

Disease Notes

First Report of Laurel Wilt Disease Caused by a *Raffaelea* sp. on Avocado in Florida

A. E. Mayfield, III, Florida Department of Agriculture and Consumer Services, Division of Forestry, Gainesville 32608; and **J. A. Smith, M. Hughes**, and **T. J. Dreaden**, School of Forest Resources and Conservation, University of Florida, Gainesville 32611

Laurel wilt is a vascular disease of redbay (*Persea borbonia* (L.) Spreng.) and other plants in the family Lauraceae in the southeastern United States. It is caused by a fungus (*Raffaelea* sp.) that is vectored by a non-native insect of Asian origin, the redbay ambrosia beetle (*Xyleborus glabratus* Eichhoff) (1). Since the initial detection of the redbay ambrosia beetle near Savannah, GA in 2002, laurel wilt has caused widespread mortality of redbay in Georgia, South Carolina, and Florida (1). In September 2007, an avocado (*Persea americana* Mill.) tree planted approximately 10 years earlier in a residential neighborhood in Jacksonville, FL was discovered to be infected with laurel wilt. The crown was in various stages of decline, including upper branches that were dead and leafless, those with wilted and drooping foliage, and those with healthy foliage. Removal of bark from wilted branch sections revealed black-to-brown streaks of discoloration in the sapwood and a few ambrosia beetle holes from which the discoloration extended into the adjacent wood. A *Raffaelea* sp. was isolated from discolored wood samples by surface sterilizing wood chips by submersion in a 5% sodium hypochlorite solution for 30 s and plating them on cycloheximide streptomycin malt agar (2). Small subunit (18S) sequences from the rDNA were amplified by PCR and sequenced with primers NS1 and NS4 (3). BLASTn searches revealed homology to *Raffaelea* sp. C2203 (GenBank Accession No. EU123076, 100% similarity, *e*-value of 0.0, and a total score of 1,886), which is known to be the causal agent of laurel wilt (1). The small-subunit rDNA sequence for this isolate has been deposited into GenBank and has been assigned accession No. EU257806. Pathogenicity of the laurel wilt pathogen on *Persea* spp. in growth chamber trials has been previously demonstrated (1). Laurel wilt is of concern to the commercial avocado industry and is a potential threat to the Lauraceae elsewhere in the Americas.

References: (1) S. W. Fraedrich et al. *Plant Dis.* 92:215, 2008. (2) T. C. Harrington. *Mycologia* 73:1123, 1981. (3) T. J. White et al. Page 315 in: *PCR Protocols, a Guide to Methods and Applications*. M. A. Innis et al., eds. Academic Press, San Diego, CA, 1990.

Cited by

Ability of the Redbay Ambrosia Beetle (Coleoptera: Curculionidae: Scolytinae) to Bore into Young Avocado (Lauraceae) Plants and Transmit the Laurel Wilt Pathogen (*Raffaelea* sp)

A. E. Mayfield, J. E. Peña, J. H. Crane, J. A. Smith, C. L. Branch, E. D. Ottoson, and M. Hughes

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