH WESTERN DISTRICTS

Having the National Conference on our doorstep in New Plymouth has been a winter highlight; and a significant turning point for the beekeeping industry as it plans for the future. Thanks to our hosts, Stan and Joyce Young and Chris Bromell.

Back out in the paddocks the bees have experienced a mild winter. In coastal districts brood rearing has not stopped while nectar was still being found in June.

The end of July brought the first faint promise of spring with tree lucerne, acacias and gorse providing a natural supplement. Wasps have been noted, but have not proved troublesome, in Taihape and the northern Manawatu.



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LB4/4

With hives mostly in good condition and already rearing brood, care is being taken that food reserves do not quickly run out.

August rounds will need sugar to top up one or two hives in each apiary.

We record with appreciation the advisory service given by Bill Rodie and wish him well in this retirement.

John Brandon.

NORTH OTAGO

North Otago has had one of the driest and warmest winters for many years. Whilst it has been good for us as individuals, and for farmers as far as feed is concerned, it is unfortunate for beekeepers because, in hives in sunny and warm positions, the queen has hardly gone off the lay.

At the time of writing, beekeepers were recording hives with three and four combs of brood. That means we may have early swarms to control, that early feed could be critical, and so we are keeping our fingers crossed for a good willow flow.

Apart from that the winter has brought its usual maintenance work for the coming season.

"Bees for Trees" seems to be getting off the ground, and farmers are beginning to take an interest. Our thanks to Max Lory for the effort he is putting in on behalf of the Branch.

G. E. Winslade

AUCKLAND

It is now two years since the Auckland branch was reformed. It is now very active and all meetings and discussion groups are well attended.

The Branch has a very efficient secretary, and beekeepers are showing a real interest in Branch activities.

Some very interesting discussion groups have been organised with the able help of Mr Colin Rope, of the Auckland MAF.

On June 29 we had the pleasure of a visit from President Ian Berry. He spoke to a large gathering of beekeepers for an hour and then answered questions.

The meeting was held at Waipuna Lodge, Auckland, and a very nice afternoon tea was served. Some stayed on to dine and dance later. I think it was the first time the Branch had had an incumbent president address it.

Dave Young.

NORTHLAND

Northland has lived up to its "Winterless" reputation so far, with rainfall below average and higher than normal temperatures. Hopefully, we won't suffer later in the year. Hives are well advanced and a close watch on winter stores is necessary.

At our AGM a marketing committee was formed and has met several times since. Our pollination committees

have met and sorted out pollination problems, and are to meet with Fruitgrowers organisations shortly to do the same.

Several members attended conference at New Plymouth last week. Congratulations to the host branch and the Dominion Executive for a worthwhile effort. The excellent dinner at the Social evening made up for the weather foul-up that day and we still believe that our competition hive was the best . . .

Terry Gavin

MARKET REPORT

The local market

While there has been some concern about price cutting, particularly in Christchurch, there was a firming tendency in honey prices while the price freeze was off and several producer-packers increasing prices. Thanks to those few who sent in their new price lists giving us some information to work on for this report.

MAF statistics for the last season, made available at Conference, show that the NZ honey crop was below average in spite of the remarkable late flow in a few favoured areas. While there is not expected to be a shortage of honey in New Zealand in the time before the new season's crop becomes available, some producer-packers are already running short of supplies, and dark honey does seem scarce for the time of the year.

Honey prices are now "on hold" again until late October with the new three-months price freeze. Beekeepers will need an increase in prices to meet increased costs brought about by the 20 percent devaluation. I would suggest November as the best time to make a move upwards. At the moment it is too early to suggest a percentage, but that will be discussed at our executive meeting in September and will be sent in minutes to branch secretaries.

Anyone who needs guidance on what to charge for honey in the meantime should refer to the prices published in the Autumn NZ Beekeeper, or consult his or her local producer-packers.

The overseas market

The last five "National Honey" reports received from the US Dept. of Agriculture all carry the same statement: "Most domestic honey is being put under Government loan. Many packers and importers are not reporting sales. As a result, sales reported represent two thin a segment of the market to be a reliable indication of actual market levels. Too few sales are reported to establish a market".

It would seem that US packers of honey have at least one thing in common with NZ producer-packers. They are reluctant to supply information to those who are trying to produce worthwhile market reports.

Ian Berry

Making your own Beehive Equipment: Part II. The Bee Box

David Williams

I said in the first article that radiata pine is ideal for our purposes. The practical problems are:

- We must have dry timber. If it is wet it will shrink after being made up and its measurements will change.
- The standard dimension for dry dressed material is 19 mm thick and not the 20 mm we need. Nineteen mm WILL NOT DO, so either get dry, rough sawn timber and have it dressed to 20 mm or dress it yourself.
- Choose timber 300 mm wide, rough sawn, to be dressed or buzzed on both edges.

So the first point is: dry boards, dressed to 20 mm. I use the full-depth Langstroth so all my remarks will be on those. Change as appropriate if you want some other depth.

The bee box is simply four pieces of wood fastened together, all four exactly the same width. So cut all your timber to 240 mm wide.

The books say 238 mm, but 240 mm allows for shrinkage and a bit to spare so when made up you can plane or sand to make it sit perfectly square. You now have several lengths of timber cut from the dry, rough sawn, dimensions of 300 x 25 mm to 240 x 20 mm. Keep the offcuts. We use them later.

The method of joining the corners determines the lengths you cut. For many years I made simple butt joints. The ends butted up to the inside edge of the sides and were held there with three 50 mm galvanised screws. Simple, but not very good. The boxes stayed fairly rigid but sooner or later the rain got in, led to rot and rust. However, this system did make for simple length cutting. For each box:

Two pieces 505 mm long
Two pieces 365 mm long.

Later I made some with half-lap (Fig. 1) joints. That meant cutting out the corners of the ends by 20 mm along the length and half the thickness i.e. 10 mm, and sitting the ends of the sides in. The sides were reduced by 20 mm but the end pieces now had to be 40 mm longer, 20 mm for each side:

Two pieces 485 mm long
Two pieces 405 mm long.

Now we make some cuts: the rebates to hold the lugs of the frames, the handholds in all four pieces, and these corners.

Remember, in all cutting it is not what you take away that is important, it is what you leave. When cutting your lengths don't worry about knots or cracks. As long as they are away from the ends you can putty or fill them before painting. However, if you are after perfection, cut between them.

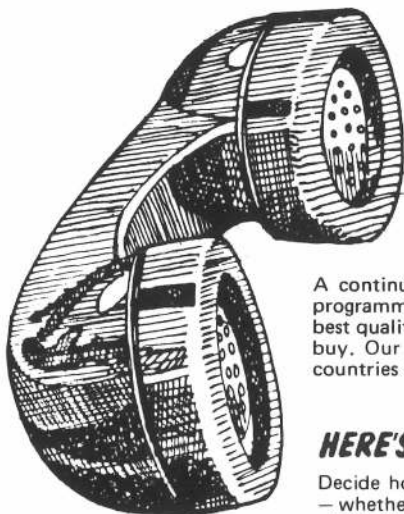
The further processing required is:

- the rebate for the frame lugs is 13 mm deep and takes out 10 mm and leaves 10 mm



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10— 49	\$7.60
50— 99	\$7.00
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150+	\$6.00

Price includes postage.

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December to January less \$1.00 per queen.

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\$1.70 each plus packing \$5.00 per consignment plus courier freight approx. \$12.00.

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**Plus Freight at cost.
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3 frame \$40 plus freight.
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- ii) the rebate for the half-checked corner joints takes out a corner 20 mm long and takes 10 mm and leaves 10 mm on the inside end corners of the same pieces
- iii) the handholds are cut out at the centre of the length of all four pieces ON THE OUTSIDE. Everyone sooner or later puts a hold on the inside, or at the bottom instead of the top. Visualise how everything goes together and you can't go wrong. I use a jig and a Skilsaw, placing them 50 mm from the top edge and sinking them to a depth of 13-14 mm (Fig. 2). Less, and the handhold is too shallow and does not allow a good grip. The Skilsaw is used by placing the front edge of the plane on the jig cross piece, tilting the back of the saw up, starting it, lowering the back for the first cut and repeating this raising and lowering across the width of the hold—again some 50 mm.

Many handymen will have access to a router that will do a similar job.

Most important is to have a few spare pieces of wood to practise on. You don't want to ruin your blanks—it can be expensive and unnecessary.

Accurate sawing is essential but it is surprising what excellent results may be achieved with even simple equipment. I turn my Skilsaw into a mini-rip saw by inserting it up through

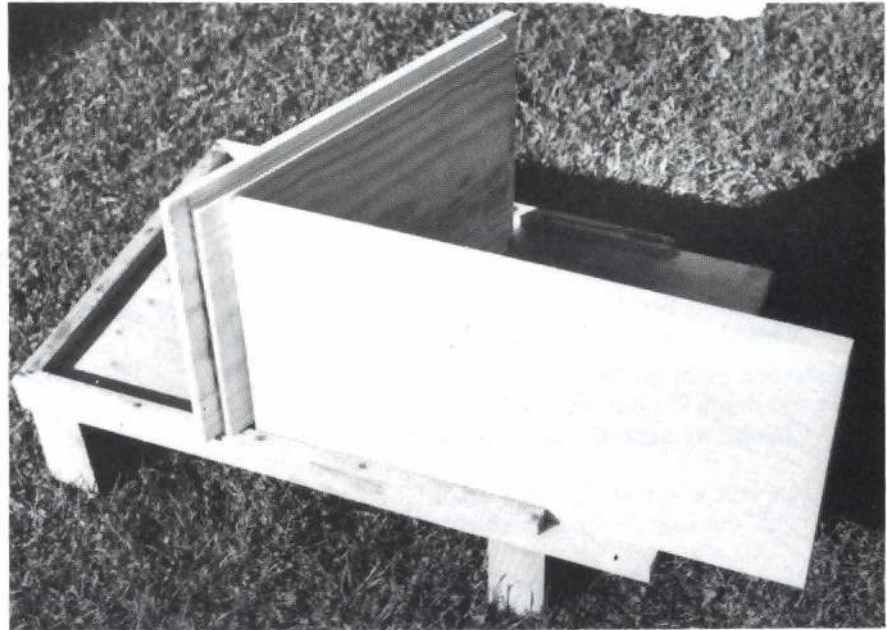


Figure One: Half-checked corners.

a piece of lino-covered particle board cut from an old desk. Others will have their own small saw benches. The first cut is always the most difficult. After that it becomes routine.

All this accomplished, there remains the task of putting everything together. Be sure all pieces are the right way up. I recommend treating all pieces with Metalex or AAC. Allow it to dry before assembly, then spread all surfaces that will be in contact with each other with glue. I use PVA—not particularly suitable but it helps. Then nail or screw tightly together. Remember to use galvanised or stainless steel fasteners. Unprotected nails inevitably rust and

look unsightly. Allow time for the glue to set, check that all boxes sit level, do a bit of trueing up if they don't, then paint. One coat of acrylic per year is quite enough (Fig. 3), but there are other painting systems if you prefer. It helps, but is not essential, to pre-drill if you nail. It IS essential if you intend to screw. Before painting, putty over all nails, screws, cracks, joints etc. And that is the box. Next issue—floorboards and lids.



Figure Two: Putting in the handholds.

STOP PRESS

Carton Specialties Ltd have changed their name to Lilypak Industries Ltd and become subsidiary of Hygienic-Lily, Australia.

The change means Lilypak Industries take on a new direction with access to innovative products and ideas from outside New Zealand.

As part of their new strategy, they have increased their field representation and have restructured into two divisions: Consumer Products and Packaging Products.

By this restructuring the Company aims to offer better service and advice.

Their new phone number is Auckland (09)837-0510. All other numbers are cancelled.

LIBRARY NOTES, July 1984

The following items for the library have been received.

Books

ABC-XYZ, 1975 copy, 712 pages.

Backyard Beekeeping. Scott: W., 1977, 122 pages, UK.

Basic information for the back letter under UK conditions.

Ants, Bees, and Would-be Cousins. Christensen: Charsten, 53 pages, USA. A delightful little book full of the wonderful things of the insect world. The author is a great story-teller. Good reading for both children and grown-ups.

Technical Cooperation Activities-Beekeeping. Drescher: W., and Crane: Eva. A directory and guide containing a wealth of information about the beekeeping aid programmes in developing countries. It also discusses the arguments in favour of these programmes, as well as economic factors and advice on beekeeping projects. Some interesting colour photos.

Beeswax. Brown: R.H. 1981, 74 pages, UK. The well-known author of "Beekeeping", Mr Brown has written other bee books. This one covers the history, origin, production, uses, candlemaking, wax for show, foundation, recipes for cosmetics and polishes. B. & W. photos. The chapter on Rendering Combs offers nothing for the commercial beekeeper. All the same, an interesting book covering many aspects of this important hive product.

Reprint No. 473 of the 1948 original. Cotton: Chas. Pleased to have a second copy of this oldest New Zealand Beekeepers manual for our library. Have you, as a Kiwi beekeeper, read this little book written nearly 150 years ago? If not you should!

MAF Seminar, Nelson, 1983. Matheson: A. G. Editor. 60 pages.

Industry Planning Workshop, 1984. Van Eaton: C. Editor. Summary of discussions.

Access to Japan's Import Market. A Jetro publication, 1982, 16 pages. Gives much information but contains errors. Some perhaps due to imperfect translation, others make no technical sense at all. How dependable is this document?

A library user wrote to say how much he (or she) enjoyed reading several of our books. Wishing to share this enjoyment with others he (or she) continued by saying that provision has been made in his (her) will to leave a private collection of bee books to our library. The collection contains some titles not in our catalogue. What a lovely thought.

John Heineman
Hon. Librarian.

STOP PRESS

Dean Compton, a Havelock North beekeeper, just back from a visit to the USA, reports Varroa has been found in the Rio Grande Valley in Texas. Attempts are being made to isolate it.

Ian Berry

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OTHER PUBLICATIONS

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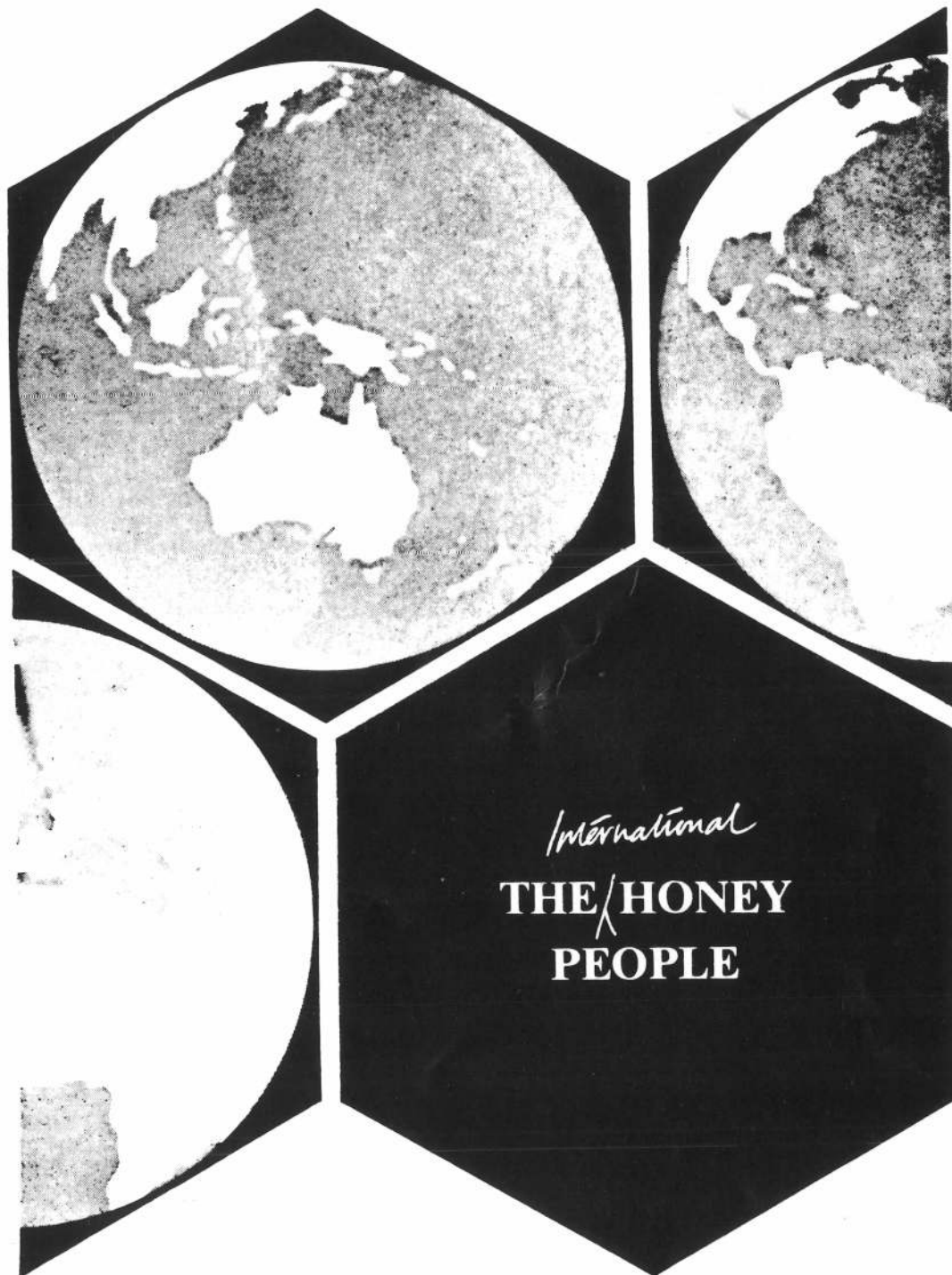
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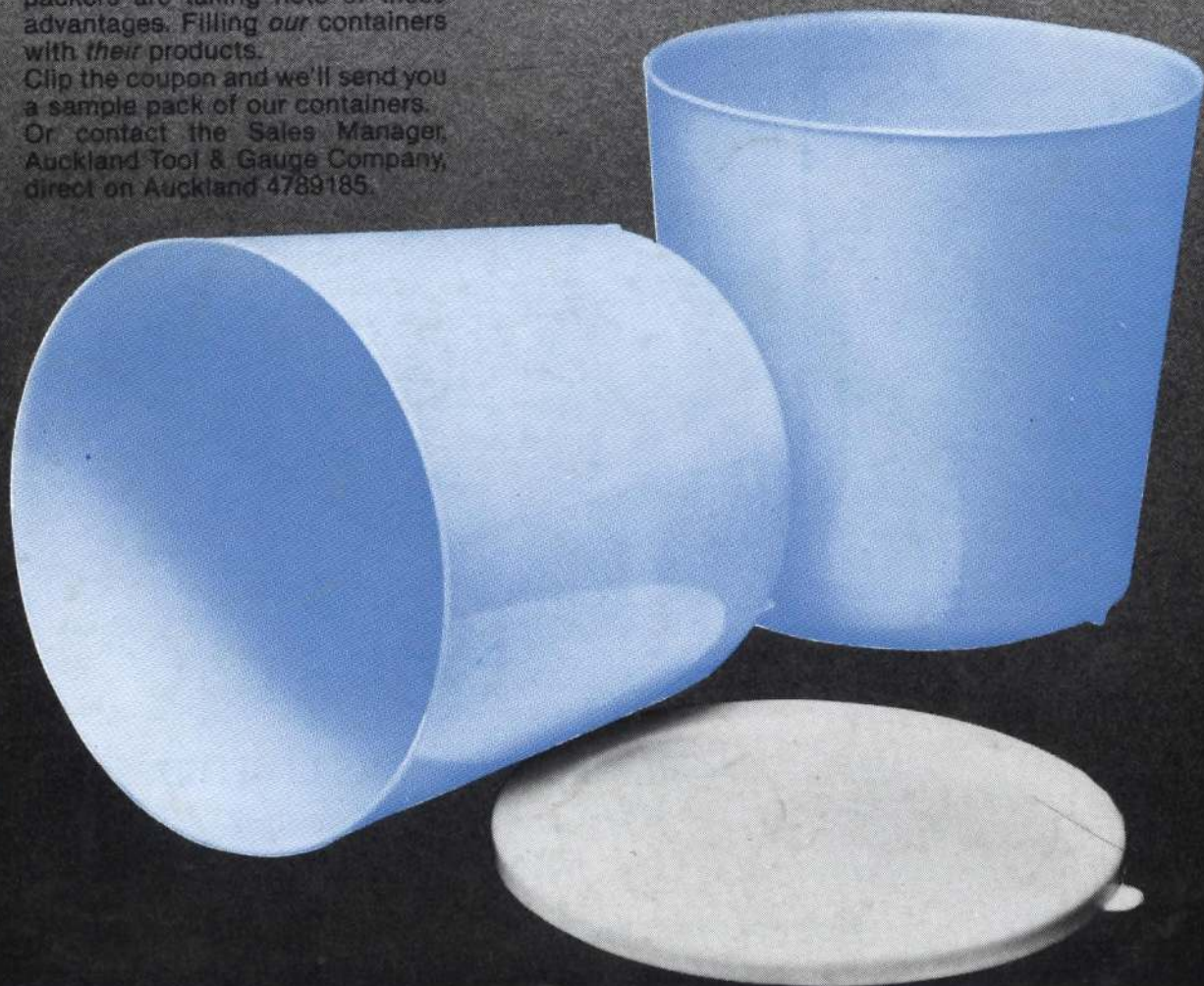
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