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)

Attempts to culture Candidatus Liberibacter asiaticus continue

Proposal Title

Culturing Liberibacter asiaticus

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
6/30/11	Citrus Research and Development Foundation	Culture, Molecular Biology, Koch's Postulates

REPORT UPDATE (500 words; summarize your accomplishments)

Thus far, 496 medium formulations have been tested for support of Candidatus Liberibacter asiaticus (Las). None have supported continuous axenic culture of the bacterium. A basal medium developed with the aid of the bacterium from mountain papaya or babaco that is closely related to Las has been modified in attempts to grow Las. different complex ingredients, such as bovine heart infusion, have been tested as replacements for the brain heart infusion broth in the medium. Supplementing the medium with different concentrations of insect prepared culture media, such as TMN-FH medium, CMRL 1066 medium, medium 199, and DS2 medium, has been tried. Replacing the ACES buffer with HEPES buffer to facilitate testing the effects of higher pH (from pH 7.2 to pH 7.8) than the usual pH that has been used (pH 6.8 to pH 7.0), and pH 7.4 was selected for further tests. Various supplements, such as mucin, zinc sulfate, potassium nitrate taurine, betaine, folic acid, catalase, yeastolate, cyclic AMP, arabinose, sodium pyruvate, and lactoalbumin hydrolysate, have been tried. Some of the medium modifications appear to promote Las biofilm formation around the psyllid alimentary tracts that have been used as a source of inoculum, but planktonic growth has been minimal. Attempts to culture Las continue.

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Organization University of Florida/ IFAS/ CREC

Project Number 407

Project Duration (years) 1 *Year of Project* 1

Total Funds (current year) $65,000.00

SUBMIT REPORT

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.