

Professional Guide to Emerald Ash Borer Insecticide Treatments

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Emerald ash borer insecticide treatment considerations. A variety of insecticide products and application methods are available to professionals for control of emerald ash borer (EAB). Based on current research however, treatments are suggested only for ash trees located within 15 miles of a confirmed EAB site, or for trees located within a quarantined area. Insecticide treatments are **not** recommended for ash trees located outside of these areas. Even within the 15 mile radius, not all trees should be treated. Due to the expense of yearly insecticide treatments, one should consider the value of a particular ash tree in relation to insecticide treatment costs before making any treatments. In addition, consider the health of each tree before treating. Research suggests that insecticide treatments are significantly more effective on EAB-infested ash trees with less than 50% canopy dieback. Insecticide treatments are **not** suggested for trees with greater than 50% canopy dieback. Ash trees with greater than 50% canopy dieback should be removed and destroyed in accordance with established state and federal guidelines.

Emerald ash borer insecticide treatment options. Insecticide products that are available for use by professionals, with information on appropriate application methods and application timings, are summarized in Table 1. These products include:

- ACECAP 97 Systemic Insecticide Tree Implants (acephate)
- Astro (permethrin)
- Bonide Bullets (acephate)
- IMA-jet (imidacloprid)
- Imicide (imidacloprid)
- Inject-A-Cide B (bidrin)
- Merit (imidacloprid)
- Onyx (bifenthrin)
- Pointer (imidacloprid)
- Safari (dinotefuran) + PentraBark
- Sevin (carbaryl)
- Tempo (cyfluthrin)
- Tree-äge (emamectin benzoate)
- Xytect (imidacloprid)

All of the products listed above, except Tree-äge and Safari, have full (3C) registrations for use in EAB control. Tree-äge and Safari currently have emergency use (24C) registrations for EAB control in Wisconsin

Research from Michigan State University indicates that a soil drench or injection of imidacloprid provides excellent EAB protection for small ash trees [less than six inches diameter at breast height (DBH)] in the first year following treatment. Larger

trees may require two years of consecutive treatment before they are effectively protected. Thus, treatment of large trees should begin before the trees become infested. Current research findings also suggest that EAB-infested ash trees greater than 16 inches DBH should be treated in the fall and again the following spring. Most insecticide treatments must be repeated each year, however research findings at Michigan State University suggest that Tree-äge may provide up to three years of control with a single application.

Trunk injections and implants require physically drilling into a tree during the application of the insecticide. Thus, use of these application methods has the potential to cause injury to trees (especially smaller trees), and may provide entry points for certain disease-causing fungi [e.g., *Nectria*, the cause of Nectria canker (see University of Wisconsin Garden Facts XHT1094)].

Table 1			
<i>Emerald ash borer insecticide treatments available to professionals</i>			
Product	Active Ingredient	Timing	Application Method
Tree-äge	emamectin benzoate	April to September	Trunk injection, Arborjet
Merit (75 WP, 75 WSP, 2F) Xytect (2F, 75WSP)	imidacloprid	Mid-April to late-May and/or Early-Sept. to mid-October	Soil injection or drench
IMA-jet	imidacloprid	Mid-April to mid-May	Trunk injection, Arborjet
Imicide	imidacloprid	Mid-April to mid-May	Trunk injection, Mauget
Pointer	imidacloprid	Mid-April to mid-May	Trunk injection, Wedgle
Inject-A-Cide B	bidrin	Mid-April to mid-May	Trunk injection, Mauget
Safari + PentraBark	dinotefuran	Late-April to late-May	Trunk spray
Astro	permethrin	two applications at four week intervals with the first application when black locust is blooming	Preventative bark and foliage cover sprays
Onyx	bifenthrin		
Sevin	carbaryl		
Tempo	cyfluthrin		

The University of Wisconsin does not endorse any one specific commercially available insecticide. Products discussed in this fact sheet have been evaluated in a variety of Michigan State University research tests on EAB (www.emeraldashborer.info). No matter which insecticide you use, always be sure to read and follow the label instructions before using the product that you select. Be sure to avoid skin contact with insecticides, and be sure to store insecticides where children cannot reach them.

For more information on controlling emerald ash borer: See www.entomology.wisc.edu/emeraldashborer, www.emeraldashborer.wi.gov or www.emeraldashborer.info, or contact Chris Williamson at (608) 262-4608 or at rcwillie@entomology.wisc.edu.