



## Pine Shoot Beetle

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**Description:** Pine shoot beetles are in the same family as bark beetles and resemble bark beetles in appearance with their cylindrical shape. The adults are 1/8 to 1/4 inch long. The larvae are legless and can be up to 1/4 inch long. Pine shoot beetles are dark brown. The larvae have a dark brown head and creamy white body. Order: Coleoptera, Family: Scolytidae, Scientific name: *Tomicus piniperda* (Linnaeus)



Image of adult beetle: Image Citation: Daniel Adam, Office National des Forêts, Bugwood.org  
Image of beetle and damage: Image Citation: E. Richard Hoebeke, Cornell University, Bugwood.org

**Habitat:** The pine shoot beetle is native to Europe, but it is now found in the United States from Illinois to Vermont and south to Virginia. It is thought to have come to the United States with wood pallets, dunnage, and shipping containers arriving on ships coming into the Great Lakes. It was first recorded in Ohio in 1992 and was quickly found in other states bordering the Great Lakes.

**Life Cycle:** Adults overwinter on the bark of pine trees. The beetles exit the overwintering site and begin flying about when the temperature reaches or exceeds 54°F. The first flight usually takes place in late winter or early spring. Adults lay eggs on stumps, logs, and dying Scotch and related pines. The larvae feed under the bark and make galleries 3 to 10 inches long. The immature stage usually lasts from April until June. The larvae pupate under the bark and the adults emerge throughout the summer. Adults can fly several miles in search of new hosts and there is one generation per year.

**Type of Damage:** They feed on white and Scotch pine. The newly emerged beetles damage live shoots of white pine in the summer; this is called "maturation feeding" as they are not laying eggs at this time. During maturation feeding the beetle makes clean tunnels inside small live shoots. The damaged shoots turn yellow, then brown and are easily contrasted against the remaining green foliage.

### **Control Methods**

**Chemical:** Chemical control is usually not necessary.

**Non-chemical:** Removing dead and dying Scotch pine will remove breeding sites and reduce the attractiveness of plantations to beetles that might be in their vicinity. This beetle is not likely to become a problem on yard trees.

**Quarantine:** Virginia localities where the Pine Shoot Beetle has been detected are included in the USDA and Virginia Pine Shoot Beetle Quarantines. Movement of Christmas trees, pine bark nuggets and chips, pine logs and lumber with bark attached, pine nursery stock, pine material for wreaths and garland and pine stumps from the quarantined area is prohibited unless the shipment is accompanied by a certificate indicating that these pine products have been inspected by the Virginia Department of Agriculture & Consumer Services (VDACS) or received approved treatment (fumigation or cold treatment). Growers can also ship Christmas trees out of the quarantine without VDACS inspection or treatment provided the grower is under a compliance agreement with VDACS.

General provisions of the Pine Shoot Beetle compliance agreement for movement of Christmas trees from the quarantined area includes the following:

All dead and dying trees must be removed from the Christmas tree farm. These potential brood trees must be burned, chipped, or buried under at least 12 inches of soil.

Stumps must be cut flush (within 1 inch) to the ground during or just after harvest. Spray the exposed surface of stumps with an approved insecticide as listed in the *Pest Management Guide* just before flight of overwintering beetles, January to mid-February, depending on the location. (This is the same timing and method used to treat pales weevil.)

Pine species must be visually scouted for infested shoots between July and October. Infested shoots, if found, must be removed and destroyed by burning or burying.

Pine logs must be used as trap or sentinel logs. Logs must be in place by January and checked once the daytime temperature exceeds 50°F. Sentinel logs must be removed between April 1 and April 20 each year. Sentinel logs must be burned or buried.

Trees will need to be chemically treated if the pine shoot beetle is found on the farm and chemical treatment may be required if the Pine Shoot Beetle is detected within 1/2 mile.

Written records and associated documentation must be maintained by the grower and made available to VDACS. Pertinent records include the number of trees scouted, scouting dates, sanitation treatments conducted, trap log activities, and insecticide usage. A sample form will be provided for use.

For more information about the compliance agreement, contact VDACS at (804) 786-3515. VDACS will arrange to have a nursery inspector visit your farm and provide specific details on requirements of the Pine Shoot Beetle compliance agreement