CITRUS ADVANCED TECHNOLOGY PROGRAM

QUARTERLY & FINAL REPORTS: Control of Citrus Greening, Canker & Emerging Diseases of Citrus

▶ INSTRUCTIONS

(●) *Quarterly Report* ( ) *Annual Report* ( ) *Final*

Required: What is the "headline" for this report (e.g. a one-sentence "newspaper headline" describing what you accomplished)

Recovery of citrus germplasm from Florida

Proposal Title

Recovering citrus germplasm from Florida

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
10/15/11	Citrus Research and Development Foundation	Unclassified

REPORT UPDATE (500 words; summarize your accomplishments)

The purpose of this project is to preserve citrus germplasm in Florida that is threatened by loss due to huanglongbing and citrus canker. Using input from stakeholders and scientists, threatened germplasm has been identified, collected, and established at Ft. Pierce. Preliminary clean up is being done on the accessions while they are being held at Ft. Pierce before the remainder of the plants will be forwarded to the USDA ARS Repository in Riverside for further clean up and testing before release from quarantine.

An experiment was conducted to compare recently disclosed methods to reduce or eliminate Liberibacter. Five HLB-infected priority breeding selections of different parentage were budded onto Volkamer lemon with 20 trees of each subjected to the following treatments: Control; Penicillin/ streptomycin mixture; cyclohexamide; D4E1 antimicrobial peptide; and heat treatment. The antibiotic mixture, cyclohexamide, and D4E1 were all vacuum infused into the pre-cut buds, then rinsed and budded. Heat treatment, consisting of 2 weeks of continuous 40 C at 60% RH with 12/12 hours light/ dark in a growth chamber, was conducted after scions from the control, penicillin/streptomycin mixture, cyclohexamide, and D4E1 antimicrobial peptide treatments had grown and hardened. Controls remained on the greenhouse bench the entire time. Most cyclohexamide treated buds died, but overall bud take wasn't too bad. However a much higher percentage of buds never emerged or didn't grow than is normally when using buds from healthy tissue. Most buds that didn't emerge are still alive and green. One of the candidate clones (a complex pummelo hybrid) had a much worse bud emerging than the other clones being tested. Leaf samples were taken from the shoots developed from the emerged buds from all plants in the test before the heat treatment part of the test was started. New growth resulting from the heat treated trees will be propagated on clean rootstocks and tested as soon as the tissue is mature enough. Another complete set of leaf samples will be taken from all surviving trees in the test before the termination of the trial.

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Organization CRDF

Contract Number Lee-119

Project Duration (years) 3 *Year of Project* 3

Total Funds (current year) $36,970.00

SUBMIT REPORT

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.