CITRUS ADVANCED TECHNOLOGY PROGRAM

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

SELECT PERIOD September 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. These trees are being grown to a size suitable for inoculation with HLB infected budwood in an approved greenhouse structure at the CREC. 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. We have continued to monitor all plants in the field for symptoms of HLB. The site where these are being grown is under very high pressure and the trees are not regularly sprayed for psyllid control. Unfortunately, the soils at this site are high pH and do not support vigorous tree growth, they produce nutrient deficiency symptoms, and the trees are Citrus x Poncirus hybrids; therefore recognizing obvious HLB symptoms is difficult. However, management at the site has improved and the trees are looking better than previously. In mid-September it was becoming more obvious that HLB was impacting several of the selections. We selected a subset of trees to develop baseline qPCR values as we proceed to assess infection by CLas over time. DNA was extracted from these trees as well as positive and negative controls, and qPCR was run. We were able to detect CLas in some but not all of the trees. We plan to revisit and record observations on symptom development in the next month when symptoms should be most easily seen, to run qPCR again on our subset of trees, and then to look at qPCR Ct values in the entire collection. Our GoldenGate SNP assay platform has been used to genotype the entire population; the data produced have been preliminarily analyzed, prior to developing a high density genetic linkage map, as proposed.

PI First Name Fred

PI Last Name Gmitter

Email fgmitter@ufl.edu

Phone 8639568878

Organization UF-CREC

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Total Funds (current year) $90,225.00

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

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.