



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) |
| <input checked="" type="radio"/> <i>Quarterly Report</i> <input type="radio"/> <i>Annual Report</i> <input type="radio"/> <i>Final</i> | | Management | January 19, 2011 |
| WHAT IS THE "HEADLINE" FOR THIS REPORT (e.g. a one-sentence "newspaper headline" describing what you accomplished) | | | |
| Proteins discovered that are associated with the disease state. | | | |
| TITLE and CONTACT INFORMATION | | | |
| <i>Proposal Title</i> Integrative approaches to discover pathogenesis-associated proteins from the causal agent of citrus greening disease. | | | |
| <i>Principal Investigator</i> Eric W. Triplett | | <i>PI Last Name</i> Triplett | |
| <i>Email</i> ewt@ufl.edu | | <i>FDACS Contract Number</i> 163 | |
| <i>Phone</i> 352-392-5430 | | <i>Project Duration (years)</i> 3 | <i>Year of Project</i> 2 |
| <i>Organization</i> University of Florida, IFAS | | <i>Total Direct Funds (current year)</i> 249,000 | |
| REPORT UPDATE (650 words; provide details about your headline) | | | |
| <p>Polyclonal antibodies against snap-frozen Liberibacter-infected phloem tissue were generated in chickens. These polyclonal antibodies (PAb)s were then cross-absorbed with proteins from healthy citrus tissue to yield disease-specific "bait" antibodies. These bait antibodies were immobilized and used in the immunoaffinity capture of proteins specifically expressed in diseased phloem. Disease-specific proteins were ultimately subjected to liquid chromatography-tandem mass spectrometry (LC-MS/MS) and identified via Mascot database searching.</p> <p>The proteins identified by PCMAT were compared to those in a plant protein database, a database containing all known bacterial proteins, and a database containing only suspected Liberibacter proteins. Among the proteins found only in the disease state, 74, 55, and 30 had homologs in the plant, bacterial, and Liberibacter databases, respectively. The collaborators will soon seek IP on some of these proteins for diagnostic purposes.</p> <p>Meanwhile, progress is being made on the sensor technology. The PIs will meet soon to decide which of the disease-specific proteins might be best to use in this antibody detection system.</p> | | | |