



## EMERALD ASH BORER

# FAQs

*homeowners*

### 1 What is the Emerald Ash Borer (EAB)?

EAB is an exotic, invasive, wood-boring insect that infests and kills ash trees, both in forests and landscape plantings.

### 2 Where did the Emerald Ash Borer (EAB) come from?

The native range of EAB is eastern Russia, northern China, Japan and Korea.

### 3 What does the Emerald Ash Borer look like?

The adult beetle is dark metallic green, bullet-shaped and about 1/2 inch long and 1/8 inch wide. While the back of the insect is an iridescent, metallic green, the underside is a bright, emerald green. The body is narrow and elongated, and the head is flat with black eyes. The EAB larva is white and flat, has distinctive bell shaped segments and can grow up to 1.2 inches long. There are many other green insects that look similar to the adult EAB. For examples, please refer to photos at [eab.missouri.edu](http://eab.missouri.edu).



### 4 When was EAB first discovered in North America?

EAB was first identified in southeast Michigan in 2002. It likely arrived several years earlier.

### 5 How did it get to North America?

It most likely traveled in ash wood used for stabilizing cargo in ships or for packing consumer products.

### 6 Where is EAB now?

As of March 2010, EAB had been found in 14 states, including Missouri, and in two Canadian Provinces.

**With so many threats to trees and forests in our midst, remember how easy it is to help protect your own property. Don't move firewood. Burn it where you get it.**

### 7 Where is EAB in Missouri?

The only known EAB infestation in the state was discovered July 2008 in the U.S. Army Corps of Engineers' (USACE) Greenville Recreational Area on Lake Wappapello in Wayne County, Missouri.



### 8 How did EAB arrive in Missouri?

Because the discovery of this highly destructive pest was at a campground, there is a strong indication that it probably arrived in firewood.

### 9 How does EAB harm ash trees?

The problem with EAB is its larvae. Adult female lay their eggs on the bark of ash trees. When the eggs hatch, the larvae burrow under the bark and eat the living tissue they find there. As they do this, they cut off the life-giving channels that carry nutrients — water and sugars — to the tree. After 2-4 years, enough channels are cut off so the tree starves to death.

### 10 How does EAB spread?

Although the EAB can fly short distances on its own, much of its spread is due to humans transporting it as larvae burrowed under the bark of firewood or landscape trees.

### 11 What is being done about EAB?

There is a national effort to limit the spread and impact of EAB. Infested areas are quarantined to prevent movement of EAB in firewood and other ash products that can carry it. Many states are educating the public on the dangers of moving firewood; the primary way EAB and many other invasive pests and diseases of trees are spreading. Ongoing research and development of safe and effective pesticides, traps, and other management strategies is taking place at state and national levels.

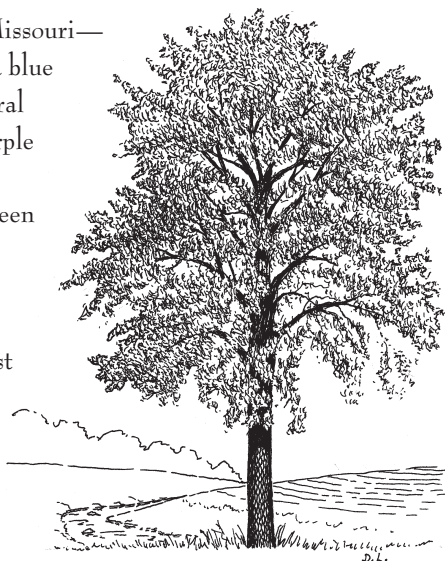


## 12 What is being done in Missouri?

State, federal, local agencies and stakeholder groups are working together to educate the public and slow the spread of infestations. Alerting the public to the risk of moving firewood and spreading EAB is key to prevention. This is a slow moving insect, except when people allow it to hitchhike.

## 13 Which trees are susceptible?

All ash species found in Missouri—green, white, pumpkin and blue ash—as well as horticultural cultivars (e.g. Autumn Purple white ash and Marshall Seedless green ash) have been killed by EAB. It infests trees ranging in size from saplings to fully mature trees in forests. While most native borers kill only severely weakened trees, the emerald ash borer kills healthy trees as well, making it especially devastating.



*Illustration of a Green Ash Tree*

## 14 Are there any areas in Missouri under quarantine?

Yes. Wayne County is under a federal and state quarantine.

## 15 What does the quarantine mean?

A federal quarantine is put into place to prevent the accidental spread of the beetle. This means the interstate (between states) movement of EAB host wood and wood products – nursery stock, green lumber, waste, compost, chips of ash species and firewood of all hardwood species – from Wayne County is regulated. Likewise, the Missouri Department of Agriculture (MDA) has enacted a state interior quarantine, which prohibits the intrastate (within state) movement of EAB regulated articles from Wayne County.

## 16 What is prohibited from moving out of Wayne County, Missouri?

Regulated articles for both the federal and state quarantines are: the emerald ash borer in any living state, nursery stock, green lumber, firewood of any non-coniferous (hardwood) species and other material living, dead, cut or fallen – including logs, stump roots, branches and composted and uncomposted chips – of the genus *Fraxinus*.

## 17 How do I know if I have an ash tree?

An ash tree has an opposite branching pattern (two branches come off the main stem, one on each side and directly opposite each other). Plus, ash trees have compound leaves with 5-11 leaflets (depending on the species of ash). Leaflets are moderately toothed and may be stalked or sessile.

## 18 Are there symptoms I should look for that indicates my tree may have been attacked?

Yes. If your ash tree has sparse foliage and/or dying branches in the upper part of the tree; new sprouts on the roots, lower trunk or lower branches; or increased activity of woodpeckers on the tree, these are all symptoms the tree is stressed by something such as insects, diseases, weather or other factors. But those symptoms by themselves don't mean the problem is EAB.

## 19 Are dying ash trees always an indication of an EAB infestation?

No. Ash trees are affected by several diseases and insects. Ash trees throughout the state exhibit dying branches and/or decline and some may show signs of heavy woodpecker damage. This may or may not be due to the Emerald Ash Borer.

## 20 What signs are the best evidence that EAB may be attacking my tree?

Look for 1/8 inch diameter D-shaped holes in the bark where the beetles have exited and short (3-5 inches) vertical splits in the bark that reveal S-shaped "trails" (tunnels) under the bark.



## 21 Is there anything I can do now to protect the ash trees in my yard from EAB?

Keeping trees vigorous and healthy by proper pruning, mulching, watering and avoiding wounding helps them resist insect attacks. Not bringing firewood from other areas is one of the best ways to avoid bringing home unwanted tree pests. Watch trees closely for signs of EAB infestations.

## 22 What about insecticides?

Should I begin to use them to protect my ash trees from EAB? Preventative insecticide applications are generally not recommended if known infestations are not within 15 miles of your location and/or found within your county. Premature use of insecticides is ineffective, wastes money and needlessly adds chemicals to the environment.

## 23 Are insecticide applications worthwhile if nearby infestations are discovered?

That is an individual decision. If your ash tree is already infested and has lost more than 50 percent of its canopy it is probably too late to try to save it. Additionally, even when treatment is started early in the infestation, signs of improvement may not show until the second year of treatment as the tree needs time to repair its vascular system. Budget, of course, is another important consideration. Most available insecticides need to be applied every year to be effective, which can be expensive.

## 24 If I have ash in my woods, should I be doing anything?

At this time, you need not change your scheduled timber management activities

## 25 Is ash still a viable choice when considering what to plant in my yard?

Because of the severe nature of the EAB threat, the wisest choice at this time is not to plant any ash trees. In general, having a diversity of species in your yard, on your street or in your community is your best defense against all tree health problems.

## 26 What if I discover EAB on my trees, what should I do?

If you suspect your ash is infested, please contact the Missouri Department of Conservation at 1.866.716.9974.

## 27 If my ash tree is infested, who is responsible for taking care of the tree?

The homeowner is responsible for any necessary action in regards to trees on their property.

## 28 What am I supposed to do with my ash tree if I remove it?

How you dispose of your ash tree depends on whether or not the tree is in an EAB quarantine area.

- a *If EAB has not been found in your county and you do not see evidence of EAB, then you can use it at home for firewood; chipping is not necessary.*
- b *If EAB has not been found in your county (i.e. no quarantine) but you DO see evidence of EAB, then report it immediately to the Missouri Department of Conservation and do not destroy the tree until it has been examined by experts.*
- c *If EAB has been found in your county (quarantine in place) then check with your community to see if there is a mulch/compost site for the ash wood chips that will be processed to smaller than 1-by-1 inch in two dimensions. You can use the tree for firewood. Wait until late autumn to take down an infested tree. Be sure you use up all of the wood from that tree by spring. EAB larvae can survive and emerge from a firewood pile for up to two years. And DON'T transport the firewood anywhere. Use it at home.*

## 29 How can I help stop the spread of EAB?

Don't spread pests. Burn firewood where you get it. Second, don't plant ash trees. Instead, choose other large shade trees for landscaping. Lastly, be on the lookout for potential EAB infestations. Educate yourself on how to recognize signs and symptoms of EAB. An excellent source of information may be found at [eab.missouri.edu](http://eab.missouri.edu)