CITRUS ADVANCED TECHNOLOGY PROGRAM

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

SELECT PERIOD December 2015

(●) *Quarterly Report* ( ) *Final*

Proposal Title

Establishing citrus nutrition trials for young & mature trees in the Indian River Region to promote plant growth, mitigate HLB, decrease fruit drop, and improve postharvest fruit storage properties

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
1/15/16	Citrus Research and Development Foundation	Epidemiology and Cultural Control

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

This project was initiated in 2014 and is focused on understanding the effect of nutrients applied through foliar fertilization programs (FFP) on HLB-affected trees in the Indian River marketing district. Two research trials have been established in commercial mature grapefruit groves in St. Lucie County and a young tree trial is being conducted at the UF-IRREC grove. Grove 1 has ~25 years old of 'Flame' grapefruit on Swingle rootstock. Grove 2 utilizes ~7-year-old 'Ruby Red' on Sour orange trees. Trial 3 is looking at the effect(s) that foliar fertilizers have on young tree growth and their ability to protract HLB disease symptoms in 2-year-old 'Ray Ruby' grapefruit on Kuharske rootstock. Combinations of macro and micronutrient treatments initiated on all three trials in February 2014 and applications have been made quarterly since.

The populations of the psyllids have been stable in both groves where the experiments are being conducted. The traps located in the different treatments are no showing significant differences among them, with an average between 0.03 and 0.06 individuals per trap per month. These values are low in comparison with the initial evaluations where the averages were between 1-3 individuals per trap. Fruit drop counts taken at about 3-week intervals beginning in July in all treatments for both groves showed no significant differences with the control treatment in terms of total amount of fruit drop or average fruit drop per tree. These results follow the same pattern observed during the evaluation in the 2014/15 season. The average of fruit drop was 53.2 and 26.2 fruit per tree Grove 1 and Grove 2, respectively.

The grapefruit in Grove 2 was commercially harvested in mid-December. Four trees within each plot were individually harvested and all the fruit from each tree was run through the mobile Autoline sorting machine to determine fruit count and size distribution. Treatments 2B (application of micros, phosphite and DKP) and 4A (application of phosphite and KNO3) had significantly more larger fruit (27, 23 and greater than 23) in comparison with 1A (Control) and treatment 1-Ca (control with soil application of CaNO3). In terms of Gross Packet Value (GPV), the treatment 2B showed a higher value per tree ($127.15) relative to the control treatment ($76.68). In general the GPV was superior for all treatments in 2015 than in 2014. The amount of boxes per tree was not statistically different among treatments, however the highest value was found for treatment 2B (average of 4.62 boxes per tree) and the lowest for the control treatment (average of 2.98 boxes per tree).

PI First Name Brian

PI Last Name Boman

Email bjbo@ufl.edu

Phone 772-577-7363

Organization UF-IFAS

Project Number 903

Project Duration (years) 3 *Year of Project* 2

Total Funds (current year) $120,000.00

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

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.