



CLEVELAND METROPARKS NATURAL RESOURCE DIVISION

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EMERALD ASH BORER UPDATE SPRING 2008

NEW EAB DETECTION CARTON TRAPS IN USE

CLEVELAND METROPARKS POLICIES REGARDING FIREWOOD, SPECIMEN TREE AND FOREST MANAGEMENT

The new fire wood policies for the Cleveland Metroparks became effective in November of 2006. Recognition is extended to all of the continuing efforts by Park Operations staff for stockpiling ash logs in their respective storage yards for future tub grinding and for only providing non-ash firewood to the public and stocking reserved shelters with fireplaces.

Recognition is also extended to the Rangers for continuing to monitor park visitor activity involving transporting firewood onto or across park property. All of these efforts are helping to slow the spread of emerald ash borer throughout the Cleveland Metroparks District. Slowing the spread has been the theme since 2005 when earlier efforts to contain the spread by the Ohio Department of Agriculture became difficult as new infestations of emerald ash borer (primarily by transport of eab infested firewood) continued to expand into non-infested counties. Research focused on controlling eab continues with new findings that may lead to better detection and eventual regional containment. This spring, new carton traps will be used in non-infested counties of Ohio to detect presence of eab. This will replace the rather laborious eab detection trees that required bark swath girdling selected trees between 6 and 9 inches dbh in spring. The same trees were cut down and entirely stripped of bark to reveal eab larvae later the same year.

Emerald Ash Borer - Trapping and Attractants

USDA Update

Accurate delimitation of the infested area is critical for regulatory officials who must establish the quarantine boundaries. Initially survey crews relied exclusively on visual signs and symptoms such as D-shaped adult exit holes, canopy dieback and epicormic shoots to identify potentially infested trees. These symptoms, however, are generally not apparent until at least the second year of attack. Recent research has demonstrated that ash trees that have been stressed by removing a band of bark around the trunk (girdling) or herbicide treatment are more attractive to EAB than healthy trees. Therefore, beginning in 2005 the Ohio Department of Agriculture implemented a statewide survey program employing girdled trap trees with sticky bands to attract and detect EAB. Trap trees were inspected throughout the summer to locate adult beetles on the sticky bands and the trees were then cut down and dissected in the fall to locate EAB larvae and galleries. Several new outlier infestations have been discovered through the use of the girdled trap tree survey; infested trees at the outlier sites had few or no symptoms and probably would not have been found using visual

March, 2008

Ohio Department of
Agriculture using new
Deltoid Carton Traps



Adult emerald ash borer



Eab laravae stage



New EAB Detection Trap

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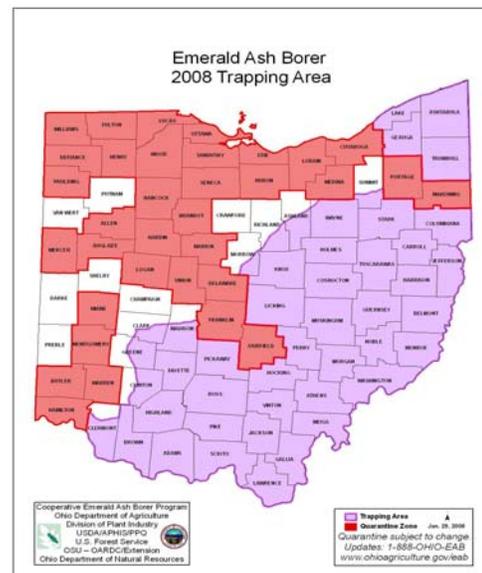
surveys alone. The trap tree survey program is obviously a destructive and labor-intensive form of sampling and is difficult to implement continuously on a large scale. Improved methods to detect and monitor EAB adults and newly infested trees are critically needed to identify the edge and extent of the infested area and to locate new infestations.

The USDA is developing an attractive trapping method for EAB that could be used as a monitoring tool. The USDA is testing EAB attraction to various traps and volatiles. Several compounds which are present in ash bark and leaves and volatiles that are elevated in stress-induced ash have been identified. Evaluation of responses of EAB antennae to these compounds as well as responses of EAB adults to these compounds in a walking arena in the laboratory has been underway. Compounds which elicited antennal responses and demonstrated attractiveness to walking beetles in the laboratory were selected for field testing.

Other scientists at USDA Animal and Plant Health Inspection Service (APHIS) have found that EAB adults are attracted to the color purple. Attraction of EAB to purple traps baited with different combinations of ash bark and leaf compounds have been tested. To date it has been found that some combinations of green leaf volatiles and compounds from the bark of ash tree are moderately attractive to EAB adults in the field. Purple panel traps baited with a blend of host volatiles (α-humulene, pentadecane, trans-3-hexenol, and trans-caryophyllene) captured significantly more beetles than traps baited with individual compounds. Cross vane, triangular, and flat purple corrugated plastic traps baited with a blend of host volatiles (hexanal, trans-2-hexenol, and cis-3-hexenol) captured significantly more beetles than unbaited traps. Investigation continues with the volatiles of ash trees and host location behavior of EAB in order to determine the optimal attractive blend for EAB. Ultimately, there is hope to develop a highly attractive trap and lure combination that will be effective for survey and detection of EAB.



Detection Tree



Counties in purple set for 2008 eab detection work

Counties in yellow indicate positive EAB detection at one or more locations.

