

# plant disease

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## Disease Notes

### **Laurel Wilt, Caused by *Raffaelea lauricola*, is Confirmed in Miami-Dade County, Center of Florida's Commercial Avocado Production**

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**Laurel wilt**, caused by *Raffaelea lauricola*, threatens native and nonnative species in the Lauraceae in the southeastern United States, including the important commercial crop, **avocado**, *Persea americana* (2,4). Although the pathogen's vector, *Xyleborus glabratus*, was detected in Miami-Dade County, FL in January 2010, **laurel wilt** had not been reported (4). In February 2011, symptoms of the disease were observed on native swampbay, *P. palustris*, in Miami-Dade County (25°72'N, 80°48'W). Externally, foliage was brown, necrotic, and did not abscise; internally, sapwood was streaked with dark gray-to-bluish discoloration; and, in dead trees, holes of natal galleries of the vector from which columns of frass were attached were evident. On a semiselective medium for *R. lauricola*, a fungus with the pathogen's phenotype was isolated from symptomatic sapwood. Colonies were slow growing, light cream in color, with dendritic, closely appressed mycelium and often a slimy surface. A representative strain of the fungus was further identified with PCR primers for diagnostic small subunit (SSU) rDNA (1) and its SSU sequence (100% match, GenBank Accession No. JN578863). In each of two experiments, plants of 'Simmonds' **avocado**, the most important cultivar in Florida, were inoculated with three strains of the fungus, as described previously (3). Symptoms of **laurel wilt** developed in all inoculated plants and the fungus was recovered from each. After aerial and further ground surveys, additional symptomatic swampbay trees, some of which had defoliated, were detected in the vicinity of the original site. Since swampbay defoliates only a year or more after symptoms develop (4), the 2010 detection of *X. glabratus* may have coincided with an undetected presence of the disease. As of July 2011, a 6-km-diameter disease focus was evident in the area, the southernmost edge of which is 5 km from the nearest commercial **avocado** orchard. In August 2011, a dooryard **avocado** tree immediately north of the above focus was affected by **laurel wilt**, and an SSU sequence confirmed the involvement of *R. lauricola* (GenBank Accession No. JN613280). The outbreak of **laurel wilt** in Miami-Dade County represents a 150 km southerly jump in the distribution of this disease in the United States ([http://www.fs.fed.us/r8/foresthealth/laurelwilt/dist\\_map.shtml](http://www.fs.fed.us/r8/foresthealth/laurelwilt/dist_map.shtml)) and is the first time this disease has been found in close proximity to Florida's primary commercial **avocado** production area. Approximately 98% of the state's commercial **avocados**, worth nearly \$54 million per year, are produced in Miami-Dade County. Since effective fungicidal and insecticidal measures have not been developed for large, fruit-bearing trees, mitigation efforts will focus on the rapid identification and destruction of infected trees (3,4).

**References:** (1) T. J. Dreaden et al. *Phytopathology* 98:S48, 2008. (2) S. W. Fraedrich et al. *Plant Dis.* 92:215, 2008. (3) R. C. Ploetz et al. *Plant Dis.* 95:977, 2011. (4) R. C. Ploetz et al. *Recovery Plan for Laurel Wilt of Avocado*. National Plant Disease Recovery System, USDA, ARS, 2011.

## Cited by

### **Responses of avocado to laurel wilt, caused by *Raffaelea lauricola***

R. C. Ploetz, J. M. Pérez-Martínez, J. A. Smith, M. Hughes, T. J. Dreaden, S. A. Inch, and Y. Fu

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[CrossRef](#)

### **Impact of laurel wilt, caused by *Raffaelea lauricola*, on xylem function in avocado, *Persea americana***