

Questions and Answers About Asian Longhorned Beetle Control Treatments

Q: What is the U.S. Department of Agriculture (USDA) doing to control the Asian longhorned beetle (ALB)?

A: USDA's Animal and Plant Health Inspection Service (APHIS) with State and local cooperators will apply the systemic insecticide imidacloprid this spring to host trees not infested with ALB.

Uninfested ALB-host trees within one-eighth of a mile from infested tree locations will be treated in the quarantined areas of Chicago, IL, and New York, NY. Tree species to be treated include maple, birch, horsechestnut, willow, elm, and ash.

The Cooperative Asian Longhorned Beetle Project is comprised of the New York State Department of Agriculture and Markets, New York City Department of Parks and Recreation, Illinois Department of Agriculture, and Chicago Bureau of Streets and Sanitation.

Q: How are the insecticide injections made to the tree?

A: APHIS plans to apply the imidacloprid through 4-milliliter trunk injectors (small capsules externally attached to the tree base). The number of injectors is determined by the size of the tree: one injector is required for every 2 inches of the tree diameter. Holes are drilled at a 45-degree angle to place the insecticide in the root flares close to the soil (2 to 6 inches above the line where the soil and wood meet). Hitting the top of the dispenser with a rubber mallet or pressing with hands activates it.

The insecticide moves upward into stems, twigs, and foliage. The intent of the injection treatments is to deliver the active ingredient of the pesticide quickly from the site of application to active tree growth areas, where the beetles would be expected to feed and lay eggs. The injection takes a few hours, and the area will be secured to prevent disturbance of injectors during this period.

Q: Where and when will applications take place?

A: The estimated dates for both Illinois and New York are early spring or when trees begin to bud. Treatments will continue until mid-June. The desired period of protection for the uninfested trees coincides with the period of beetle activity, June through October.

For treatment maps in New York and Illinois review the ALB website at <http://www.aphis.usda.gov/oa/alb/alb.html> and select the "Insecticide Imidacloprid" section.

Q: What insecticide will be used?

A: The generic name of the insecticide is imidacloprid, one of a group of systemic chloronicotinyl insecticides having soil, seed, and foliar uses for the control of insects, including rice hoppers, aphids, thrips, whiteflies, termites, turf insects, and some beetles. Approved for ALB program use, the insecticide has proven to reduce beetle populations in research completed in China and the U.S.

Q: Is this insecticide used for other things?

A: Imidacloprid is most commonly used on rice, cereal, maize, potatoes, vegetables, sugar beets, fruit, cotton, hops, and turf. It can be used as a seed or soil treatment or applied to foliage. It is also used in flea treatments for pets and in lawn care to control white grubs.

More information about imidacloprid is available on the Extension Toxicology Network website (<http://ace.orst.edu/info/extoxnet/>). EXTOTNET is a pesticide information project of the cooperative extension offices of Cornell University, Michigan State University, Oregon State University, and the University of California at Davis; major support and funding are provided by the USDA Extension Services National Agricultural Pesticide Impact Assessment Program.

Q: How does imidacloprid aid in eradicating ALB?

A: When applied to susceptible host plants, imidacloprid can reduce beetle population and contain the spread of ALB from currently infested areas of Illinois and New York. By doing so, many valuable ornamental and urban trees will be spared damage and loss.

Q: What previous tests have been done using this pesticide to control ALB?

A: Lab and field tests by USDA and Chinese researchers have been conducted in China and the United States. The testing of possible insecticides with systemic activity against wood-boring beetles showed that imidacloprid was the most effective. The testing indicated that imidacloprid was effective against adult beetles as they feed on small twigs, and young larvae as they feed beneath the bark.

Q: How will these treatments affect the environment?

A: The precise placement of injection treatments and the security employed to ensure precision during applications preclude many potentially adverse environmental effects. The environment is minimally affected because imidacloprid residues are restricted to the tree.

Some nontarget insects could be affected by these treatments, but the effects are anticipated to be temporary. Wildlife is not expected to be affected.

Q: Can this pesticide help trees already infested with the beetle?

A: The effectiveness of imidacloprid injections on already infested trees is not known at this time. Additional research on imidacloprid and other tools and methods for eradication, trapping, and surveying are in progress. Scientists will continue to monitor results of this research to determine if this treatment can help already infested trees. However, under current conditions, if a tree is found to be infested during post-treatment inspections, it will be destroyed.

Q: Is tree injection used to treat any other pests or disease?

A: Tree injection is also used as a method to treat Dutch elm disease, anthracnose, wooly adelgid in hemlocks, and oak wilt. This is also a standard method of applying fertilization and other insecticides.

Helpful Links

For more information on imidacloprid, go to EXTOKNET at: <http://ace.orst.edu/info/extoknet/>
For more information on the Asian longhorned beetle, go to: <http://www.aphis.usda.gov/oa/alb/alb.html>

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