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)

HLB isn't transmitted to plants from seed of HLB-infected trees

Proposal Title

Transmission of HLB by citrus seed

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
12/22/11	Citrus Research and Development Foundation	Infection Consequences

REPORT UPDATE (500 words; summarize your accomplishments)

The following has been accepted for publication in the Proceedings of the Florida State Horticultural Society: Huanglongbing (HLB) was first discovered in Florida in 2005. In response, Florida citrus nurseries began treating rootstock seed trees located outdoors with insecticide applications to reduce risk of psyllid transmission of 'Candidatus Liberibacter asiaticus' (Las), the putative causal agent. In 2008, a survey identified two 'Carrizo' citrange trees with symptoms of HLB. To assess the potential for seed transmission from HLB-affected seed source trees, assays of seedlings derived from seed extracted from symptomatic fruit were begun in 2006. From 2006 to 2008, 1557 seedlings germinated from 'Pineapple' sweet orange seeds from trees in Collier Co. were assayed by quantitative polymerase chain reaction (qPCR) using 16S rRNA gene primers. Of these seedlings, a single plant was positive for (Las+), although additional tests were negative. In 2009, no Las+ plants were detected among 332 'Murcott' tangor seedlings from trees in Hendry Co. From nurseries in 2008, one Las+ seedling was detected in 290 seedlings from fruit located on symptomatic branches of two 'Carrizo' citrange trees, but it's Las+ status was not confirmed after repeated testing. In 2009, a single Las + result was obtained for one of 100 Cleopatra mandarin seedlings, whereas no Las+ seedlings were detected for 125 seedlings from seeds from two trees of 'Swingle' citrumelo, 649 seedlings from four trees of 'Kuharske' citrange, or 100 seedlings from one tree of 'Shekwasha' mandarin. Despite the occasional Las+ qPCR tests, no plants developed HLB symptoms. The most probable explanation for these results is transient transmission of Las from seed obtained from HLB-infected trees with no subsequent disease establishment.

PI First Name James

PI Last Name Graham

Email jhgraham@ufl.edu

Phone 863-956-8660

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.