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

Effect of Selected concentrations of calcium bicarbonate on expression of HLB in the greenhouse and grove

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
1/19/17	Citrus Research and Development Foundation	Vector Monitoring, Behavior, Cultivation

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

Irrigation water acidification (target pH, 7.5, 6.0, 5.0, and 4.0) continues at two citrus groves (one a 20 year-old Hamlin sweet orange trees predominately on Swingle rootstock and the second a three year old Hamlin sweet orange trees on Swingle rootstock). The last sulfur application in this study will be made to selected treatment blocks in January 2017.

Soil samples taken prior to the summer 2016 sulfur application in June indicated that plots receiving both acid injection and sulfur had soil pH significantly lower than plots receiving only irrigation water acidification. Soil samples taken in December indicated that soil pH in plots receiving both irrigation water acidification and sulfur application had similar soil pH. These results would indicate that the relatively slow release sulfur product (Tiger 90) reduced soil pH below that achieved by irrigation water acidification only but lasted less than six months. Root density samples taken in June indicate a significantly greater root length density with lower soil pH. These results indicate a positive correlation between root density and reduction in soil pH from greater than 7.0 to less and 5.0. Leaf Ca, Mg, Mn, and Zn in November samples were greater for trees treated with both irrigation water acidification and sulfur application compared with irrigation water acidification only. These results verify previous finding that leaf nutrient status is negatively correlated with soil pH. Thus, tree nutrient status is increased with lower soil pH. Tree size and fruit drop measurements indicate significant growth with reduced soil pH to approximately 5.0 with no additional decrease below that level.

A talk on methods of irrigation water acidification and expected improvements on citrus nutrient status will be given on January 19, 2017 to growers attending a nutrient BMP meeting at the SWFREC. Since previous grower presentation, numerous personal contacts have been made with individual citrus growers to continue, alter or initiate soil acidification projects in groves throughout the state.

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Project Number 838

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

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

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