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

Further characterization of HLB resistant clones of selected citrus varieties

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
1/15/14	Citrus Research and Development Foundation	Unclassified

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

The project entitled "Further characterization of HLB resistant clones of selected citrus varieties" (project no. 758) is aimed at conducting experiments to understand the basis of HLB tolerance in genera closely related to Citrus like Microcitrus, Eremocitrus and Poncirus. This quarterly research (from Oct 2013 to Dec 2013) consisted of:

a) Conclusion of pollination experiments conducted during the spring of 2013: Out of 1000 pollinations conducted, we obtained about 50 usable fruits of pummelos, mandarins and Microcitrus (crosses were made between different HLB tolerant/resistant varieties with susceptible cultivars). As expected, some of the intergeneric hybrids did not set fruit. We are now collecting the seeds of the pollinated fruits and will be ready to test for the parental genotypes using a qPCR assay developed in our laboratory.

b) Progress in greenhouse experiments for further testing and evaluation: Batch one plants consisting of HLB tolerant and susceptible citrus and relative accessions that were raised in October 2013 are now ready for psyllid challenge under greenhouse conditions in Fort Pierce. We have made arrangements for sample collection at various time points and subsequent RNA seq analysis as proposed. Since germination of certain genotypes was poor in the previous batch, fresh seed was collected and germinated in Fort Pierce greenhouses. We have good germination from the current batch and would include these in the HLB challenge assays as soon as they attain an acceptable size.

c) Metagenomic analysis of several HLB resistant field plants has been conducted. The results of 16S rRNA sequencing from resistant and susceptible plants is now being examined to understand the role of the microbiome in the HLB tolerance phenomenon.

PI First Name Chandrika

PI Last Name Ramadugu

Email chandram@ucr.edu

Phone 951-827-4399

Organization University of California Riverside

Project Number 758

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

Total Funds (current year) $85,000.00

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

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.