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)

•RNAi-mediated gene knock-down of Citrus transcriptome

Proposal Title

•RNAi-mediated gene knock-down of selected members of 'Candidatus Liberibacter asiaticus' induced citrus transcriptome with CTV based silencing vector to prevent HLB infection of young citrus

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
4/10/14	Citrus Research and Development Foundation	Pathogen/Disease Detection

REPORT UPDATE (500 words; summarize your accomplishments)

Down regulation of phloem specific Callose synthase and phloem protein genes of citrus host of HLB by the demonstrated silencing ability of CTV are the objectives of this research. Citrus plants (Citrus macrophylla) potentially expressing he dsRNA for Callose synthase 7 and Phloem Proteins B8 and B14 are in the green house. We are going to analyze them for dsRNA expression soon by checking for positive ELISA for CTV. As soon as they are positive for CTV, we will multiply these Citrus macrophylla plants and inoculate with HLB by grafting and/or exposure to psyllids positive for Candidatus Liberibacter asiaticus. Previously we have shown that psyllids acquire dsRNA from citrus plants while feeding. We will use this strategy to simultaneously target both vector and host genes for silencing. Towards this end we have ligated in-tandem truncated genes for psyllid Awd and troponin, and citrus endogenous callose and phloem protein genes into CTV vector and will inoculate citrus. The goal is to silence the vector and the host genes simultaneously and mitigate the effects of HLB.

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Organization IFAS-CREC

Contract Number CATP12 proposal # 728

Project Duration (years) 2 *Year of Project* 1

Total Funds (current year) $96,356.00

SUBMIT REPORT

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.