

Imports of Wood Packaging & Live Plants:

Pathways that Introduce and Spread Forest Pests

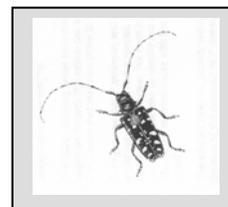
Nearly 500 non-native, tree-damaging insects and pathogens have been introduced to the United States; at least 80 of these have caused notable damage to trees. There is a grave risk that additional pests will be introduced and cause even greater damage. This risk has been exacerbated by the interaction of three factors: 1) increasing volumes of imports; 2) rising use of shipping containers containing solid wood packing material; and 3) opening of trade with countries that had limited or closed commerce before.

U.S. Imports

American imports (excluding petroleum products), measured by dollar value, more than doubled between 1994, when the World Trade Organization agreements went into effect, and 2008. Many of these imports, especially heavy items such as machinery, metals, tiles, and decorative stone, are shipped in wooden crates or on pallets. Nearly 25 million shipping containers entered the U.S. in 2013. If even 1/10th of 1% of the wood packaging in these shipments contained a tree-killing pest, 13,000 pests would be brought to the country. Imports of living plants (called “plants for planting” by plant health officials) have risen by 33 percent per decade over the last 43 years. They reached 1.4 billion plants and bulbs in 2007.

Wood Packing Pathway

Wood-boring insects are introduced primarily with wood, especially in wood packaging but also – at least potentially – in decorative items made of wood. Since 1990, wood-boring pests have been detected at a rate of 1.2 per year, which is nearly three times the rate in previous decades. Since 1985, 60 non-native species of wood- or bark-boring insects have been detected in the United States.



Three of the most damaging forest insects were introduced in wood packaging:

- Asian longhorned beetle, which attacks dozens of species from 15 plant families, especially maples, birches, elms, and willows. Forests comprised mainly of vulnerable species reach from Maine to the Great Lakes. The Asian longhorned beetle has been introduced to North America and Europe at least 16 times, beginning in the early 1990s.
- Emerald ash borer, which attacks all 17 species in the ash genus. Although apparently introduced to North America only twice, the emerald ash borer has spread across 171,000 square miles in 22 states, killing tens of millions of trees and costing cities and homeowners \$3 billion per year in tree-removal costs and lost property value. Outbreaks in four new states were detected in 2013.
- Redbay shot borer and associated laurel wilt disease, which has killed redbay trees in the coastal plain of the Southeast from North Carolina to Mississippi and threatens avocado farming in Florida.



In response to the threat, the USDA’s Animal and Plant Health Inspection Service (APHIS) and its Canadian counterpart, the Canadian Food Inspection Agency (CFIA), led the adoption of an international standard under which all wood packaging in international commerce is treated to eliminate many pests. The standard was finalized in 2002; it has been adopted by more than 70 countries.





Still, a small proportion of crates, pallets, and other wood packaging entering the country still harbors live insects. This may result from improper treatment, pests' tolerance of treatment, infestation after treatment, or fraud. U.S. imports associated with wood packaging are already high; they are expected to rise rapidly in coming decades. It is essential, then, that APHIS determines what undermines the wood packaging regulations – and quickly rectifies problems.

Imports of Live Plants

U.S. imports of live plants have been the principal pathway for introduction of non-native, tree-killing insects and pathogens. Such pests include nearly all sap-sucking insect pests, like the hemlock woolly adelgid; about two-thirds of the foliage feeding pests; and more than half of the forest pathogens, including chestnut blight and sudden oak death. The pathogens, in particular, cause significant damage. In 2009, a study analyzed imports of a small number of plant genera and found that about 12 percent of incoming plant shipments had symptoms of pests – a rate more than 100 times greater than that for wood packaging.

At present, APHIS relies largely on visual inspections of plant shipments to prevent pest introductions. This approach is widely conceded to be ineffective. Indeed, the study of certain imported plant genera found that APHIS inspectors did not detect 72 percent of the shipments that actually showed symptoms of pest infestation.



APHIS is revising its regulations to reduce risks. The agency finalized a key component of its new regulations in May 2011, when it created a temporary holding category, called “Not Authorized (for importation) Pending Pest Risk Analysis,” or NAPPRA. With this, APHIS has authority to temporarily prohibit import of certain types of plants, from specific countries of origin, that it considers to pose a particular pest risk. The temporary ban gives APHIS time to complete a pest risk analysis and then enact appropriate safeguards to ensure that imported plants will be as pest-free as possible.

Additional changes to plant import rules are needed to raise the level of protection against non-native pests. The most important of these will be requirements that foreign nurseries wishing to ship high-risk types of plants to the United States adopt systems-based pest-reduction practices that meet approved criteria. Also, there are calls for APHIS to strengthen requirements for post-entry quarantine facilities because the agency relies on these to prevent escape of pests associated with certain kinds of plants.

What Can be Done

- USDA APHIS and DHS Bureau of Customs and Border Protection strengthen enforcement actions targetting shipments from companies with records of pest-infested shipments.
- USDA APHIS and its Canadian and Mexican counterparts work with foreign governments through the International Plant Protection Convention to improve foreign companies' compliance with the international wood packaging standard (ISPM#15).
- The Congress ensure that USDA APHIS has sufficient resources to both eradicate currently known outbreaks of tree-killing pests and diseases and detect additional pest outbreaks.
- USDA APHIS adopt regulations to implement the international standard on living plants (ISPM#36), under which APHIS can require foreign suppliers of plants to apply hazard identification and mitigation practices to ensure plants are pest-free.
- Importers require that their foreign suppliers comply fully with appropriate international standards and US regulations.
- Importers implement pest surveillance programs in their warehouses or nurseries and promptly report signs of pest infestation to state and federal phytosanitary authorities.
- Citizens learn the symptoms of key pests in their trees or shrubs, and report suspicious symptoms to state and federal phytosanitary authorities.

For more information: <http://healthytreeshealthycities.org>; www.dontmovefirewood.org;

Or contact Brad Gething, Ph.D. National Wooden Pallet and Container Association; 703-519-6104 or bgething@palletcentral.com

Source: Campbell, F.T. and S.E. Schlarbaum. 2013. *Fading Forests III American Forests: What Choice Will We Make?* The Nature Conservancy, Arlington, VA, and the University of Tennessee, Knoxville, TN. Online at dontmovefirewood.org