



## Species Brief 5.2

# What Is in Your Firewood?

## Emerald Ash Borer



### Pest and Target Species

A nonnative insect, the emerald ash borer (EAB), *Agrilus planipennis* (Coleoptera: Buprestidae), will attack all species of ash.

### Range

The emerald ash borer is native to Asia. It was first detected in Canton, Michigan near Detroit in 2002. Since then, this exotic insect has spread into parts of Canada and now exists in 15 U.S. states, including the southern states of Virginia, Kentucky, and Tennessee.

### Identification and Symptoms

The adult EAB is metallic green in color and approximately one-half of an inch long. The body is narrow and elongated with short legs. The head is somewhat flat with two large, black eyes, and short antennae (Figure 1). The first stages of host tree infestation are rarely noticeable. The white larvae, which range

from one-to one-and-a-half inches long, cause the most damage to host trees. Larvae create serpentine galleries (tunnel-like paths) and feed underneath the bark, preventing the transportation of water and nutrients (Figure 2). The emergence of the adult beetle, after pupation, creates D-shaped exit holes in the trunk and branches (Figure 3). Eventually, dying and dead branches appear in the upper crown and multiple shoots will sprout on the trunk of the infested tree. The bark on the trunk may split, exposing areas of the woodborers' galleries. Damage from woodpeckers may appear on the trunk and branches (Figure 4). In the later stages of decline, the entire crown will die. The tree eventually succumbs to the attack within two to three years.

### Control Options

There is currently no known method to stop the spread of the EAB completely. The best method of controlling the EAB is to prevent its introduction. Since the beetle can live in cut wood,



Photo by: David Cappert, Michigan State Univ., Bugwood.org

**Figure 1:** An adult emerald ash borer.



Photo by: Eric R. Day, Virginia Tech, Bugwood.org

**Figure 2:** Emerald ash borer galleries.



Photo by: Debbie Miller, US Forest Service, Bugwood.org

**Figure 3:** Emerald ash borer adults chew D-shaped exit holes as they emerge from ash trees.



Photo by: Steven Katovich, US Forest Service, Bugwood.org

**Figure 4:** Bark removed by woodpeckers searching for emerald ash borer larvae and pupae.

infested wood debris and firewood should not be moved long distances. If traveling for recreational activities, it is recommended to leave firewood at home and buy local firewood at the destination.

The systemic insecticide emamectin benzoate is effective as a preventative method to protect high-value ash trees or to slow the spread of EAB infestation within a tree and to neighboring trees. Once the EAB is detected, infested trees should be cut down and burned or chipped to sizes less than one inch at the original location.

When an EAB infestation is found, a quarantine is put into place to limit the spread of the pest through human activities. The quarantine prohibits the transport of firewood out of quarantined areas into unaffected areas.

## Suggested Resources

*Emamectin Benzoate Pesticide Now Registered for Use in Treating Ash Trees for Emerald Ash Borer (EAB).*

[www.emeraldashborer.info/treeage.cfm](http://www.emeraldashborer.info/treeage.cfm)

*Emerald Ash Borer: The Green Menace.*

[www.aphis.usda.gov/publications/plant\\_health/content/printable\\_version/EAB-GreenMenace-reprint-June09.pdf](http://www.aphis.usda.gov/publications/plant_health/content/printable_version/EAB-GreenMenace-reprint-June09.pdf)

*Hungry Pests: Leave Hungry Pests Behind.*

[www.hungrypests.com/the-threat/emerald-ash-borer.php](http://www.hungrypests.com/the-threat/emerald-ash-borer.php)



[http://ncforestservice.gov/forest\\_health/monitoring\\_invasives.htm](http://ncforestservice.gov/forest_health/monitoring_invasives.htm)