CITRUS ADVANCED TECHNOLOGY PROGRAM

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

SELECT PERIOD March 2016

(●) *Quarterly Report* ( ) *Final*

Proposal Title

Create citrus varieties resistant or tolerant to Huanglongbing through transgenic and nontransgenic approaches

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
6/20/16	Citrus Research and Development Foundation	Transgenic and viral/bacterial vector mediation of citrus

REPORT UPDATE (500 words-It is not necessary in this public report to disclose your institution's proprietary information or intellectual property.)

The project has three objectives:
(1) Confirm HLB resistance/tolerance in transgenic citrus lines.
(2) Determine the chimerism of the HLB-resistant/tolerant transgenic lines.
(3) Confirm HLB resistance in citrus putative mutants (nontransgenic lines).

For objective 1, we continued propagating the transgenic lines that overexpress Arabidopsis defense genes and inoculated the previously generated progenies. The new progeny plants are growing in the greenhouse. The progenies obtained in the last quarter have been inoculated with Las-infected psyllids for two months and moved back to the greenhouse for symptom development. HLB symptoms on the plants have been carefully monitored and recorded.

For objective 2, we performed the second round of real-time quantitative PCR (qPCR) to determine the chimerism of the HLB-resitant/tolerant transgenic lines. The results indicated that several lines of the HLB-resitant/tolerant transgenic lines are not chimeric. If these lines are confirmed to be HLB-resitant/tolerant in objective 1, they will be able to be propagated by grafting for industry use.

For objective 3, we continued propagating the gamma ray-mutagenized mutant lines that are likely resistant/tolerant to HLB and inoculated previously generated progenies. The new progeny plants are growing in the greenhouse. As for the transgenic progenies, those obtained earlier were inoculated with Las-infected psyllids and are currently in the greenhouse for symptom development.

PI First Name

PI Last Name

Email

Phone

Organization

Project Number

Project Duration (years)

Year of Project

Total Funds (current year)

Form PR-12 Quarterly Reports

SUBMIT REPORT

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.