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	10/13/09

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

Plots with tested vector control program produced 2.3 times more than plots without vector control, but lost 20.3% of trees

TITLE and CONTACT INFORMATION

Proposal Title Reduction of bacterial inoculum and vector control as strategies to manage citrus huanglongbing (greening)

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Organization Fundecitrus	*Total Direct Funds (current year)* $49,000.00

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

Data still have been collected from this field experiment.
From June/09 to September/09 the disease incidence increased from 15.4 to 20.3% in plots with psyllid control program and from 34.1 to 44.9% in plots without vector control. Like observed in past years, the seasonality of HLB symptoms was repeated this year. The incidence of symptomatic trees in each assessment started to increase after February (end of summer) reaching high values in April to June (autumn), and started to decrease after July, reaching low values in September (beginning of spring).
Until now, there was no significant relationship between the frequency of local inoculum reduction and all assessed variables.
Even the local vector control program significantly reduced the adult psyllid population in 79% and the psyllid eggs and nymphs in 95% in treated trees; psyllid control significantly reduced the cumulative number of HLB-symptomatic trees in 55%. No significant difference was observed on the delay of the beginning of epidemics and on disease progress rates. This preliminary result shows that the tested vector control program did not completely avoid HLB contamination from external source of inoculum (20.3% of HLB-symptomatic trees 40 months after planting).
After the first harvest in September/09, the average yield on plots without vector control (40.4 box/acre) was 56% smaller than the average yield on plots with vector control (91.6 box/acre). Additionally, the yield per plant was 38% less in non-treated trees (0.33 box/plant) than in insecticide treated trees (0.54 box/plant). Trees without systematic insecticide sprays had higher attack of other pest such as citrus leafminer and aphids that reduced the normal vegetative flux development.
Until September/09, US$ 7.79 per plant was spent on psyllid vector control program. Additional data for economic analysis have been collected.
Annual maps of HLB-symptomatic trees are being prepared for spatial analysis using stochastic models (MCMC) to verify the effects of each treatment on primary and secondary spread of HLB.
Also, all psyllids captured on yellow stick traps since the winter/07 are being prepared to be tested for the presence of Candidatus Liberibacter spp. by PCR.
The assessments on this experiment will continue to allow more detailed temporal and spatial analysis and get better conclusions.