CITRUS ADVANCED TECHNOLOGY PROGRAM

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

▶ INSTRUCTIONS

(●) *Quarterly Report* ( ) *Annual Report* ( ) *Final*

Required: What is the "headline" for this report (e.g. a one-sentence "newspaper headline" describing what you accomplished)

Evaluation of chemicals for control of citrus canker

Proposal Title

Canker management in Florida citrus groves: chemical control on highly susceptible grapefruit and early orange varieties

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
10/29/10	Citrus Research and Development Foundation	Epidemiology and Cultural Control

REPORT UPDATE (500 words; summarize your accomplishments)

Under Objective 1 (define rates and formulations of copper sprays for more effective control) one trial with Red grapefruit is on-going in Ft. Pierce, FL and likewise one trial with Hamlin orange in Hardee County, each with 14 treatments of formulations, rates and combinations with other chemical treatments of interest. This season, trials have low to moderate disease epidemics as a result of a periodically wet spring, moderately wet summer and an absence of tropical storm events. Evaluations of fruit infection in these trials will begin in November 2010. Under Objective 2 (establish the period of fruit susceptibility, residual activity and phytotoxicity of copper) These results have been summarized for publication in Florida State Hort. Society (FSHS) Proceedings 2010. Major findings reported are: 1) Copper formulations containing copper hydroxide or basic copper sulfate (metallic rates of 0.67 to 1.12 kg/ha), varied from low to moderately effective for canker control depending on late-season, wind-blown rains. 2) Copper pentahydrate, with a lower metallic copper rate/ha per application, provided equivalent control to other copper formulations. 3) Streptomycin, alone or with a reduced rate of Kocide 3000, in July and early August gave equivalent control to Kocide 3000 alone. 4) Copper phytotoxicity risk coincided with accelerated fruit growth after summer rains. 5) Greater canker susceptibility of fruit in later season is likely because of increased opening of stomates for bacterial infection coincident with more numerous windblown rain events. 6) The only factor that led to significant reductions in copper residue per fruit surface area over time was the Kocide 3000 concentration. PDS had no effect on the residue. Under Objective 3 (evaluate the use of streptomycin [Firewall]) Two trials, one non-bearing and one bearing, in grapefruit are underway to further evaluate FireWall for canker control. The package to obtain an EPA Section 18 Emergency Exemption for FireWall has been submitted to FFVA based on data from Florida trials conducted in 2008-2009. Under Objective 4 (To define risk for development of bacterial resistance to copper and streptomycin in FL citrus groves) a number of factors favorable for the development of copper resistance in Xcc were identified, but further investigation is necessary to fully assess the risk for streptomycin resistance. Previously reported findings are being summarized for publication. Under Objective 5 (rapid transfer improved canker management technology to the Florida citrus industry), 2010-11 canker management recommendations have been published in the Florida Citrus Pest Management Guide and Citrus Industry Magazine. Oral presentations have been delivered to the Florida Citrus Production Managers, at county extension meetings, and at the FSHS annual meeting.

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SUBMIT REPORT

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.