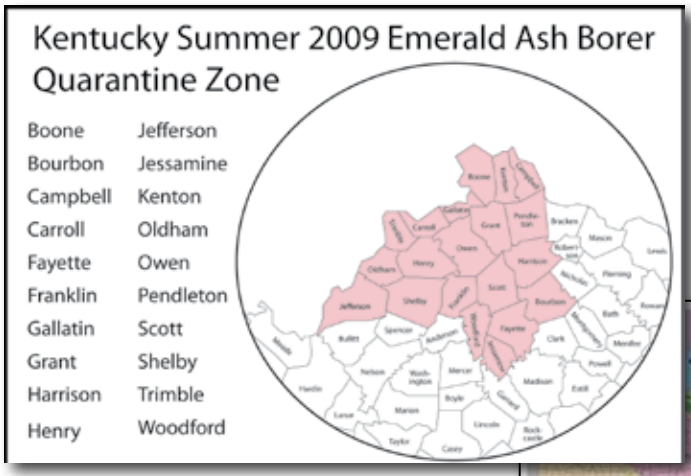
Emerald Ash Borer Is Here – What Happens Next?

Photo courtesy: David Cappaert, Michigan State University, Bugwood.org

by Lee Townsend and Joe Collins

The May 2009 discoveries of the emerald ash borer (EAB) at two locations in central Kentucky were not unexpected (see *Kentucky Woodlands Magazin*e July 2006, Vol. 1[2]). The expansion of this exotic invader throughout our neighboring states had been well documented, and arrival in Kentucky was just a matter of time. A detection program for Kentucky had been carefully planned and carried out with the now familiar purple pyramid traps seen hanging in ash trees over the past two summers. Knowing that this insect was coming didn't lessen the blow once it was confirmed.

As of mid-July, additional EAB infestations were confirmed for a total of seven counties. This triggered a 20-county quarantine to slow the spread of the insect (Figure 1). Unfortunately, experience tells us that infestations generally are two to three years old before they are detected, based on symptoms of infested trees. This means that there almost certainly has been some local spread beyond the initial source. Also, clean-up of widespread storm damage and movement of this wood may have inadvertently caused more movement of the insects. On the positive side, the purple pyramid traps appear to be attracting and collecting EAB, so processing of the approximately 6,000 traps set this year will help to give a clearer picture of the infestation in Kentucky.



What Will the EAB Infestation Map Look Like in 10 Years?

Naturally, no one knows, but woodland owners and forest managers can have a significant impact on the spread of the EAB in Kentucky. Promoting EAB awareness, compliance with quarantines, and careful handling of ash wood will go a long way toward minimizing the spread of this devastating pest. Fortunately, quarantines in neighboring states seem to have held relatively well so far, minimizing the spread of the borer (Figure 2). Some "new" discoveries may have been started before legal actions were implemented.

Normal flight spread of the EAB is between one-half to two miles annually, so natural spread tends to be slow. Unfortunately, movement of infested ash wood can result in jumps of hundreds of miles. Slowing the spread can buy time to develop and implement management plans based on ash components of wooded areas and to take advantage of strategies that might be developed through current research.

Figure 1: Left Figure 2: Above

Kentucky's

20-county quarantine was carefully formulated by state and federal officials and included input from forest managers and the wood industry. The approach included the seven counties with confirmed infestations along with adjacent counties and those with high densities of ash trees. This approach allows movement of ash wood within the quarantine area and responsibly minimizes economic impacts as much as possible.

What Are the Next Steps?

Collection and evaluation of traps in September should help to give a clearer picture of the EAB in Kentucky. Trapping results will give a basis for evaluating efforts to date and planning for 2010. If EAB is found in new areas, then expansion of the quarantine and development of new plans may be necessary. Unfortunately, finding no EAB in traps does not mean that the insect is not present.

Continuing education on the EAB and steps to prevent its spread will build on the base that has been developed. Publicity following the discovery of the EAB in Kentucky, along with news of the quarantine, increased awareness of this insect and resulted in the inspection of many ash trees suspected of being infested. This will help to increase surveillance efforts to supplement the trapping program.

Things to Do:

1. Become more knowledgeable about the EAB and keep up with its status in the state and region. The following Web pages will help with this:
   - ***www.emeraldashborer.info/*** is the gateway to a wealth of information and publications.
   - ***http://pest.ca.uky.edu/EXT/EAB/welcome.html*** tracks the status of the EAB in Kentucky.
   - ***www.KyStateEnt.org*** Kentucky's Office of the State Entomologist.

2. Be familiar with the signs and symptoms of an EAB attack and report suspected sites to the Office of the State Entomologist at 859.257.5838 or *ky-ose@lsv.uky.edu*. Confirmation of borer infestations in a new county must be based on having a stage of the insect, either larva or adult.

Figure 3

However, adults are active for a relatively short period of time from mid-May through June, and larvae may be hard to find in some cases. Borer galleries beneath the bark and emergence holes in tree bark are distinctive and are helpful in recognizing potential infestations until the insect can be collected. EAB galleries tend to be S-shaped, meandering back and forth under the bark (Figure 3). In contrast, those of some of the native borers in ash tend to be relatively straight. This is something that can be checked at any time of the year, even if the insects are not present. EAB females lay their eggs on the trunk or lower portions of major branches from late May through June. Eggs hatch in about a week, and the larvae feed on the inner bark and outer sapwood until October. They will spend the winter as full-grown larvae in the outer sapwood and pupate in the spring. Adults will emerge through distinctive D-shaped holes in the bark in May (Figure 4).

Figure 4
Photos courtesy: Lee Townsend

3. Keep up-to-date on the status of the EAB quarantine. Here are some key points:
   - The quarantine prohibits "regulated articles" from being moved outside a quarantined area without a certificate or limited permit except under certain conditions. A regulated article may be moved by the U.S. Department of Agriculture or the Kentucky Department of Agriculture for experimental or scientific purposes; may be moved in an enclosed vehicle or completely covered to prevent access by the emerald ash borer (through Sept. 30); may be moved directly through the quarantined area without stopping except for traffic conditions and refueling; may be moved if it is stored, packed, or handled at locations that do not pose a risk of infestation; and may be moved if it has not been combined or commingled with other articles.
   - "Regulated articles" are defined as the emerald ash borer, hardwood firewood, ash nursery stock, green ash lumber, other ash material, and any other materials that present a threat of artificial spread of the emerald ash borer. Regulated articles that have not been treated can be moved out of the quarantine area during the non-flight season (October through March) with a limited permit. Both the shipper and receiver must have compliance agreements, and the processing mill must process the materials by April 1.

The EAB is in Kentucky to stay, and its distribution in the state will continue to expand. A sound plan for living with it has been developed based on research findings and experiences from older infestations. The challenge is to do everything we can to make the plan work and learn to manage the EAB.

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