CITRUS ADVANCED TECHNOLOGY PROGRAM

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

SELECT PERIOD September 2016

○ *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)
10/21/2016	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. Grove 1 has ~25 years old of 'Flame' grapefruit on Swingle rootstock. Grove 2 utilizes ~7-year-old 'Ruby Red' on Sour orange trees. Combinations of macro and micronutrient treatments initiated on all three trials in February 2014 and applications have been made quarterly since.

Although no microelement deficiencies of leaves were detected, the results indicated significant differences in the concentration of Mn, Zn and B within the treatments evaluated for grove 2. Soil tests reflected similarities in the concentrations of nutrients in the soil between treatments, where the application of enhanced nutritional programs generally had a low influence on nutrient concentrations in the soil. Few effects of nutrient application on canopy growth and tree density in terms of LAI was detected. The addition of macroelements such as N and K did not affect the volume of the tree in ENP treatments compared to the control. However, for grove 1 the LAI results suggest a decrease in the LAI through time but the trees in grove 2 showed increases, suggesting differences between the groves in response to nutrient application.

For grove 1, the control had the lowest yield with an average of 4.0 boxes per tree, whilst the maximum yield occurred for the treatment DKP+KP with 4.8 boxes, showing an increase of 20% compared to control. For grove 2, the control treatment tended to show the lowest yield, while the DKP+KP+M and KN+KP treatments showed increases of 50% and 53% more boxes per tree, respectively. The treatment with the highest percentage of large fruit was DKP+KP+M, showing a significant increase of 42% relative to the control. The variation in the production of small, medium and large fruit affected the GPV calculated for each treatment, resulting in low values for the control treatment with $77 per tree and high values for the treatments DKP+KP+M and KN+KP with $127 and $125 per tree, respectively.

PI First Name Brian

PI Last Name Boman

Email bjbo@ufl.edu

Phone 772-577-7363

Organization UF-IFAS Indian River REC

Project Number 903

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

Total Funds (current year) $120,000

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

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.