APHIS Factsheet

Plant Protection and Quarantine

January 2003

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, treats host trees not infested with ALB during spring and fall months within quarantine areas.

Uninfested ALB–host trees within a minimum of one-eighth of a mile from infested tree locations are treated in the ALB- infested areas of Illinois, New York, and New Jersey. Tree species receiving treatments for potential ALB infestations include maple, birch, horse chestnut, willow, elm, and ash.

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

Q. What insecticide is 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 United States.

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

A. Imidacloprid is applied through either tree trunk or soil injections under USDA supervision. Trunk injections are applied directly into the trunk of the tree.

Soil injections are applied directly into the soil around the base of the tree. The number of injections (trunk or soil) required per tree is dependent on the size of the tree. Soil injections can be applied during the spring and fall.

With both methods of injection, 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 beetle would be expected to feed and lay eggs.

Q. Where and when do applications take place?

A. Treatments will be applied to the ALB–infested areas of New York, Illinois, and New Jersey, beginning early spring and continuing through July. Fall treatments may also be applied.

For treatment maps in New York, Illinois, and New Jersey review the ALB Web site at http://www.aphis.usda.gov/lpa/issues/alb/alb.html and select the “Insecticide Imidacloprid” section.

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 Web site (http://ace.orst.edu/info/extoxnet/). EXTOXNET 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 populations and contain the spread of ALB from currently infested areas of Illinois, New York, and New Jersey. By doing so, many
valuable ornamental and urban trees will be spared damage and loss.

Q. What previous tests have been done using this insecticide 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

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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 and tree root area.

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 insecticide 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 being assessed. Scientists continue to monitor results of this research to determine if this treatment can help already infested trees. Under current conditions, all infested trees will be removed and destroyed.

Q. Are tree or soil injections used to treat any other pests or disease?

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

Helpful Links

For more information on imidacloprid, go to EXTOXNET at: http://ace.orst.edu/info/extoxnet/
For more information on the Asian longhorned beetle, go to: http://www.aphis.usda.gov/lpa/issues/alb/alb.html

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