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)

Planted UF trees on 4x rootstocks with prelim 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)
4/8/11	Citrus Research and Development Foundation	Transgenic/Metagenomic Mediation of Resistance

REPORT UPDATE (500 words; summarize your accomplishments)

As proposed, a transgenic test site has been prepared 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 fourteen months.

Dr. Jude Grosser of UF has provided 300 transgenic citrus plants expressing genes expected to provide HLB/canker resistance, which have been planted in the test site. Dr. Grosser has just planted an additional 89 tress 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. An MTA is in place to permit planting of Texas A&M transgenics produced by Erik Mirkov.

More than 120 citranges, from a well-characterized mapping population, and other trifoliate hybrids (+ sweet orange standards) have been propagated for a replicated trial in collaboration with Fred Gmitter of UF and are growing well in the greenhouse. These will be planted in the spring of 2011, and 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.

An experimental attract/kill product, to disrupt citrus leaf miner (CLM) without disrupting ACP, was not effective last year. Our experience suggests CLM may significantly compromise tree growth where insecticides are avoided to permit ready transfer of Las by psyllids. CLM damage also compromises ability to view HLB symptoms. Several applications of Admire are being used to encourage an undamaged flush on transgenic trees. We are still learning how to grow trees for best assessment of HLB-resistance.

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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.