



Species Brief 5.4

What Is in Your Firewood?

Laurel Wilt Disease



Pest and Target Species

Laurel wilt disease is caused by the interaction between the redbay ambrosia beetle, *Xyleborus glabratus* (Coleoptera: Curculionidae: Scolytinae), and a fungus, *Raffaelea lauricola*. The redbay ambrosia beetle is the only known vector of this pathogen. This disease can kill redbay and sassafras, and potential host species include swampbay, pondspice, pondberry, camphor, spicebush, avocado, and other species of the laurel family.

Range

The redbay ambrosia beetle is native to India, Japan, Myanmar, and Taiwan. Since its initial detection in Georgia in 2002, this wilt disease has spread to several southern states, including Alabama, North Carolina, South Carolina, Florida, and Mississippi.

Identification and Symptoms

The redbay ambrosia beetle is an insect approximately one-sixteenth of an inch long and dark brown to black in color (*Figure 1*). Not easily detected, this insect will bore into the host tree, creating galleries (tunnel-like paths) in the wood. The beetle carries spores of the deadly fungus on its body and spreads them in the tree. This fungus moves rapidly through the vascular system of the tree and disrupts the flow of water and nutrients. Because the vascular system is affected, leaves wilt and dark purple to black streaks may appear in the sapwood (*Figure 2*). Although not always present, small, round entrance holes may be noticeable on stems and toothpick-like tubes of sawdust may protrude from entrance holes (*Figure 3*). Wilted leaves may first appear on an isolated branch and then spread rapidly throughout the entire crown and turn reddish or purplish in color. Infested redbay trees may produce abundant new sprouts along the lower stem. Dead or dying redbays will hold the brown discolored leaves on the



Photo by: Michael C. Thomas, AFP, Bugwood.org

Figure 1: An adult ambrosia beetle.



Photo by: R. Scott Cameron, FDACS, Bugwood.org

Figure 2: A redbay tree infected with the fungus associated with laurel wilt disease; it shows typical black staining of the sapwood.

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Figure 3: A sawdust tube produced by an ambrosia beetle on a dead redbay tree.

branches for approximately one year (*Figure 4*). The pest moves at an estimated rate of 15–34 miles per year through natural areas (national and state park lands), expanding its range quickly. Only a single beetle is necessary to vector enough of the deadly fungus to kill the host tree within 4 to 12 weeks after the initial attack.

Control Options

The best method of controlling laurel wilt is to prevent the introduction of the disease. Since the beetle can live in cut wood, infested wood debris and firewood should not be moved long distances. If traveling for recreational activities, it is recommended to leave firewood at home and buy local firewood at the destination.

There is currently no known method to stop the spread of laurel wilt disease completely. The systemic fungicide propiconazole (Alamo™) has been successful as a preventative treatment for redbay, protecting mature trees up to 18 months. The fungicide is best used as a preventative treatment on non-symptomatic host trees within 100 feet of infected trees and is sometimes used on recently infected trees, high-value trees, or historic trees.

Once infestation in a tree is detected, the tree should either be injected with fungicide or cut down as soon as possible, and then chipped



Figure 4: A redbay crown completely wilted and brown.

and burned at the original location. If burning is not possible, the tree should be cut down, chipped, and left on site. A tarpaulin or other type of plastic covering can be placed over the chipped debris for an extended period of time to reduce the emergence and survival of the pest.

Suggested Resources

Homeowner Detection of and Recommendations for Mitigating Redbay Ambrosia Beetle—Laurel Wilt Disease on Redbay and Avocado Trees in the Home Landscape.

<http://edis.ifas.ufl.edu/hs1179>

Laurel Wilt: A Threat to Redbay, Avocado and Related Trees in Urban and Rural Landscapes (HS1137).

<http://edis.ifas.ufl.edu/hs391>

Laurel Wilt-Management.

www.fs.fed.us/r8/foresthealth/laurelwilt/management.shtml

Pest Alert: The Redbay Ambrosia Beetle, Xyleborus glabratus Eichhoff (Scolytinae: Curculionidae).

www.freshfromflorida.com/pi/pest-alerts/xyleborus-glabratus.html



http://ncforestservice.gov/forest_health/monitoring_invasives.htm