Patricia D. Hastings

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Sent: Tuesday, June 17, 2003 3:37 PM
Subject: Asian Longhorned Beetle Update with Graphics

Posting with graphics courtesy of Carl P. Schulze, Jr. ; Director, Division of Plant Industry, New Jersey Department of Agriculture. Carl serves on the Advisory Committee to the New Jersey Information Network for Pesticides & Alternative Strategies.

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1. Annotated Categorization of **ALB Hosts**; Revised October 29, 2001; Alan Sawyer; USDA-APHIS-PPQ, Otis Plant Protection Laboratory: http://www.pestmanagement.rutgers.edu/NJinPAS/postings/ALBhosts.htm
2. Magnifiable map of **quarantine, treatment, and tree removal zones** for Jersey City and Hoboken infestation: http://www.pestmanagement.rutgers.edu/NJinPAS/postings/AlbTreatment.pdf
3. Tree **Direct Trunk Injection** Photo- drilling: http://www.pestmanagement.rutgers.edu/NJinPAS/postings/treeinjection1.pdf
4. Tree **Direct Trunk Injection** Photo - Mauget capsules of imidacloprid in place: http://www.pestmanagement.rutgers.edu/NJinPAS/postings/treeinjection2.pdf
5. Figure 1- **Soil Injections**: Circular Application Pattern of Injection Holes: http://www.pestmanagement.rutgers.edu/NJinPAS/postings/fig1soil.pdf

Please refer to the above map for more information on our federal/state cooperative control program. The center of the area **bounded by the orange circle is where the infested trees** were found. A total of 113 infested trees were removed and chipped, along with all potential host trees (an additional 347 trees) within the circle. This site is being replanted with non-host species.

The area bounded by the **yellow line is the quarantine zone**. All the trees within the quarantine zone (which includes parts of Jersey City and neighboring Hoboken) are being checked and mapped to determine whether they are host species, and if so they are climbed and checked for ALB. Host trees in 95% of the quarantine area have been pre-cleared and 90% of those host trees have been climbed, or identified for bucket truck inspection in Jersey City; approximately 85% of the quarantine area has been pre-cleared and about 50% has been climbed or identified for bucket truck inspection in Hoboken. There have been no additional finds of ALB outside the orange circle - and no finds in Hoboken.

The **treatment zone (grey) is a buffer or barrier area**. Only host trees of ALB will be treated (see attached' Annotated Categorization of ALB Hosts"). The large majority of trees are street trees and trees in parks - with the goal of protecting them from ALB infestation. It is important to note that there is no spraying involved.
Approximately 1,025 trees will be treated using soil injections, and approximately 75 trees will receive direct injections into the trunk of the trees. Direct trunk injections will be used for those trees where impervious cover (sidewalks, walkway, etc.) or soil compaction issues prevent soil injection.

For **soil injections**, a metal probe is inserted into the soil to a depth of 8-12 inches in a circular pattern around the tree (see above - figure 1 for soil). The insecticide is injected through the probe into the soil. The roots take up the imidacloprid, which moves systemically through the tree.

For **direct trunk injections**, a small hole is drilled into the tree at the

base of the tree, and a Mauget capsule is inserted into the hole. This is repeated around the tree (the number of injection sites is based on the diameter of the tree). The capsule is left on the tree for period 4 hours, then removed; the tree draws the insecticide from the capsule. The pesticide applicator is required to have staff on site at all times to safeguard the capsules and to ensure none are removed or tampered with during treatment.

Imidacloprid will reduce the population of adult ALB beetles that feed on leaves and twigs during the mating and egg laying process; and also control young larvae as they hatch and burrow into the tree and feed in the cambial layer. It is not effective on later instar larvae that bore past the cambial layer into and feed on the heartwood. (This is a preventative treatment, not an eradicant; and why infested trees must be cut down and chipped to kill the larvae.)

Studies have shown that imidacloprid doesn't accumulate in flowering parts of shade trees - so there is minimal impact on non-target insects, such as bees or pollen feeders.

The survey of host trees with the "yellow" quarantine area will be done annually - and is expected to continue for at least the next 4 years. Hopefully this will show the effectiveness of the barrier treatment and the tree removal. This approach has been very successful in eradicating the ALB infestation in Chicago, and the Citrus longhorned beetle in Washington State.

See http://www.state.nj.us/agriculture/rule2208.htm for Asian Longhorned Beetle Quarantine **Adopted Emergency New Rules and Concurrent Proposed New Rules:** N.J.A.C. 2:20-8 as authorized October 11, 2002 by the State Board of Agriculture.

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NJinPAS Home Page: http://www.pestmanagement.rutgers.edu/NJinPAS/index.htm