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Pales Weevil

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Plants Attacked

Pales weevil feeds on all pine species in Virginia. It will also feed to a lesser extent on Douglas-fir, fir, hemlock, juniper, larch, northern white-cedar, and spruce. Pales weevil can be a pest on Christmas tree farms, pine plantations, and forestry nurseries.

Description

Pales weevil larvae are found on stumps, logs, and upper primary roots of freshly cut trees where they feed mostly on the cambial bark. The larvae are not considered injurious because they feed on dead and dying trees.

Adult pales weevils attack live trees, feeding on patches of tender bark tissue located on stems, branches, and sometimes the primary roots in loosely packed soil. Feeding notches and pits on pine stems are tell-tale signs of adult feeding (Fig. 1). Seedlings and small branches can be killed when feeding sites merge together and girdle new growth.

Figure 1. Feeding damage on pine branches by adult pales weevil (Lacy L. Hyche, Auburn University, Bugwood.org).

Look for the following symptoms of adult feeding during the months of June through August:

- Weakened or dead seedlings with girdled stems.
- Dead shoot tips on larger trees. These are sometimes called “flags” because the dead reddish-tan twigs contrast with healthy green foliage (Fig. 2).

Figure 2. Flagging on live Christmas tree due to feeding by adult pales weevils (Eric Day, Virginia Tech, Bugwood.org).

- Pitch or resin bleeding on twigs and shoots in response to adult feeding. The pitch hardens to a white crystallized patch or streak on the bark.
- Symptoms of Procerum root disease. Adult weevils are involved in the mechanical transmission of Procerum root disease. This disease of pines is characterized by delayed bud break; failure of shoots to elongate; browning of foliage; and fungal cankers at the base of the infected tree. Procerum root disease is worse in heavy, wet soils.

Identification

The adult is a reddish-brown to black weevil measuring about 8 mm (0.3 inch) long (Fig. 3). There are scattered patches of orange to off-white scales on the head, thorax, and wing covers, and a prominent snout extends from the head. The larva is creamy white with a brown head capsule. It is C-shaped and has no legs.

Coleoptera: Curculionidae, *Hylobius pales* (Herbst)

Figure 3. An adult pales weevil (Clemson University, USDA Cooperative Extension Slide Series, Bugwood.org).

Scouting Tips

Adult female weevils are attracted to resin on freshly cut stumps and from damaged and recently dead pine trees (Fig. 4). They lay eggs on the roots in the spring between March and June. Larvae feed under the bark of stumps and roots and pupate in chip cocoons. New adults emerge in mid- August and mid-September to feed on the tender bark of shoots and twigs. Adult pales weevils are largely nocturnal and hide under logs and leaf litter during the day. Eventually they seek a site to overwinter, usually in the litter below the tree, and emerge in the spring.

Control

There are two key components to effective control of pales weevil.

1.) Remove and destroy old stumps, logging slash, culled trees, and dead trees that serve as breeding sites. This material can be ground, chipped, or burned.

Figure 4. An ideal situation for pales weevil with a mix of fresh stumps, new seedlings, and larger pines (Eric Day, Virginia Tech, Bugwood.org).

2.) If stumps are left in the field, drench them and the surrounding 0.3-0.6 m (1-2 feet) of soil before mid-March with a registered insecticide, before adult pales weevils become active. Only fresh stumps that have been cut since the previous summer need be treated. Stumps older than two years do not need to be treated as they are no longer attractive to females seeking egg-laying sites.

See the Virginia Pest Management Guide for Horticultural & Forest Crops (PMG 456-017) for current insecticide recommendations for pales weevil control (under “pine reproduction weevils”) in Virginia. **Mixing esfenvalerate with kerosene as a stump treatment is no longer recommended as the label for that material no longer includes drench applications.** Instead, follow the label recommendation for high-volume or low-volume sprays of esfenvalerate.

In Forest Plantations: Instead of treating stumps, wait one year to replant with seedlings if harvest

took place after June 1. Use seedlings pre-treated for pales weevil. Dipping the above-ground portion of seedlings in an insecticide dip before planting can limit pales weevil attack. Alternatively, seedlings pre-treated for pales weevil are available for purchase from the Virginia Department of Forestry and other nurseries.

If not using pre-treated seedlings in forest plantations, wait two years after harvest before replanting pine trees. This tactic is less successful if there are neighboring plantings with fresh stumps. Adult pales weevils fly and may migrate to a new planting from a distance, depending on wind direction and the presence of suitable host stumps nearby.

In Christmas tree plantations: Stump grinding or removal is recommended. If that is not feasible, thoroughly soak stumps and the 0.3-0.6 meters (1-2 feet) of soil surrounding each stump or slash with a registered insecticide before mid-March. If flagging is observed on trees in August or September, spray affected trees with a registered insecticide to control adult weevils feeding in the trees.

Remarks

Pales weevil belongs to a group of weevils known as the pine reproduction weevils. These weevils feed at the base of pines and on branches of living pine trees. This group includes the pales weevil, pitch-eating weevil, and the pine root collar weevil. Both the pitch-eating weevil and the pine root collar weevil are found in Virginia, but neither species is considered a pest.

Revised

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