

How to avoid beetle-infested firewood

Currently there is a massive outbreak of mountain pine bark beetle near Bend, La Pine, and other south-central communities, in the Deschutes and Fremont National Forests, and in other pine forests of eastern Oregon. Local residents and visitors use these forests extensively for fuel wood. This practice can spread the infestation by transporting infested wood to sites where the beetles have not yet become established.

The Problem

Dead and dying trees on public and private lands, namely lodgepole and ponderosa pine, are commonly cut for fuel wood. In many cases this wood is removed from a stand of pine heavily infested with bark beetles and transported for use and storage where the insect has not yet become a problem. More often these areas are small rural city lots containing more high-value trees. These living trees, or those on adjacent lots, are subject to insect attack, especially if beetle-infested fuel wood is piled at their base or nearby. This type of tree loss can be prevented easily. There are several simple, safe, and effective procedures to minimize the likelihood of pine kill as the result of improper handling of beetle-infested fuel wood.

Choosing Beetle-free Trees to Cut

Choose dead or dying pine that do not have live beetles under the bark. These trees usually can be identified by their red color or by lack of foliage. Noting the condition of the tree and the time of year is probably the easiest and most reliable technique for determining the presence or absence of mountain pine beetle. Figure 1 illustrates the condition of the tree at various times of the year and indicates when the beetle flight and new attacks can be expected.

The beetles fly in midsummer and attack new trees. At that time they inject into the sapwood a blue-staining fungus that slowly begins to kill the tree. Masses of pitch begin to form on the tree's trunk, and this is the first visual sign of attack. These pitch masses or tubes are formed when the beetles bore under the bark of the tree. By early fall the tree is near death, but there are no additional outward symptoms; the foliage of the crown still looks healthy and green. During the spring of the next year the foliage will begin to change color. At first the foliage is light yellow, then it changes to a buckskin color, and finally turns to a dark brownish red in late summer.

With lodgepole pine, fading generally occurs throughout the crown, usually starting within a week or two after the first

extended warm period in the spring (about May). Ponderosa pine begins to fade at the same time, but the needles begin to fade in the lowest portion of the crown; the oldest needles, those closest to the trunk, turn light yellow first.

Trees with this color foliage should not be cut for firewood. If these trees are stored near live pine, the beetles might emerge in midsummer and attack nearby live pines.

If the foliage is missing or if it is a deep red, then these trees were killed prior to the current year, contain no bark beetle brood, and are "safe" to cut and transport for use or storage near live, high-value pines. By late August, trees that started to fade in the spring are also safe to use as fuel wood since the beetles will have emerged.

The beginner may find it difficult to determine if mountain pine beetles are present simply by looking under the bark. Many different kinds of insects are found in dead trees, so the presence of "bugs" does not always mean that bark beetles are present. In addition to tree condition and time of year, the following guidelines will help in determining the presence of mountain pine beetles and if the tree is "safe" to use for firewood:

1. Lodgepole and ponderosa pines with a diameter under 5 inches are rarely attacked by the beetle. Very large ponderosa pines (greater than 40-inch diameter) are seldom attacked except under massive outbreak conditions.
2. The presence of pitch tubes plus many small holes in the bark of trunk resembling a tree shot with BB-sized shotgun pellets signals bark beetle attack and brood emergence, i.e., a safe tree.
3. A felled tree with an outer ring of blue-stained wood indicates the tree was killed by bark beetles. If it is early spring or summer and the foliage is turning color, do not remove the tree from the forest until mid-August or later.

Dealing with a Beetle-Infested Woodpile

If your newly acquired pine woodpile harbors bark beetles, there is a simple and safe procedure for killing these insects before they emerge.

The best practice is to cover your woodpile with 4 mil-clear plastic. An infested woodpile should be covered in the spring when the days are clear and the temperatures are warming. The woodpile should be in the open and exposed to direct sunlight. Bury the plastic to 2 to 3 inches in the ground around the base of the pile to prevent any ventilation and beetle escape. Beetles that are not killed by the high temperature under the plastic are



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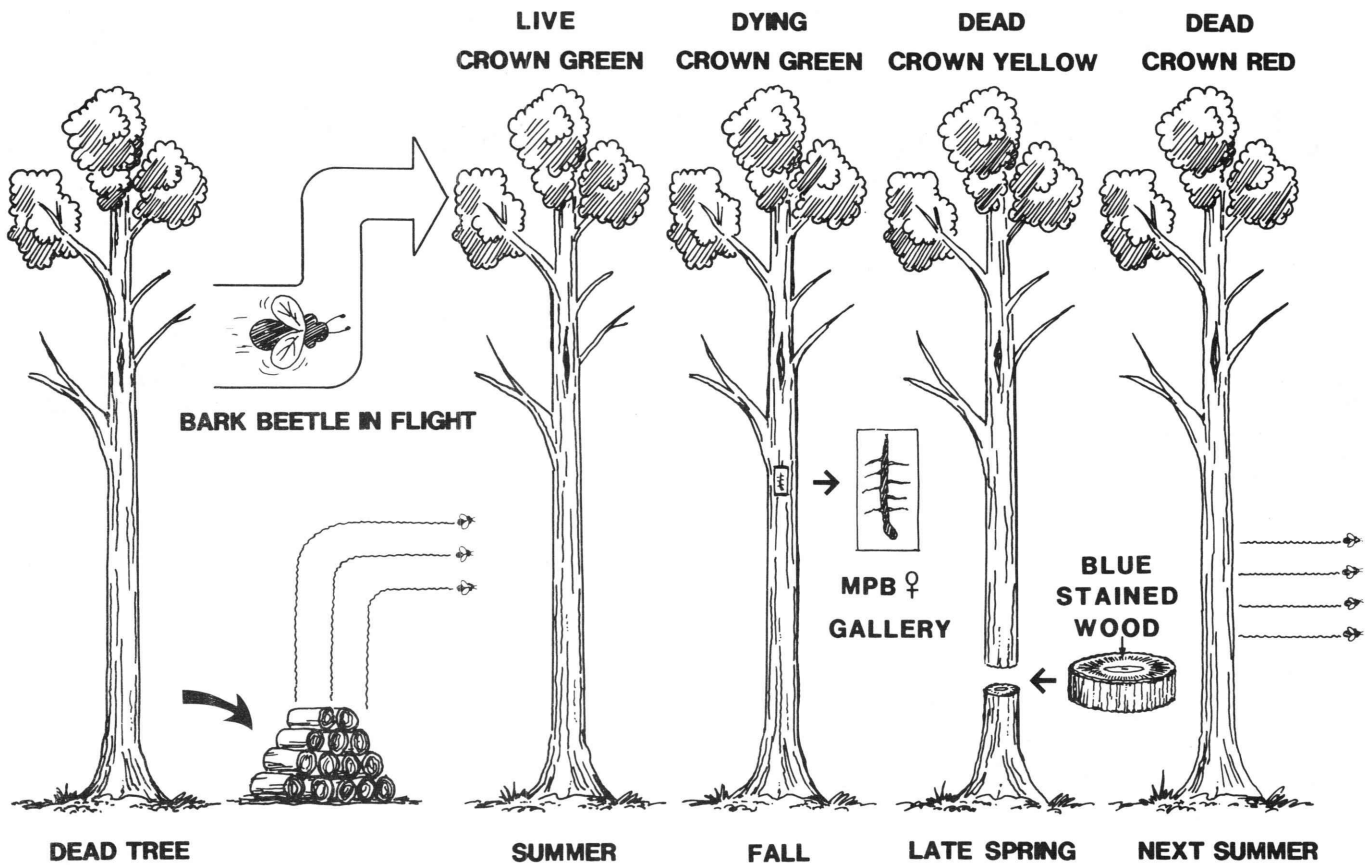


Figure 1.—Condition of beetle-infested tree from season to season

quickly killed when they emerge and are trapped by the plastic covering. The plastic can be removed in late August with no concern for beetle activity. **Green firewood covered with plastic to prevent beetle escape will not dry while covered.**

There are no approved nonhazardous insecticides available for this type of application. Those available are expensive and dangerous to apply and are not recommended.

Other Insects in the Woodpile

Numerous types of insects use beetle-killed trees for food sources. For the most part these insects are innocuous and will not harm living trees. They can be a nuisance if the wood is stacked inside a home. However, small trees or tops from larger ponderosa pine trees should be handled similar to lodgepole pine for they can harbor the pine engraver beetle, a potentially serious pest to pole-sized ponderosa pine.

Prepared by Gary B. Pitman, Extension forest protection specialist, Oregon State University.