



Forest Threats

Pine Woolly Aphid / Pineus pini

Tree Protection Co-operative Programme

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Insect pests

Pine Woolly Aphid / *Pineus pini*

Pineus pini (Macquart)

SYMPTOMS

Symptoms include dying branches and trees as well as discoloration of the foliage, distortion, reduced growth of plant stands and resinosis (Mailu et al. 1978; McClure 1982). Other signs include a shortening of the infected needles' length (Day et al. 2003). According to Mailu et al. (1982), measurements of needle lengths alone might be sufficient to determine the extent of an infestation because of a highly significant negative relationship between those two variables and the number of aphids. In warm, dry weather, tree damage is most severe (Mailu et al. 1978).

BIOLOGY

All year, reproduction is asexual, with eggs produced parthenogenetically. Every year, there are at least three overlapping generations. There are significant differences between the hatching times of the first and last eggs laid because clutches of eggs are laid (one egg at a time) over a period of several weeks. Prior to the development of an adult, there are five immature instars. Hiemosistentes, which are heavily sclerotized adult females without wings, as well as second- and third-instar larvae, overwinter. The larvae transform into apterous progredientes, which are the summer form of the adult female and are lightly sclerotized, and alate (winged) females in the spring.

MANAGEMENT

Sanitary practices and cultural control:

Stress can make pine trees more susceptible to *P. pini* attack (Madoffe & Austara 1993) and therefore, choosing suitable planting sites is paramount to avoiding *P. pini* infestation (Day et al., 2003).

Biological Control:

Pineus pini can be effectively controlled by predatory *Leucopis* species such as *L. tapiae*, *L. obscura*, and *L. nigriluna* (Culliney et al. 1988).

Host-Plant Resistance:

Alternatively, *P. pini* can be controlled by replanting with a less susceptible pine species, but this is a time-consuming and potentially costly procedure that may result in unintended costs such as lower yields and/or quality.

