CITRUS ADVANCED TECHNOLOGY PROGRAM

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

SELECT PERIOD March 2014

(●) *Quarterly Report* ( ) *Final*

Proposal Title

Improved management of citrus canker through use of systemic acquired resistance and more bioavailable copper bactericides

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
5/23/14	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.)

Reduction/suppression of inoculum and fruit infection in grapefruit using trunk applications of non-insecticidal SAR inducers:SAR induced by soil-applied insecticides provides substantial benefits for canker disease management on young citrus trees that may be augmented with ASM. Currently, use of neo-nicotinoids insecticides for control of the psyllids and leafminer is limited to trees less than 2.75 m tall. Soil drench or trunk applications of IMID and THIA and ASM are bing compared to untreated controls and 9 or 10 standard 21-day interval copper sprays for protection of foliage and fruit on 5 to 7-yr old 'Ray Ruby' grapefruit trees. Actigard is commercial SAR inducer which is non-insecticidal and does not have a tree size restriction for use. Collaboration with Syngenta in an EPA-approved Experimental Use Program (EUP) in two east coast grapefruit groves is being repeated again in 2014 to support the labeling of soil applied Actigard integrated with copper sprays for control of canker on bearing grapefruit.

Reduction/suppression of fruit infection in citrus trees using foliar applications of soluble copper novel bactericidal formulations in comparison with film-forming copper formulations: In 2014 trials, fixed copper formulations (e.g. copper hydroxide and copper oxide) sprayed at 2 to 4 lb of product per acre (0.75 to 1.4 lb per acre of metallic copper) are being compared with commercial and experimental soluble copper formulations at much lower metallic rates in grapefruit and Hamlin blocks.

Improving performance of copper formulations: Reducing wind speed below 18 mph greatly increases the efficacy of the copper film for protection of the fruit surface from infection through natural openings and rind wounds. 6 and 7 yr-old red grapefruit blocks surrounded by a 20-30 ft tall Corymbia torelliana windbreaks are under study. In each block, weather stations are deployed to measure wind gusts in proximity to the windbreak.

Cu bioavailability and residual activity of copper formulations: Copper residues of fixed and soluble copper formulations continue to be evaluated at different periods of season as rainfall and fruit expansion rates vary.

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Organization University of Florida

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

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.