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	4/14/10

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

Efficacy studies of interplanting citrus with guava as a control strategy for HLB.

TITLE and CONTACT INFORMATION

Proposal Title Efficacy of interplanting citrus with guava as a control strategy for huanglongbing.

Principal Investigator Tim R. Gottwald	*PI Last Name* Gottwald
Email tim.gottwald@ars.usda.gov	*FDACS Contract Number*
Phone 772-462-5883	*Project Duration (years)* 3 *Year of Project* 1
Organization USDA, ARS	*Total Direct Funds (current year)*

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

Disease control of citrus huanglongbing (HLB) by interplanting with guava. HLB is the most devastating disease of citrus worldwide and presently threatens the existence of the citrus industry in Florida. In Vietnam guava has been shown to be an effective deterrent to HLB. For all plots and experiments, Guava trees, (Vietnamese white cultivar) were propagated and grown to appropriate size requiring about one year.

Guava vs no guava nurseries: Two nursery sites, a guava protected citrus nursery versus an unprotected nursery, have been established. Disease free, PCR-negative citrus trees (2 sweet orange and 1 grapefruit cultivars) were located in the protected and unprotected plots in June 2009. The guava were established over a year ago and grown to appropriate size as indicated in Vietnam. Trees are assayed for HLB every 60 days, and are in their second assay. Psyllid populations are also being monitored continuously every two weeks within plots to document any repulsion of the vector due to guava. To date no HLB+ plants have been identified in the nursery plantings after multiple assays.

Citrus/guava interplantings: 2 commercial plantings with multiple replications each have been established. This has taken considerable time. Guava trees were propagated and grown to transplant size. These were then out planted and grown for a year per Vietnam protocols. One trial was established in a commercial orchard with collaborators in Southern Gardens Citrus. A second trial planting was established at the USHRL Picos Farm in Fort Pierce.
Both nursery and field citrus trees are assayed for HLB every 60 days, and have been assayed multiple times. Psyllid populations are also being monitored continuously every two weeks within interplanted plots to document any repulsion of the vector due to guava. Data collection continues and is currently ongoing.

A severe frost last winter affected both the USHRL and the Southern Gardens plots causing a delay in the experiment. Damage was extensive in both plots. In the Southern garden plots, damage was more severe and the guava have now been renovated sufficiently that the Southern Gardens plot and plots have now been interplanted with citrus as of November 2009. The damage to the guava was overcome by pruning and replanting of damaged guava trees. Renovation of the USHRL plot was less extensive, and the guava were interplanted with the citrus as of August 2009 in the USHRL Picos Farm plot. A second series of freezes during the 2009/2010 winter season hit both Southern Gardens and Picos plots and both sets of plots have suffered, but both are recovering with pruning and some replanting of guava.

To date, 2 HLB+ plants have been identified in the USHRL plots after multiple assays. However this data is insufficient to draw any conclusions as yet. To date no HLB+ plants have been identified in the SG plantings after multiple assays.