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)

Improvements in Murraya seedling germination hold promise

Proposal Title

Development of transformation techniques for Murraya, to engineer a deadly trap plant

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
1/26/11	Citrus Research and Development Foundation	Infection Consequences

REPORT UPDATE (500 words; summarize your accomplishments)

Progress in the project was disrupted by the unexpected departure, with no advance notice, of the previous employee responsible for the research underway. Another employee was assigned responsibility and she has made excellent efforts to retain forward momentum and to make credible progress. Seeds of Murraya paniculata were procured from the USA-ARS National Clonal Germplasm Repository for Citrus and Dates, from a commercial company (Seeds & More), and from a local source in Florida. The limited seed availability and their relatively poor quality, along with consequent low germination rates and very poor growth, have been a hurdle in the process. Such seedling materials present a major challenge for Agrobacterium based transformation efforts. Therefore, a comprehensive experiment on screening optimal conditions for in vitro seed germination was conducted. Various culture media, using Murashige and Skoog's (MS) basal salt, with or without GA3 (3 mg/l), with varying sugar (25, and 50 g/l) and agar concentrations (4, 6 and 8 g/l), have been examined, with a goal to achieve an acceptable seed germination rate. In order to achieve the high quality (with stronger stems) of seedlings necessary for the regeneration and transformation experiments, germinated weaker seedlings were subcultured twice on MS basal medium without any plant growth regulators for another month. Stronger seedlings obtained were used as explants for regeneration and transformation experiments.

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Organization UF-CREC

Contract Number 66

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

Total Funds (current year) $35,000.00

SUBMIT REPORT

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.