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Pine Engraver Beetle

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Researchers in California and Oregon have estimated that if annual rainfall is at or below 75% of normal, moderate to heavy tree mortality can be expected in overstocked second-growth ponderosa pine stands.

The pine engraver beetle, also known as *Ips*, feeds on the soft fleshy cambium layer between the bark and the sapwood. Unfortunately, this is generally enough to kill a weak tree. The pine engraver beetle feeds on many pine trees in the region but prefers ponderosa pine and lodgepole pine.

The pine engraver beetle is a secondary attacker and opportunist, and will wait until something else has damaged and weakened the tree before it moves in for an easy meal. It looks for trees weakened by *Diplodia* blight, western pine beetle, mountain pine beetle, and other insects and diseases.

A gallery is a "tunnel" made by beetles in the cambium layer of a tree. Beetles lay their eggs in these galleries. The young hatch and feed in the cambium layer making new galleries away from the original parent gallery. As shown in Figure 1, the pine engraver beetle creates a unique gallery which looks similar to a "Y". These galleries can be exposed by peeling or chopping the bark away from a suspect looking tree or limb in a slash pile. These galleries are normally indicated by red-orange boring dust piled outside the bark around the entry holes.

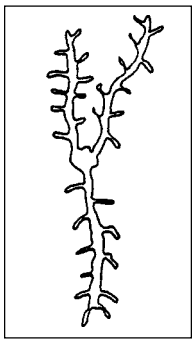

Figure 1.

In a "normal year", the pine engraver beetle emerges from the duff in the spring - weak and hungry. It usually looks for a large pile of logging slash to feed on, lay eggs in and die. The second generation hatches within 4 to 14 days, then feeds on the last of the slash for another 10 to 20 days. When the original feeding site has been depleted, the hungry beetles begin looking for a new meal; they prefer more logging slash, but will attack standing trees if no slash is available.

The normal cycle of the pine engraver beetle includes two generations per year, though three and even four generations can occur during dry years. Forest disturbance such as severe winter damage, logging, and road construction make the forests vulnerable to pine engraver attack.

Thinned, healthy, vigorous forest stands are usually more resistant to pathogens and insects. This holds true when dealing with ponderosa pine and the pine engraver beetle. The age old proverb "an ounce of prevention is worth a pound of cure" has never been better applied than here. A weak, diseased forest of ponderosa pine attacked by the pine engraver beetle will have high tree mortality.

Fresh pine logging slash is optimal for the weak pine engraver beetle emerging in the spring. The pine engraver beetle thrives in logging slash where the average diameter is 3 inches or more. If logging slash is destroyed, the pine engraver beetle will not have suitable habitat to breed the second generation of tree killers. One of the best methods of slash control is burning slash in the fall or spring (check with your local Idaho Department of Lands office for a burning permit). Dozer trampling, chipping, and scattering the slash in sun-exposed openings also reduces the beetle's success.

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