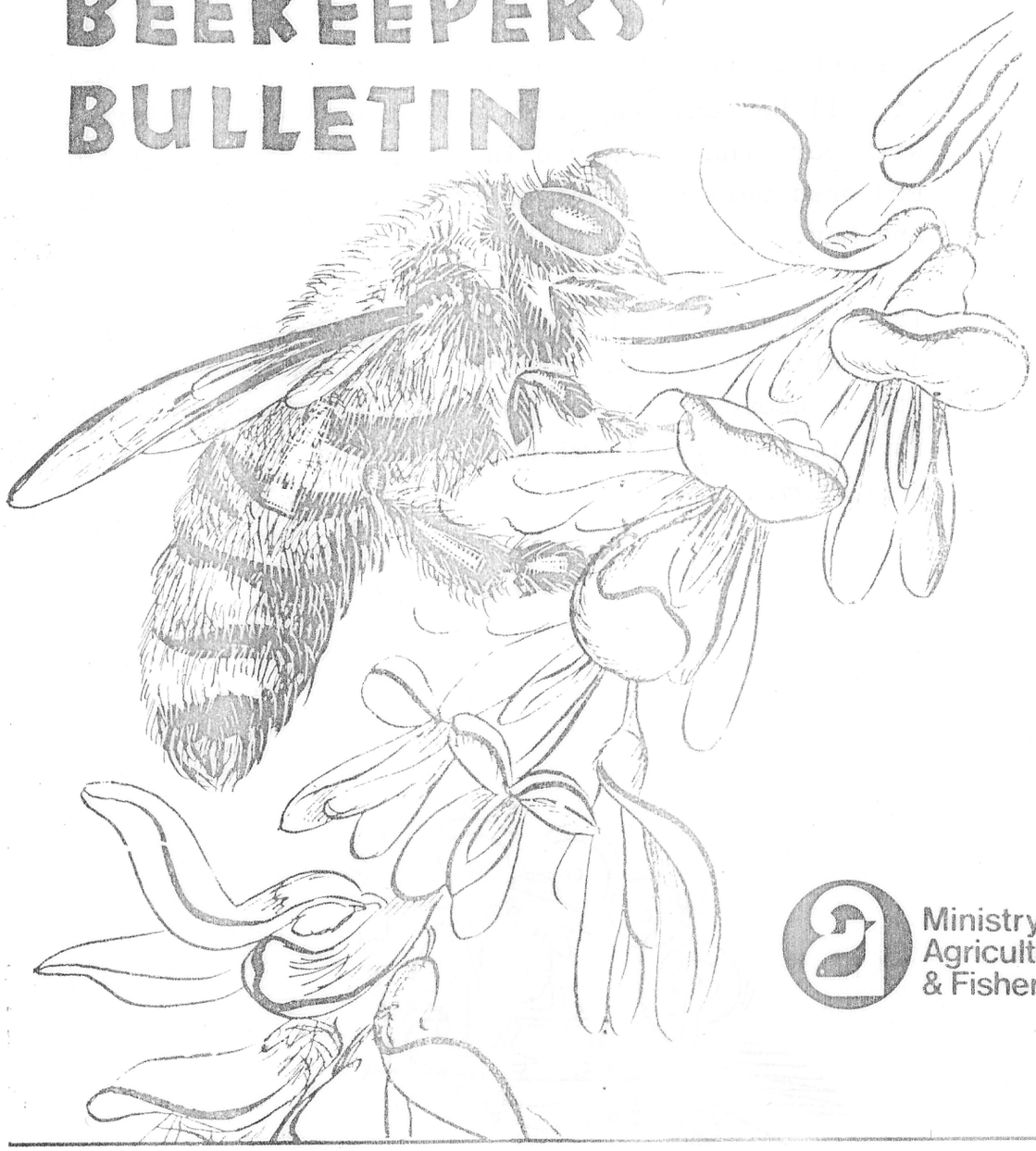
THE BEEKEEPERS' BULLETIN



Ministry of Agriculture & Fisheries

Edited by -

A G Matheson B.Sc., M.Sc.
Apicultural Advisory Officer
Ministry of Agriculture &
Fisheries
Nelson.

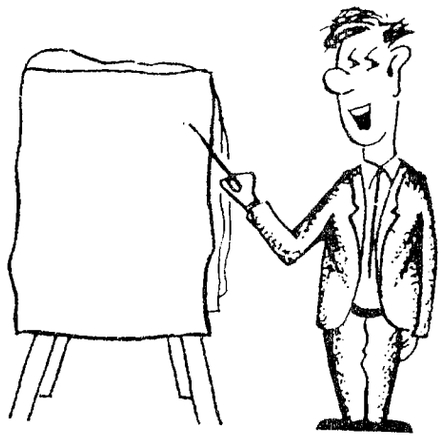
Volume 1 Number 1
August 1979

Welcome to the first issue of "The Beekeepers' Bulletin". It will be sent out free of charge, to all apiarists with more than 50 hives in the Nelson apiary district. Proposed mailing dates are August, November, February and May.

It is intended that this will help to keep you up to date with local and international news, research results, etc. Above all it is YOUR NEWSLETTER and will not function adequately without comments, contributions or criticisms.

--oOo--

N.B.A. CONFERENCE



Another annual conference has been and gone. This one only took two days - and after the first day's opening, and a long discussion about H.M.A. matters, all the remits were disposed of the next day!

The business of conference will be reported on in the "New Zealand Beekeeper", so I don't propose to dwell on it here.

The largest attendance (about 160 people) was for the M.A.F. pre-conference seminar. In the morning session, four speakers talked about pollination and fertilization of fruit crops, operating a pollination service and the New Zealand Tree Crops Association.

Many Canterbury beekeepers brought along their hive-moving equipment, which was displayed over the lunch break. All types of equipment were there - from a hand-barrow for hobbyists to a truck and trailer unit capable of carrying 200 hives, and a radio-controlled hydraulic boom loader.

The theme of the afternoon session was "Bee Diseases". I gave a talk on Varroa, a parasitic mite which is discussed elsewhere in this newsletter. Occupying the major part of the afternoon was a talk by Bruce White, who is Assistant Principal Livestock Officer (Apiculture) with the New South Wales Department of Agriculture. His talk, about the recent outbreak of European Brood Disease in that country, was very relevant to New Zealand beekeeping.

--oOo--

E.F.B. DISEASE OUTBREAK IN AUSTRALIA

It seems that European Brood Disease (or European Foul Brood) was probably imported into Australia in diseased honey. This honey was robbed out by bees, possibly from discarded honey tins at a dump.

The spread of the disease started in the State of Victoria a few years ago. It was known as Victorian Brood Disease, and was thought to be caused by some local condition, such as toxic nectar. Some apiarists began to use antibiotics (just in case), which quickly masked the symptoms and accelerated the spread of the disease. This also led to selection of a more virulent and resistant strain of the disease.

EFB is now present in epidemic proportions in South Australia, Victoria and the southern portion of New South Wales. Already some 60 000 hives have been affected. Quite a number of bee farmers have been forced out of business by EFB.

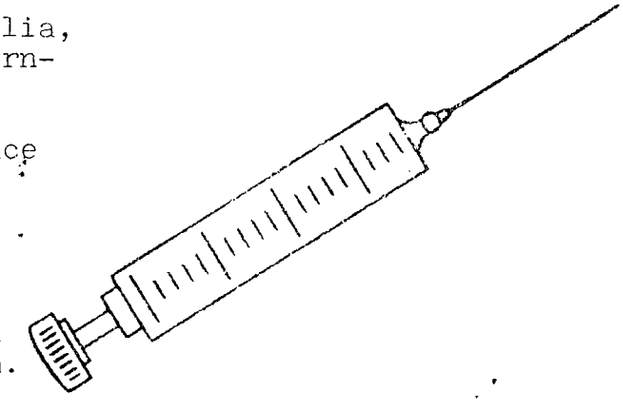
Across New South Wales there is a quarantine zone, where no beekeeping is permitted. This is to prevent spread of EFB from the south to the disease-free northern half of New South Wales. However, some beekeepers have openly flouted this quarantine zone by shifting hives across it, and by challenging in the Supreme Court the Department of Agriculture's right to proclaim such a disease control measure. There have already been outbreaks of EFB north of the quarantine zone.

Larvae that die of EFB usually do so before the brood cell is capped over. The dead larva is usually in an unusual position in the cell - twisted in a coil around the cell, or even hanging out of it. Larvae which die at this stage turn a yellowish colour. They do not rope. Nurse bees can remove these dead larvae easily.

EFB also kills larvae after the cell is capped over (the pre-pupal stage), and also affects pupae and even adult bees, which end up stunted. A patchy brood pattern is common with EFB, as it is with AFB.

EFB is caused by a bacterium known as Streptococcus pluton, which can live in honey and wax for at least 3 years. The disease is thus easily spread through extraction of diseased honey, as well as in pollen. Beekeepers' manipulations such as moving hives, shifting brood and honey between hives, and so on, also accelerate spread of the disease. Swarms can transmit the disease, and as Streptococcus pluton can live in water, it seems that EFB can be spread by contamination of bees' watering places.

In Victoria and South Australia, EFB was controlled by the burning of diseased hives. In southern New South Wales, antibiotics were tried. Bruce White was adamant that this method of treatment has not worked. It has produced a drug-resistant strain of the disease, as well as masking the symptoms of both EFB and AFB, while not treating them.



The cost of each dosage is between 19c and 34c per hive, plus the labour involved in administering the drug. Treatment must be frequent, and practised by everyone, for it to be effective. Antibiotics do not function as a preventative medicine for undiseased larvae, as they only persist in the larva for three days following administration.

Traces of antibiotics can be found in honey for 6-8 weeks following treatment, so of course the honey cannot be sold in that period.

The Australians (and other people) are quite envious of our prohibition on the use of drugs for treating bee diseases (with the exception of fumigillin for Nosema control).

The lessons for New Zealand are plain :

- no importation of bees, used appliances, honey, pollen, or any other bee product. (This is now illegal anyway.)

- any honey imported from Australia, at least in the last 3-5 years, should be destroyed in such a way as to prevent any access by bees.

- any unusual brood diseases or maladies should be reported to me promptly. Samples of any suspicious brood will be examined by Wallaceville Research Centre. Any likely EFB samples are sent to Australia and England for confirmation.

- prompt action would prevent the disease's establishment if it were ever found here.

--oOo--

100% TAX WRITE OFF

Unfortunately, this doesn't mean that you can write off all your tax. What it does mean, is that capital expenditure for energy conservation measures is 100% tax deductible.

Any New Zealand business qualifies for the new incentive, which allows 100% write off of qualifying capital expenditure for the purposes of conserving energy, or switching to use of indigenous energy sources.

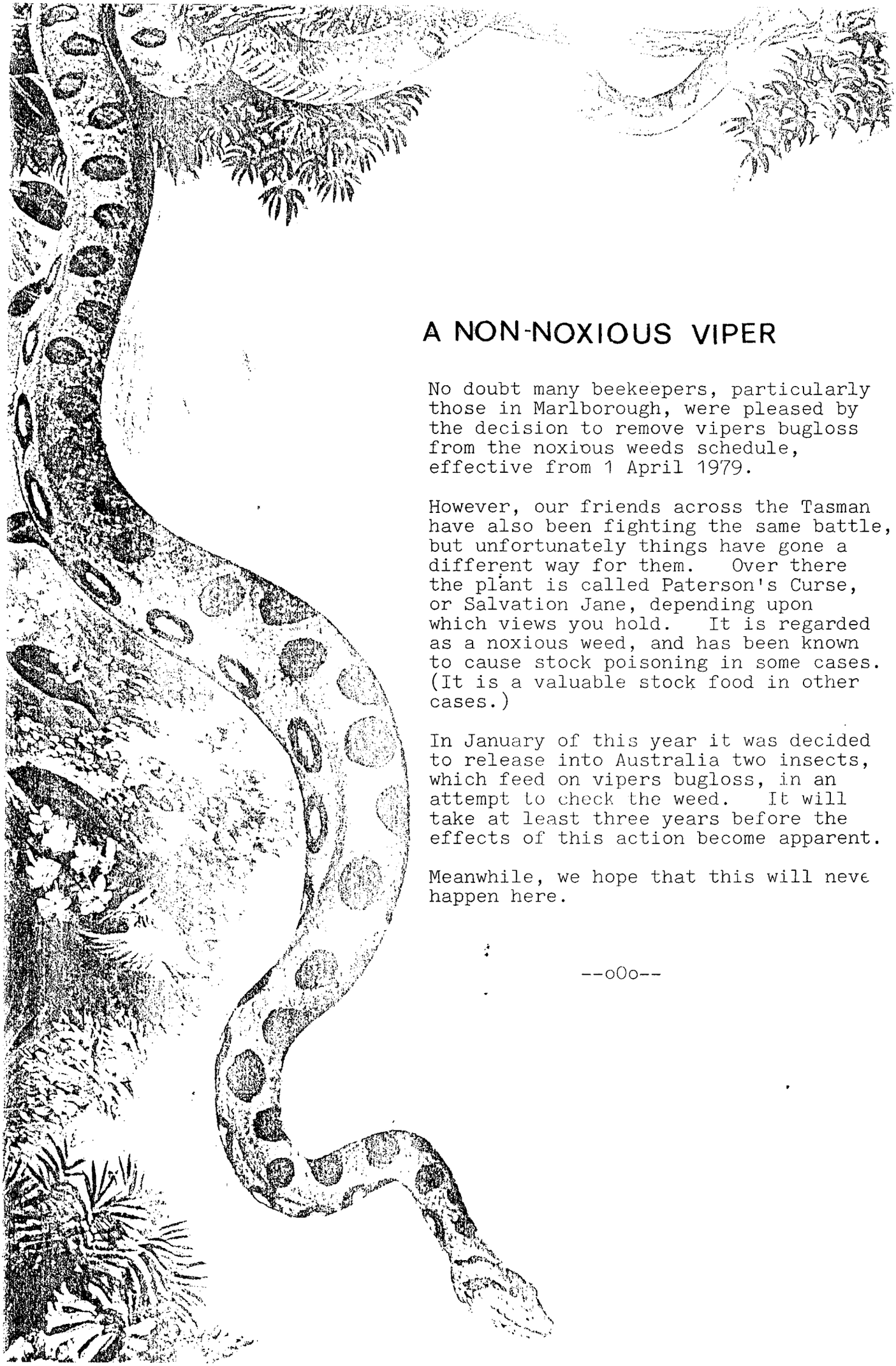
It seems that energy conservation devices would include thermostats for your hot room, or converting to a more economical use of energy, e.g. using a cappings spinner instead of a hot-top.

Those of you who are thinking of boilers - ones that run on wood, coal, sawdust etc, instead of diesel or electricity, qualify for the incentive.

You may even get a refund of the 10% sales tax on this equipment, or Development Finance Corporation loan finance.

Further enquiries to the Inland Revenue Department, or write to : Ministry of Energy Resources
P O Box 5082
Wellington
and get a copy of Energy Conservation Guide No. 5, "Incentives for Capital Expenditure on Energy Conservation and Use."

--oOo--



A NON-NOXIOUS VIPER

No doubt many beekeepers, particularly those in Marlborough, were pleased by the decision to remove vipers bugloss from the noxious weeds schedule, effective from 1 April 1979.

However, our friends across the Tasman have also been fighting the same battle, but unfortunately things have gone a different way for them. Over there the plant is called Paterson's Curse, or Salvation Jane, depending upon which views you hold. It is regarded as a noxious weed, and has been known to cause stock poisoning in some cases. (It is a valuable stock food in other cases.)

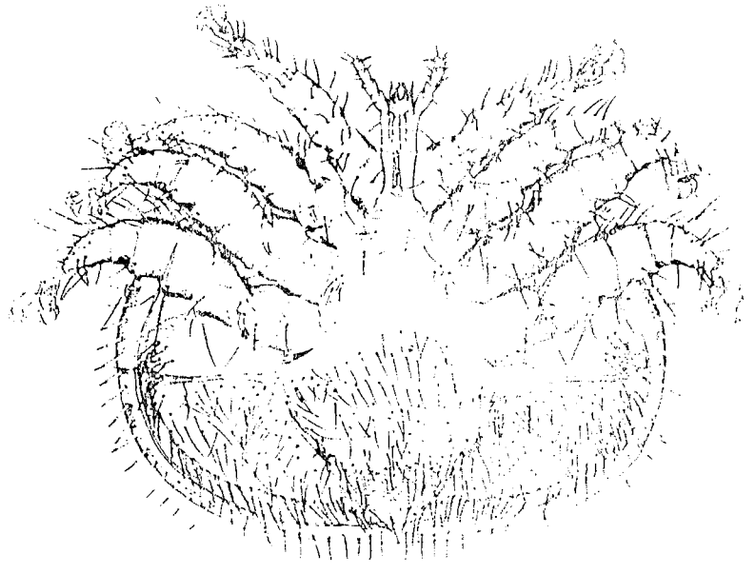
In January of this year it was decided to release into Australia two insects, which feed on vipers bugloss, in an attempt to check the weed. It will take at least three years before the effects of this action become apparent.

Meanwhile, we hope that this will neve happen here.

--oOo--

VARROA

Readers of overseas journals are becoming increasingly familiar with this word, and a similar one - varroatosis. Briefly speaking, Varroa is a small mite, about the size of a pinhead, which sucks the "blood" of larval, pupal, and adult honey bees. The condition resulting from an infestation of the mite is called varroatosis.



Line drawing of adult female Varroa [illegible] 1980.

It originated in South East Asia, but was inadvertently introduced to Europe several years ago. It has spread rapidly throughout Europe, and possibly to Great Britain as well. Through importation of queens to Paraguay from Japan, the parasite is established in South America, and latest reports (May 1979) indicate that it has spread as far north as Mexico.

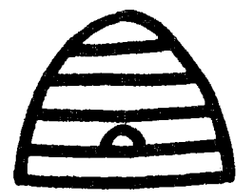
The female mite lays her eggs in brood cells. The young mites that result stay in the cell, feeding off the larva or pupa. The grub may well die, in which case it is removed by hive bees. If the bee lives to be an adult, it usually ends up deformed. As it emerges from its brood cell, the mites "hitch a ride" on its body.

Mites pass freely from bee to bee, and may even pass between bees visiting the same flower. By this method, and by bee drifting, Varroa spreads between colonies. Management practices such as equalising brood and feeding honey between hives greatly accelerate the spread.

The presence of the mite is difficult to detect for the first two years that a hive is infected. During this time, of course, the disease can spread rapidly. In the third or subsequent year of infection, 80% of colonies die from the disease. In the past two years, 200 000 hives have died from varroatosis in Russia, Romania and Bulgaria. That's equivalent to all the hives in New Zealand!

Varroa isn't found in New Zealand, and the only way it could get here is by (illegal) importation of bees. The effect of Varroa on New Zealand's honey industry would be catastrophic, and it would also wipe out our queen export trade.

--oOo--



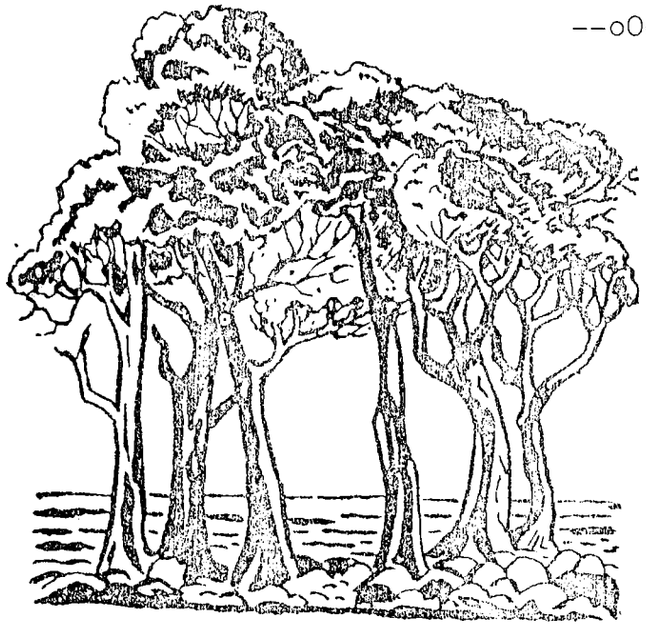
FROM THE BIG BEEHIVE

A piece of legislation which should interest all beekeepers is the Apiaries Amendment Act 1978. This came into effect in October last year, and amends the Apiaries Act 1969. It prohibits the importation into New Zealand (without a permit from the Minister of Agriculture) of any honey, honeydew, beeswax, venom, propolis, or royal jelly, and other products collected by bees, such as pollen.

This is obviously to further safeguard against the importation of bee diseases. Previously, only bees and used beekeeping appliances were prohibited, but diseases can enter through these other means as well.

The Australian experience with EFB and Europe's encounter with the Varroa mite should be warning to us all!

--oOo--

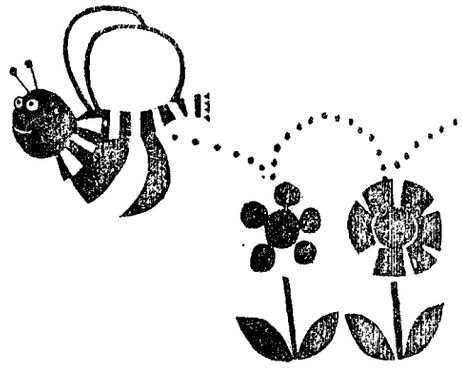


TREES FOR BEES

A recent article in the Polish journal Wies Wspolczesna (try saying that quickly!!), detailed the afforestation plan for north-east Poland up until 1990. It has, as a fundamental principle, the planting of nectar sources.

If the plan is adhered to, it will result in the planting of 280 000 ha with suitable bee forage, resulting in an increased annual yield of 42 000 tonnes of honey. Makes New Zealand look a bit silly, doesn't it?

--oOo--



POLLINATION

The time of midnight manoeuvres will be upon us shortly. A message to those who intend renting hives out for pollination - you are required to have a permit to shift hives on to orchards. A "blanket" permit will be issued provided that a list of orchards is supplied.

This is for your own benefit - in case of disease outbreak (this happened last year) or notification of a spray to be applied.

And while on the subject of pollination - here are some edited highlights from a talk given at the pre-conference seminar by G Langford, Horticultural Advisory Officer, on the subject of pollination contracts.

What the grower should expect from the beekeeper:

Above all - CO-OPERATION

(1) Timing. Hives should be moved in at the commencement of flowering (say 10%).

(2) Strength of hives. At least 6-7 frames of brood, the equivalent of one box boiling over with bees. These will obviously need to be two-deckers.

(3) Siting. Bees pollinate best within 100m of their hives, so sites should not be spaced further than 200m apart.

(4) Number of hives. Find out the number of hives recommended per hectare of crop. The M.A.F. can assist here.

(5) Removal of hives. Hives should be removed at 95% petal fall, to allow the application of the first post-blossom insecticide.

(6) Goodwill. How about a pot of honey?

What the beekeeper should expect from the grower :

Above all - CO-OPERATION

(1) Timing. At least 7 days warning should be given of when the hives are required, when they should be removed (and when the insecticide is due on).

(2) Siting. Assistance in the preparation of good, sheltered sites.

(3) Spraying. An agreement that no sprays which are toxic to bees will be applied while the hives are in the orchard.

(4) Finance. A reasonable return for services rendered.

(5) Goodwill. A bag of fruit would help.

--oOo--

HONEYDEW ASSESSMENT

After approaches by the beekeeping industry to the Minister of Agriculture early in 1978, the MAF has carried out a fresh assessment of the production and marketing potential for beech honeydew honey.

An investigation team consisting of John Smith, Apiary Instructor, Christchurch, myself, and Irene Parminter, Horticultural Advisory Officer (Economics), Nelson, studied the honeydew situation in the northern half of the South Island.

The greatest potential obviously exists in the Canterbury foothills area, from Mt Somers north. The Forest Service carried out surveys of the population levels of the sooty beech scale (the little insect that produces the honeydew) in this area. Their results showed that the areas currently stocked with hives have fairly low insect counts - and that there are plenty of other areas, with roading, apiary sites and pollen supplies, which have much higher insect counts.

Marlborough, Nelson and North Westland also have potential for honeydew honey production. However, pure stands of beech forest are less common, and so honeydew production is lower and often the honeydew honey is "contaminated" with honey of floral sources.

There is no simple method of relating scale insect populations or numbers of trees bearing sooty mould fungus, to the number of hives that can be carried by an area. This can only be determined by putting in a trial apiary.

Overall, we estimated that there is potential for at least 60 000 hives to be placed in honeydew areas. (There are approximately 7 000 at present.) The production from these hives would be in excess of 3 000 tonnes, with a current export value of $5 million, although prices are increasing all the time.

--oOo--

HONEY HOUSE REGISTRATION

Most of you are well underway with this now. For those of you who aren't, the onus is on YOU to approach your local authority and seek registration. The fact that you made the first move is likely to work for you.

The regulations apply to any premises that are being used for the preparation or packing of food FOR SALE. These premises must be registered with the local county, borough, or city council, and inspections are carried out to ensure that minimum building and hygiene standards are maintained. One exception seems to be the provision of "fill-your-own-container" facilities only.

From all accounts, the health inspectors are being quite reasonable about everything, and are willing to co-operate with a beekeeper who is himself co-operative.

Over-reaction by some elements in the industry tended to inflame the situation, and mask the real nature of the new requirements - simply to bring our industry up to scratch with regard to minimum hygiene standards. This can only bring good to the industry.

I can give more detailed information to those who are building or renovating honey houses.

--oOo--