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	7/10/10

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

Evaluation of foliar zinc and manganese for control of HLB or associated symptom development

TITLE and CONTACT INFORMATION

Proposal Title

Evaluation of foliar zinc and manganese application for control of HLB or associated symptom development

Principal Investigator James H. Graham	*PI Last Name* Graham
Email jhg@crec.ifas.ufl.edu	*FDACS Contract Number* 77601
Phone 863-956-1151	*Project Duration (years)* 1 *Year of Project* 1
Organization UF, Citrus Research and Education Center	*Total Direct Funds (current year)* $49,464

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

Objective 1 is to conduct a field evaluation nutritional sprays for control of HLB and HLB symptom expression and yield. The field study was set up May 2010 in Southern Grove, Hendry Co., FL. Six treatments were set in 4 plots of 150 trees per treatment (interior 10 trees in each block were identified for PCR, leaf nutrition sampling, tree health and yield evaluation). Treatments were 1) non-treated check; 2) Nutri-Phite sprayed 4 times bimonthly; 3) N-Sure sprayed bimonthly; 4) Agra Sol Mn/Zn/Fe plus Nutri-Phite plus triazone urea sprayed bimonthly; 5) Keyplex 1400 DP plus Nutriphite plus triazone urea sprayed bimonthly; 6) Wettable powder nutrients (Diamond R #2) plus Nutri-Phite P+K sprayed bimonthly. The materials were applied to both sides of the tree in 125 gallons per acre with an airblast sprayer driven at 2 mph to obtain thorough coverage. Objective 2 is to determine the mechanism of HLB symptom suppression by foliar nutritional application, Hamlin sweet orange trees have been acquired and treated with two rounds of nutritional sprays and leaf samples have been taken for baseline nutrient content of the different treatments. Graft inoculation with HLB infected budwood was performed on half of the trees in each nutritional treatment group. Monitoring of macroscopic and microscopic symptom development is underway. Monitoring of Las titer will begin when one month has passed since inoculation.