

Bark Beetles

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Q: I live near Shingletown and I have a pine tree that is dying. I have been told by my neighbor that it is infested with bark beetles and that I should remove the tree before they spread to other trees. Is this true? Is there anything I can do to save my tree?

A: If your pine tree is already looking dead there is not much you can do for it. Your problem is one many homeowners are facing with over a million trees in California dead due to the bark beetle and diseases caused by the extended drought. The trees have been weakened and stressed from too many years without enough water due to the past several years of drought. This has made them defenseless against the deadly attack of diseases and insects. Insects like the bark beetle. Bark beetles are a natural and common pest in our local forests. Under normal circumstances, when water is more regular and plentiful, healthy trees produce enough resinous pitch to drown and flush out invading beetles. But our drought-stressed trees were not able to produce enough of this defensive pitch, and the deadly beetle populations have flourished. When adult beetles attack, they bore through the outer bark of a weakened tree and lay their eggs in the moist inner bark. The beetles and their larvae then feed on the tree's living tissue, eventually cutting off the tree's ability to transport nutrients. In some cases the beetles may also carry fungi that will further damage the tree's defense system. In California we have around 20 invasive species of bark beetles. The most common species infesting our local pines are the engraver beetles, the red turpentine beetle, and the western pine beetle. . . .

Most bark beetle species produce two or more generations a year. When the larvae mature they bore their way out of the tree, creating a buckshot pattern of holes in the bark. These adults may then re-infest the same tree but most likely will attack susceptible trees nearby. By the time the needles and foliage of a dying tree begin to change color, the beetles are likely already gone. Attacking beetles release pheromones that attract other beetles. This can create a mass attack on a tree. Many attacks spill over into adjacent trees causing an entire stand of trees to die.

Prevention is the most effective method of managing bark beetles. Avoid causing injuries to tree roots and trunks, and try not to compact the surrounding soil during construction activities. Also, during the hot summer months, deeply irrigate trees twice a month at the drip line (not near the trunk). To be beneficial, the water

needs to seep down at least a foot below the surface. Also reducing competition through thinning is the best way to protect a stand of trees from the effects of drought. Thinning is best done during non-drought years and in the late summer and fall.

Once trees have been attacked, little can be done to control the carnage. Insecticides won't work because the beetles live beneath the protective bark. Seriously-infested trees, or trees that are dead or dying, cannot be saved and should be immediately removed. All infested wood should be burned or chipped on site. An eco-friendly alternative is to tightly seal small piles of the cut wood inside UV resistant, thick (10 mil), clear plastic sheets. Establish the piles in a sunny location and the heat will kill the beetles in a couple of months. And never pile infested material adjacent to a live tree or shrub. A neighbor who chooses not to remove beetle-infested trees can increase the chance that susceptible trees on adjacent property will be attacked. Obviously, these situations can become complicated. Tree removal options are not equally available to all landowners

For more information about bark beetles check out the UC IPM webpage at <http://ipm.ucanr.edu/PMG/PESTNOTES/pn7421.html>