

## Questions and Answers: Asian Longhorned Beetle Control Treatments

### **Q. What are Asian longhorned beetle (ALB) control treatments?**

**A.** The Animal and Plant Health Inspection Service (APHIS) works with State and local cooperators to treat host trees that are not known to be infested with ALB by using an insecticide treatment during spring months. Control treatments are applied within a quarantine area as part of eradication efforts to fight an ALB infestation.

Non-infested host trees within a minimum of one-eighth of a mile from infested tree locations are treated in the ALB eradication areas of Massachusetts and New York. Tree species receiving treatments for potential ALB infestations include maple, birch, horsechestnut, willow, elm, ash, mimosa, London plane tree, poplar, European mountain ash, hackberry, and katsura.

### **Q. What insecticide is used?**

**A.** The generic name of the insecticide used is imidacloprid. It is 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.

Imidacloprid is a registered pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Approved for ALB program use, the insecticide has proven to reduce beetle populations in research completed in the United States and China.

### **Q. How does imidacloprid aid in eradicating ALB?**

**A.** When applied to susceptible host species on an area-wide basis, imidacloprid can reduce beetle populations as ALB feed on the leaves and twigs of treated trees and die. Control treatments help contain the spread of ALB from currently infested areas and help protect non-infested trees from infestation. With treatments, many valuable trees may be spared from damage and loss. In order to optimize the effectiveness of chemical treatments within the treatment area, it is important to treat all host trees within the designated area.

### **Q. How are trees treated?**

**A.** Imidacloprid is applied through either tree trunk or soil injections under U.S. Department of Agriculture (USDA) supervision. Trunk injections are applied directly into the trunk of trees. Soil injections are applied directly into the soil at the base of trees. The number of injections (either trunk or soil) per tree is dependent on the size of the tree. With each method, the insecticide moves upward into the stems, twigs, and foliage of treated trees. Both methods quickly deliver the pesticide's active ingredient to the trees' active growth areas, where the beetle would be expected to feed and lay eggs.

### **Q. Are trunk or soil injections used to treat any other pests or disease?**

**A.** Yes. Both trunk and soil injections are used in the application of fertilizers and other insecticides. Pests targeted by such treatments include Japanese beetles, elm leaf beetles, mealybugs, thrips, leafhoppers, whiteflies, and aphids. In addition, trunk injection applications are used to treat Dutch elm disease, anthracnose, woolly adelgid in hemlocks, and oak wilt.

### **Q. Where and when do applications take place?**

**A.** Treatments are applied in the ALB eradication program areas of Massachusetts and New York, beginning around March or April. Typically, applications continue through June and, depending on conditions, may continue through July.

Imidacloprid is only applied to a limited area each year for the eradication of ALB. For treatment maps, please visit the ALB Web site at [http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/asian\\_lhb/index.shtml](http://www.aphis.usda.gov/plant_health/plant_pest_info/asian_lhb/index.shtml) and select "Quarantine and Treatment Maps" within the maps section.

### **Q. Is imidacloprid used for other things?**

**A.** Yes. Imidacloprid is used for agricultural purposes, most commonly 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, and 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 Web site at <http://ace.orst.edu/info/extoxnet/>. EXTTOXNET 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. What research has been done about using imidacloprid to control ALB?**

**A.** USDA and Chinese researchers conducted lab and field tests both 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 against young larvae as they feed beneath the bark. Imidacloprid has been very well-studied for other reasons as well, with a large number of articles published in international scientific journals.

**Q. How will these treatments affect the environment?**

**A.** Imidacloprid treatments are conducted in accordance with its label, the requirements of which are designed to protect human health and the environment. 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 and tree root area.

**Q. What kind of monitoring is APHIS doing?**

**A.** APHIS conducts environmental monitoring as part of the ALB eradication program. Although no significant adverse impacts are anticipated from the use of imidacloprid, the agency is conducting monitoring to verify the assumptions used in its planning documents; if necessary, APHIS will adjust the program's operational protocols.

**Q. Can treatments help save already infested trees?**

**A.** No. Control treatments are a tool to help protect non-infested trees from becoming infested, and when applied on an area-wide basis, treatments help reduce ALB populations within the infested area. In order to eradicate ALB, infested trees are removed. Control treatments are not effective in killing all of the beetles that may be in a tree already infested with ALB. Even treated trees are removed and destroyed if they are later found to be infested.

**Helpful Links**

For more information on imidacloprid, go to EXTTOXNET at: <http://ace.orst.edu/info/exttoxnet/>

For more information on ALB, go to:

<http://www.aphis.usda.gov/lpa/issues/alb/alb.html> or <http://www.beetlebusters.info>

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