

Laurel Wilt/ Redbay Ambrosia Beetle Working Group Update Spring 2012



The working group has formed to assemble research, regulatory, outreach/extension and industry expertise to review the current status and chart effective management strategies to mitigate the potential impact of the beetle and disease on the Florida avocado industry.

Recent Activities

- May 2012 - Aerial surveys and ground truthing underway in and around the commercial grove areas of Miami-Dade County.
- April 2012 - Laurel wilt identified on an avocado tree in the northern tier of the Miami-Dade County avocado production area.
- No redbay ambrosia beetles have been trapped in the avocado production area.
- February 2012 laurel wilt identified in Palm Beach County in the Loxahatchee National Wildlife Refuge in Boyton Beach on a red bay tree.
- Fall 2011 - the FDACS Firewood and Unprocessed Wood Products (Chapter 5B-65) was approved and DPI inspectors and investigators have been notified. Grocery chains and their suppliers have also been notified of the rule. State and national campaigns are in progress, targeting the general public and state and national parks. Later this year DPI will conduct a survey to determine how much firewood is entering Florida through NASCAR events.
- February - May 2011 – several redbay ambrosia beetles collected in traps, and three swamp bay trees infected with laurel wilt found seven miles north of the commercial avocado production area in Miami-Dade County. Numerous suspect trees were observed by aerial survey.
- FDACS-DPI and USDA-CAPS implemented an agreement to hire three staff dedicated to continue RAB-LW surveys and monitor RAB traps for the foreseeable future.
- FDACS is a member of the national Don't Move Firewood Committee and which is working at the national level to address the issues of wood product bio-safety.

On-going Research

Entomology

- Field research demonstrates that the activity of the redbay ambrosia beetle (RAB) increases during the late winter-early spring, peaks during September and then declines during the fall-winter period.
- Most beetle flight is 3 to 4 ft off the ground and beetles are most active from 4:00 PM to 8:00 PM.
- The number of egg, larvae, pupae and adult RAB that emerge from avocado wood is significantly lower than from swamp bay and red bay wood.

Entomology (continued)

- Continued screening of insecticides has identified three that will be tested under RAB-infested field conditions and preliminary fruit residue data will be generated.
- Potential beetle barriers are being field tested.
- Identification of potential natural repellents emitted by native plants is under evaluation.

Plant Pathology

- Field evaluation of three macro-infused fungicides (propiconazole, thiabendazole and tebuconazole) in mature avocado trees then inoculated with laurel wilt (LW) is in progress in several infested counties outside the main avocado production area.
- A long-term field trial to identify avocado germplasm with resistance to LW is underway.
- Research has demonstrated that avocado fruit do not carry LW in the pulp and seeds.
- Recent research has shown LW host trees appear to have a hypersensitive reaction to the presence of *Raffaelea lauricola* which causes laurel wilt.
- The pathogen assay for *Raffaelea lauricola* in avocado xylem wood samples has proven more difficult than for native host plants (e.g., red bay, swamp bay). However, two more taxon specific primers have been identified and will be used on both the DNA extraction from the wood and the fungal cultures.
- Screening for endophytic fungi that inhibit *Raffaelea lauricola* is in progress.

Outreach/Extension Efforts

- Social networking (tweets, websites and blog) has proven to be a part of an effective outreach methodology for informing the public about laurel wilt.
- Educational outreach to plant societies, urban residents, arborists/landscapers, and UF Extension Agents and Master Gardeners has been successful for informing clientele about laurel wilt.
- The Save the Guac campaign continues.

Next Steps

- Continued surveying for RAB and LW by FDACS-DPI/CAPS will include urban areas and expand to the northern edge of the avocado production area.
- Continued aerial surveying of the agricultural area to detect potential LW infected trees as a part of the early detection and RAB suppression strategy.
- Continued short-, mid- and long-term control measures for RAB and LW.
- Continued extension activities to update the agricultural community, county governments, regulatory agencies and citizens.