



Forest Health *Notes*

Volume 10EAB-1

August 2010

Be on the lookout for emerald ash borer!

The emerald ash borer (*Agrilus planipennis*) is not known to exist in North Carolina. This non-native invasive pest was first observed killing ash trees around Detroit, Michigan in 2002 and since then has spread outward. It is now found in the following states and provinces: Illinois, Indiana, Kentucky, Maryland, Michigan, Minnesota, Missouri, New York, Ohio, Pennsylvania, Tennessee, Virginia, Wisconsin, West Virginia, Ontario, and Quebec. Since it was initially identified, emerald ash borer (EAB) has killed tens of millions of ash (*Fraxinus* spp.) trees in Michigan and tens of millions more across the rest of the listed states. Though ash is a minor component in the forests of North Carolina, it is a popular urban tree statewide.

How will I recognize emerald ash borer?

The symptoms of EAB attack are much more easily noticed than finding the actual beetle itself. The crowns of ash trees begin to thin from the top down and lose their leaves when attacked. In addition, increased woodpecker activity may be observed and epicormic sprouts may form along the trunk of the tree. The infested trees basically have an overall look of decline and the trees may be infested for multiple years before the symptoms appear.

There are a few native pests that can cause some or all of these symptoms, so it is important to take a closer look if you have a suspect tree. If the trees are infested by EAB, there are different signs to look for depending on the time of year. Generally, EAB overwinter as larvae, begin pupation in late April or early May, and adults begin emerging in May to June and can be found throughout the summer months. The adults are very small, 1/4 to 1/2 inch long, slender, and are a metallic green. When the adult beetles emerge from the tree, they create “D” shaped exit holes. The larvae are about 1 to 1¼ inch long, flattened, and have characteristic “bell-shaped” body segments. The larvae create serpentine feeding galleries that can be found under the bark of the infested trees;

these galleries are sometimes exposed by splits in the bark of the tree. Photos of the signs and symptoms of this pest can be found at the end of this document.

How does it spread?

The primary mechanism by which EAB spreads is through human assistance. Emerald ash borer can be present in many types of living and/or dead ash material including nursery stock, wood chips, green lumber, and perhaps most importantly, firewood. Though natural spread is occurring around infested areas, new EAB infestations have appeared sometimes hundreds of miles from the closest known infestation. Many of these new infestations have been found in campgrounds or other recreational sites, leading researchers to determine firewood movement as the source of the introductions. We can help minimize our exposure to the EAB by promoting the use of local firewood at our parks and campgrounds whenever possible.

How will we know when it gets here?

There are formal surveys for EAB occurring in our state, but the more people we have looking for this pest, the better. In other states, many new infestations of non-native pests have been spotted by informed resource professionals and concerned citizens.

Each year, the USDA Animal and Plant Health Inspection Service conducts an EAB detection trapping program along with state cooperators including our agency and the N.C. Department of Agriculture and Consumer Services (NCDA&CS). The traps are very noticeable and you may see them in various locations across the state. They are purple, three-sided, about 3 feet tall, and each side is about one foot wide. These “purple traps”, which are covered with a sticky material, are hung about 20 feet high on or near ash trees throughout the summer months to attract and catch any dispersing adult EAB beetles.

What should I do if I think I’ve found EAB?

N.C. Forest Service personnel should report suspected EAB-infested trees to NC Division of Forest Resources Pest Control or Urban Forestry personnel for confirmation.

DFR Pest Control - East (919) 731-7988; DFR Pest Control - West (828) 438-3793;

DFR Urban Forestry - East (919) 857-4841; DFR Urban Forestry - West (828) 438-3793

Found in Firewood

Keep your eyes open for this logo which symbolizes forest pests that can be found or transported in/on firewood. This logo will be added to NC DFR posters, pamphlets, and other outreach materials that discuss pests that move in firewood. Help keep North Carolina green by promoting the use of local firewood.



Signs and Symptoms of EAB



Declining ash

Photo taken near Frankfort, Kentucky
J. Moan, N.C. Div. of Forest Resources



Epicormic sprouting

E. Czerwinski
Ontario Ministry of Natural Resources
www.forestryimages.org



Adult beetle (~1/2" long)

D. Cappaert, Michigan State University
www.forestryimages.org



"D"-shaped exit hole

Photo taken near Frankfort, Kentucky
J. Moan, N.C. Div. of Forest Resources



EAB Larva (~1" long)

Photo taken near Frankfort, Kentucky
J. Moan, N.C. Div. of Forest Resources



Serpentine larval feeding galleries

Photo taken near Frankfort, Kentucky
J. Moan, N.C. Div. of Forest Resources

Additional Information

For additional information, please visit these links:

Emerald ash borer - www.emeraldashborer.info

Firewood movement - www.dontmovefirewood.org/

For other non-native forest pests of concern to North Carolinians, please visit

www.dfr.state.nc.us/forest_health/fh_firewood.htm

This publication was published in Portable Document Format (PDF) to inform and educate NCDFR personnel and other forestry interests about health issues affecting North Carolina forest resources.

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