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)

First successful GC-electroantennogram recordings of ACP

Proposal Title

Identification of psyllid attractants and development of highly effective trapping and attract-and-kill methods for improved psyllid control

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
1/13/11	Citrus Research and Development Foundation	Vector Monitoring, Behavior, Cultivation

REPORT UPDATE (500 words; summarize your accomplishments)

Progress has been made toward developing a GC-EAD method that should be useful for determining which specific chemicals may serve as psyllid attractants. This method records specific impulses from psyllid antennae in response to blends of chemicals allowing precise identification of which specific chemicals the insect antenna is responsive to. Software and hardware-related obstacles to recording antennal signals from the Asian citrus psyllid were overcome during 2010, resulting in the first successful recordings from a psyllid antenna. Citrus volatiles were collected from citrus flush and analyzed by gas chromatograph-coupled electroantennography (GC-EAD). GC-EAD identified several peaks that reliably elicited antennal response. These peaks were subsequently identified by GC-mass spectometry (GC-MS) and will now be confirmed by testing individual compounds in behavioral bioassays. Varying concentrations of 'pure' purchased odor compounds will be 'puffed' over antennae to generate dose-response curves. In addition to identifying active plant odors, our primary focus will be to use our recording system to search for pheromone compounds that may be present in odors produced by male and/or female psyllids. Currently, we have identified seven compound of particular interest, which are being pursued in behavioral testing.

Also, we have been analyzing cuticular extracts of pysllids and have identified several differences between males and females. We are investigating these chemicals that differ between males and females in an effort to identify the specific behaviorally active pheromone components.

PI First Name Lukasz

PI Last Name Stelinski

Email stelinski@ufl.edu

Phone 863-956-1151 ext. 1281

Organization University of Florida

Contract Number 215

Project Duration (years) 2 *Year of Project* 3

Total Funds (current year) $137,573.00

SUBMIT REPORT

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.