

NO. 21

MARCH 1983



*Sugar Feeding
Honey Packs
Honey Filter
Wallacum
Samples*

The Southern Beekeeper



Ministry of Agriculture
and Fisheries
Box 378
GORE
Phone: 7017 Gore

Apicultural Advisory Officer
Cliff Van Eaton
Charlton, No 2 R D
GORE
Phone: 8409 Mataura

THE 1983 HONEY CROP - "ONE FOR THE BOOKS"

All of us who look into beehives, either for pleasure or for a living, know for certain that this year's honey crop is the worst in many years. The old timers amongst us say they haven't seen anything like it in 35, 40, even 50 years. (It depends how far back you go!) Our records aren't anywhere near that complete; but the following table shows, I think, quite graphically, how this year compares with the overall trend:

GORE APIARY DISTRICT HONEY PRODUCTION

Year	Tonnes	Hives	Tonnes/100
74-75	1350	28,668	4.7
75-76	975	27,577	3.5
76-77	812	27,517	2.9
77-78	1440	27,302	5.25
78-79	660	28,424	2.3
79-80	1050	29,891	3.5
80-81	1035	31,730	3.25
81-82	975	28,882	3.4
<hr/>			
AVERAGE	1037	28,748	3.6
<hr/>			
82-83	150	29,000 (approx.)	0.5

This year's crop estimate was obtained by sampling 28 commercial beekeepers during the first week of March so it should be quite accurate. It should leave no doubt in the public's mind, at least, that 1) for beekeepers this year has been much different than all others 2) the last several years have actually been close to the average. In the past five seasons only the year of the floods was really below average and that was still a good crop compared to the one we have this year.

Obviously a year such as this tries even the best of us. It's quite easy to despair and wonder why anyone would ever want to keep bees. That was why I was so impressed with how our district's commercial beekeepers, in true Southland spirit, decided to get together recently and discuss constructive ways to help each other through this difficult time.

The meeting was held on February 1 at the James Cumming Wing, Gore and was attended by over 50 commercial beekeepers and their employees. After assessing the crop situation and presenting MAF with current financial data, the meeting, chaired by local N.B.A. President, Andy Booth, discussed ways and means of presenting the situation to the public and government officials. A committee was formed, consisting of Tony Clissold, Gore; Ivan Dickinson, Milton; Russell Cloake, Mossburn; and Lynn McKenzie, Ranfurly and charged with implementing an action plan for the group. The committee has been quite active, as is evidenced by the large amount of media coverage, both in the newspapers, on radio, and even

national T.V. The committee has also written a letter to the Minister of Agriculture, the Hon. Duncan McIntyre, as well as meeting with area M.Ps. While at this point no further word has been received from Wellington, I have been told the committee plans to meet again in mid-March and will contact all commercial beekeepers should any further developments occur.

The committee was also lucky enough to persuade Mr Roger Minchin, a representative of Invercargill office of the Rural Bank, to address the Southland Field Day on February 19. In his talk Mr Minchin emphasised that while Climatic Relief Loans may not apply in some cases due to lack of securable assets, district commercial beekeepers should still nevertheless apply for Rural Bank assistance.

The meeting also spent some time discussing fall/winter beekeeping techniques which could help to reduce management costs. The techniques include:

1. Obtaining the Maximum Benefit from Sugar Feeding - (See "Optimum Results from Sugar Feeding" in this newsletter).

2. Providing Adequate Ventilation to Reduce Wintering Loss - (See "Ventilation" in this newsletter).

3. Reducing Consumption of Present Winter Stores -

a. Removing non-productive field bees - cynogas was formerly used for this purpose but is no longer readily available. One beekeeper suggested blowing bees from honey supers into bags which could later be disposed. While this might appear cruel it certainly would seem to have merit. It was also felt that processing of sugar feed tended to reduce field bee populations.

b. Consolidation - while no one wants to reduce hive numbers, it would be very important this year to cast a critical eye on those colonies which appear weak. As the old adage says: Better to take your winter losses now, rather than in the spring!

c. Fall Splits - over-wintering splits as tops above established hives should result in less stores consumption provided that you have cells available and drones remaining in your hives. One good way to maintain fall drones is to de-queen selected hives with large drone populations. Queenless hives tend to keep their drones long after queen right hives have discarded theirs.

4. Avoid Late Autumn Shifts - American studies have shown that colony shifts in late autumn resulted in an additional winter consumption of 4-5 kg per colony.

THE N.Z. HOUSEWIFE'S
LAMENT



"I didn't mind when he got the silver,
but when he reached for my jar of South-
land honey"

5. Proper Shelter for Wintering Yards - Windy locations will result in much greater consumption of stores. In Canada hives without wrapping, provided they have a windbreak, are better off than wind-exposed colonies packed with two layers of insulation.

All in all, it was a good meeting, and the committee and information which resulted were important. It won't solve all the problems - that's for sure. But if there's any solace in this year's poor season, it's that even in times of crisis Southland beekeepers continue to work together for the common good.

* o o o *

OPTIMUM RESULTS FROM SUGAR FEEDING

With the emphasis today on greater efficiency in agriculture it's no longer unusual to hear sheep and cattle farmers discussing the finer points of such esoteric topics as "feed conversion ratios" and "achieving target live weights". What they are concerned with, of course, is getting the best (or most efficient) return from their farm inputs (especially feed). In this day and age it just makes good economic sense!

When it comes to autumn sugar feeding, the same sort of considerations should hold true for commercial beekeepers as well. While no one would want to sugar feed by choice, when necessity forces our hand it pays to feed at the correct time and in the proper concentration so that the greatest percentage of that costly sugar actually finds its way into the colony as stores.

SUGAR

The classic study in this regard was conducted in England by Ribbands in 1948. By weighing colonies fed different concentrations of sugar syrup as well as at different times he showed quite dramatically how much more economic correct feeding can be. What follows is a summary of those findings:

High vs. Low Concentration - Ribbands found that concentrated syrup (64% sugar) produced 30% more stores than the same weight of sugar fed in dilute syrup. This is so because a portion of that sugar must be consumed by the bees in an effort to evaporate off excess water from the syrup. There is a loss of .3 kg of sugar for every one litre of water eliminated.

In practical terms what this means is that compared to dilute syrup, for every ten litres of concentrated syrup fed, an additional 2.7 kg of sugar will actually be put into the comb as stores. At 80 cents/kg that's a saving (if you like) of \$2.16 per feeding per hive.

Proper Concentration - Concentrated syrup is actually not a straight 2:1 mixture (2 parts sugar: 1 part water w/w). Water reaches full sugar saturation at just below that level, meaning that the remaining several percent of sugar will simply precipitate out, ending up undissolved in the bottom of the tank. To avoid this waste and achieve the optimum concentration mix 9 kgs sugar to every five litres of water. Warm water will help to dissolve the sugar but cold water can also be used. A large stick or stirring paddle comes in handy and if cold water is used the mixture should be stirred an additional time after the solution has been allowed to settle.

Time of Feeding - Ribbands also found that a significant saving could be made depending on the time during autumn that the colonies were fed. Ten percent more stores resulted from feeding concentrated syrup in mid-September than from the same amount fed in August. Later feeding was found to have a less stimulative effect on brood rearing.

Translated to New Zealand conditions it would seem that feeding should be undertaken in mid-March. While feeding too late can mean that syrup does not get properly processed before winter, the unpredictable nature of our weather here means that one can never be too certain about the proper time to feed.

How Much to Feed - This can of course only be determined by a critical examination of each colony. If we assume that a colony needs 25 kg of stores for winter, following Ribbands we can expect approximately 8 kg of sugar stored for every ten litres of concentrated syrup fed. Light colonies, then, would require two feedings, while medium colonies might only need one.

Don't be caught out, however, by assuming that to feed the same equivalent weight of sugar in concentrated syrup you only have to feed half the amount you normally feed in dilute. Because of the way sugar concentrates in water you should actually feed closer to $\frac{2}{3}$ your usual figure.

So to summarize, in order to achieve optimum results from autumn feeding beekeepers should:

1. Feed concentrated syrup rather than dilute.
2. Prepare the correct concentration of syrup - 9 kgs sugar to every five litres of water.
3. Feed in mid-March, not before.
4. Feed twice to light colonies, once to medium colonies - ten litres of concentrated syrup will provide 8 kg of winter stores.
5. Feed $\frac{2}{3}$'s of your usual dilute feeding to feed the equivalent weight of sugar.

VENTILATION

Another way to help honeybee colonies cope with overwintering is to provide hives with proper ventilation. Numerous studies have shown that properly ventilated colonies consume less stores, retain larger clusters, and show lower Nosema levels in spring. While ventilation is an obvious consideration for colonies overwintered in a cold, snowy climate, observation of hives in a more temperate, moist climate (such as the south west coast of British Columbia) show ventilation to be just as important in these "less harsh" conditions.

Apart from the obvious moisture present in a colony due to winter weather conditions in our area, moisture is also produced within a hive as a by-product of honey consumed by bees to produce heat. For every gallon of honey used in this way an almost equal volume of moisture is given off in the hive.

At other times in the year bees are well equipped to remove this moisture through the normal bottom entrance of the hive. However, once bees begin their winter cluster, they become unable to ventilate through this lower opening. Without an alternate ventilation hole moisture begins to accumulate within the colony both stressing the bees and creating the need for additional heat to maintain proper colony temperatures. Excess moisture can have a disastrous effect on hives. Indeed in North America it is said that far more overwintering colonies die each year from high humidity and excess moisture than ever perish from the cold. Honeybees can withstand very low temperatures, but have trouble with just a few degrees of frost if their colony is too moist.

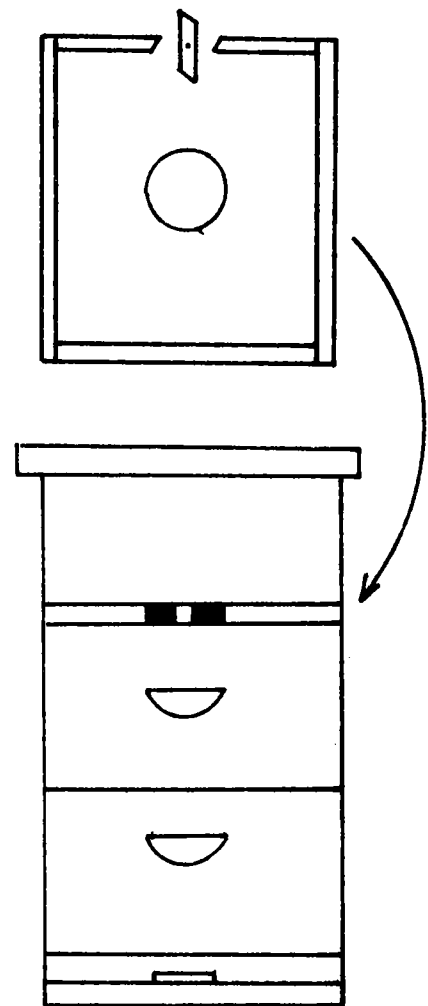


Figure 1

To properly ventilate moisture, what a colony needs once it forms winter cluster is an upper entrance. When clustered, bees are unable to ventilate their colony by fanning and must rely on moisture removal from convection. An upper entrance provides this much-needed exit without, studies have shown, causing any appreciable heat loss.

In Canada colonies are provided with an inner cover for this purpose. One rim of a hardboard hive mat is cut and nailed in

such a way that when placed over the second brood chamber it provides a closeable top entrance (figure 1). This is commonly used in association with an empty feed super which holds a wood shaving-filled burlap sack. The sack acts as a moisture-absorbing wick for the colony.

A less expensive method of provided good ventilation (and one which wouldn't blow away in our high winds!) involves making a 1/2 inch auger hole 2 inches to either side of the hand hold on the front side of the top box (figure 2). The holes must be kept small enough so that mice cannot enter. Bees will begin to use these holes as entrances beginning in the spring and can be left open throughout the year.

However, if for any reason you wish to have them plugged, a supply of corks works well to close the holes.

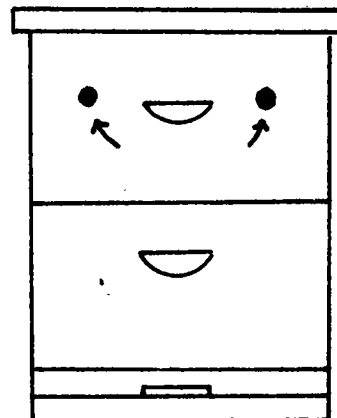


Figure 2

* o O o *

LEARNING SOME NEW THINGS ABOUT DRIFT

One of the most interesting talks at this year's Southland Field Day was given by Dr Cameron Jay, a distinguished bee research scientist from the University of Manitoba, Canada. While on sabbatical this year Dr Jay and his wife Doreen spent much of their time at Tauranga making an intensive study of honeybee orientation during kiwi fruit pollination. Their visit to Southland was part of a rather exhausting speaking/sight seeing tour which followed the completion of that work.

Dr Jay presented details of studies he has conducted over the years on honeybee drift in commercial apiaries. His findings are well-known to many of us and have led many beekeepers throughout the world to abandon straight row apiaries in favour of hive placements more easily distinguishable to honeybees.

To summarize all too briefly, for honeybees to return with regularity to their parent hive, cues must be present which allow the bee to easily find that hive within the group. The traditional method of placing white-painted hives in straight, even rows is actually the worst hive placement as far as the bee is concerned. In such a situation upwards of 70% of field bees drift to other hives, with drift tending to the ends, fronts, or windward sides of rows.

Dr Jay found that drifting could be reduced to 10% and less by
a. attaching boards painted different colours directly above the entrances of hives
b. off-setting hives at a 45° angle
c. placing hives in various configurations (see illustration).

Pairing hives in rows, on the other hand, did not reduce drift, with bees drifting "right hand" and "left hand" along the row, depending on where their parent hive was in the pair.

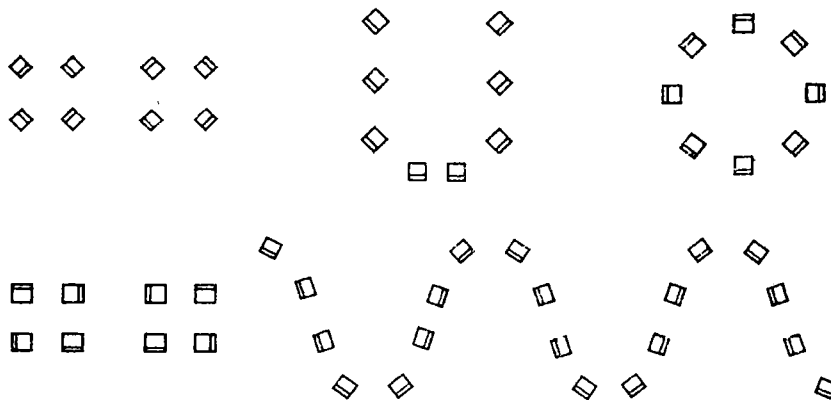
A simple summary of these results belies the tremendous effort that went into marking and counting bees in a whole host of different tests. All work was done in co-operation with commercial beekeepers in Manitoba, and one result (perhaps the most significant, Dr Jay says, in practical terms) was obtained from a study of over 500 hives. That result showed that by reducing drift to a low level, overall honey production could increase by up to 24 lbs per hive.

What I found most interesting about Dr Jay's talk this time, however, were the new things I learned about drift. While I had heard Dr Jay's presentation several times in Canada, his comments about pallets, circles, and south-facing colonies were very interesting, indeed.

I have always thought that to reduce drift in a four-colony pallet, entrances should be placed in four different directions (a difficult thing to do). Dr Jay commented that bees can very easily distinguish within pairs and such pallet colonies need only face front and back. The pallets themselves, however, should be offset when placed so that the bees can distinguish individual pallets from each other.

Dr Jay was also asked about placing hives in circles. In some parts of New Zealand hives are so-placed and it is claimed that such a pattern totally eliminates drift. Dr Jay's findings, however, showed that while a circle kept colonies more or less equal, drift within the circle continued at a very high level. He especially warned against this type of configuration for bee breeding performance tests where study of colony variation is important.

Finally, I'm sure we all believed that facing colonies into the south (away from the sun) greatly impairs their performance. This must be one of the most widely held beliefs in beekeeping. While Dr Jay admitted to this prejudice as well, his work has shown that the honey production of such colonies is not significantly different from colonies facing in any other compass direction. Bees in south-facing colonies may start their flying day a bit later, but in the final outcome it doesn't seem to matter, all in all.



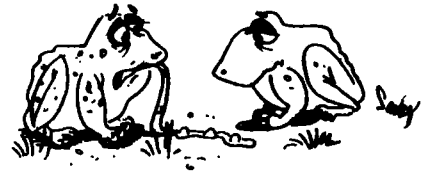
Five useful hive layouts to prevent drifting. The double line indicates the hive entrance.

(above): diamond, U-shape, circle; (below): square, "snake"

LOW-COST EXTRACTION GEAR FOR HOBBIEISTS

While people keep a few bee hives for any number of reasons, I have always felt that for hobbieists beekeeping should be, first and foremost, a lot of fun. But while honeybees are fascinating and those supers of capped honey can be a real source of pride, extraction-time for the amateur is often a messy and sometimes expensive affair.

Recently I viewed a neat little extraction system manufactured here in New Zealand which is both efficient and inexpensive. The low price comes from the fact that the extractor drum and lid is made of non-toxic high density polythene rather than stainless steel. The four frame steel basket is also plastic-dipped. The extractor with its stand stores away in a very compact fashion and there's an uncapping unit/honey strainer and plastic honey gate as well.



The vet told me to stay away from bee hives.

For a brochure outlining this excellent little system write:

Keith Walker
62 St Andrews Road
Epsom
Auckland 3

* o o o *

BEEKEEPING UNIT FOR TELFORD

Following Principal John Third's remarks at the Southland Field Day it has been announced that Telford Farm Training Institute will proceed with the establishment of a commercial beekeeping unit at the school. With formal approval on February 21 from the board of directors, Telford will now begin the acquisition of equipment needed to run a full-scale enterprise. Negotiations are underway at present to hire a well-qualified manager/tutor for the operation.

Beekeepers can all be proud of this first New Zealand training unit and the fact that it will be based in our district. Over three years' planning has gone into the unit's creation and beekeepers Tony Clissold and Ivan Dickinson as well as Apicultural Advisors Kerry Simpson and Trevor Bryant should be given a hearty round of thanks for their many efforts.

As Mr Third outlined in his talk, the new unit has several purposes. First, it will fully train several young people each year as beekeeping cadets, preparing them for a future in the beekeeping industry. Second, the unit will give all farm cadets a firm grounding in beekeeping practice in the hope of creating a better understanding of commercial beekeeping and its role in the agricultural community. Third, the new facility will add immensely to the practical content of MAF-sponsored short courses and seminars. And fourth, there may also be an opportunity for practical research and demonstration programmes in such areas as bee breeding and improved management techniques.

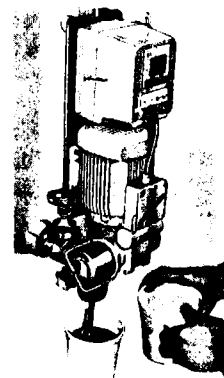


Local and South Island beekeepers have already shown a great deal of interest in making donations of hives and equipment to the new unit. Within the next few months committees will be formed within the various local branches to handle these inquiries. This newsletter will keep you posted.

* o o o *

THE APIELECTRONIC HONEY PACKER/PUMP

One of the many interesting products manufactured by Ets Thomas of France (see Southern Beekeeper, December 1982) is the Apielectronic honey packer/pump. While the machine is a highly efficient self-priming pump (it can handle cold creamed honey) it is also a very accurate packer. With the use of its electronic control box the pump will measure out exact dosages from 35 grams to several kilos, based on the number (from 1 to 9999) dialled into the preselector. The packer is controlled by a foot pedal and could be adapted to simple conveyor systems.



The pump is available from two New Zealand sources:

Alliance Bee Supplies
P O Box 5056
Papanui
CHRISTCHURCH

Ceracell Foundation Ltd
P. O Box 204
Hudson Road
WARKWORTH

or direct from the manufacturer. Price is subject to changing exchange rates but should be around \$2,000.00.

* o o o *

NEW "EASY-CLEAN" HONEY FILTER

A new honey filter is now in use throughout New Zealand which while equal in performance to stainless steel in-line strainers, is easier to clean and retails at one quarter of the cost. The filter, manufactured by Arkal, an Israeli firm, is actually a trickle-irrigation filter, but has been shown to be quite effective for honey as well. The filter uses a series of plastic rings which when tightened together filters the honey as it is forced through. To clean, the filter cover is simply unscrewed, releasing tension on the rings. The rings can then be separated from each other and cleaned with a high-pressure hose. There is no need to remove the rings from the filter for cleaning.

The filter is distributed in New Zealand by:

Dominion Construction Co. Ltd.
13 Garrett Street
P O Box 11-077
WELLINGTON

Local stockists include N Z Fruitgrowers Federation, ALEXANDRA, and Don Hall Machinery, Kenmure, DUNEDIN.

The 2" Model 4900 with blue or yellow rings seems to be most popular. It sells for \$274.00.

* o o o *

PESTICIDE ANALYSIS SERVICE OFFERED

The Research Division of the Ministry of Agriculture and Fisheries is now offering a pesticide analysis service to beekeepers who suspect their colonies are suffering from the affects of spray applications of agricultural chemicals. The service, centered at Wallaceville, can provide a fast, highly accurate diagnosis of suspected bee poisoning provided samples are received quickly and in good condition.

And that's the catch. While the equipment requires only a very small sample (50 bees is enough), decomposition can nullify the results if the sample is not received in good time. Correct packaging and proper mail handling are essential if the sender hopes to obtain a valid result.

The proper procedure to follow if you suspect pesticide damage is as follows:



Honeybees are valuable—spray carefully.

1. Collect a sample of dead/dying bees as soon as possible after discovery.
2. For analysis purposes the sample need not exceed fifty bees.
3. Do not freeze or refrigerate the sample.
4. Instead, wrap the sample in tissue or place in a ventilated container for shipment. The sample should not be sealed in plastic or glass (particularly if the sample is wet) as decomposition is very rapid under these circumstances.
5. In preparation for mailing wrap the sample so as to avoid crushing. A stout cardboard box or hollowed styrofoam should work well.
6. Include name, address, date of mortality (if known) and suspected pesticide.
7. Dispatch the sample immediately by Jet-X, first class mail or air mail to ensure the least possible delay between time of bee death and subsequent analysis. (Registered mail is too slow for this type of sample.)
8. To avoid delays address the sample direct to:

Mr D A White
Technical Officer
Research Division
Wallaceville Animal Research Centre
Private Bag
UPPER HUTT

Last but not least, don't forget to notify your Apicultural Advisory Officer. While a new, comprehensive Pesticide Act is working its way through the governmental process, the Apicultural Advisory Officer is still the person best able to assist you should action be needed to protect your honeybees from further loss.

* o O o *

DID YOU KNOW -

"Roughly one third of all food eaten by the American consumer requires pollination by bees."

- Dr Norman Gary, in the American Bee Journal,
January 1983

* o O o *



**New Zealand Tree Crops
Association Inc.**

TREE CROPS ASSOCIATION NEEDS YOUR SUPPORT

On February 26 I attended the annual meeting of the Southland Branch, New Zealand Tree Crops Association. As many of you know, the Tree Crops Association has shown itself in the past few years, to be a true friend of the honeybee. While encouraging the establishment of tree plantings in this country for food and forage (and not just wood) the Association has always been quick to point out the economic value of trees for bees. For them honey is as important a "tree crop" as any fruit, berry or nut.

The Southland branch, especially, would seem to be interested in the issue of adequate bee forage in our district. While some of the tree crops being promoted in other areas of New Zealand may not do well in our climate, the branch realizes that the planting of alternative pollen sources to replace the disappearing gorse is certainly of economic importance.

I would encourage all area beekeepers interested in this problem to join the Southland group and work with them to find ways to increase tree plantings in Southland. The group has just received permission to use a five acre site at the Edendale Forest Service Nursery for test plantings. The trial could provide valuable information on suitable cultivars for our area and bee forage species would certainly be welcome.

The group's next field day is Saturday, April 9 at the nursery.

For further details and meeting time contact the branch president (he's a side-line beekeeper!):

Mr Malcolm McKenzie
Heatherlea Farm
East Limehills
No 2 R D
Winton

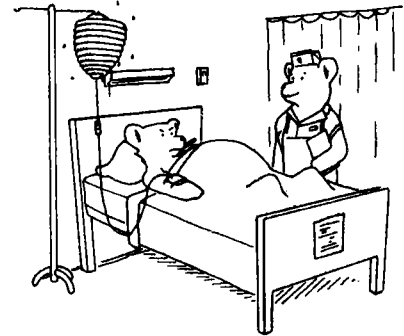
Phone: CEN 527

FROM THE "THINGS ARE BAD ALL OVER" DEPARTMENT

Here's a very interesting editorial from the Daily Telegraph, one of Britain's largest circulation newspapers. Thanks are in order to John Garraway and the Dunedin Beekeepers' Club for bringing the article to our attention.

Threat to the Bee

Those of us who like to spread our breakfast bread with British honey may find home-produced varieties hard to find in the shops this winter. While many sectors of agriculture have been enjoying a bumper year, with record harvests in some parts, the British beekeeping world has suffered its worst summer for years. It follows a series of indifferent years. The situation has already led to the closure after 63 years of one of the biggest bee farms in the country, A W Gale of Marlborough, and there are fears that other commercial beekeepers - there are some 400 in Britain - may be forced to follow suit or scale down their businesses. There are also fears that increasing numbers of private beekeepers will pull out or scale down. The home industry supplies 10 per cent of the honey eaten in Britain (imports account for 90 per cent) and it is clear its share is set to shrink yet further.



For years, beekeepers have attributed falling domestic honey production to the loss of hedgerows and pastures where flowers grow, to reductions in the number of trees such as lime and sycamore beloved by the bee and to the widespread use of agricultural insecticides and herbicides. There is no doubt all these factors have played a part, though some experts blame the "weak constitution" of imported bees. But it seems that the real reason for the British beekeepers' present predicament, and inability to compete, is the high cost of the sugar liquid needed to put in the place of the honey removed from the hive. While the world market price for such sugar is about £80 a tonne, the price the British beekeeper has to pay is the Common Market price of £400 a tonne. Other countries within the EEC with warmer climates and more flowers have a natural advantage. Those outside the community have the sugar price advantage. Ministers rightly concerned at the effects imports are having on domestic manufacturing might spare a thought for the plight of a more basic - and ancient - British industry.

- September 25, 1982

"BEES IN THEIR BONNETS"

By

W. J. LENNON

Editor "The New Zealand Beekeeper"

While renewing a past acquaintance recently Tony Clissold was given a box of beekeeping records and memorabilia for inclusion in the N.B.A. archive. Among those papers was a small book entitled "Bees in Their Bonnets". Authored by the then-editor of The New Zealand Beekeeper, Mr W J Lennan, the report was written in 1948 in commemoration of the Otago Centennial and traces the history of beekeeping in Southland and Otago.

And what an interesting history it is! The book is full of anecdotes and stories about the early days which give a much-needed perspective on current events (especially in a year like this!). In one account a beekeeper tried his hand at honey exporting as an experiment in 1904. The consignment to England fetched "a handsome return of £60 for 60 cases - just over twopence per pound from which had to be deducted the cost of tins, cases and railage to port." In another, Mr J Allan, Wyndham, reflects on the 1912 season, when "not only had it been difficult to get surplus honey, ... it had been difficult to keep the bees alive." The author interjects that "notwithstanding the fact that they had had three bad seasons, Mr Allan still regarded the Southland climate as one of the most favourable in New Zealand for beekeeping."

In a third, Mr Lennan recounts the story of Mr R Gibb, a school teacher in Southland.

"One year he decided that the run of poor years must surely be at an end and he resigned his position with the Education Board. At the end of January he was still feeding sugar to keep the bees alive; there did not seem to be any hope of a honey crop so he applied for and received back his position with the Education Board. He had only been back at school for a week when the weather became remarkably fine."

Mr Gibb had to apply for a leave of absence, just to handle the crop. He remarked that so heavy was the flow "that one's boots became sticky when walking through the pasture." That year Mr Gibb produced 13 tons of honey from 150 hives!

"Bees in Their Bonnets" also provides sketches of some of Southland's more notable beekeeping men, including Bob Stewart, perhaps New Zealand's most famous queen breeder (more on him some other time). There's also a history of the N.B.A.'s Southland and Otago branches as well as the story of Issac Hopkins and the beginning of MAF's apiculture programme.

Reading such accounts makes you realise there's a lot of history backing all of us. And somehow this sense of perspective makes all of our jobs seem more worthwhile.

(If you would like a copy of "Bees in Their Bonnets" contact me in Gore and we will arrange to make copies.)



MEMBERS AND FRIENDS AT A SOUTHLAND FIELD DAY, 1927.

* o o o *



SEND THIS TO YOUR FAVOURITE
LENDING INSTITUTION!