



Emerald Ash Borer

A new exotic insect was detected in six Southeast Michigan counties -- Livingston, Macomb, Monroe, Oakland, Washtenaw and Wayne -- in the summer of 2002. This pest, known as the Emerald Ash Borer, is an invasive species originally from Asia and previously unknown in North America that affects ash trees. It has also been detected in Windsor, Ontario of Canada. To date, it has killed or damaged millions of ash trees in these affected areas.

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 2a & 2b). 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 2a. Adult Emerald Ash Borer (top view)



Figure 2b. Adult Emerald Ash Borer (side view)

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

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 (Figure 3) may also be apparent under the bark.

Preventing the Spread of Emerald Ash Borer

Since this pest is highly destructive, the Michigan 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 outside: these six 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.

Not moving firewood out of the affected counties is particularly key to preventing this pest's spread. While firewood may appear healthy and not visibly infested, it may carry the Emerald Ash Borer larvae in its dormant stage. Don't further the spread of Emerald Ash Borer by moving ash trees and products outside of these affected counties or by taking firewood on vacation with you. Imagine how your neighborhood or favorite vacation spot would look with some or all of the ash trees gone. Anyone who realizes they have inadvertently moved firewood out of this area, is advised to burn it completely properly and report it via the state's toll-free Emerald Ash Borer hotline (1-866-325-0023) Additionally, if you don't know what type of firewood it is, please don't move it. It is vitally important that all Southeast Michigan cooperate and adhere to this quarantine to help limit the spread of this new ash tree pest.

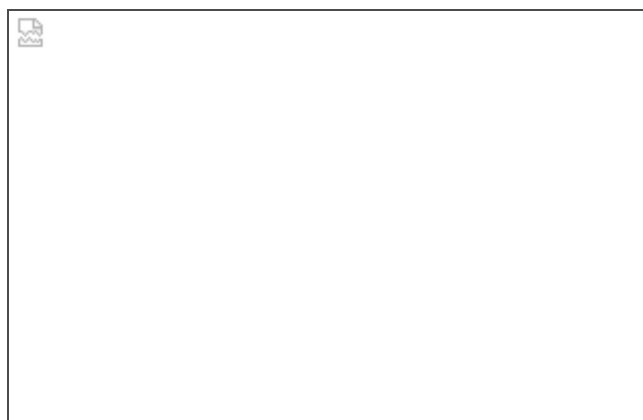


Figure 3. Emerald Ash Borer damage on tree.

Michigan also has an active Emerald Ash Borer Task Force in place working to control and eradicate this new exotic pest and minimize its damage. Members include MDA, the Michigan Department of Natural Resources, Michigan State University (MSU), and the U.S. Department of Agriculture's Animal and Plant Health Inspection Service and Forest Service, in cooperation with local units of government and various industry groups, associations, and universities.

Treatment & Control Options

Very little information on the beetle is available from its native region, and limited control or management recommendations exist to date. To help effectively control and eradicate the Emerald Ash Borer and the threat it poses to Michigan and North America ash resources, aggressive and comprehensive research projects and efforts, spearheaded by MSU, are currently underway to learn more about this pest's biology and develop appropriate management, control and eradication options.

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. Until the research findings become available, consumers and homeowners are urged to be wary of companies promising a solution or cure to the Emerald Ash Borer.

Contact your local MSU Extension office for further information, recommendations and one-on-one technical assistance regarding potential treatment of this pest.

Successful eradication of the Emerald Ash Borer and controlling and minimizing the damage this pest can cause requires the coordination of federal, state, local and university efforts and resources, along with cooperation of all Michigan residents.

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