

Trees

Locust Spraying Issues

During spring and summer, insecticides are used over a large areas of the agricultural regions to control locust infestations that could become a plague to crops.

Locusts eat green plant material – their preferred foods are green grass and green cereals. The immature hoppers will initially emerge from and develop in pasture paddocks. When the pastures are either eaten out or dry-off, any other green plant material is susceptible.

Most tree species are susceptible to attack from locusts, including native (eucalypts, she-oaks and wattles) and introduced (pines, olives, pistachio, etc.) species. Some species appear to be more susceptible to damage and death from attack than others, e.g. *Allocasuarina huegeliana* and some provenances of *Eucalyptus camaldulensis*.

Damage to trees during the APL outbreak may result from immature locusts (hoppers) which have developed on site or nearby (hoppers cannot fly but can travel hundreds of metres) or from adult locusts which fly into a site.

Locusts are less likely to do significant damage in plantations with closed canopies.

Damage to trees can be unpredictable from both immature hoppers and adult locusts that fly in.

Trees remain green over the entire period the locusts are active and could be susceptible to attack over an extended period from November through to next autumn (if summer rainfall allows the locusts to produce another generation over summer).

Where insecticide treatment is considered necessary, it is likely that treatment will not be 100 per cent effective and that repeated treatments may be required. This is especially the case with trees given that they are susceptible over a long period.

In recent years, large numbers of Landcare, nature conservation and commercial tree species have been planted. All of these trees are also at risk of damage by locusts. Younger trees (less than three years-old) are at greatest risk of attack and are more likely to be killed than mature trees. Trees planted individually or in narrow bands are at increased risk of damage from immature hoppers.

Plantation trees are at reduced risk of attack from immature locust hoppers once the trees have developed a closed canopy.

Most damage to trees will be from adult locusts. Greatest risk of damage will be in areas where the highest numbers of locust eggs were known to occur over winter.

Any setback of growth could have an adverse economic impact on commercial tree plantings.

Seed collection may be affected.

Management Options

The following actions and management of trees should be taken into account during the APL campaign:

- Monitoring for locusts should be undertaken from early September onwards.
- In areas of high risk of locust attack, consideration should be given to postponing any new tree plantings.

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- Locust hatchings are not likely to be in revegetation areas more than one-year-old, and therefore most control will not be on revegetation areas. Treating areas of high locust concentration in adjoining pasture paddocks before they attack trees is likely to be more effective.
- Consideration should be given to grazing tagasaste to capture the grazing value prior to locust damage.
- Consideration should be given to netting high-value trees such as pistachio where it is economically viable. However, there have been reports of locusts 'eating' shade cloth and netting.
- Where there is a market, oil mallee trees could be harvested prior to a predicted attack.
- Where damage to trees is likely to result from nymphs originating near the trees, spraying with approved insecticides may be effective (see Insecticides section).
- Where locusts fly into an area, damage can be very swift and severe and it may not be possible to effectively protect the trees. Any decision to treat in these circumstances must be made on commercial grounds. Treatment of locusts will need to be within hours of them arriving, which means frequent monitoring is a necessity, from November onwards.
- Tree plantings may be protected from locusts in the hopper stage invading from adjoining pasture areas by treating a band of pasture around the edge of the planting. Several treatments may be required.

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