Forest Pest Bulletin

SOUTH DAKOTA
DEPARTMENT OF AGRICULTURE
DIVISION OF RESOURCE CONSERVATION
& FORESTRY

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Pine Engraver Beetle (*Ips*)

CAUSAL AGENT
Ips pini

HOSTS
Ponderosa (*Pinus ponderosa*), Scots (*Pinus sylvestris*), Austrian (*Pinus nigra*), and lodgepole pine (*Pinus contorta*).

SYMPTOMS
Pine engraver beetles prefer freshly cut branches (green slash), hence the other common name, the slash beetle. They also attack live trees though the attacks are typically found in young stressed trees or in the branches of declining or fire-injured mature trees. As the pine engraver beetle tunnels under the bark it leaves cinnamon-colored shredded wood and "frass" (insect excrement), in bark crevices and around the base of the tree (Fig. 1). Blue stain fungi are also introduced into the host tree by the beetles and can help identify an infestation. The tree crown begins to fade to yellow-green and as infestation and damage to the tree progresses; the crown becomes reddish-brown. Infestations can be found in clusters of trees or single trees. Sometimes only the tops of larger trees are infested.


Fig. 1 – Frass left by Ips boring into the tree. RC&F photo.

LIFE CYCLE
The Pine engraver beetle, a native insect, goes through four different stages during its lifetime: eggs, larva, pupa, and adult. If the winters are not severe, many of the beetles will overwinter as eggs, larva, or adults. They can have two to three generations per year, with the first eggs often laid in April. The white, pinhead sized eggs are laid by the female along the sides of an egg gallery and hatch into larvae within 10 to 14 days. The larvae are "c"-shaped with brown heads, white bodies, and no legs. The larvae feed for 2-4 weeks, forming "H," "Y," or sun-shaped galleries in the cambium (Fig. 2). At the end of those 2-4 weeks, they prepare an


Fig. 2 – Pine engraver beetle galleries. RC&F photo.

oval cell for their pupation. The pupation period lasts for about 12 days. The adult beetles range from 3/32nd inches to 3/8th inches long and are brown or black (Fig 3). The new adults bore through the bark, take flight, and generally move on to a new host. They can reinfest the same slash pile or tree.

MANAGEMENT

The best way to prevent Pine engraver beetle outbreaks is to maintain healthy tree stands. Thinned stands are much less susceptible to infestation than dense ones. Please contact a forester in your area for the best time to thin. Disturbances to trees such as fire, windthrow, storm breakage, construction, or logging injury can lower a tree's natural defenses against pine beetles. It is imperative to dispose of infested trees to prevent the spread of infestation. This can be done through removal of infested wood from the site, burning, or chipping. Chipping, however, in early spring will attract the beetle and they will then attack nearby trees. Preventative chemicals can also be sprayed on trees that need to be protected from infestation. Common chemicals include Sevin XLR and Astro. Sprayers must have sufficient pressure to cover the bark of the branches near the top of the canopy. Contact your local Resource Conservation and Forestry office for recommendations. It is very important to avoid piling green firewood next to live trees. The beetles will infest the firewood, then the adjacent standing trees.

Fig. 3 – Adult pine engraver beetle
Photo credit: Ron Long, Simon Fraser University, www.forestryimages.org

Due to numerous pesticide labels and/or label changes, be sure the product label includes the intended use prior to purchase or use. Please read and follow all pesticide label instructions and wear the protective equipment required. Spraying pesticides overhead increases the risk of exposure to the applicator and increases the likelihood of drift to non-target areas. Consider the use of a commercial applicator when spraying large trees due to the added risk of exposure and equipment needs. The mention of a specific product name does not constitute endorsement of that product by the South Dakota Department of Agriculture.

For further information contact your nearest South Dakota Division of Forestry Office. Hot Springs 605-745-5820; Lead 605-584-2300; Mitchell 605-995-8189; Pierre 605-773-3623; Rapid City 605-394-2395; Sioux Falls 605-362-2830; Watertown 605-882-5367.