Florida Citrus Advanced Technology Program

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

Instructions Complete the fields based on your project specs. When finished, save the form to your local disk using a unique name. Then, go to **http://research.fcprac.com**, and log in with your user name and password using Researcher Login in the lower left. Find this project title and click on **Submit a Report**. Update your profile information if needed, then upload this report as directed.

2009-2010 REPORT	CATEGORY (drop-down)	TODAY'S DATE (m/d/yr)
◉ *Quarterly Report* ○ *Annual Report* ○ *Final*	Psyllid	9/30/09

WHAT IS THE "HEADLINE" FOR THIS REPORT (e.g. a one-sentence "newspaper headline" describing what you accomplished)

Asian citrus psyllid cell lines developed

TITLE and CONTACT INFORMATION

Proposal Title Development of Asian citrus psyllid, Diaphorina citri, tissue culture cell lines

Principal Investigator Nemat O. Keyhani	*PI Last Name* Keyhani
Email keyhani@ufl.edu	*FDACS Contract Number* 114
Phone 392-2488	*Project Duration (years)* 1 *Year of Project* 1
Organization University of Florida	*Total Direct Funds (current year)* 73705

REPORT UPDATE (650 words; provide details about your headline)

As of September, 2009, we have over 16 actively growing Asian citrus psyllid derived insect cell lines, These cell lines remain heterogeneous in composition and one of our current goals is to adapt and select for more homogenous cell populations. We now routinely grow our cells in media without any antibiotics, a needed step in order to use these cells to attempt to culture the citrus greening agent (see below). In the broadest sense, we have two distinct cell culture types, (a) suspension cells, and (b) cells that attach and spread along the tissue culture flask substrata. These two cell types have different potential uses, e.g. the attached cells may be better suited for culturing of bacteria, whereas the cells in suspension may facilitate isolation of psyllid specific viruses. Images of the cells show elongated diverse cell types in the attached cell cultures, including epithelial-like cells attached to the tissue flask surface and growing in a monolayer from clumps of globular floating cells to round cells growing in small patches. The suspension cell cultures appear more uniform as small and large clumps of round shaped cells. Growth and maintenance of the cell cultures has become routine. We have established collaborations with Drs. Wang and Davis at the Lake Alfred Citrus Research Center in order to attempt to cultivate Liberibacter asiaticus with the cell lines.