Florida Citrus Advanced Technology Program

QUARTERLY & FINAL REPORTS: Control of Citrus Greening, Canker & Emerging Diseases of Citrus

Instructions Complete the fields based on your project specs. When finished, save the form to your local disk using a unique name. Then, go to **http://research.fcprac.com**, and log in with your user name and password using Researcher Login in the lower left. Find this project title and click on **Submit a Report**. Update your profile information if needed, then upload this report as directed.

2009-2010 REPORT	CATEGORY (drop-down)	TODAY'S DATE (m/d/yr)
◉ *Quarterly Report* ○ *Annual Report* ○ *Final*	Management	10/5/09

WHAT IS THE "HEADLINE" FOR THIS REPORT (e.g. a one-sentence "newspaper headline" describing what you accomplished)

Murraya paniculata: Is it a "typhoid Mary"

TITLE and CONTACT INFORMATION

Proposal Title Alternative Hosts of HLB to Assist in Disease Management

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Organization University of Florida, CREC	*Total Direct Funds (current year)* $205,000

REPORT UPDATE (650 words; provide details about your headline)

This work will determine if certain alternative hosts are better hosts for the suspected HLB bacterial pathogens (Ca. Liberibacter asiaticus (Ca. Las), Ca. Liberibacter americanus (Ca. Lam) and Ca. Liberibacter africanus (Ca. Laf)) and can serve as a reservoir hosts for infection to citrus.

During this quarter work was again was performed at all four investigator locations. At the University of Florida, CREC Lake Alfred HLB infection once again was achieved by graft transmission from HLB (Ca. Las) infected citrus to Severinia buxifolia (orange boxwood) and to C. jambhiri. Quantitative real time PCR (qPCR) was done on both hosts and showed that they were very good hosts for the Las bacterium. Psyllid transmission tests from Severinia to sweet orange were repeated this quarter and will be PCR tested after the appropriate incubation period. Additional infections were achieved with rootstocks Carrizo citrange, Swingle citrumelo and Kinkojii. At the Texas A&M Citrus Center, Weslaco psyllid feeding tests continued on the rutaceous plants that are established there. Esenbeckia berlandieri (jopoy), Amyris madrensis (torchwood), Choisya ternata and C. arizonica all were found to be feeding hosts for the psyllid. Egg laying was found on torchwood and egg laying and nymphal development were found on C. ternata. This work is part graduate student Jose Sandoval's researchwith Dr. da Graca.

Plant materials of Severinia buxifolia and Murraya paniculata were established at the USDA, ARS, Beltsville quarantine greenhouse and inoculations are pending with exotic Ca. Las, Ca. Lam and Ca. Laf isolates. Work with dodder as an alternative host to study the plant infection process and for its use with plants that are not graft compatible with citrus was concluded and a manuscript was submitted for publication. Dodder becomes infected and phloem necrosis occurs similar to that found in citrus.
At the USDA, ARS, FDWSRU, Ft. Detrick, MD a manuscript was completed and submitted for publication on the work of infection of Murraya paniculata and the psyllid transmission to sweet orange. A presentation will be made at the HLB-Zebra Chip workshop in Weslaco in November.