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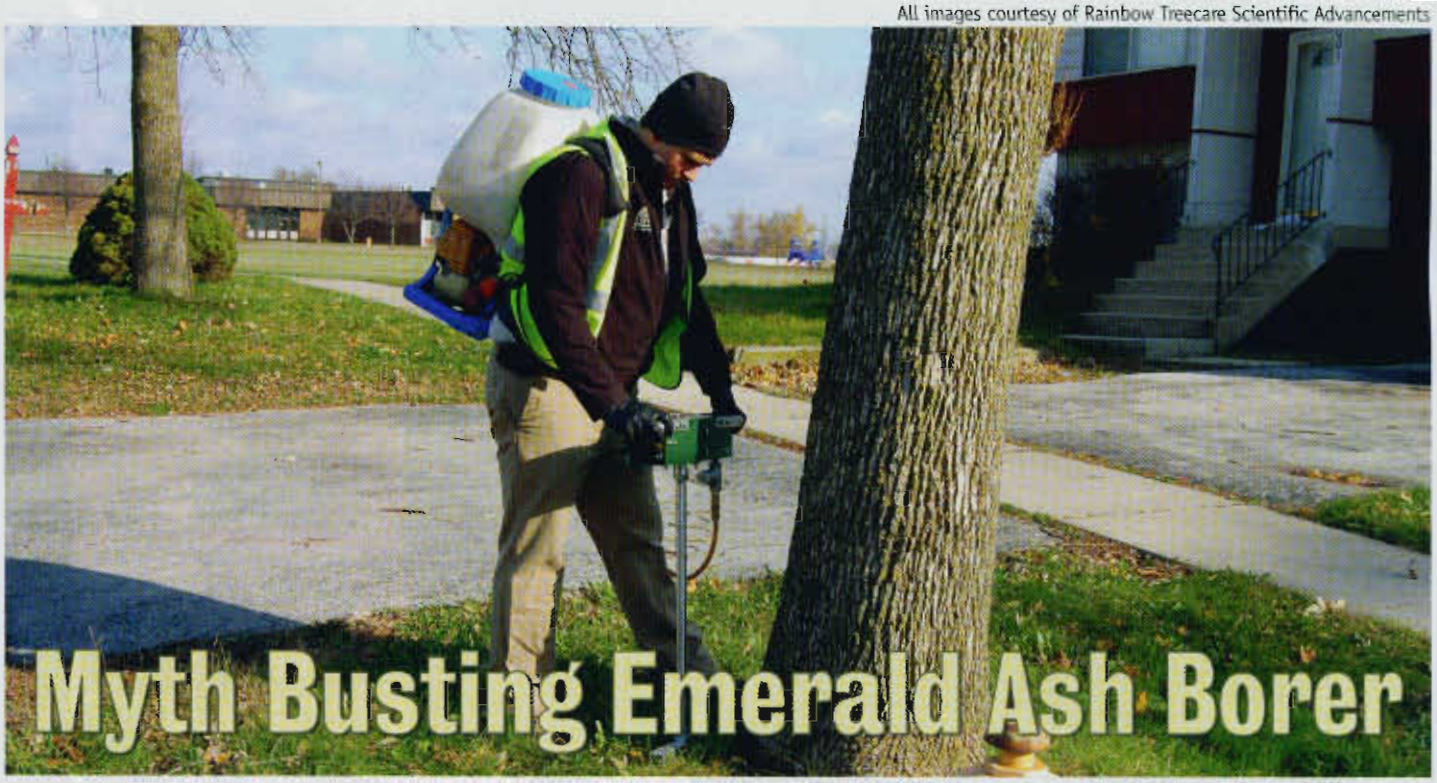

Myth Busting Emerald Ash Borer

Fact: EAB can be treated several different ways.

By J. Bradford Bonham

I know what you are thinking: "Another article on emerald ash borer? C'mon!" No doubt, emerald ash borer (EAB) has set a new bar in terms of media interest and coverage for an urban forestry issue, and, as it continues to spread to new communities each year, that media buzz is not likely to die out anytime soon. Although the media has been successful with getting a message out to the public about EAB, exactly what message has been reaching the public can hurt as much or more than it can help.

Despite the quality information that is out there on EAB, it is undermined by a troubling accumulation of myths, misconceptions, distortions, and half-truths. It's likely that the degree to which facts about this insect pest are obscured by fiction exceeds what has been seen with any other tree pest in history. The importance of dispensing with the myths and other flotsam is two-fold: 1) myths interfere with understanding emerging research, and 2) myths lead to flawed decision making.

The Coalition for Urban Ash Tree Conservation opened the door to myth-busting with the release of the Emerald Ash Borer Management Statement in January 2011 (*http://www.emeraldashborer.info/files/conserve_ash.pdf*). Nine months later, at a meeting in Wooster, Ohio, the Coalition took up discussion of specific myths. What follows here are five myths that are considered particularly persistent and problematic in the way they distort understanding of EAB management strategies. There are others, but purging these from your understanding of EAB will help "slow the spread" of misinformation.

Ash trees untreated over 20 years.

EAB Myth #1: Tree removal slows EAB spread

The fact is tree removal has a minimal impact on slowing the spread of EAB infestations.

This myth may seem counterintuitive at first — shouldn't fewer ash trees result in fewer ash borers? If you are just considering, for example, one city block where all the ash trees have been removed, then, yes, it appears to slow the spread within that block. However, these beetles, now phloem-less, will quickly move on to the nearest ash trees, be they on the next block or a mile away.

When driven to disperse, female beetles are capable of flying some miles to find phloem resources sufficient to support development of their offspring into the next generation of adults.

Municipal management strategies that have focused on removing boulevard ash trees simply drive the insect to the homeowner's yards or to trees in naturalized areas. Preemptively removing ash trees may help manage human resources, but it accelerates the spread of an established EAB population. It is not a "slow the spread" strategy.

EAB Myth #2: Treatments do not work

The fact is treatments are highly effective against EAB when selected and applied using the current science-based protocols.

In both field trials and in actual practice, treatments have been saving trees with predictably for many years now. There was a short time at the beginning of EAB management where application rates for certain treatments had not been optimized to defend ash trees against this new pest, but today EAB treatments are as effective and predictable as any tree health care management program in the industry. To ensure success, it is important that EAB products are applied at the correct time of year, at the appropriate dosage rate and using methodologies that are supported in university research trials. Another important factor related to treatment success is the level of EAB pressure at the time of the initial treatment for an individual tree. Preventative treatments will result in a greater likelihood of success.

EAB Myth #3: There is only one effective treatment for EAB

The fact is there are three effective treatments and three application methods that are effective.

This tree could have been saved for less than $20 per year.

These choices in products, timing, equipment and ease of application offer practitioners a great deal of operational flexibility for managing various scenarios. And as the Coalition cautioned *"...no one treatment plan or application method is best under all circumstances."* This holds true for municipal managers, commercial arborists and homeowners.

The treatment options addressed by the Coalition and supported by university research include emamectin benzoate (TREE-age), imidacloprid (Xytect, Merit, others), and dinotefuran (Safari, Transtect). Options for application range from soil applications (imidacloprid,

Ash trees treated over 20 years.

Fact: Treatments work — treated tree on right, untreated tree in middle

dinotefuran) to trunk injections (TREE-age, imidacloprid) to systemic basal trunk bark spray applications (dinotefuran). All are proven effective and large, integrated management programs (as in municipalities) will likely employ several.

Choosing the perfect combination of active ingredient and application method will vary by threat level, economics, and management objectives, but ensuring the stakeholders are aware of all options available to them is important so they can make the best informed decisions.

EAB Myth #4: Treatments are too expensive

The fact is treatment is often less expensive than "remove and replace" strategies.

The economics of EAB treatment is a complex subject, but essential when addressing municipal management of public ash trees. Cost and "value" calculators available from Purdue University and now emerging from University of Wisconsin Stevens Point are helping municipal managers understand that the cost of treatment can easily be offset by the dollar benefits provided by canopy conservation.

Treatments will have varying costs associated with them depending on the number of trees to be treated, application technique, cost of labor, speed and efficiency of application crews, and so on. The real value of treatments comes when compared to removal and replacement costs. In many cases, ash trees can be successfully protected for decades for the same cost to the city or homeowner that removal would have been. But instead of a city or homeowner bearing an up-front burden of remove/replace amounting to several hundred or thousands of dollars per tree, the cost is spread out annually or biannually over 20 to 40 years, allowing the tree to deliver maximum ecosystem services.

Joe Boggs with Ohio State University Extension has used the National Tree Benefit Calculator (*www.treebenefits.com*) to illustrate what is lost in removing a single 20-inch-DBH ash tree. He chooses a 3-inch burr oak as the replacement tree. Due to canopy characteristics, this species will be about 18 inches DBH when it attains the stormwater value of the 20-inch ash tree it replaces. However, burr oaks grow slowly, perhaps 0.25 inch DBH/year, so it will take approximately 60 years for the value of that 20-inch ash to be restored. And that's assuming it survives the 2 percent annual death loss among trees planted in the right of way.

Considering the benefits established ash trees are providing, the cost of treatments versus removing and replacing, and the budgetary advantages of being able to spread that cost over many years, it is essential that Myth #4 be dispelled.

EAB Myth #5: Treatments are too dangerous

The fact is treatments pose minimal risk.

The safety of the trees, the environment, and the public should be a paramount concern for anyone looking to manage emerald ash borer. For this reason, the Environmental Protection Agency (EPA) rigorously reviews every product allowed for application in the United States. The EPA looks at everything from acute exposure toxicity to environmental fate to the impact on non-target species such as birds, bees and fish. All the products recommended for EAB management have been reviewed and approved for their labeled uses. While emamectin benzoate is a Restricted Use Pesticide that must only be handled and applied by licensed applicators, it, like the other treatments for EAB, poses minimal threat to people or the environment when used as directed. If you are interested in additional facts on the potential side effects of the insecticides used for EAB there is a quality fact sheet available at:

http://www.emeralddashborer.info/files/Potential_Side_Effects_of_EAB_Insecticides_FAQ.pdf

You would think that saving trees from emerald ash borer is challenge enough. However, in our roles as managers, consultants, and stewards of the urban forest, we also need to be responsible for the management of information, and be the stewards of scientific facts. If you come across these myths either from the media, managers, homeowners, or even other arborists, take the time to share the facts with them. EAB is tremendous opportunity for all urban forest stakeholders to work toward common management goals, but having everyone working from the same facts is an important place to start. **AA**

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