



Ohio
**Emerald
Ash
Borer**
Ash Alert Team

The Ohio State University
College of Food, Agricultural,
and Environmental Sciences
Section of Communications and Technology

fact sheet

Emerald Ash Borer Diagnostic Check-Off List

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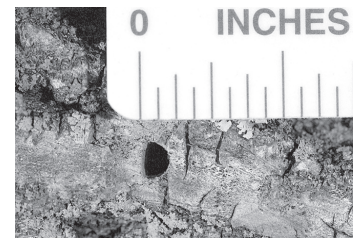
Amy K. Stone, Extension Educator, OSU Extension, Lucas County

The following is a list of signs and symptoms that will be helpful in diagnosing an emerald ash borer (EAB) infestation. It is important to keep in mind that native ash borers are extremely common throughout the state, and that most borer-infested ash trees in Ohio are victims of these native insects. Thus far, the few EAB infestations found in Ohio are small and localized, concentrated in the extreme northwest corner of the state.

Diagnostic signs and symptoms specific to EAB:



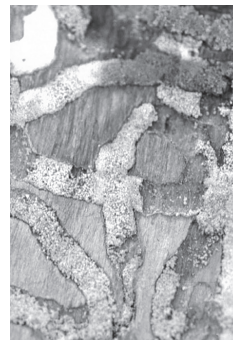
D-shaped emergence holes through the bark, one-eighth of an inch in diameter: This symptom is very clear—EAB exit holes are very distinct. If there is any doubt as to whether the holes are D-shaped, then it is not EAB. Exit holes of native borers are either round or oval and much larger in diameter (one-fourth of an inch or greater).



D-shaped exit holes



Serpentine, S-shaped galleries tunneled just beneath the bark: The galleries are etched into the underside of the bark and the outer sapwood. Galleries are tightly packed with fine frass (a mix of sawdust and excrement). They do not extend into the sapwood, as do those produced by the common native clearwing or roundheaded borers that infest ash.



Galleries filled with frass



Serpentine galleries



Legless, flattened, heavily segmented, white to cream-colored larvae (1 inch in length when mature) found beneath the bark of living trees: Each larval segment is almost bell-shaped. Their long and narrow shape, flattened appearance, and distinct segmentation cause the larvae to resemble small tapeworms.



EAB larva

Diagnostic signs and symptoms consistent with EAB that could also be associated with other ash problems:

Thinning canopy and top dieback, leading to the death of the tree within 2-4 years.



Thinning canopy and top dieback

Unnatural epicormic shoots sprouting from the main trunk and/or from the base of the tree.



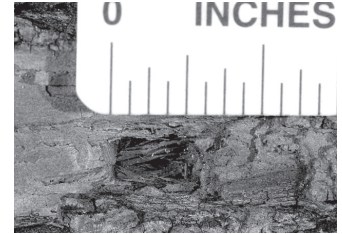
Epicormic basal shoots

Thin, relatively short (2-5 inches long) vertical splits through the bark of living trees (with galleries beneath).



Vertical splits in bark

Unusually heavy woodpecker activity on living trees, particularly in the winter.



Woodpecker damage

Reporting Suspected EAB Infestations:

The Ohio Department of Agriculture (ODA) should be notified if this diagnostic check-off list provides strong evidence that an EAB infestation has been found. Strong evidence means that signs and symptoms specific to EAB were observed, including D-shaped emergence holes and serpentine galleries under the bark. An EAB diagnosis is not supported if the only signs and symptoms observed are those that can also be associated with other ash problems.

Contact Information for ODA:

EAB Hotline: 1-888-OHIO-EAB (1-888-644-6322)

Mailing address:

Ohio Department of Agriculture
Plant Pest Control Section
Attn.: EAB
8995 East Main Street
Reynoldsburg, OH 43068

The photographs on this check list were taken by Daniel Herms, Department of Entomology (field images), and Ken Chamberlain, Communications and Technology (larva and exit holes). Editing: Mauricio Espinoza, Communications and Technology. Graphic design: Jesse Ewing, Communications and Technology.