Agriculture Notes

# Insect pests - control

*Nick Collett, Forest Science Centre, Heidelberg*

December, 2001
AG0801
ISSN 1329-8062

***This Agriculture Note provides information on control options for insect pests for young eucalypt plantations.***

The ultimate objective of insect pest management is to establish plantations that are entomologically stable and which require no spraying with insecticides throughout their rotation. Research is currently being conducted in order to achieve this with studies focusing on options such as the identification of resistant species/provenances and the genetic engineering of plant material to transfer insect resistant genes from one species to another. Other options under investigation include the effects of naturally occurring biological control agents and the influence of non-eucalypt vegetation as well as the use of flood irrigation to destroy larval or pupal stages in the ground before adult emergence.

Maintaining plantation health through timely thinning, fertilising and irrigation practises can also assist in reducing stress placed on trees, enabling them to better withstand insect attacks. The planting of a range of species rather than a single species of eucalypt may also reduce the extent of damage. Current studies suggest that insect damage to the lower 50% of tree crown is less critical to eucalypt growth than defoliation in the upper 50% of the crown. Until effective and environmentally friendly non-insecticidal measures for controlling insect pests can be formulated using one or a combination of the aforementioned research options, plantation managers will have to consider spraying outbreaks with commercially available registered insecticides. The timing of any spraying operation is important as it is essential to spray an infestation early to minimise damage while at the same time ensuring that the bulk of the pest population is present to achieve high mortality levels and thus obliviate the need for re-spraying.

Outbreaks of the Wingless Grasshopper, Christmas Beetle, chrysomelid leaf beetles and basket lerps should be sprayed in late spring to early summer, whereas early autumn is usually best for controlling the Autumn Gum Moth, Leafblister Sawfly and Steelblue Sawfly. Research is underway to determine which commercially available insecticides are effective against these insect pests although at this time, very few insecticides appear to have been registered by the National Registration Authority for Agriculture and Veterinary Chemicals (NRA) for use against these particular pests in eucalypt plantations within Victoria.

Where insect pests can be sprayed with an approved insecticide, foliage should be sprayed up to drip-off point with spraying done only on calm days outside the hottest periods. When spraying from the ground, protective clothing should be worn, including a waterproof hood, goggles, respirator, PVC gloves, overalls, and gumboots worn inside trouser legs. Ensure that the insecticide sprayed is registered for use against the pest on eucalypts and that all recommendations on the label concerning rates of spray and safety procedures are followed. MSDS (Material Safety Data Sheets) are available for all insecticides, listing all safety requirements for use and handling and should be followed exactly. An alternative to using chemical sprays for controlling insect pests (other than the Leafblister Sawfly) is to use an appropriate strain of environmentally friendly microbial insecticides, subject to their being registered for use in eucalypt plantations within Victoria. Current research is continuing to establish precise prescriptions for the use of these insecicides.

## Further reading

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