

Progress with research

An edited version of an address by Pat Clinch, scientist, Wallaceville Animal Research Centre.

MR I.W. FOSTER retired from the apiculture section at Wallaceville Animal Research Centre in September. The staff of the section now consists of Messrs P.G. Clinch, scientist (section leader), R.C.R. Tustain, scientist, and J. Faulke, technician. Mr Tustain joined the section in April.

Nosema Diagnosis

Because Nosema spore counts, obtained from the bulk maceration of large numbers of bees, can be determined quickly, this process is normally used to estimate the severity of the disease, particularly when carrying out surveys. However, when diagnosing the cause of bee mortality it is important to know the percentage of bees infected.

Recently at Wallaceville, a method for examining bees individually for Nosema has been developed which will facilitate faster examination when investigating cases of bee mortality, and enable the percentage infection to be determined in experimental work.

Rape Spray problems

Oilseed rape is a crop that shows promise as a source of edible oil. The meal by-product can be used as a high quality stock food.

However, problems have been encountered in trials in some areas because aphids can multiply during the long flowering period, and damage the crop. At present, it is not possible to apply an aphicide during this period, be-

cause of the risk of harming honey bees.

Last summer, work was started to determine if it is feasible to apply one of the safer aphicides at a reduced application rate without affecting bees. Further work will be undertaken next season.

Black Currant Pollination

A two-year investigation of the role of the honey bee in the pollination of black currants variety 'Magnus' in the Levin district has been completed.

The variety was found to be only partially dependent upon insect visits for pollination. Bushes caged or sleeved to exclude honey bees and bumble bees had approximately 30 per cent fewer berries than those not caged.

Compared with 1974, the density of honey bees on some crops in 1975 was very low. It is considered that some plantations may

benefit if hives, up to a density of three per hectare, are brought in during the flowering period.

External Acarine Mites

Colonies in an apiary in Upper Hutt were sampled at monthly intervals for 26 months, and the bees examined for external and internal acarine mites. More than 16,000 bees were inspected. 41.5 per cent were infested with mites, but none was infested with the internal mite *A. woodi*, which has never been found in New Zealand.

Colony Variability

There is often considerable variation in the performance of colonies in an apiary, even after requeening with sister queens. Besides being unsatisfactory for beekeepers, it causes research workers to use large numbers of hives in each experiment, to minimise its effects. It is proposed that an investigation to determine the causes of the problem will commence this year.

Production and extension

An edited version of an address by Eric Smaellie, retiring ministry of agriculture superintendent of beekeeping.

FOR THE PERIOD ending May 31, 1975 there was a total of 3250 beekeepers owning 15,396 registered apiaries and 204,191 hives. In the 251 hives and over commercial group, 168 beekeepers own 9642 apiaries and 165,142 hives.

The statistics indicate that smaller units continue to be absorbed by

larger ones; also that consolidation of economic units continues.

Honey production for the 1975-76 season was assessed at 4915 tonnes. This is 2496 tonnes less than the record crop of last year, and about 730 tonnes less than the average production of the past six years.

For the year ending August 31 1975, 2909 tonnes of bulk extracted honey was submitted for grading. Of this 98 tonnes did not meet the export grade requirements.

The total of comb honey graded for export was 154 tonnes, and 10 tonnes of extracted honey in retail packs shipped by beekeepers were graded.

The overall quality of the honey submitted for grading was very high — mainly as a result of the dry summer conditions which favoured production of high specific gravity clover honeys.

Apiary inspections

Check inspection of apiaries for bee disease by apiary instructors was continued with assistance from beekeepers acting as temporary inspectors. The overall incidence of diseased apiaries and hives found by apiary instructors and notified by beekeepers in the 1975-76 season was 2.68 per cent and 0.51 per cent respectively. The total number of diseased hives burnt was 964.

The annual percentage of diseased apiaries and hives over the previous six years has averaged 2.44 per cent and 0.45 per cent respectively.

Restricted areas

A total of 26 permits were issued to beekeepers to establish hives in the Bay of Plenty and Coromandel Peninsula restricted areas for hive build-up, queen rearing and for production of honey. A total of 12 test apiaries with 24 hives in each were maintained within the restricted areas. Composite samples of honey taken from each of these apiaries were forwarded to the Wallaceville Animal Research Centre for toxicity testing.

Field observations this year indicated that the overall incidence of Passion Vine Hoppers and evidence of honeydew was very much lower than in most previous years.

Research

Queen bee survey: This survey examined the queen introduction, rearing and breeding procedures adopted by North Island commercial beekeepers. Replies were received from 60 of the 80 beekeepers owning more than 250 hives. Although beekeepers indicated a current need for 52,000 queen bees, representing an annual introduction rate of 67 per cent, the actual queen replacement rate was less than 30 per cent.

It appears that the swing toward larger enterprises was made at the expense of maintaining or improving the honey-producing unit in the colony. The low level of queen replacement and even lower standard of quality control, indicated by this survey endorses our (MAF) priority in promoting improved queen bee production — e.g., the Flock House Course for beekeepers.

Re-queening without de-queening: Three years' trial work has been completed and results will be published. In the final 1974-75 season 76 queen cells were placed in hives. More two year old queens were successfully replaced (64.6 per cent) than one year old queens (46.4 per cent) The total success rate was 71 per cent.

Experimental apiaries: 58 hives (ex Wallaceville) were located at Templeton Research Farm and Horsford Downs (on honey dew). A storage and work shed has been located at Templeton and this apiary will be used for experimental and demonstration purposes particularly for hobbyist beekeepers.

New nectar sources: Further plantings of Robina pseudoacacia are planned for the experimental block at Weedons. Hare damage, droughts and competition from clover reduced the success rate of the initial plantings. 450 grams of Caragana seed were imported from Alberta and are being propagated by the Ministry of Works nurseries for trial plantings as nectar and pollen producing shelter trees.

Sugar beet: Plantings of sugar beet two trial blocks in Southland have been made. It is proposed to extract the sugar in a form suitable for bee feed using adapted machinery found in most honey houses. The main problem is removing the molasses from the sugar grains which contains high levels of minerals and toxic acids especially oxalic acid.

Air-Jet extraction

A technical evaluation was made of an air-jet honey extractor at the request of the New Zealand Inventions Development Authority. The very nature of the "rudimentary prototype" prevented any comprehensive evaluation however the principle of removing honey from honeycomb using air-jet pressure was clearly established.

Advisory work

The Flock House queen bee production course has already been publicised.

Queen syndicate: A group of Southland beekeepers has sponsored two commercial queen producers located at Ashburton and Takaka. Assistance has been given to queen producers, on location of mating yards, selection of breeding stock, queen houses etc.

Honey house design: Designs and work flow patterns were prepared for four honey houses. Preliminary investigations were made into new equipment for pumping honey and/or honey and wax cappings by mono pumps and a unit using compressed air.

Viscous honey: The 1974-75 season was very dry in many places and the viscous honey produced presented problems in extracting, straining and filling containers. Three discussion groups have been held in Southland on the problems of heat and moisture regulation in honey and the use of humidifiers and retractometers.

Pollen shortages: Following severe pollen shortages on the Canterbury Plains in the spring, further publicity via TV and discussions to farm groups and beekeepers was initiated. Natural pollen shortages were accentuated by unfavourable spring weather conditions but the farmers are being made aware of the danger of creating "clinically" clean farms with little or no spring forage for bees.

APIMONDIA EXHIBITION ADELAIDE 1977

The exhibition will be held in the "SPACE" which is part of the Adelaide Festival Theatre complex, and will be held concurrently with the Congress.

Prospective exhibitors are asked to send the following details:—

1. Type of exhibit.
2. Floor space required.
3. Is power/lighting required.
4. Are display stands required — if so dimensions.

Write to:

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