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)

SAR is under evaluation for HLB control in young citrus trees

Proposal Title

Does systemic acquired resistance (SAR) control HLB disease development?

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)

The objective is to evaluate soil-applied neo-nicotinoids and other SAR inducers on HLB disease progress in newly planted citrus trees subjected to psyllid-mediated infection or graft-inoculation. One yr-old Hamlin trees were planted in May 2009 and treated as follows: 1) non-treated check (UTC), 2) foliar insecticide to control psyllids, 3) soil-applied imidacloprid/thiamethoxam (IMID/THIA) to induce SAR, 4) soil-applied IMID/THIA plus foliar insecticides, 5) graft-inoculated UTC, 6) graft-inoculated with IMID/THIA. There were 40 trees per treatment (5 blocks of 8 trees). In 2009, the effect of SAR inducers on HLB infection progress was inconclusive perhaps attributable to the interaction of IMID/THIA with psyllid control which may have an uncontrolled effect on psyllid transmission. In 2010, the SAR inducer acibenzolar-S-methyl (ASM, Actigard 50WP) which does not control psyllids was substituted in treatments 3, 4 and 6. At 15 months after treatments began, 56 trees were PCR+ (23%) in the trial. Higher number of PCR+ occurred in the UTC (14), the UTC with graft inoculation (13), and the IMID/THIA/ASM with graft-inoculation (13). Lower number of PCR+ trees occurred without graft inoculation in treatments with SAR inducers (7), foliar insecticides (6), and foliar insecticide plus SAR inducers (3). An HLB-SAR experiment has set up in Parana, Brazil. The trial utilizes soil applied ASM (Bion) for the SAR treatments and is proximal to tree in a farm with HLB. The first tree to show HLB symptoms after six months is a tree treated with ASM. While effect of SAR on HLB disease progress is still inconclusive, thus far these trials and other evidences indicate lack of promise for SAR in HLB management.

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Organization Citrus Research and Education Center

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

Total Funds (current year) $59,975.00

SUBMIT REPORT

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.