



# TEXAS A&M FOREST SERVICE

## *Forest Health:* Black Turpentine Beetle

Attacks from black turpentine beetles (*Dendroctonus terebrans*) may occur on all pines native to the South. It is most common in pines stressed by serious drought, flooding, storms, wildfires, and cutting operations. Use of mechanized harvesting equipment, which damages residual trees, compacts the soil, and injures the roots, has increased damage by black turpentine beetles.

### **Identification:**

The adult beetle is  $\frac{1}{4}$ " to  $\frac{3}{8}$ " long and dark brown or black. This beetle may be confused with *Ips* bark beetles, but is larger, more heavily bodied, and does not have a scooped out and spined posterior. Creamy white larvae are very small with a reddish-brown head, and are approximately  $\frac{1}{3}$ " long. The yellowish-white pupae are about  $\frac{1}{4}$ " in length.

### **Signs of Attack:**

The most obvious sign of attack is pitch tubes on the lower trunk (usually below six feet) and stumps. Pitch tubes are large--sometimes about the size of a walnut or half-dollar-- and white to reddish. Older tubes have a sugar-like (granular) texture. Foliage color is not a satisfactory indicator, since large infestations may develop before any trees are killed or foliage turns brown. Some trees will survive attacks.

### **Life Cycle:**

Adult beetles are attracted to injured or weakened trees and fresh stumps. They bore into the cambium layer (just under the bark) and excavate a broad vertical gallery kept clean of boring dust. Eggs are laid in clusters along the edge of the gallery. After hatching, larvae feed side by side, destroying large patches of the cambium area. No individ-

ual larval feeding galleries are present, as with other bark beetles. When enough larvae are present, they girdle the cambium causing the tree to die. After pupation occurs between the bark and the wood, adult beetles emerge and seek new host trees. Neither the beetles nor the larvae bore into the wood of the tree. Two to four generations a year may be produced in Texas.

### **Control:**

Build up of this insect is comparatively slow, and serious problems usually can be prevented. Proper forest management practices and harvesting operations can reduce beetle attacks. In logging areas with active black turpentine beetle infestations, fresh stumps and damaged residual trees can be sprayed with an insecticide containing permethrin or bifenthrin. Spraying trees that have been attacked is usually successful if infestations are light or if the trees are not too severely weakened. Spraying to prevent attacks on adjacent trees is also practical. Salvage removal of heavily infested trees will help reduce additional losses.

