

How well do insecticides work for emerald ash borer?

David Smitley and Deborah McCullough
Department of Entomology
Michigan State University

Homeowners, landscapers and arborists would like to know if ash trees can be treated to protect them from the emerald ash borer. Insecticides will probably work best as preventive treatments to **healthy ash trees**. We do not know how well insecticide treatments will work on heavily infested trees already showing canopy die-back. Trunk injections in August and September of 2002 to trees with more than 20% canopy die-back did not give good control of borers. This is most likely because the cambium tissues were too disrupted from borer injury to allow adequate movement of the injected insecticides up the trunk. Trunk injections may work better on healthy trees or trees with a low level of infestation.

Spring treatments. Insecticides applied in the spring will probably work best on trees with little or no borer damage. We do not yet know if trees already damaged by borers will benefit from insecticide treatments in the spring, or at what point trees are too damaged to recover. It is unlikely that systemic insecticides applied as trunk injections or soil injection will move very well in trees with extensive tunneling injury. Trees with more than 20% canopy die-back usually have extensive tunneling injury that will be difficult to overcome, even if the trees are protected from further attack by trunk and foliage sprays. We will be conducting more tests this coming year to see how well trunk injections in the spring, soil injections in spring, and trunk and foliage sprays in spring and early summer work.

We will be testing the same kind of strategies used for a closely related insect, the bronze birch borer. We will be treating ash trees with:

- 1) a soil-injected systemic insecticide in April that is absorbed through the roots (imidacloprid),
- 2) systemic insecticides injected into the trunk in May or June (imidacloprid and bidrin), or
- 3) contact insecticides sprayed over the foliage, trunks and limbs on June 1st and July 1st to protect trees from the adult beetles that we expect will be active from late May to early August (cyfluthrin, bifenthrin, carbaryl or acephate). Adult emergence information will be reported weekly in spring issues of the Landscape CAT Alert (order at: catalert@msue.msu.edu).

Cultural Practices and Sanitation. Ash trees in areas where the borer is active should be watered during dry spells to avoid drought stress. Also, the removal of infested trees is desirable if it is feasible. Next spring adult emerald ash borers will be emerging from infested trees. The removal of infested trees this winter and early spring before the adults emerge will help reduce the population. Trees must be chipped to pieces less than 1 inch-long, de-barked, or burned to prevent beetles from emerging. Just cutting the trees and

stacking the logs as firewood will not kill the beetles. If trees are going to be removed, cutting and chipping them **before May 1st** is desirable to prevent adults from emerging.

Table 1. Products names for the insecticides mentioned in this bulletin. Please note that these products are for use in the landscape, and that products used in nurseries must have Worker Protection labeling.

<u>Chemical name</u>	<u>Product name(s)</u>	<u>Applications</u>
Imidacloprid	Imicide Pointer Merit	Mauget tree injection Wedgel tree injection Soil injection
Bidrin	Inject – a – cide “B”	Mauget tree injection
Cyfluthrin	Tempo 2 Tempo 20 WP	Trunk and foliage spray Trunk and foliage spray
Carbaryl	Sevin SL Sevin 80 WSP	Trunk and foliage spray Trunk and foliage spray
Acephate	Orthene Turf, Tree and ornamental Spray 97% Orthene Turf, Tree and ornamental Spray 75%	Trunk and foliage spray Trunk and foliage spray
Bifenthrin	Talstar F Talstar Lawn and Tree	Trunk and foliage spray Trunk and foliage spray

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