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*	HLB Pathology	4/20/10

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

Citrus Budwood Shoot-tip Grafting Program Highly Productive

TITLE and CONTACT INFORMATION

Proposal Title Rutaceous Germplasm Preservation

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Organization CREC, IFAS, UFL	*Total Direct Funds (current year)* $71,000

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

The new microscopes with their superior optics and ergonomic designs have increased productivity. The Leica teaching microscope is used more frequently than expected as each variety that is cleaned up looks a little different. Teaching is a long term and on-going process. By frequent examination of each developing STG, the reasons for success or lack thereof can be determined. This is knowledge is applied to improve subsequent STGing.

The new spectrophotometer, a Nanodrop 8000, is used to quantify nucleic acid (NA) content of all samples. An excel spreadsheet with formulas is used to determine what quantity of water needs to be added, if any, to standardize the NA content. Each sample then has the requisite amount of water added to dilute it to the pre-determined concentration in the master plate. Plates for all assays are drawn from this master plate so that the precise amount of NA determined to be optimal for that set of primers is used.

Chiefland Foundation source trees were tested for Citrus tatter leaf virus (CTLV) for the first time during the 2009 testing season. Samples were adjusted to the proper titer using the Nanodrop 8000. A SYBR green real-time PCR assay showed that three trees of one little-used variety had CTLV. Several nearby trees had been infected by root grafting. Implementation of this important testing allowed us to immediately remove the diseased trees for STGing and has increased the disease-free state of this valuable resource. During the 2010 testing season we will determine if all CTLV has been removed from the Chiefland Foundation trees.

The list of people and the varieties they want to enter into the budwood parent tree indexing and shoot-tip grafting program continues to be long as does the list of varieties that we are working to clean up for the Chiefland Foundation, Florida citrus breeders, and citrus producers. However the improvements to the program are allowing us to get shoot-tip grafted and tested material back to the owner in less than two years in most cases. With improved testing, the Florida citrus industry is provided with budwood tested repeatedly for Citrus greening, Citrus tristeza virus, Citrus leaf blotch virus, Citrus tatter leaf virus (Apple-stem grooving virus), and six viroids. Our Budwood program remains strong and well provided with up-to-date equipment to provide these services thanks to the support of the Florida Citrus Production Research Advisory Council.