CITRUS ADVANCED TECHNOLOGY PROGRAM

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

SELECT PERIOD September 2013

(●) *Quarterly Report* ( ) *Final*

Proposal Title

HLB resistance through transgenic expression of short chain fragment variable antibodies against key Liberibacter epitopes

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
10/28/13	Citrus Research and Development Foundation	Culture, Molecular Biology, Koch's Postulates

REPORT UPDATE (500 words-It is not necessary in this public report to disclose your institution's proprietary information or intellectual property.)

This project is a continuation of a previous project #95 "PREPARATION OF ANTIBODIES AGAINST CANDIDATUS LIBERIBACTER ASIATICUS". Progress reports for the previous project are on file. The reimbursable agreement with CRDF was established on September 5, 2012. We continue to study the literature to identify vectors to use for a future scFv library made as part of this project. The goal is to find a suitable vector that is not encumbered by intellectual property and patent issues. I have written twice to a laboratory in Germany which has published results with a suitable vector but have had no reply. We are also optimizing the cloning strategies that will be used to move already selected scFv into transgenic plants.

A visiting scientist arrived and began work 6-15-2013. We have obtained the vector, pUSHRL-26, to be used for plant transformation of the scFv constructs from Ed Stover at Fort Pierce and the plasmid has been purified. We have purchased the restriction enzymes and designed primers to be used for PCR to amplify the cloned scFv encoding inserts from vector pKM19. The cloned inserts will be sequenced to confirm that they are correct and then cloned into the transformation vector.

The primers have been synthesized and used to cclone the scFv gene fragments from the scFv phage display library. The fragments have been purified from agarose gels and another set of primers has been designed to incorporate a KDEL leader sequence on the scFV as well as adapters specific for the vector. Final cloning experiments are underway.

Related research with the existing scFv is underway on project 551.

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Organization USDA ARS

Project Number 552

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

Total Funds (current year) $155,680.00

Form PR-12 Quarterly Reports **SUBMIT REPORT**

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.