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NEWS

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Mountain Pine Beetles Make their Way to the Front Range

Fort Collins, Colo. — The presence of mountain pine beetle has increased the public's awareness of the health of local trees, and local tree experts have received numerous calls from concerned homeowners describing blobs of sap or resin on the trunk of their pine trees.

In recent weeks, ornamental pines, especially Scotch pines, have shown indications of mountain pine beetle attack in Fort Collins, Boulder, Greeley, Loveland, Berthoud and Windsor. Experts believe that the increase of mountain pine beetle on the Front Range is due to the transportation of infested wood from the mountains. This typically occurs when green trees in which larvae are still developing in the bark are cut down, allowing mountain pine beetle populations to increase in urban areas. Strong winds also may have blown these tiny beetles from the mountains to urban areas.

Mountain pine beetles mainly affect pine trees. The needles of these evergreens grow in bundles of 2, 3 or 5 needles. The beetles are dark brown to black and about 1/8-inch long. At the beetle's point of entry, trees produce resin or sap in an attempt to defend themselves from beetle attack. Oftentimes, trees are successful and pitch-out the beetles, but in other cases, the beetles successfully penetrate the inner bark, ultimately killing the tree.

Mountain pine beetles prefer pine trees that are old or those that have a large girth. They bore into the bark to mate and lay their eggs. In most cases, the adult beetle dies at this point, but the offspring (grubs or larvae) feed and develop beneath the bark through July. It takes one full year for the larvae to develop into and emerge as adults, repeating the whole cycle. In late spring, needles of the infested pine tree will start to turn an off-green color, eventually turning entirely red. The turning color is caused by an interruption in the movement of nutrients as a result of the larval feeding and the introduction of the blue-stain fungi that the beetle transports into the tree.

"In the urban setting, it appears that pine trees are successful at pitching-out, and many trees appear to be lightly infested, or many of the blobs of resin appear to be whitish, which indicates unsuccessful hits," said Ingrid Aguayo, forest entomologist for the Colorado State Forest Service, an agency in the Warner College of Natural Resources at Colorado State University. "Although these trees may not die or produce a brood of beetles, they may be at higher risk of infestation next year and should be monitored," Aguayo added.

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Given current reports of infestation, it's advisable to monitor pine trees that appear to be heavily infested. To determine the level of infestation, look for blobs of resin, also known as pitch-tubes. If many of the blobs appear reddish in color, it is likely that the beetle was able to dig through the bark, which produces boring dust. You also can dig above the entry hole to look for the developing larvae (for examples of what to look for, visit <http://www.ext.colostate.edu/pubs/insect/05528.html>). If many of the larvae are still alive by the end of November, the tree is likely to die next spring. Please contact your city forester or local forester if you need help determining whether the infested tree is likely to die next year.

What to do if your pine tree is infested

First, assess the pine tree in question. If the tree is completely dead, with red or no needles, the tree no longer is a threat because the mountain pine beetles already have moved on to infest new trees. If the pine tree shows symptoms of heavy infestation — many reddish resin blobs — on the main trunk and the needles are green, then mountain pine beetle larvae probably are developing under the bark.

Treatment options include cutting, debarking and chipping the tree if it is heavily infested. The idea is to kill the larvae so the beetles do not develop to the adult stage and infest new pine trees the next season.

No registered chemicals are available to treat trees that are heavily and successfully infested. If pine trees in your neighborhood are infested, but yours are only lightly infested or not yet infested at all, you can protect them from future infestation by using a chemical labeled for mountain pine beetle. Such chemicals include Sevin XLR or SL, Astro or Onyx, among others. Spraying should be administered before July when the beetles emerge and begin to fly. The spray is effective for one year, and should only be applied by a certified, licensed applicator. If you live by a stream or lake, or your neighbors are sensitive to chemicals, spraying may not be an option.

Affected Front Range cities are considering the removal of heavily infested trees in parks and will monitor trees that are lightly infested. They also may spray some high-value city-owned pine trees.

Is it mountain pine beetle or autumn needle shedding?

All of these symptoms can be confused with autumn needle shedding, sometimes referred to as needlecast, which occurs annually in some evergreens. This is the tree's natural process of shedding the older needles in the fall and is part of the annual growth cycle. Dying needles undergoing this process generally are clean and closest to the trunk, whereas beetle-infested trees may turn an off-shade of green, or start to turn brown at the bottom and proceed up the tree.

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