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*	Psyllid	7/15/09

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

TITLE and CONTACT INFORMATION

Proposal Title Huanglongbing: Understanding the vector-pathogen interaction for disease management

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Organization UF/IFAS/CREC	*Total Direct Funds (current year)* 519,429

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

Seasonality of pathogen spread is being investigated by sampling the natural psyllid population in commercial citrus groves through repeated monthly sampling in citrus groves throughout the state. In 2008, our sampling suggested that there were two distinct periods of the year when higher rates of infected psyllids were more likely to be present and thus higher rates of pathogen transmission were likely to occur. The groves sampled in 2008 were sites where HLB management programs were ongoing and included removal of infected trees and application of pesticides for psyllid control. Because the overall rates of infected psyllids at these sites were relatively low, in 2009, we have also included an additional citrus grove study site located in Homestead (south Florida) where 100% of the trees appear to be HLB infected and no insecticides are being applied for psyllid control. To date from our study sites, we have processed 10, 199 psyllids from Lake Alfred, Ft. Meade, Lake Wales, Lake Placid and Arcadia. Since February 2009, we have processed 1,435 psyllids from the Homestead study site. From the data analyzed thus far in 2009, the overall Incidence of HLB+ psyllids at all sites excluding Homestead was 6.8% in January, 1.0% in February, 0.5% in March and 5.8% in April. At the homestead site where all trees are believed to be HLB infected, 100% of the psyllids collected in February tested positive for HLB. In march the incidence of infected psyllids dropped to 15.7% at the Homestead site. Analysis of psyllids collected in April, May and June are not yet completed. This work continues to determine if trends for infected psyllids observed in 2008 hold true in the second year of sampling.

In addition to sampling of infected psyllids, a second part of this study was initiated in October 2008. In this study, healthy citrus nursery plants (resets) are being used as indicator plants to determine when pathogen transmission is occurring in the field. Each month, 10 citrus resets are "planted" in each of 3 citrus groves. One of these sites s the Homestead site where the highest rate of HLB+ psyllids has been observed. After 30 days, the plants are dug up and replaced with new healthy plants. The removed plants are then taken back to the CREC and held in secure facilities for later analysis for the presence of the HLB pathogen to determine on a monthly basis, when pathogen transmission os most likely occurring.This is being done to further confirm the results of our psyllid sampling study underway. To date, 230 citrus resets taken back to the CREC are being held for development of HLB symptoms and subsequent testing for the presence of the HLB pathogen.