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)

Survey of HLB in seedlings from seed of HLB-affected trees

Proposal Title

Transmission of HLB by citrus seed

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
10/29/10	Citrus Research and Development Foundation	Infection Consequences

REPORT UPDATE (500 words; summarize your accomplishments)

n FL nurseries, rootstock seed trees are located outdoors and only protected from psyllid transmission of Candidatus Liberibacter asiaticus (Las) by insecticide applications. In 2008, a survey detected two Carrizo citrange trees as HLB+. Given the potential risk for seed transmission and introduction of Las into nurseries by seed from source trees, assays of seedlings derived from seed extracted from symptomatic fruit were begun in 2006. From 2006 to 2008 seed were collected from mature Pineapple sweet orange trees in Collier Co. and in 2009 from Murcott tangor trees in Hendry Co., FL. For Pineapple orange, 415, 723 and 439 seedlings and for Murcott, 332 seedlings were tested at least twice by qPCR using 16S primers. In 2007, a single Pineapple seedling was suspect HLB+ but upon repeated testing was negative. From nurseries in 2008, 290 seedlings were recovered from fruit located on symptomatic branches of 2 Carrizo trees, and in 2009, 125 seedlings were recovered from 2 trees of Swingle citrumelo, 649 from 4 trees of 'Kuharske' Carrizo, 100 from 1 tree of Cleopatra mandarin and 100 from 1 tree of Sekwasha mandarin. In 2008, one suspect HLB+ Carrizo seedling was detected but HLB+ status was not confirmed after repeated testing. In 2009, a single questionable PCR detection for Cleopatra mandarin was obtained. Subsequent detection occurred in only 75 and 33% of repeated 16S runs from two DNA extractions and the assay was negative using beta-operon primers. Despite the occasional HLB+ test results, no plants have ever developed HLB symptoms and repeated testing has never confirmed anything other than the transient presence of Las in seedlings grown from seed obtained from Las-infected trees.

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Organization Citrus Research and Education Center

Contract Number 78049

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

Total Funds (current year) $22,783.00

SUBMIT REPORT

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.