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)

Extensive Cross-Institution Trials to Identify HLB Resistance

Proposal Title

A secure site for testing transgenic and conventional citrus for HLB and psyllid resistance

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
1/10/12	Citrus Research and Development Foundation	Transgenic/Metagenomic Mediation of Resistance

REPORT UPDATE (500 words; summarize your accomplishments)

A transgenic test site has numerous experiments in place at the USDA/ARS USHRL Picos Farm in Ft. Pierce, where HLB and ACP are widespread. The first trees have been in place for more than seventeen months.

Dr. Jude Grosser of UF has provided 550 transgenic citrus plants expressing genes expected to provide HLB/canker resistance, which have been planted in the test site. Dr. Grosser planted an additional 89 trees including preinoculated trees of sweet orange on a complex tetraploid rootstock that appeared to confer HLB resistance in an earlier test. USHRL has a permit approved from APHIS to conduct field trials of their transgenic plants at this site, with several hundred transgenic rootstocks in place: Dr. Kim Bowman has planted several hundred rootstock genotypes transformed with the antimicrobial peptide D4E1. An MTA is in place to permit planting of Texas A&M transgenics produced by Erik Mirkov. Discussions have been ongoing with Eliezer Louzada of Texas A&M to plant his transgenics which have altered Ca metabolism to target canker, HLB and other diseases.

More than 120 citranges, from a well-characterized mapping population, and other trifoliate hybrids (+ sweet orange standards) have been planted in a replicated trial in collaboration with Fred Gmitter of UF and Mikeal Roose of UCRiverside. Plants will be monitored for CLas development and HLB symptoms. Data from this trial should provide information on markers and perhaps genes associated with HLB resistance, for use in transgenic and conventional breeding.

Additional plantings are welcome from the research community.

PI First Name Ed

PI Last Name Stover

Email ed.stover@ars.usda.gov

Phone 772-462-5951

Organization USDA/ARS/USHRL

Contract Number 220

Project Duration (years) 3 *Year of Project* 2

Total Funds (current year) $84,405.00

SUBMIT REPORT

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.