



Bay County Environmental Affairs & Community Development Department/Gypsy Moth Suppression Program

Emerald ash borer: Homeowners Guide to Insecticide Selection and Use

Adapted from: MSU Bulletin "Insecticide Options for Protecting Ash Trees From Emerald Ash Borer"

Emerald Ash Borer in Bay County

Emerald ash borer (EAB) have been found in ash trees throughout Bay County. If you have an ash tree that you would like to save, begin treatment as soon as possible. The following are some things to consider before you begin treating your tree:

Treatment Requires a Long-term Commitment

EAB will continue to be a threat to your tree for it's entire life span. Costs for treatment and removal increase as the tree grows larger over time.

Remove and Replace Ash Trees

It may be more cost effective to replace a small or struggling ash tree than to pay the continuing cost of treatment. If the tree is in poor health with more than 50 percent canopy declining it is unlikely to recover even if treated.

Have a Professional Treat Larger Ash Trees

Homeowners wishing to protect ash trees larger than 48 inches around (as measured at 4½ feet above ground level) should have their trees professionally treated since there are better treatment options for larger trees available to the professional. A professional must be licenced or certified by the Michigan Department of Agriculture in the category 3B: Ornamentals. Emamectin Benzoate, the most effective EAB control insecticide, requires professional application and is the only product to provide more than one (1) year of protection.

Protect Water Quality When Applying Insecticides

Generally, professionally applied tree injections cause significantly fewer concerns for water quality. For soil-applied products, bark sprays and sprays applied to tree canopies, the following considerations are important:

- Do not use within 25 feet of water bodies such as streams, lakes, ponds, wetlands, or conduits to surface water or groundwater such as street curbs, storm drains, sumps or well heads.
- Do not apply when heavy rainfall is expected within 24 hours of the planned treatment.
- Do not allow sprays to drift. Avoid spraying trees when there is wind. These sprays pose exposure risks to surface water, children, pets and nearby flowering plants due to potential toxicity to bees and other pollinators.

Making Sense of the Insecticide Label- ***Read the Label!***

It is your legal responsibility to read understand and follow all label directions for the specific insecticide product being used.

- Select an insecticide that is marketed to control emerald ash borer (*see following table for guidance*).
- To facilitate up-take, soil-applied insecticides should be applied when soil is moist but not saturated or excessively dry.
- For soil drenches, remove mulch or dead leaves from the base of the tree, pour the insecticide solution directly on the soil.
- Do not allow children or pets to re-enter treated area until the spray or drench has dried.
- Store insecticide where children cannot reach them.
- Dispose of unused pesticide and rinse water by applying as you would the insecticide solution. Triple rinse all mixing containers and insecticide containers before disposing of them as listed on the label.

Measuring Your Ash Trees

Soil-applied insecticide treatments available to the general public are most effective on smaller trees, less than 48 inches in circumference. Measure the circumference of your tree at 4½ feet above ground level using a cloth tape.

Insecticide Treatment Options

Products Marketed for Homeowners				
Insecticide Active Ingredient	Example of Products	Treatment Frequency	Application Methods	Environmental Profile
Dinotefuran	- Green Light Tree and Shrub Insect Control with Safari	Once per year	Granular soil-applied product	- Strong potential to leach to shallow groundwater. - Potential exposure to adjacent water bodies through runoff events.
Imidacloprid	- Bayer Advanced Tree and Shrub Insect Control - Bonide Tree and Shrub Insect Control - Ferti-lome Systemic Insect Drench - Ortho Max Tree and Shrub Insect Control	Once per year ¹	Soil-applied drench at base of tree	- highly toxic to aquatic life - potential to leach to shallow groundwater or be transported in runoff.
Imidacloprid	- Bonide Systemic Insect Spray	Check with an arborist, may not be practical for trees > 20-25 ft. in height ²	Insecticide spray to tree canopy or bark	- highly toxic to aquatic life - tree canopy (foliar) sprays can lead to drift, posing risks to surface water, children, pets and nearby flowering plants (with potentially toxic affects to bees and other pollinators).
<p>1 Recommended only for trees less than 48 inches circumference (as measured at 4½ feet above ground level) 2 Due to chances of insecticide drift to other areas during a canopy or bark spray, they are best applied by professionals. Additionally, there is little research to support the effectiveness of canopy spray products.</p>				

Products Marketed for Professionals and Arborists				
Insecticide Active Ingredient	Example of Products	Treatment Frequency	Application Methods	Environmental Profile
emamectin benzoate	- Tree-age Restricted Use Pesticide <i>any person using this product is required to be a licenced or certified pesticide applicator</i>	every 2-4 years (dose dependant)	Trunk injection	- Persistent in tree tissue - Relatively immobile in the environment
Azdirachtin (Neem tree seed oil)	- TreeAzin	Once per year	Trunk Injection	- Classified as a bio-pesticide, minimal or no exposure or risk to non-target organisms, habitat or water.
Dinotefuran	- Safari - Transtect	Once per year (bark Spray) 1-2 times per year (other methods)	Bark Spray, Soil injection, soil-applied drench	- Strong potential to leach to shallow groundwater. - Potential exposure to adjacent water bodies through runoff events.
Imidacloprid	-Merit products - Xytect 2F -Ima-jet	1-2 times per year	Trunk injection, soil injection, soil-applied drench	- highly toxic to aquatic life - potential to leach to shallow groundwater or be transported in runoff when using soil injection or drench.

Additional Resources:

Bay County Gypsy Moth Website: www.baycounty-mi.gov/GypsyMoth/EmeraldAshBorer.aspx

Multi State Emerald Ash Boarer (EAB) website: www.emeraldashborer.info