CITRUS ADVANCED TECHNOLOGY PROGRAM

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

SELECT PERIOD December 2013

(●) *Quarterly Report* ( ) *Final*

Proposal Title

Identification and mapping of the genes controlling resistance to Huanglongbing (HLB)

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
1/2/14	Citrus Research and Development Foundation	Citrus Genomics

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

We have continued to propagate plants from the mapping population to provide materials for greenhouse phenotyping via graft inoculations, increasing both the number of individuals propagated as well as the number of replicates of each genotype. We cannot accommodate the entire population in replicated fashion because of greenhouse space limitations, so we are preparing to test subsets of individuals in the greenhouse to compare with phenotypes observed in the field. Selected plants from several individual hybrids will be graft inoculated using infected budwood sticks in early spring 2014, once we have come through the winter-induced dormancy of some of the trifoliate hybrids. We have quantified HLB symptom rankings for all trees in the field planting, this past October. In addition, we have sampled our preselected subset of monitor trees, and the frequency of CLas detections is increasing compared to previous samplings. We have found at least one tree to be PCR+ for almost all selections assayed, though some of these have very high Ct values indicating very low concentrations of CLas DNA in such trees. The pure trifoliate orange types remain essentially PCR-, while control sweet orange trees are quite obviously affected by symptoms, and they also had low Ct values, indicating substantial CLas population levels. The hybrids appear to be segregating for tolerance, though not into clear and distinct categories. Finally, leaf samples were collected from all individuals in the field trial. DNA was extracted from more than 840 individuals total for qPCR runs, which have been completed. These results currently are being summarized. The same trends we see in our monitoring subset data are seen in the total populations. A post-doc has been hired to begin work on the project in January 2014.

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Organization UF-CREC

Project Number 536

Project Duration (years) 2 *Year of Project* 1

Total Funds (current year) $90,225.00

Form PR-12 Quarterly Reports **SUBMIT REPORT**

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.