



## Emerald Ash Borer

EAB kills ash trees within three to five years of infestation. Adults are dark metallic green, 1/2 inch in length and 1/8 inch wide, and fly only from mid-May to September. Larvae spend the rest of the year developing beneath the bark.

To date, infestations have been identified in Auglaize, Defiance, Delaware, Erie, Franklin, Fulton, Hancock, Henry, Huron, Lorain, Lucas, Miami, Ottawa, Sandusky, Williams, Wood, and Wyandot counties.

### Identification, Appearance & Symptoms

The Emerald Ash Borer belongs to a group of insects known as metallic wood-boring beetles. Adults are dark metallic green in color, 1/2 inch in length and 1/16 inch wide, and are only present from mid May until late July (Figure 2). Larvae are creamy white in color (Figure 1) and are found under the bark.

The borer's host range is limited to species of ash trees (identified by their distinctive leaves, which are located directly across from each other on the leaf stem and bark.

In Michigan, most ash trees are white, black or green. Emerald Ash Borer does not attack mountain ash, which is not related to white, black, or green ash trees.



*Figure 1. Larva stage*



*Figure 2. Adult Emerald Ash Borer (top view)*



*Figure 3. "D" shaped Borer hole caused from EAB*

Usually their presence goes undetected until the trees show symptoms of infestation typically the upper third of a tree will die back first (Figure 5), followed by the rest the next year. This is often followed by a large number of shoots or sprouts or sucker branches arising below the dead portions of the trunk (Figure 4).

The adult beetles typically make a D-shaped (Figure 3) exit hole when they emerge. Tissue produced by the tree in response to larval feeding may also cause vertical splits to occur in the bark. Distinct S-shaped tunnels may also be apparent under the bark.

### Preventing the Spread of Emerald Ash Borer

Since this pest is highly destructive, the Ohio Department of Agriculture placed a quarantine on all ash trees and ash wood products, including firewood, in the affected counties to prevent and control its spread. Under this quarantine, it is illegal to move ash trees, branches, lumber, firewood and wood chips larger than one inch in diameter in infested counties. The quarantine provides the conditions for movement of regulated articles; however, there are currently few options available to

certify ash for movement outside of the affected areas. At this time treatment options for ash logs and lumber include fumigation or kiln drying only. Additional treatments may be permitted once we have evidence of their effectiveness.



*Figure 4. Sucker branches starting at bottom of ash tree*



*Figure 5. Decline of Ash tree infested with EAB*

### **Treatment & Control Options**

Research and experience have shown that insecticides do have potential for protecting trees from EAB. However, success is not assured. Research suggests that the best control will be obtained when treatments are initiated just prior to, or in the earliest stages of infestation. It is also important to realize that treatments will have to be repeated each year.

In the interim, plant health officials recommend an integrated, comprehensive approach of proper sanitation, diversity in new plantings, practicing sound tree care techniques, and possibly using appropriate insecticide treatments.

There has been much confusion surrounding the question of whether insecticides are an effective option for EAB. The answer is, "It depends on the objective." When the objective is to protect trees from being killed, insecticides have been effective. However, when the objective is to eradicate an EAB infestation to keep it from spreading, insecticides are not effective, which is why they have not been used as an eradication tool by the Cooperative EAB Program.

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