



Questions and Answers: USDA's 2018 Emerald Ash Borer Survey

What is the 2018 Emerald Ash Borer Survey?

The U.S. Department of Agriculture's (USDA) 2018 Emerald Ash Borer (EAB) Survey will rely on the purple prism detection tool, or "trap," to monitor known EAB infestations and locate other unknown EAB populations. The national survey will set about 12,000 traps in a 100 mile buffer along the leading edge of the quarantine which borders these 16 States: Alabama, Arkansas, Colorado, Florida, Kansas, Louisiana, Maine, Minnesota, Mississippi, Nebraska, New Hampshire, Oklahoma, Rhode Island, South Dakota, Tennessee, and Vermont. Texas will conduct an independent EAB survey.

The survey strategy continues to use a computer-generated, risk-based sample design, along with historical program data and regulatory knowledge. This design enables USDA to monitor the leading edge of EAB infestations, determine whether undetected pockets of infestation are present, and identify locations best suited for biological control releases.

What do the EAB detection traps look like?



The purple trap is a three-dimensional triangle or prism. It's made out of thin, corrugated purple plastic that has been coated with non-toxic glue on all three exterior sides. The purple traps are about 24 inches long and hang vertically in ash trees. Each trap is baited with a lure on the interior to attract EAB to it.

For trap images, go to www.aphis.usda.gov/plant-health/eab. Scroll down to the "Pest Management" section and click on "2018 Emerald Ash Borer Survey Guidelines."



Who is involved in the 2018 EAB Survey?

The EAB survey is a collaboration involving USDA's Animal and Plant Health Inspection Service (APHIS), State departments of agriculture or natural resources, Tribal cooperators, and the USDA survey contractor.

Who is paying for the 2018 EAB Survey?

The EAB survey is funded by USDA. If a State surveys for EAB on its own, USDA will provide survey supplies.

Why do you call the detection tools "traps?" Do they really trap EAB?

We refer to the detection tools as "traps" out of convenience. The detection tools do not catch beetles as a way to reduce or deplete populations. They simply help us detect new infestations and monitor the spread of the beetle. Through ongoing trap design research, we are continually improving our ability to locate EAB infestations.

Why is the color purple significant, and what is the lure?

In the insect world, color frequently plays an important role, and EAB is no exception. In 2003, researchers began investigating EAB responses to different stimuli in an effort to develop an effective detection tool. Researchers discovered that EAB is attracted to a specific shade of purple—the purple trap color replicates

this shade to attract the pest. Additionally, the traps are baited with a lure, using a chemical called (Z)-3-hexanol, that mimics a chemical signal that is emitted by ash trees and also attracts the beetle.

How do the traps work?

In their adult stage, EABs fly around ash trees, feeding on leaves and looking for a mate. If an EAB lands on a purple trap, it will get stuck in the non-toxic glue. Survey crews service the traps two times: in mid-summer, to replace the lure and collect any suspect beetles stuck on them; and in the fall, to collect any suspects and remove the traps.

Why are the traps placed only in ash trees?

Ash trees (*Fraxinus* spp.) and a close relative of ash, the white fringetree (*Chionanthus virginicus*), are the only known host species for EAB on the North American continent. The lifecycle of EAB depends on the ash tree; the adults feed on the leaves and lay eggs in its bark crevices, and the larvae develop under its bark. As a result, EAB is drawn to ash trees. All 16 native species of ash—including green, white, and black ash—are EAB hosts. White fringetrees, however, are too small to place traps in and are only a minor host for the pest.

How long will the survey take to complete?

The traps will be placed in ash trees this spring and early summer before EAB adults emerge. The traps will be monitored and remain in place throughout the summer during the beetles' flight season. This fall, all traps will be removed.

If EAB is not known to be in my State, will the traps attract EAB and draw the beetles to my State?

No, the traps do not pull beetles into an area. The traps are a detection tool to help determine if EAB is already in the area.

What happens when an EAB is found stuck on a purple trap?

The insect is collected from the trap and is cleaned and sent to a USDA insect identifier for verification. We then communicate verifications of EAB to the appropriate State officials.

If a trap is in my area, does that mean EAB is there?

No. A trap located in your community does not mean EAB is present, it just means we are looking for the beetle. The goal of the 2018 EAB Survey is to define the outer boundaries of infested areas, locate new EAB infestations, and identify locations best suited for biological control (stingless wasp) releases.

What were the results of the 2017 EAB Survey?

The 2017 survey resulted in the detection of EAB in 100 new counties. The new county detections inside the Federal quarantine occurred in Arkansas, Illinois, Indiana, Iowa, Kentucky, Maryland, Massachusetts, Missouri, New Jersey, New York, North Carolina, Pennsylvania, Virginia, and West Virginia. The new county detections outside the Federal quarantine occurred in Alabama, Kansas, Louisiana, New Hampshire, South Carolina, and Wisconsin.

Of these 100 new county detections, 17 resulted from using a purple trap, 8 resulted from the green funnel trap, and the remaining 75 detections resulted from an alert citizen or State partner spotting and reporting signs of EAB damage.

The 2017 survey activities continued to elevate public awareness about the EAB program. Survey personnel setting and monitoring the traps in cities and towns created opportunities for discussion. The highly visible traps stimulated public interest and garnered media attention. As a result of the new detections, Federal and State EAB quarantines were expanded or established to help prevent the human-assisted spread of EAB.

In addition, the 2017 EAB survey results gave data to support biological control management and direct field personnel to appropriate locations for parasitoid (stingless wasp) releases. Survey activities also allowed the EAB program to monitor the outer boundaries of infested areas. This information helped guide decisions on trap placement for the 2018 EAB survey.

What determines where a trap is set?

The 2018 EAB Survey uses a computer model to generate a risk-based sampling design survey that identifies optimal locations to survey for EAB within a 100 mile buffer area. The model analyzes a collection of environmental variables (e.g., soil moisture, land elevation, terrain) and EAB program variables (e.g., historical EAB survey data, targeted high-risk areas, pest pathways, scientific literature). The end product is a grid map that identifies locations where the likelihood of detecting EAB is greatest.

More information is available in the 2018 EAB Survey Guidelines document. To download a copy, go to www.aphis.usda.gov/plant-health/eab and click on "2018 EAB Survey Guidelines" under the "Pest Management" section.

What are the benefits of the risk-based survey sampling design?

The risk-based sampling design is objective, transparent, and science-based. It preselects geographic locations to deploy EAB traps where there is the highest likelihood of detecting EAB. The expected benefits of the 2018 EAB survey include:

- To increase the number of successful EAB detections outside the known infested area
- To improve the capability of detecting EAB close to the date of a new attack
- To find locations that are best suited to implement biological controls

Will traps be set in areas not selected by the model?

Yes, some traps will be set in discretionary locations based on local conditions, regarding terrain, and ash tree availability.

Are the traps safe?

The traps pose no risk to people or pets, however they are covered with non-toxic glue and can be extremely sticky if touched. The traps will be in ash trees throughout the summer—please do not disturb them. If you see a trap on the ground, please call toll-free USDA EAB hotline at 1-866-322-4512 to report it. If you call outside of regular business hours, leave your name, telephone number, State, and location of the fallen trap.

What can I do to support the 2018 EAB Survey program?

Please talk to your family and friends about the EAB survey to raise awareness. If you see one of the traps on the ground or damaged, call the toll-free USDA EAB hotline at 1-866-322-4512. Please become familiar with the signs and symptoms of an EAB infestation and inspect your own trees. Lastly, don't move firewood; a prudent alternative is to only purchase USDA- or State-certified, treated, and labeled firewood. The public contributes significantly to the quality of the EAB survey and the overall program. We value your efforts and appreciate your support.