

Sources (concluded)

Danish Jutland. The honeydew of *C. pilicornis* feeding on *P. abies* has attracted bees in East Scotland and Wiltshire. This aphid also occurs on some other spruces in Britain, including Serbian spruce, *Picea omorika*.

Of the important sources from which both honeydew and nectar may be collected by bees, the aphid *Eucallipterus tiliæ* occurs on lime trees, *Tilia spp.* in New Zealand. In mid-Europe there can be major flows of honeydew, but it may crystallise on the tree. Romanian beekeepers record yields of 6-12kg of honey per hive, produced by the bees from nectar secreted by the flowers of lime trees.

The sweet chestnut aphid, *Myzocallis castanicola*, is known from sweet or spanish chestnut, *Castanea sativa*, in New Zealand. Honeydew from this insect occurs in southern Europe and Romania, where bees frequently collect it. Bees also eagerly work chestnut flowers for nectar.

Although four important foreign insect-producers of honeydew are present in New Zealand, there seem to be no records of bees storing this honeydew. Just as certain conditions must occur for honeyflows to eventuate, so it is with honeydew flows. Not the least of these for honeydew flows is that there must be large numbers of trees of the right species. European honeydew flows characteristically occur when there are forests of the right trees. Few, if any, forest-scale plantings of the aforementioned host trees yet exist in New Zealand.

There also appears to be no definitive records of honey bees working introduced insects for honeydew. During late 1975 however, I observed honey bees, as well as queen German wasps (*Vespa germanica*) and queen bumble bees (*Bombus terrestris*) collecting honeydew near Craigieburn Forest Park. Host plants were *Pinus sylvestris*, *P. uncinata*, and *P. mugo/uncinata*. The aphid secreting the honeydew was *Eulachnus brevipilosus*.

What prospects, if any, are there for introducing honeydew-producing insects that may thrive on existing exotic

forests? Unfortunately for beekeepers, honeydew-producing insects are generally regarded as detrimental to their host plants. Insect feeding often reduces plant growth rates, distorts young growth, and may coat plants with sticky and/or unsightly mouldy honeydew and fungi. The purposeful introducing of honeydew-producing insects would almost certainly be strongly opposed from a number of quarters.

The four insect species now established were not purposely introduced but arrived as part of a continual series of accidental or natural establishments. For example, since the 1940s five species of aphids of the genus *Cinara* have been recorded (1), one of which is the already-mentioned *C. pilicornis*. The rate of colonisation suggests that possibly other honeydew-producing species can be expected to establish.

Beekeepers may benefit by observing whether or not bees are collecting exotic honeydew, and by moving hives accordingly to take advantage of honeydew flows.

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References:

- (1) Baker, R.T. 1985: Aphids of the genus *Cinara* established in New Zealand. *The Weta*, 8:1, p.4
- (2) Crane, E. and Walker P. 1985: Important honeydew sources and their honeys. *Bee World* 66: 3, pp. 105-112
- (3) Sunde, R.G. 1984: New records of plant pests in New Zealand 4. 7 aphid species (Homoptera:Aphidoidea). *N.Z. Journal of Agricultural Research* 27: pp. 575-579

Popular Summary

Four of the 21 important exotic honeydew-producing insects and their host plants occur in New Zealand. At present, host plants are rather scattered. Honeydew flows of major economic importance to beekeepers are only likely when host plants form forests.

The purposeful introduction of additional honeydew-producing insects would probably be opposed because of the damage that can be caused to host plants. However, further honeydew-producing insects are likely to reach New Zealand of their own accord.

Beekeepers may benefit by observing whether their bees are working exotic honeydew, and moving hives to take advantage of honeydew flows.

ASD Report (concl.)

Continued from page 22

keeper Autumn 1986: 20-22) and a code of ethics. Several of the associations have also employed a consultant to evaluate members hives during the pollination period. This quality assurance is giving the growers confidence in the abilities and integrities of the beekeepers. This will be needed in the future as artificial pollination is promoted more and more.

MAF officers have carried out surveys on pollination hives in orchards for a number of years. It is pleasing to report that the quality of hives continued to improve and most hives met the recommended minimum standard (NZ Beekeeper Autumn 1986: 23-24).

Industry Plan

MAF advisers worked with local branches and the executive to help formulate and carry out aspects of the industry plan. The beekeeping industry continues to lead primary production industries in its ability to be market led, to respond to market imposed conditions, and to plan its own future. The executive has received congratulations from the Under Secretary of Agriculture and the Director-General of Agriculture for its forward looking approach and industry plan.

Apicultural advisory officers also ran strategic planning workshops for queen

bee producers, commercial honey producers, and kiwifruit pollinators.

e) Financial Monitoring

Monitoring has been going on for a number of years in some regions and three reports have been published (NZ Beekeeper No. 187 Spring 1985, No. 188 Summer 1985 and No. 190 Winter 1986). A national monitoring system has been devised and will be in place for the 1986/87 season.

f) Emergency Response Procedures (ERP) Manual

A final draft of the ERP manual has been prepared and workshops in all apiary districts have been (or will be) held with branches to discuss the implications if an exotic pest or disease is discovered.

