



## Emerald Ash Borer FAQs

April 2016

### **Q: What is the emerald ash borer (EAB) and what does it do?**

EAB is a highly destructive, non-native insect that infests and kills all North American true ash species (*Fraxinus* spp.) including green, white, black and blue ash, and their cultivars (including “autumn purple ash,” a popular white ash varietal in Colorado). Although rare in Colorado, white fringetree (*Chionanthus virginicus*) also has now been documented as susceptible to EAB.

The larval stage of EAB feeds under the bark of trees, cutting off the flow of water and nutrients. Infested trees gradually die over a period of approximately two to four years.

### **Q: Why should I care?**

This invasive insect has cost municipalities, property owners, nursery operators and forest products industries billions of dollars, and it is responsible for the death or decline of millions of ash trees in 25 states and Canada. An estimated 15 percent or more of Colorado’s urban and community trees are ash, and many of these trees are located on private property. EAB infestation is fatal to infested ash trees, unless treated, and infested trees will be dead within approximately two to four years.

### **Q: Where did EAB come from?**

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

### **Q: How did it get here?**

EAB was first confirmed in North America in 2002 in southeastern Michigan. It likely arrived in the U.S. several years earlier, probably via ash wood pallets or wood packing material.

### **Q: Where can EAB be found?**

As of April 2016, EAB has been confirmed in 25 states and 2 Canadian provinces (from Colorado to Massachusetts, and Louisiana to Minnesota). In Colorado, EAB has only been detected within the City of Boulder.

**Q: How does EAB spread?**

EAB is a strong flier, but adults typically fly less than ½-mile from their emergence tree. *Most long-distance movement of EAB has been directly traced to human movement of ash firewood or ash nursery stock.* Movement of other untreated ash wood, wood chips greater than one inch, and ash products (green lumber, pallets, etc.) also present a risk.

**Q: What does EAB look like?**

EAB adults are dark metallic green in color, with a coppery red or purple abdomen under the wings. The insect is approximately 1/2-inch long and 1/8-inch wide. Adults may be present from late May to September, but are most commonly active and visible in June and July, when they lay eggs on the bark of host trees. Images of EAB are available in a Quick Guide available on the Colorado State Forest Service [EAB website](#).

EAB larvae are creamy white in color and are found under the bark, so are not as obvious, but their expanding S-shaped galleries (tunnels) can be located if the bark is removed. Larvae can be located using proper branch peeling techniques.

Note that other metallic-green beetles and larval insect stages can be confused with EAB. Talk to a professional forester, arborist or other tree care professional if unsure about the possible presence of EAB in or on an ash tree. More information about EAB look-alikes can be found [here](#).

**Q: What is being done about EAB nationally?**

The U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) is focused on detecting, controlling and preventing the human spread of the pest. APHIS works cooperatively with state agencies, universities, affected industries and the international scientific community to develop strategies to detect, control and minimize the impacts of the beetle. Federal EAB efforts include implementing a national survey, releasing biological controls and establishing federal quarantines.

**Q: What is being done in Colorado?**

The interagency Colorado Emerald Ash Borer Response Team, comprised of nine agencies/organizations\*, is working with partner organizations and communities to help manage the spread and impacts of EAB. Starting in 2013, the EAB Response Team and partners worked to complete an initial survey to determine the extent of spread of EAB in Colorado, and the team continues working with local governments to determine and map the extent of infestation (as of April 2016, EAB has only been confirmed in Colorado within the City of Boulder).

The team hosts EAB identification workshops targeting green industry and landscaping professionals, and leads EAB education and outreach efforts to inform the media and public. Also, beginning in the fall of 2014 in Boulder, the team has periodically released stingless, parasitic wasps that target and kill EAB to help control the borer's spread.

Additionally, in 2014 the Colorado Department of Agriculture established a quarantine for Boulder County and surrounding areas to prohibit the movement of all untreated ash wood and all hardwood firewood out of the quarantined area. The quarantine includes logs and green

lumber, nursery stock, wood chips and mulch. Quarantined items may be transported within the quarantined area, but may not be moved outside its borders, and any person violating this quarantine is subject to civil penalties up to \$1,000 per violation. The full text of the quarantine, including additional restrictions, can be found at [www.eabcolorado.com](http://www.eabcolorado.com).

The website [www.cotreeview.com](http://www.cotreeview.com) has been developed in response to EAB to assist Colorado communities with collecting tree inventory information or uploading existing inventory information on a statewide map to better understand and manage our ash tree resources.

\*The Colorado EAB Response Team is comprised of members from the following agencies/organizations: Boulder County, City of Boulder, Colorado Department of Agriculture, Colorado State Forest Service, Colorado State University Extension, Colorado Tree Coalition, Green Industries of Colorado, University of Colorado and USDA Animal and Plant Health Inspection Service.

### **Q: Where are ash trees found in Colorado?**

Ash trees can be found in most Colorado communities, on both public and private property, although many homeowners and other property owners may not realize they have them. Many ash have also now become naturalized to riparian areas (areas near streams and other waterways) spanning various land ownerships.

### **Q: How do I know if I have an ash tree?**

All true ash trees (*Fraxinus* spp.) have the following characteristics:

- Leaves are compound, which means multiple leaflets occur on a common stalk, and typically have five to nine leaflets. The one exception is single-leaf ash (*Fraxinus anomala*), which may have simple or compound leaves, with up to five leaflets.
- Leaflets are smooth or finely toothed along the edges.
- Seeds on female trees are paddle-shaped.
- Branches and buds grow in pairs, directly opposite from each other.
- Mature bark displays diamond-shaped ridges.

A video and image gallery showing how to identify ash trees is available at [www.csfs.colostate.edu/emerald-ash-borer](http://www.csfs.colostate.edu/emerald-ash-borer).

### **Q: How will I know if an ash tree is infested with EAB?**

The presence of EAB in a tree typically goes undetected until more than a year after initial infestation. Symptoms of infested trees may include:

- thinning of upper branches and twigs
- loss of leaves
- S-shaped tunnels produced by larvae under the bark
- D-shaped exit holes about 1/8-inch wide
- new sprouts on the lower trunk or lower branches
- vertical splits in the bark
- increased woodpecker activity

Other ash problems often are mistaken for EAB infestation, due to a general decline in tree health from environmental factors or other insects and diseases. More information, images and

videos covering EAB symptoms can be found on the Colorado State Forest Service [EAB webpage](#). Additional videos related to assessing ash trees for EAB also are available at [www.eabcolorado.com](http://www.eabcolorado.com).

**Q: Who should I contact if I think my ash tree has EAB?**

If you think you have EAB in your ash trees, please contact the Colorado Department of Agriculture at 888-248-5535 or email [CAPS.program@state.co.us](mailto:CAPS.program@state.co.us).

**Q: Is there anything I can do now to protect my ash trees from EAB?**

While there are effective insecticides available to protect ash trees from EAB, other management strategies exist for dealing with the pest, including monitoring trees for the presence of EAB, removing and/or replacing ash trees, and planting new trees nearby in an effort to get them established before the arrival of EAB. Decisions about how to manage ash trees will have to be made by every landowner for every ash tree, and should take into account the overall health of each tree and its value to the landowner.

The decision to chemically treat individual ash trees is a personal preference, and consumers should educate themselves and use caution when purchasing products that claim to protect trees against EAB. The closer ash trees are to an area of known infestation, the higher the risk that they will become infested by EAB through natural spread. Also, trees within or near the EAB Quarantine area are at a higher risk of infestation through human-assisted spread of the pest, because infested wood can legally be moved throughout the area.

Follow all label instructions and talk to a professional forester or arborist before applying any treatment. If hiring someone to apply pesticide treatments, the applicator must be licensed by the Colorado Department of Agriculture as a Commercial Pesticide Applicator.

For more information about chemical treatments, see [this document](#) from Colorado State University Extension. For more about general management options for EAB, go [here](#).

**Q: Is ash still a viable choice when considering what to plant in my yard?**

Further planting of true ash trees (genus *Fraxinus*) in Colorado is not recommended. The planting of diverse tree species in your yard, on your street or in your community is your best defense against many tree health problems. If any one tree species comprises 10 percent or more of the tree species in your local area, it would be best to choose an alternative species for planting. A list of recommended trees for planting on Colorado's Front Range can be found [here](#) on the Colorado Tree Coalition website, as well as a Colorado Ash Tree Replacement Selection Tool.

**Q: How can I help?**

You can take several simple steps to help prevent the spread and destruction of EAB:

- **Don't move firewood.** Humans unknowingly contribute to the spread of the EAB when they transport firewood or other products from ash trees, as EAB larvae can survive hidden under the bark. Ash firewood and bark look similar to that of many other hardwoods, so it can be difficult to determine if cut wood is ash or not. Don't move any

hardwood firewood, and you won't risk moving any beetles. And remember to buy local and burn local.

- **Visually inspect your trees.** Early detection is a key factor in managing EAB. If trees display any sign or symptom of EAB infestation, contact the Colorado Department of Agriculture at 888-248-5535 or email [CAPS.program@state.co.us](mailto:CAPS.program@state.co.us).
- **Spread the word.** Talk to your neighbors, friends and coworkers about EAB and what they should look for on their trees.
- **Ask questions.** If you receive ash nursery stock or hardwood firewood, know its point of origin and your supplier. EAB larvae could be hiding under the bark.

For more information about EAB in Colorado, go to [www.eabcolorado.com](http://www.eabcolorado.com).