

# Farm Woodlands

## Information Sheet

## Common Pests and Diseases of Trees

Trees are at their most vulnerable to pests and diseases at establishment, when they are trying to grow. Damage by pests diverts a tree's resources from growth to repair, taking the tree longer to grow. If pest damage is severe enough, or is continual/repeated, it will ultimately kill the tree; diseases are more likely to kill the tree. It's therefore important to understand what the common pests and diseases are and how to protect against them. Doing so reduces the costs of establishment by avoiding replacement of large numbers of failed trees. This information sheet looks at the most common pests and diseases.

### Pests

**Voles** eat the bark and roots of young broadleaf trees and can easily kill them if damage is severe enough. They are found where there is a thick thatch of grass, their presence recognised by the small entrances to their tunnels below the grass. Once grazing has been stopped on an improved site, grasses will begin to form a thick thatch, ideal habitat for voles. Trees are protected by the fitting of vole-guards around the base of the tree; these are 20cm tall plastic tubes. As voles prefer tunnelling under thick grass, good weed control around the trees and inter-row mowing (where possible) can help reduce vole populations and potential for damage. Mulch mats can potentially encourage further damage as they provide ideal habitat for voles.



Vole damage

**Rabbits and hares** both nip off the leading shoots of young trees (both conifer and broadleaf) identifiable by the clean angled cut on the remaining tree. Rabbits will eat the shoots, while hares simply bite off the shoots and leave them on the ground. Damage is unlikely to kill the tree, but if it is continual the tree will not grow. On larger planting schemes the most cost-effective method of preventing rabbit or hare damage is to erect rabbit netting around the perimeter of the site, usually fitted to an existing fence. It is crucial that the netting includes a 15cm flap folded out from the fence and pinned/weighted to the ground (or dug vertically into the ground), to prevent rabbits burrowing under the fence. For smaller schemes trees can be individually protected with short tubes supported with a stake, or a sleeve-style guard supported with bamboo cane; 60cm tubes/sleeves for rabbits and 75cm tubes/sleeves for hares.



Rabbit/hare damage (L),  
deer damage (R)

**Deer** similarly target the leading shoots of young trees, but damage is recognised by a frayed bite mark on the tree. Large areas are more cost-effectively protected with deer fencing, while smaller areas can use 1.2m tubes supported with stakes. Tubes will not protect against red or sika deer which are large enough to browse the trees as they emerge from the tubes. Deer will also strip bark from mature conifers, causing uneven woody growth in future, placing trees at greater risk of infection by pathogens and reducing the value of the timber.

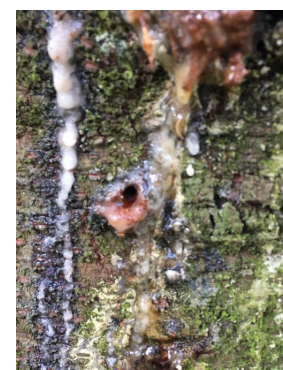
## Pests (continued)

**Large pine weevil** is an insect pest commonly found on clear-felled sites. Having bred in the fresh stumps, adults emerge to feed on the bark of *young* trees. Without treatment tree mortality can reach 100%. Delaying restocking by four to five years following felling allows the weevil population to subside, however weeds can dominate the site in that time. Chemical treatment includes using trees pre-treated with, and top-up over-spraying of, non-systemic pyrethroid insecticides. Alternatives are being trialled and include physical barriers, but with mixed success.



Large pine weevil

**Great spruce bark beetle** is a pest of established spruce and, to a lesser extent, pine. It is a non-native species, present in various parts of the UK, including southern Scotland. Adult beetles lay their eggs below the bark and the larvae feed on the inner woody areas. They do not burrow into the wood, but spread out under the bark. This results in reduced tree growth and, in extreme circumstances, can kill the tree when larval galleries are extensive enough to girdle the tree. Browning of the tops of individual or small groups of spruces may be a sign of infestation. Infested trees will have copious amounts of resin down the stem, with resin tubes and granular wood (larval faeces) below. Surrounding bark has a hollow sound and, if removed, reveals larval galleries. Control is by a another beetle, *Rhizophagus grandis*, which predate purely on the larvae of the great spruce bark beetle.



Beetle resin tube

## Diseases

**Ash dieback** is a fungal infection which affects ash. Young to middle-aged trees are at much greater risk than mature trees. Infection typically comprises curling and death of foliage and lesions in the bark. Planting of ash trees is therefore not recommended until resistant varieties are available. Infected trees should be left standing so that any naturally resistant trees can be identified, unless they pose a threat to people or property.



Ash dieback lesion

**Phytophthora ramorum** is an air-borne fungal disease which kills a number of plant species, including larch. It occurs most frequently on the west coast but has been found throughout Scotland. An annual aerial surveillance programme is undertaken in summer to identify infected stands. Dying foliage and cankers in the bark can identify trees as potentially infected, but infection can only be confirmed using a testing kit. If infection is confirmed a Statutory Plant Health Notice (SPHN) is issued by Scottish Forestry, placing a legal requirement on the owner to fell the trees within three months of issue. Planting of larch is not permitted in certain parts of the country, or nearby a known infection. The south-west of Scotland has had such an extensive occurrence of Ramorum disease that it has been designated a Ramorum management zone instead of issuing SPHNs. Ramorum is a **notifiable disease** and any suspected sightings should be reported by emailing [hort.marketing@gov.scot](mailto:hort.marketing@gov.scot) or calling 0131 244 8923.

**Dothistroma needle blight** (or red band needle blight due to the colouring caused by the infection) is an air-borne fungal infection which mostly affects pines. The three pines commonly grown in Scotland (Scots pine, lodgepole pine and Corsican pine) are susceptible but Scots pine appears to be the least affected. The disease causes premature defoliation leading to reduction in growth, and can kill the tree. Research suggests that dense, unthinned stands are most at risk of infection, and that thinning has shown promising results in to minimise infection. Lodgepole or Corsican pine should not be planted next to Scots pine stands.