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)

Controlling psyllids with dsRNAs targeting essential genes

Proposal Title

Control of the Asian citrus psyllid, Diaphornina citri Kuwayama with protease inhibitors and RNAi.

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
11/19/13	Citrus Research and Development Foundation	Vector Management

REPORT UPDATE (500 words; summarize your accomplishments)

During this reporting period, citrus engineered to produce dsRNA's with a sequence matching specific psyllid genes identified as RNAi targets in the INNOCENTIVE RNAi project were produced using the Citrus tristeza virus vector. Adult psyllid feeding on leaves from these plants displayed up to 90% mortality. In the same experiments mortality was linked to a noted drop in psyllid transcript abundance for the targeted gene. Also, in a preliminary choice test where psyllid were placed in cages with these dsRNA producing citrus and citrus not producing dsRNAs, psyllids avoided the dsRNA plants and colonized control citrus almost exclusively. Finally, gene expression (RNAseq) studies were continued to observe the total psyllid transcriptome response to the dsRNA feeding. The RNAseq sequence results have been obtained and bioinformatics analysis is currently being conducted.

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Organization University of Florida

Contract Number 00072711 13

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

Total Funds (current year) $196,401.00

SUBMIT REPORT

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.