

Asian Longhorned Beetle: Plant Protection and Quarantine

September 1998

A new, non-native insect pest, the Asian longhorned beetle (*Anoplophora glabripennis*) has arrived in the United States, and the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) is tracking it down. This beetle is a serious pest of hardwood trees in its native environment (China), where it has few natural enemies. Here, it has none. If this insect becomes established in the environment, it could turn into the gypsy moth of the 21st century, destroying millions of acres of America's treasured hardwoods.

Asian longhorned beetles attack many different hardwood trees, including Norway, sugar, silver, and red maples, horsechestnut, poplar, willow, elm, mulberry, and black locust. The insects bore into the trunk of the tree and lay their eggs inside. Because the insects spend all but the summer months inside the tree, it is virtually impossible to eradicate them with insecticides. And research has not yet produced a trap specific to this pest. The only way to eradicate the beetle is to remove and destroy infested trees, an expensive operation. Suppressing a 1996 infestation in New York City and Amityville, NY, neighborhoods cost State and Federal Governments more than \$4 million.

To date, the Asian longhorned beetle has been found at 26 scattered warehouse and residential sites in 14 States around the country. APHIS pest risk analysis has determined that it is hitchhiking its way into the United States in solid wood packing materials, such as pallets and crates, from China.

Identifying the New Pest on the Block

Asian longhorned beetles are big, showy insects. They are about an inch long, shiny, and black with bright white spots. Each adult has a pair of curved, black-and-white antennae that are even longer than the body.

In the absence of a trap specific to this pest, APHIS and cooperating State inspectors survey areas for the presence of the beetle by carefully examining hardwood trees for exit and entry holes. These dime-sized holes, which often ooze sap, are a clear sign of this particular pest. Sometimes the inspectors can find piles of frass (insect waste and sawdust) at the base of infested trees and in branch crotches. Surveyors also look for unseasonable yellowing or drooping of leaves when the weather has not been especially dry. Leaf symptoms show up when the immature insects, growing inside the tree, have bored through tissues that carry water and nutrients from the roots to the leafy canopy above. Once the pest has disrupted those pathways, affected trees wither and die.

A Fast-Moving Threat

Asian longhorned beetles spread quickly when they get into an area with suitable host material (i.e., hardwood trees). Typically, they attack a single tree at first, eating until they exhaust it as a food source. Then they spread to nearby trees. Under its own power, this beetle can fly hundreds of feet. With a wind assist, it can go even farther. People unintentionally spread the beetle by cutting or trimming an infested tree and moving the wood elsewhere.

Treatment - No. Exclusion - Yes.

Presently, the only effective treatment to eliminate the Asian longhorned beetle once it invades an area is to destroy all infested trees. The best way to fight this insect, and similar non-native woodborers, is to exclude such pests from the country in the first place.

APHIS' Plant Protection and Quarantine (PPQ) Officers are conducting increased visual inspections on high-risk cargoes and in high-risk areas, such as cargo distribution warehouses. PPQ Officers refer infested shipments for fumigation to kill the pests.

APHIS has taken other quarantine and eradication actions toward infested areas in conjunction with State cooperators. These actions include imposing quarantines and conducting intensified visual inspections around confirmed sites to delimit infestations. In the areas where movement of suspect products is regulated, infested trees are removed and destroyed.

Guarding Our Borders

To address the Asian longhorned beetle problem at U.S. ports of entry, APHIS has issued pest alerts to port-of-entry personnel, conducted outreach to local importers, and targeted high-risk importers and Chinese exporters for outreach and increased inspections. At ports, APHIS is focusing on cargo labeled for high-risk destinations (warehouses that have previously received cargoes found to be beetle infested). The agency also conducts secondary inspections and surveys at these sites. Finally, APHIS executes periodic blitzes at ports of entry, extensively inspecting targeted Chinese shipments with solid wood packing materials in an attempt to detect wood-boring pests and locate problem importers.

The Asian longhorned beetle is just one of a number of exotic pests that present a serious threat to U.S. trees. Spruce bark beetle (*Ips typographus*) and Mediterranean pine engraver beetle (*Orthotomicus erosus*) are two other non-native wood-boring pests of concern. APHIS inspectors search for all such pests on imports of solid wood products and also on solid wood packing materials like pallets and crates.

APHIS stations PPQ officers at all U.S. ports of entry and in some foreign countries. These inspectors form the first line of defense against exotic plant and animal pests and diseases. All international passenger baggage, cargo, package mail, and conveyances are subject to inspection at these ports of entry.

By monitoring pests and diseases in other countries, APHIS analyzes threats to U.S. agriculture and develops import restrictions on commodities based on their risk of introducing harmful organisms. APHIS inspectors "pre-clear" some commodities before they leave their country of origin. Domestic package mail and passengers bound from Hawaii or Puerto Rico to the U.S. mainland are inspected, too.

APHIS also works to develop treatments and rapid response techniques to fight outbreaks of unwanted pests as well as detection and monitoring programs to ensure that foreign pests do not become established here. Regular surveys and trapping are done to detect the arrival of new pests or chart the movement of existing pest populations.

Additional Information

For more information about the Asian longhorned beetle, contact APHIS PPQ at (301) 734-8295. You can also get details about this pest problem from the APHIS home page on the World Wide Web (<http://www.aphis.usda.gov>) by clicking on the Asian longhorned beetle bullet under "Hot issues."

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Asian Longhorned Beetle: Questions and Answers

Q. What is an Asian longhorned beetle?

A. The Asian longhorned beetle (*Anoplophora glabripennis*), a serious pest of hardwood trees, is not native to the United States. It is a large, bullet-shaped beetle, shiny and coal black with white spots. The beetle is about an inch long, and on its head are very long, horn-shaped feelers (antennae) that are black with white rings. These antennae are longer than the insect itself. The elongated feet are black with a whitish-blue upper surface. The beetle is native to China and is a pest there as well, with few natural enemies.

The white, worm-like immature beetles bore into tree trunks and branches, causing sap to flow heavily from wounds. Large amounts of frass (sawdust and other insect waste) accumulate at tree bases. Adult beetles leave round holes in the bark that are a half inch across or larger. Unseasonal yellowing of leaves or drooping leaves when the weather has not been dry are other indicators that the pest may be present. If left unchecked, the beetles can spread and kill trees quickly once they enter an area.

This beetle is just one of a number of exotic pests that present a serious threat to U.S. trees. Spruce bark beetle (*Ips typographus*) and Mediterranean pine engraver beetle (*Orthotomicus erosus*) are two other exotic wood-boring pests of concern. Inspectors from the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) search for all such pests on imports of solid wood products and solid wood packing materials, such as the pallets and crates that importers use to ship many goods.

Q. Why should we care about the beetle?

A. Asian longhorned beetles, and all wood-boring pests such as the bark beetle that carries the fungus causing Dutch elm disease, are serious threats to U.S. trees. The beetles bore deep into trees and eventually kill them. Currently, there are no known treatments to fight the Asian longhorned beetle, so destruction of infested trees is the only option. Damage from the 1996 infestation in New York resulted in the removal of many trees and cost State and Federal governments over \$5 million. Asian longhorned beetles eat and live in many different hardwood species, and several other wood-boring pests threaten softwoods, such as pine and spruce.

Q. What are the potential trade implications?

A. In 1997, China's total exports of agricultural and nonagricultural products to the United States were valued at \$72.8 billion (including \$10.3 billion for Hong Kong), an 8.4-percent share of total U.S. imports. It is estimated that between \$12 billion and \$16 billion in imports from China would be affected by the rule change--17 to 22 percent of the total imports from China.

Q. How did these pests get here?

A. Systematic tracebacks of known infested shipments suggest that the Asian longhorned beetle hitchhiked here in solid wood packing materials, such as crates and pallets, from China. Other wood-boring pests can be introduced on similar materials from all over the world.

In the last 13 years, trade with China has increased tremendously, to \$62 billion a year up from \$5 billion in 1985. As a result, the volume of pallets and crates passing through ports of entry has grown exponentially as goods are generally shipped in wood packaging materials, which can conceal a broad spectrum of pests. Current regulations do not require these materials to be treated before export to the United States.

APHIS has a systematic approach for detecting these hitchhiking, wood-boring pests. When an Asian longhorned beetle is found in cargo at a port of entry, APHIS identifies the cargo shipment's intended destination, and officials inspect the storage facility and previous shipments that may have been imported from the same area.

Q. What are current regulations regarding solid wood packing material?

A. U.S. regulations currently state that solid wood packing material must be completely free of bark and appear free of live plant pests. The tremendous volume of cargo makes it impossible to visually inspect every item for evidence of bark or live plant pests. Some evidence suggests that certain exporters may be intentionally hiding bark and covering up insect hole damage in wooden crates.

Q. Where have the beetles been found?

A. As of August 6, 1998, beetles had been found in warehouses in: Hawthorne, Los Angeles, and South Gate, CA; Fort Lauderdale, FL; Martin Grove, IL; Indianapolis and Porter County, IN; Lansing and Warren, MI; Camden, Cream Ridge, Linden, Mahwan, New Brunswick, and Secaucus, NJ; Jamestown and Rochester, NY; Charlotte, NC; Cincinnati, OH; Lycoming County and Sinking Springs, PA; Charleston, SC; Houston, TX; Bellingham and Seattle, WA; and Madison, WI. There have been infestations outside of warehouses in Chicago, Du Page County, and Summit, IL; and Amityville and Brooklyn, NY.

Q. What does APHIS do to exclude pests from the United States?

A. APHIS stations Plant Protection and Quarantine (PPQ) officers at all U.S. ports of entry and in some foreign countries. These inspectors form the first line of defense against exotic plant and animal pests and diseases. All international passenger

baggage, cargo, packages, mail, and conveyances are subject to inspection upon entry into the United States.

By monitoring pests and diseases in other countries, APHIS analyzes threats to U.S. agriculture and develops import restrictions on commodities based on the risk they present if introduced accidentally. Some commodities are cleared in their port of exit in special pre-clearance programs. Both domestic mail and passengers bound from Hawaii or Puerto Rico to the U.S. mainland are inspected, too. To encourage compliance, APHIS works to educate cooperators and stakeholders about the importance of excluding pests.

APHIS also works to develop treatments and rapid response techniques to fight outbreaks of unwanted pests as well as detection and monitoring programs to ensure that pests have not become established in the United States. Regular surveys and trapping projects are used to chart the presence of a pest or movement of existing pest populations.

Q. How has APHIS enhanced inspection in light of problems with the Asian longhorned beetle?

A. In an attempt to address the problem at U.S. ports of entry, APHIS has taken several steps including issuing pest alerts to port-of-entry personnel, conducting outreach to local importers, and targeting high-risk importers and Chinese exporters for outreach and increased inspections. APHIS has also focused on high-risk destinations and conducted secondary inspections and surveys at these sites. Finally, APHIS has conducted periodic blitzes at ports of entry, inspecting Chinese shipments with solid wood packing materials in an attempt to detect wood-boring pests and locate problem importers. Asian longhorned beetles and other wood-boring insects posing risk were found as a result of these activities.

Q. What else is APHIS doing to prevent future infestations of these pests?

A. On September 18, 1998, APHIS published an interim rule restricting the entry of solid wood packing material from China. APHIS will carefully consider any additional actions to be taken to prevent future infestations of the Asian longhorned beetle and similar pests. Federal law prohibits APHIS from discussing any future regulatory actions before they are published in the Federal Register.

APHIS is also heightening awareness about the Asian longhorned beetle among employees, industry, cooperators, and the public to help increase detections as well as conducting more thorough surveys in high-risk areas, as defined by incoming cargo.

An Asian longhorned beetle management team and scientific advisory panel will convene in September 1998 to discuss and review many issues related to detection and eradication of this insect.

Q. How does APHIS survey for these pests?

A. It is very difficult to detect these pests because they reside so deep in wood. In fact, the adult beetle is active only during the summer; it remains inside the trees the rest of the year. Presently, there is no trap to catch the Asian longhorned beetle, although other wood boring pests may be attracted to blacklight traps. There are also no known lures, such as the pheromone lures used to bait Mediterranean fruit fly or gypsy moth traps. Research continues with our Chinese counterparts to develop lures and traps for this pest.

In the absence of a viable trap, inspectors survey areas by carefully examining trees for exit or entry holes or frass (sawdust and other insect waste) at the base of trees. These holes are usually about the size of a dime and are generally in the bottom or middle section of trees in perimeter areas. These holes can, however, be anywhere in any hardwood tree.

The difficulties in survey and detection for these wood-boring pests have led APHIS to reexamine import issues associated with solid wood packing materials from all parts of the world.

Q. Does APHIS have an organized national survey program?

A. APHIS is conducting extensive surveys in high-risk areas, such as ports and warehouses near detections of this pest. There are plans to seek additional funding to look for the Asian longhorned beetle and other wood-boring pests nationwide.

Q. Do the recent finds and infestations of the Asian longhorned beetle mean exclusion efforts have failed?

A. No inspection or exclusion program is foolproof. APHIS is consistently monitoring its work and developing better ways to respond to the challenges presented by the expanding number of international goods and travelers entering the United States. The force of approximately 1,350 PPQ inspectors, along with their cooperators, prevents introductions of pests each day.

APHIS has a systematic approach for finding these wood-boring pests, even with the increasing volume of trade. When an Asian longhorned beetle is found at a U.S. port of entry, other pallets and crates that were previously shipped to the same warehouse destination are more thoroughly examined, as are similar shipments entering that port.

Because of this approach, searches in several of these warehouses have turned up beetles. These detections are dealt with as regulatory incidents not as infestations when surveys conducted in the vicinity around infested warehouses do not detect beetle populations in the environment. In these situations, the warehouses are considered extensions of the ports; therefore, the United States is still in the exclusion stage.

Q. What steps are being taken to fight the beetle?

A. Our exclusion efforts are the primary way to fight this beetle and similar pests. PPQ conducts increased visual inspections on high-risk cargoes and in high-risk areas, such as warehouses. PPQ officers refer infested shipments for fumigation. In many cases the infested packing material must be separated from the imported products and destroyed.

APHIS is taking other quarantine and eradication actions in infested areas in conjunction with State cooperators. These actions include imposing quarantines and conducting intensified visual inspections around confirmed sites to delimit infestations. In the areas where movement of suspect products is regulated, infested trees are removed and destroyed.

Q. What is the role of fumigation in fighting these pests?

A. Some shipments packed in solid wood packing materials can be fumigated to kill hitchhiking pests like the Asian longhorned beetle. Currently, those shipments found to be infested that can be fumigated are treated at U.S. ports of entry; however, the high volume of cargo precludes fumigating all imports shipped in solid wood packing materials. Some importers fumigate shipments on their own to guarantee smooth entry into the United States. Fumigating is an option for killing only hitchhiking pests. Once Asian longhorned beetles are established in the environment, there is no effective treatment other than destroying infested trees.

Q. Is there an effective treatment to control or destroy these pests?

A. Although there is a treatment for infested cargo, currently there is no effective treatment to destroy these pests once they infest an area without destroying a great number of trees. Infested trees must be removed, chipped, and then burned to destroy all life stages of any beetles remaining inside. APHIS is working with Chinese officials, both here and in China, on better control methods and treatment techniques. Researchers are also exploring better detection and trapping tools.

Q. Can the United States stop importing goods from China to avoid these pests?

A. No. Instead, APHIS is working with the Chinese authorities to prevent future infestations of the Asian longhorned beetle and similar pests, including restrictions on solid wood packing material from China and imposition of treatment requirements on these materials before arrival in the United States. Federal law prohibits APHIS from discussing potential regulatory actions before they are published in the Federal Register.

APHIS is reviewing many issues that involve importation of solid wood packing materials. The agency will implement a strategy to mitigate the risks associated with these wood-boring pests, in addition to any interim action regarding the Asian longhorned beetle.

Additional Information

For additional information about the Asian longhorned beetle contact APHIS' Plant Protection and Quarantine at (301) 734-8295. You can also get information about this and other APHIS programs on our Web page (<http://www.aphis.usda.gov>). For details specific to the Asian longhorned beetle, click on that bullet under "Hot Issues."

SUMMARY: We are amending the regulations for importing logs, lumber, and other unmanufactured wood articles by adding treatment and documentation requirements for solid wood packing material imported from China. This change means that wooden pallets, crating, dunnage, and other wooden packing material imported into the United States from China will have to be heat treated, fumigated, or treated with preservatives prior to departure from China. This action will affect anyone who uses solid wood packing material in connection with exporting commodities from China to the United States. This action is necessary to control the risk that solid wood packing material from China could introduce dangerous plant pests, including forest pests, into the United States, a risk demonstrated by many recent incidents where exotic pests were detected in solid wood packing material from China.

DATES: Interim rule effective December 17, 1998. Consideration will be given only to comments received on or before November 17, 1998. We also will consider comments made at three public hearings scheduled to be held during the public comment period in Washington, DC, on October 16, 1998, and in Seattle, WA, and Los Angeles, CA, on dates to be announced.

ADDRESSES: Please send an original and three copies of your comments to Docket No. 98-087-1, Regulatory Analysis and Development, PPD, APHIS, suite 3C03, 4700 River Road Unit, 118, Riverdale, MD 20737-1238. Please state that your comments refer to Docket No. 98-087-1. Comments received may be inspected at USDA, room 1141, South Building, 14th Street and Independence Avenue SW., Washington, DC, between 8 a.m. and 4:30 p.m., Monday through Friday, except holidays. Persons wishing to inspect comments are requested to call ahead on (202) 690-2817 to facilitate entry into the comment reading room.

The Washington, DC, public hearing will be held on October 16, 1998, at the Jefferson Auditorium, U.S. Department of Agriculture, South Building, 14th Street and Independence Avenue SW., Washington, DC.

FOR FURTHER INFORMATION CONTACT: Mr. Ronald Campbell, Import Specialist, Phytosanitary Issues Management Team, PPQ, APHIS, 4700 River Road, Unit 140, Riverdale, MD 20737-1236, (301) 734-6799.