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

Study the role of basal defense and chemical treatments in the response of citrus to HLB

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
10/21/13	Citrus Research and Development Foundation	Infection Consequences

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

To determine the effect of azelaic acid in the defense response of citrus we pre-treated susceptible 'Duncan' grapefruit plants with this chemical via leaf infiltration and subsequently inoculated the infiltrated portion with Xanthomonas citri pv citri (Xcc). Because this pathogen can be infiltrated at a specific time, location and concentration, compared to the graft inoculations necessary to transmit Candidatus Liberibacter asiaticus, we thought it would be a quicker way to determine if this compound has any effect on resistance. After Xcc inculcation the population growth was determined using colony forming units (cfu) using a standard procedure. There was no effect of azelaic acid in the Xcc growth when compared to water control.

In a separate set of experiments we have initiated an Illumina NextGen DNA sequencing project comparing 'Sun Chu Sha' mandarin (HLB tolerant) and 'Duncan' grapefruit (HLB sensitive) infiltrated with Candidatus Liberibacter asiaticus flagellin 22 (CLas-flg22) peptide and water control. The idea is to identify genes that may be part of the PAMP-triggered immunity (PTI) and differentially expressed in the distinct genotypes and treatments. This is underway and we expect to be analyzing the data in the next quarter.

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Project Number 572

Project Duration (years) 3 *Year of Project* 1

Total Funds (current year) $67,669.00

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

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.