

EAB Talking Points

The Emerald Ash borer is a green metallic beetle about ½ inches in length and 1/8 inches in width. It has a flat back and a rounded belly.

The Emerald Ash Borer is a beetle that destroys the ash tree by cutting the plumbing of the tree. First, the female lays eggs in crevices of the bark. The eggs hatch and larvae chew through the bark and start burrowing in the cambium layer of the tree. They progress through four larval stages. In the process, EAB eat through the active phloem and xylem of the ash tree, effectively strangling the tree by depriving it of water and nutrients. Each female adult lays about 60-90 eggs (one at a time), so the infestation can progress rapidly once the beetle is established. Mated females have been shown to fly farther in flight mill studies than unmated females.

The larvae spend the winter beneath the bark and feed for a short time early spring. Then EAB pupates (similar to caterpillar becoming a butterfly) and emerges as a beetle (usually late May through August). Adults fly to the top of the ash tree and feed on the leaves; approximately two weeks later the beetles mate and begin the egg laying process. If an Ash tree is infested with EAB it will die within 2-4 years.

One of the reasons EAB has proliferated is because it is not native to North America, and its natural enemies (predators and parasitoids) were not brought from EAB's homeland at the time of initial introduction. All ash (*Fraxinus*) trees are susceptible to EAB, and EAB will infest any ash tree, but prefers damaged or stressed trees.

The Emerald Ash Borer was accidentally introduced into the United States. The theory is that it came from Asia on wooden crates carrying cargo. The first location of infestation was Detroit, Michigan, and although the beetle was discovered there in 2002 it is thought to have resided there for 10 or more years before it was finally discovered. DNA testing has revealed that 3 distinct populations of EAB occur in the USA. Since that time the borer has made its way (or has been moved by man) throughout Michigan, and to Ohio, Virginia, Maryland, Indiana, Pennsylvania, West Virginia, Illinois, Wisconsin, and Missouri. Although the borer is able to fly (estimates of 2 – 5 miles), it is moved long distances in infested logs, firewood and nursery stock.

Some telltale signs that EAB has infested an ash tree are: waterspouts; crown dieback; D-shaped exit holes in the bark (1/8 inches in width); S-shaped, frass-filled feeding paths under the bark; woodpecker holes; vertical splits in the bark over larval feeding areas; and notching on the edges (only) of leaves. Although these signs can be helpful diagnostic tools, they are by no means fool proof. Some of these same signs can be made by native pests of ash trees.

Main methods of control include: 1) quarantining infested areas to control the movement of ash wood and nursery stock out of those areas; 2) cutting down and destroying (chipping or burning) infested ash trees; 3) chemical controls are being developed, but results vary from 40-95% effective; 4) release of 3 parasitoid wasps (biological control) in heavily infested states.

Treatment of ash trees is not recommended until EAB has been positively identified 30 – 40 miles away. However, even if a tree has been treated, if containment procedures are implemented the tree must still be cut down.

Although EAB is not known to occur in Iowa, it is only a matter of time; therefore, surveillance measures are being taken so that once it has arrived the proper actions can be taken immediately.

The impact of EAB is devastating. Not only is the replacement and removal of destroyed trees financially taxing, but the loss of such a large amount of trees has a severe environmental impact as well. There are approximately 88 million ash trees in Iowa, many of them in cities and neighborhoods. Loss of these ash trees may very well increase heating, cooling, and watering costs for residential areas. Iowa estimates the cost from EAB will exceed \$5 billion.

Allamakee County Specifics

DNR estimates there are up to as many as 5 million ash trees in Allamakee County, this represents about 5% of the trees in the forested areas of this county. Allamakee is the most forested county in Iowa with 42% of the land covered by trees (176,000 acres of forest). Iowa agencies in cooperation with USDA-APHIS and Forest Service will be working together to survey for EAB.

Victory, WI, Specifics:

- State officials were made aware of the infestation by an observant property owner.
- Vernon County becomes the third infested county in Wisconsin. EAB was discovered in Ozaukee and Washington counties last summer (2008).
- Because of the proximity to property managed by state and federal entities, and the short distance to counties in Iowa and Minnesota, developing an area-specific response plan will be a coordinated effort with multiple partners.
- One of the first steps in responding to the infestation will be to quarantine movement of hardwood firewood, ash nursery stock, ash timber or any other article that could spread EAB out of the infested area. Federal officials are expected to approve Wisconsin's quarantine request for Vernon and Crawford counties within days. Following placement of the quarantine there will be a thorough survey of the area to determine the size of the infestation.
- The infestation appears to have been in the Victory-area for some time. Woodpecker damage is evident, and indicative of an older, established EAB infestation.