

## PESTS AND DISEASE

Tasmania has extensive forest resources - both native and introduced. Many of the native tree species have evolved along with their natural predators. Some plantation species have been introduced from overseas. Both native and introduced tree species may be severely damaged or killed by both native and introduced pests and diseases. *Keep an eye on your trees - it pays to regularly inspect your forest areas!*

### What Do They Look Like?

Look for - leaves are most commonly affected - insects may be visible. Some pests and diseases are less obvious as they may bore into the wood or attack the roots of the tree.

Wallabies, rabbits, possums and insects can entirely defoliate young seedlings. Warm weather spells during spring or summer are common times for insect attack - animals may be more of a problem in winter when other food supplies are scarce.

### When Should You Be Concerned?

Some nibbling of the leaves or needles on trees is normal - after all, the tree is a major source of food to many native insects and animals.

If more than 10% of the foliage of a tree is affected, then the cause should be investigated. Trees have evolved to survive quite heavy damage, but the damage may reduce the value of the wood, or the amount harvested, or affect the shape of the canopy.

### What Do You Look For?

Some of the most obvious signs, but there are others:

- Physical damage - where many leaves have been eaten, the tree has a bare look, especially on the tips of shoots where the soft new foliage develops in spring.
- Discolouration - yellowing of the foliage may be a sign of ill health if it is not associated with a deciduous tree losing its leaves normally in autumn. There may also be a nutrient imbalance.
- Black mold, insects, caterpillars or sticky covering on the foliage.
- Lumps or bumps on the foliage or the limbs - a few are OK.
- Dead branches especially around the top crown.

**Armillaria Root and Butt Rot** - the fungus in native forest most commonly attacks eucalypts. While the fungus actually develops under the bark, crown dieback is a major sign. It has become a serious problem in the Hobart Botanical Gardens, where it is spreading through the soil.

**Dothistroma Needle Blight** - this fungus (*D. septospora*) infects the needles of radiata pine and causes them to be shed prematurely. Several infections can cause significant defoliation, causing loss of growth and even death. Infection causes a red brown discolouration in the crown, with infected needles having distinctive red bands best seen with a magnifying glass.

**Chrysomelid Leaf Beetles** - *Chrysophtharta bimaculata* is one of the major leaf eating beetles, and looks like a large dull green ladybird, although the larvae as well as the adults can be voracious eaters. Often the new spring flush of growth is eaten, with the leaf edge severely scalloped. Eucalypts are particularly susceptible.

**Gum Leaf Skeltonizer Moth** - Hairy yellow and brown *Uraba lugens* caterpillars cause severe defoliation on young eucalypt leaves (especially stringybarks and peppermints) and may be seen in large numbers covering leaves. The leaf looks "lace like" after all the leaf surface has been eaten.

**Autumn Gum Moth** - Again the large caterpillars of *Mnesampela privata* defoliate eucalypts especially those with a powdery (glaucous) leaf such as young blue gums in plantations. Often only the leaf mid rib remains with a larval shelter at the tip of the leaf concealing the caterpillars.

**Sirex Wasp** - The adult female wasp (*Sirex noctilio*) bores into the trunk of radiata pine trees. Unthinned or drought stressed plantations usually older than 10 years are particularly susceptible. Needles wilt in late summer and resin beads may be visible around the entry holes in the bark.

**Sawflies** - The larvae of the large green sawfly (*Perga affinis insularis*) are most common on the foliage of stringybarks and white gum. They cluster together during the day and when disturbed "rear up" as a mass and may emit a yellow fluid - hence their common name of "spitfire grubs". At night they may disperse. They eventually move to the ground to pupate. While individual trees may be completely defoliated, large areas of damage are unusual. Ornamental eucalypts such as flowering gums may also be attacked.

**Cinnamon fungus** - *Phytophthora cinnamomi* is a root rot fungus, which can kill trees under stress due to waterlogging, major bark loss, or following fire. The fine roots are destroyed, progressively starving the tree of water and nutrients. First signs appear as dieback from the crown downwards.

### What Solutions Are There?

- A single tree may be treated with garden insecticide or by picking off the pests and squashing! Sometimes spraying with soapy water can discourage insects and other browsing animals, but rain reduces the effectiveness rapidly.
- In extreme cases, remove the affected tree and burn all foliage and wood to help reduce the spread.
- Spray large commercial plantations or native forest stands (by air if the trees are too high for a tractor mounted boom) - care must be taken to avoid polluting waterways and other sensitive areas.
- Seek professional management advice before using chemicals.
- Browsing animals can be kept out by fencing, while shooting and poisoning have also been used because of the high cost of fencing.

### FURTHER READING

A good reference with colour pictures is the publication, [Insect Pests of Trees and Timber in Tasmania](#), Elliott, H.J. & DeLittle, D.W. (1985).

### ACKNOWLEDGEMENT

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