

APPLICATION FOR RESEARCH FUNDING - 2010

National Watermelon Association

TITLE: Evaluating fungicide programs for reducing severity to gummy stem blight.

INVESTIGATORS:	Tucker Price Extension Agent University of Georgia Crisp County 110 West 13 th Ave. Suite C Cordele, GA 31015 Phone: (229) 276-2612 Fax: (229) 276-2615 Email: tprice@uga.edu	Dr. David B. Langston, Jr. Dept. of Plant Pathology University of Georgia Horticulture Building 4604 Research Way P.O. Box 748 Tifton, GA 31793 Phone: (229) 386-7495 Fax: (229) 386-7415 Email: dlangsto@uga.edu
----------------	--	--

PROJECT: NEW _____ CONTINUED X

JUSTIFICATION: Disease management strategies are key to successful watermelon production in the southeastern United States. Gummy stem blight (GSB), caused by the fungus *Didymella bryoniae* is the most widespread and destructive disease of watermelon in Georgia and the US. Management options for this disease are rotation, deep turning diseased tissue, avoiding irrigating that prolongs leaf wetness, and preventive fungicide applications. Of these management options, application of preventive fungicides is the most effective. Fungicides labeled for control of GSB are primarily ethylenebisdithiocarbamates (EBDCs, such as Dithane, Maneb, Manzate, Penncozeb, etc.), chlorothalonil (Bravo, Echo, Equus), thiophanate-methyl (Topsin M), QoIs (Quadris, Cabrio), and carboxamides (boscalid component of Pristine). Chlorothalonil products have shown good efficacy on GSB but are not used late in the season because they have been implicated in causing phytotoxicity to mature watermelon rinds. Cyprodinil+fludioxonil (Switch) has shown good efficacy against GSB and needs further testing. Fluopyram will be available to growers in 2010 and field local field testing of this product should be evaluated as well. Watermelon growers have several fungicides available to them to control GSB and many have resistance develop to them by the GSB fungus. Fungicide program efficacy needs to be evaluated for controlling GSB in Georgia watermelons to avoid fungicide resistance as well as repress disease.

OBJECTIVES: Develop and evaluate fungicide programs for management of disease and resistance to carboxmides.

PROCEDURES: Research will be conducted on watermelon research facility under a 3 acre center pivot managed by Tucker Price, Crisp County Extension

Agent. Project protocols in collaboration with UGA Extension Plant Pathologist Dr. David Langston.

Planting area to be disked and tilled. Fertilizer and herbicide applications applied according to UGA recommendations. 10' X 30' plots established and planted in seedless variety. Research area to be replicated 4 X with nine treatments with 4 control plots. Irrigation applications to be based on water mark sensor readings. Protocol provided by UGA specialist. All plots treated weekly for 7 weeks. Daily observations in collaboration with UGA specialists to record and document condition of plants and onset of disease and fungicide performance. Individual plots harvested and data recorded. Data gathered to be processed by UGA vegetable specialists and extension agent.

DATA: Data compiled from planting to final harvest will be in collaboration with UGA vegetable disease specialists. All management practices to be recorded. Obtained data will be critical to watermelon growers in planning strategies for control of GSB. Dissemination of results of this study will be accomplished through county grower meetings, and presentations at 2010 Southeast Regional Fruit and Vegetable Conference. Information will be used by county extension agents to base GSB control recommendations.

BUDGET

JUSTIFICATION: Funding is requested for 1) support of research technician, 2) materials needed for study, and 3) maintenance of equipment.

Research Technician	\$6000
Materials/Maintenance	<u>\$4000</u>
TOTAL	\$10,000

Contact: Tucker Price