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Emerald Ash Borer Makes its Way into PA

UNIVERSITY PARK, Pa. – An invasive beetle that destroys ash and other trees was spotted in Pennsylvania for the first time this summer. State officials have imposed quarantine in four western counties, but what more can be done to prevent emerald ash borer from spreading?

U.S. Department of Agriculture surveyors found the emerald ash borer on a tree in Cranberry Township, Butler County. The beetle has destroyed more than 20 million ash trees in five states since it was first discovered in North America in southeastern Michigan in 2002.

According to the Pennsylvania Department of Conservation and Natural Resources (DCNR), emerald ash borer is a tiny, metallic green beetle whose larvae feeds on the layer of wood just beneath the bark of the ash tree, cutting off water and nutrients and killing the tree. The insect, native to Asia, probably arrived in the U.S. in wood packing crates.

In 2003, The DCNR Bureau of Forestry, along with US Department of Agriculture/Animal Plant Health Inspection Service, US Forest Service, Pennsylvania Department of Agriculture and Penn State Cooperative Extension assembled a task force to detect and control this invasive threat. The Bureau of Forestry began surveying for the invasive pest on state-owned forestlands, parks and gamelands.

According to Sven-Erik Spichiger, entomologist with the Bureau of Plant Industries, Pennsylvania Department of Agriculture and formerly a forest entomologist with DCNR, the inspection sites were chosen based in part on state park visitation records. "Many campers like to bring their own firewood, which can spread an exotic pest like emerald ash borer. We looked at parks that had high visitor numbers from Michigan, Ohio and other states where the beetle has already been detected," he explains.

The spread of emerald ash borer has also been linked to the transportation of infested nursery stock. To help prevent its spread, Spichiger recommends homeowners landscape with native plants and buy firewood locally when camping. "If you have already transported firewood, the best thing to do is to burn it," he says.

In the quarantined counties of Butler, Lawrence, Allegheny and Beaver counties, all movement of ash tree material, from nursery stock to wood chips, is prohibited. Because

of the difficulty in distinguishing species of hardwood firewood, all hardwood firewood also is quarantined. Similar quarantines have been imposed in Illinois, Indiana, Ohio, Maryland and Michigan, where the beetle has also been found.

Spichiger also recommends people be on the lookout for the exotic pest while in the woods and in their backyards. "Adult emerald ash borers are easy to spot. They are a brighter green than any other native American species, and are slender and slightly less than one inch long," he explains. Spichiger says eggs are laid between layers of bark and in bark crevices. Larvae hatch in about one week and bore into the tree, creating "S" shaped markings. Mature larvae are slightly longer than the adult beetle and cream-colored. "After three feeding stages, the larvae will excavate a pupal chamber in the fall, where they will overwinter. Adults begin to emerge in late spring through "D"-shaped exit holes and remain active until the end of summer."

Spichiger says it is also important to be able to identify ash trees, the only known host of the emerald ash borer. "The pest is known to infest all species of ash, which can be identified by their opposing branches and compound leaves. Older ash trees will have a characteristic diamond pattern on their bark."

Currently, there are no effective treatments for trees infected by emerald ash borer. "Natural enemies are not effective, since the beetles are so prolific," says Spichiger. "Once a tree is infested, the only way of preventing its spread is to establish a 'no ash zone' in which all ash trees are removed within a half-mile radius of the infected tree," he explains. In addition, chemical insecticides are not effective because beetles in colder regions will often have a two-year life cycle. "With a two-year live cycle, there is no way of knowing when to best apply the treatments. However, research on other treatment options is currently underway."

Spichiger stresses it is very important for people to be aware of this invasive pest. If you think you have found an emerald ash borer, you can report it by contacting the PDA at 717-772-5228, or email at Badbug@state.pa.us.

For the latest information on emerald ash borer, see Web site at <http://www.emeraldashborer.info/>. For more information on invasive species, including the emerald ash borer, visit the Biosecurity and Invasive Species Issues in Pennsylvania Web site at <http://paipm.cas.psu.edu/biosecurity.html>.

The Pennsylvania IPM program is a collaboration between the Pennsylvania State University and the Pennsylvania Department of Agriculture aimed at promoting integrated pest management in both agricultural and urban settings. For more information, contact the program at (814) 865-2839, or Web site <http://www.paipm.org>. To view our archived news releases, see Web site <http://paipm.cas.psu.edu/newsrelease.html>.