



# LOUISIANA PLANT HEALTH MANAGEMENT



Solving Plant Health Problems Caused by Biotic and Abiotic Stresses

## Laurel Wilt

Laurel wilt is a devastating disease of woody trees in the *Lauraceae* family. Trees currently susceptible to laurel wilt include avocado, California laurel, camphor tree, pondberry, pondspice, redbay, sassafras, swampbay and spicebush.

Laurel wilt was first confirmed in the state in 2014 on mature sassafras trees in Union Parish. Since then, the disease has spread to Beauregard, Bienville, Claiborne,

Grant, LaSalle, Lincoln, Natchitoches, Ouachita, Rapides, Sabine, Vernon and Winn parishes. The disease is caused by a fungus called *Raffaelea lauricola* that clogs the vascular (xylem channels) system of the tree and interrupts the water supply. As a result, the affected tree wilts and eventually dies. Initial symptoms of laurel wilt are rapid wilting and drooping (flagging) of leaves (Figure 1). Leaves on affected twigs may exhibit marginal necrosis due to lack of water (Figure 2).



Figure 1. A young sassafras exhibiting flagging of shoots near the apex of a diseased tree.



Figure 2. A sassafras leaf exhibiting symptoms of lack of water (marginal necrosis) due to clogging of xylem tissue.



Figure 3. A group of dead sassafras trees with brown leaves infected with laurel wilt caused by *Raffaelea lauricola*.

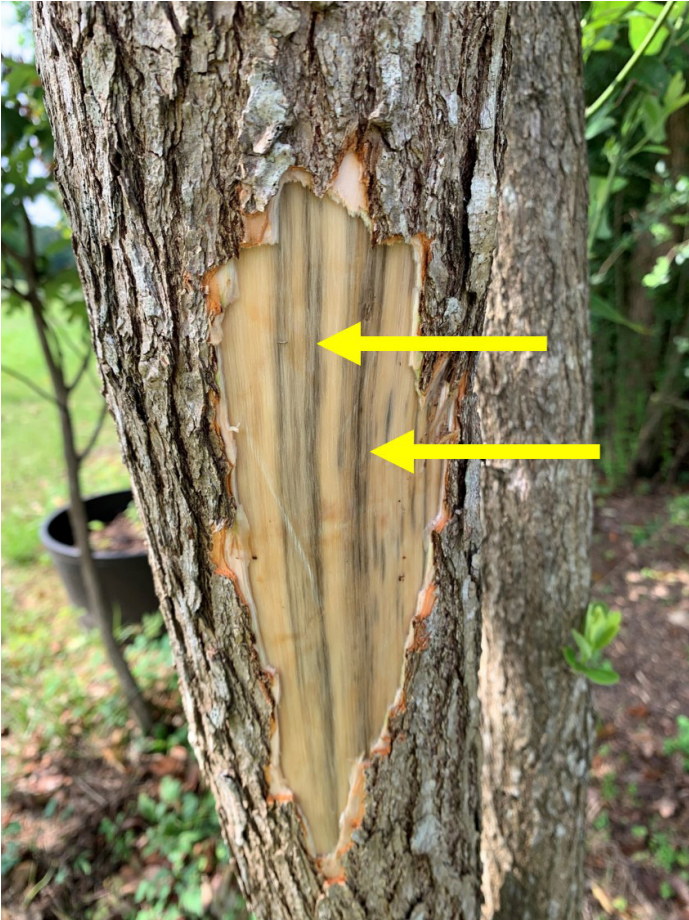


Figure 4. Discoloration of sapwood of a sassafras tree infected with laurel wilt.

As the disease progresses, infected trees exhibit reddish to purplish brown discoloration of foliage and the entire canopy turns brown (Figure 3). Brown leaves do not defoliate immediately and tend to remain attached to the branches for a period of one year or more in the case of redbay trees, but brown leaves drop readily in other host trees. Removal of bark from infected trees reveals discoloration of sapwood (Figures 4 and 5).

The fungus is carried by the invasive redbay ambrosia beetle (*Xyleborus glabratus*) (Figure 6) from infected to healthy trees. The pathogen also may spread from infected trees to neighboring healthy trees through grafting roots. Both the beetle and the fungus also may spread to new locations indirectly when people move infested firewood from areas where laurel wilt and redbay ambrosia beetles are prevalent. Redbay ambrosia beetles are brown to black in color and very small (2 mm) in size. Initially, the redbay ambrosia beetles may attack the branches, and the infested trees may not look wilted. Later, the trees start to wilt, and tubes of fine sawdust that look like toothpicks and are produced by ambrosia beetles can



Figure 5. A cross-section exhibiting discoloration of sapwood of a sassafras branch infected with laurel wilt.

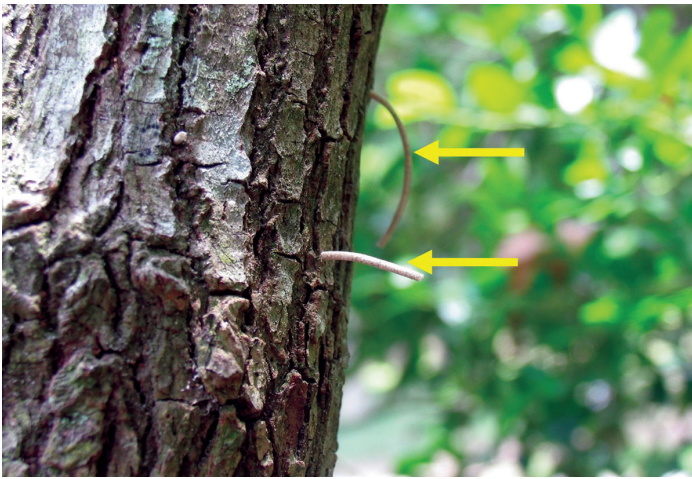


Figure 6. Presence of toothpicklike tubes of fine sawdust produced by redbay ambrosia beetles on the tree trunk. (Photo Credit: Albert Mayfield, USDA Forest Services).



Figure 7. Redbay ambrosia beetle adult. (Photo Credit: Jason A. Smith, University of Florida).

be seen on the diseased tree trunks (Figure 7). The sawdust toothpicklike tubes may easily wash away with rainwater and may not be present on infected trees after a downpour. Tiny entrance holes created by redbay ambrosia beetles are present on small branches as well as the trunk of diseased tree (Figure 8).

Rapid and early disease detection and removal of infective trees is the most effective management strategy to combat laurel wilt. After removal, burn the diseased trees or dispose of them properly to prevent further disease and beetle spread. Avoid moving firewood from



Figure 8. A redbay ambrosia beetle entrance hole on a young sassafras tree.

areas where laurel wilt and redbay ambrosia beetles are prevalent or known to occur. When it comes to firewood, remember to buy locally and burn locally!

Early symptoms of laurel wilt can be easily misdiagnosed with the damage caused by the black twig borer (*Xylosandrus compactus*). The black twig borer attacks small diameter branches and causes death (flagging) of infested branches. If you notice symptoms of laurel wilt on susceptible host trees listed above, please contact Raj Singh at 225-578-4562 or by email at [rsingh@agcenter.lsu.edu](mailto:rsingh@agcenter.lsu.edu).

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