Pine root collar weevil

Hylobius radicis
Order Coleoptera, Family Curculionidae; snout beetles
Native pest

Host plants: Scotch, Austrian, red, and occasionally eastern white pine

Description: Adult weevils are 6–12 mm long and reddish brown to black with pale yellow flecks on the thorax and wing covers. Larvae are legless, C-shaped white grubs with a dark head.

Life history: Adults feed on bark near the ground in early spring and begin egg laying. They later move to and feed in the upper crown branches. Eggs are deposited throughout the summer. Development may take more than one year.

Overwintering: Adults in debris under bark, in crevices.

Damage symptoms: Larvae feed just below the soil surface on the inner bark and sapwood of stems and large roots. This feeding girdles the bark and restricts the transport of nutrients, thus weakening the tree and retarding growth. Eventually the tree's needles yellow and turn a deep reddish brown. A swollen trunk at ground line and darkened, pitch-infiltrated soil around the root collar indicate an infestation. Chronically damaged trees are easily blown over.

Monitoring: Carefully monitor small trees (2.5–10 cm in diameter) and trees growing in poor soil, as these are usually most severely damaged. Look for white pitch flow on bark and into the soil around the root collar during the growing season. Search debris under trees to look for adults. Cut into the bark of infested root crowns to detect larvae.

Physical control: Prune away lower branches and expose soil to sun at the base of the tree.

Cultural control: Consider selecting pines that are less susceptible, such as pitch or white pines.

Chemical control: Apply insecticide to trunks and surrounding soil in mid May before egg laying begins and again in mid August to control newly emerged adults. Apply enough spray to wet the tree's root collar thoroughly and to soak the soil a 30 cm radius.

Biological control: No reports of natural enemies

Plant mortality risk: High

Biorational pesticides: None

Conventional pesticides: chlorpyrifos (nursery only), permethrin

Damage and tipped tree caused by root collar weevil feeding. (197)
Photo: Jana Albers, Minnesota Department of Natural Resources, The Bugwood Network, University of Georgia

Pitch encrusted soil and damage caused by root collar weevil feeding. (196)
Photo: Jana Albers, Minnesota Department of Natural Resources, The Bugwood Network, University of Georgia