# CITRUS ADVANCED TECHNOLOGY PROGRAM

**QUARTERLY & FINAL PROGRESS REPORT FORM:** Control of Citrus Greening, Canker & Emerging Diseases of Citrus

▶ SELECT PERIOD October 2020

(●) *Quarterly Report* ( ) *Final*

Proposal Title

The effect of the ionization state of iron and citric acid on the health of HLB-infected trees.

| Today's Date | Sponsoring Organization (drop-down) | Category (drop down) |
|---|---|---|
| 12/23/2020 | Citrus Research and Development Foundation | Horticultural & Management |


**ABSTRACT** (750-word Executive Summary-public report-do not disclose proprietary information or intellectual property)

*Objective 1 - Determine the effect of the ratio and concentration of Fe2+ + organic acid on hydroxyl radical production and stability.*

*Objective complete.*

*Objective 2 - Determine the phytotoxic levels of Fe2+ + organic acid solutions on citrus.*

*Objective complete.*

*Objective 3 - Determine the effect of Fe2+ + organic acid solutions on HLB titer using a rapid greenhouse, HLB-infected citron, rooted shoot bud assay.*

Continuing work to develop a rapid greenhouse screening system. Current systems are not yet ready for screening methods to cure or manage HLB. *No CRDF funds being used for this research.*

*Objective 4 - Requires screening system - see objective 3 discussion.*
*Objective 5 - Requires screening system - see objective 3 discussion.*

*Objectives 6 and 8 (Note: there is no 7)* - These are the field tests for the various ferrous iron (Fe2+) and citric acid treatments on HLB status and horticultural measures for both mature (HLB symptomatic) and nonbearing (non-symptomatic) trees.

Throughout this quarter (July 15 - Oct 15) as well as the project timeline, conventional pesticide spray applications were applied to all the treatments in the trial and were based on scouting and were in accordance with IFAS guidelines. Similarly, irrigation events were made based on tree and field conditions as determined by soil feel and appearance, tensiometer readings, water table observation well measurements and visual assessment of tree canopy. Fertilizer applications were made via fertigation and were `spoon fed' with frequent small applications bi-weekly. No dry fertilizer was used. All 7 experimental treatments were applied to the trial block as per the protocol. However, there were some delayed applications for the weekly iron



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Organization USDA

Sponsor Project Number 18-050C

Project Duration (years 2.5 *Year of Project* 2

% Completion of Objectives 80.00%




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