

EMERALD ASH BORER FACTS

Emerald Ash Borer

- Discovered in 2002 in southern Michigan and Windsor area
- Adult beetles are metallic green, ½" long, and may be seen feeding on foliage from June to August
- Attacks all species of ash and kills healthy ash trees
- Attacks ash trees of any size or age
- Well suited to Ontario's climate
- Adults can fly several kilometers
- Also spread by people through movement of firewood, nursery stock, trees, logs, lumber or wood with bark attached

Signs and Symptoms

- Tree canopy begins to die back in the upper third portion of the canopy
- Dieback progresses until the tree is bare
- Epicormic shoots (sprouts growing from roots and trunk)
- Bark splitting (vertical cracks and galleries exposed under the bark)
- Larval feeding galleries are typically serpentine and packed with frass (sawdust and excrement)
- D-shaped exit holes formed by adults
- Increased woodpecker activity creating large holes

There is only one registered treatment for Emerald Ash Borer in Ontario

- TreeAzin™ Systemic Insecticide (PCP No. 28929)



Adult EAB beetle
photo by: B. Lyons



Juvenile EAB larvae
photo by: B. Lyons



Ash crown dieback
photo by: D. Herms



Ash epicormic shoots
photo by: PDCNR



EAB feeding galleries
photo by: E. Day



D-shaped exit holes
photo by: J. O'Brien

TreeAzin™ Systemic Insecticide

- Product of the Neem tree (*Azadiracta indica*), a tree native to south Asia
- Neem tree insecticidal properties have been known for centuries
- Emergency registration from Health Canada, Pest Management Regulatory Agency, for use against Emerald Ash Borer in Ontario and Quebec in 2009
- Scheduled by the Ontario Ministry of Environment as a class 4 bioinsecticide or lower risk pesticide that is commercial, non-domestic with a class 11 active ingredient
- Exempt from Ontario's Cosmetic Pesticide Ban Act
- Registered as a bioinsecticide by the U.S. Environmental Protection Agency for Emerald Ash Borer and other pest insects in the U.S.
- Listed by the Organic Materials Review Institute (OMRI) for use in organic crops



Emerald Ash Borer Treatment

- TreeAzin™ Systemic Insecticide is injected into the base of ash trees using the EcoJect® System
- Treatments occur between mid May and early August
- An injection hole is 13/64" in diameter, approximately ¾" to 1" into the wood
- Injection holes are approximately 6" apart
- 2 - 5 ml of TreeAzin™ Systemic Insecticide per cm tree diameter are injected into the tree
- Adult female Emerald Ash Borer beetles that feed on trees treated with TreeAzin™ Systemic Insecticide lay mostly sterile eggs, thus reducing populations
- Emerald Ash Borer larvae that consume tree tissues treated with TreeAzin™ Systemic Insecticide die in approximately 95% of cases
- Research in the Windsor area indicates injections every second year should keep trees alive through an outbreak
- Once Emerald Ash Borer populations decline, occasional injections may be recommended
- Preventing Emerald Ash Borer attack is less costly (lower dose) and increases the likelihood of trees surviving an outbreak
- Attacked trees can be protected if the damage is not too severe (<30% crown dieback)
- Treatments should be considered every second year unless the tree is already under attack, stressed, or high beetle populations are expected



EcoJect® Canister



EcoJect® Nozzle



EcoJect® Injection



EcoJect® Systemic Tree Injection System

Urban Tree Health

- Urban trees reduce air and noise pollution, increase property value, help reduce stress, provide wildlife habitat, and add beauty to a community
- Tree health is affected by a large number of biotic (insects and diseases) and abiotic (weather, mechanical damage) stress factors
- Trees grow old and eventually die and urban trees are exposed to almost constant stress
- Treating an ash tree with TreeAzin™ Systemic Insecticide to protect it from the Emerald Ash Borer does not guarantee its survival, but an untreated ash tree will almost certainly die



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