

## UGA Stripling Irrigation Research Park 2010 Research & Demonstration Projects

**Dr. Wilson Faircloth** (USDA-ARS Dawson). Project to compare *peanut* cultivars under high and low management strategies both with and without irrigation to better understand their tolerance and adaptation to interactions of abiotic (environmental) and biotic (pest) stresses. Study location - Front 4, two-tower center pivots, south half.

**Calvin Perry** (SIRP), **Dr. Glen Ritchie** (UGA-Tifton), **Dr. Jared Whitaker** (UGA-Statesboro), **Rad Yager** (SIRP), **Dr. Don Shurley** (UGA-Tifton), and **Dr. Scott Tubbs** (UGA-Tifton). Project to develop improved technologies for the use and management of subsurface drip irrigation (SSDI) in typical Southeastern row-crop rotations to maximize economic efficiency while increasing water use efficiency and water conservation.

Specifically

- installation and layout/design options;
- operational / management parameters;
- crop (and pest) response;
- water use and soil moisture status.

Study location - Front 4, two-tower center pivots, north half.

**Rad Yager** (SIRP) and **Dr. Dewey Lee** (UGA-Tifton). Determining *corn* crop stress and predicting yield loss from delayed or missed irrigation which should increase the usefulness and understand the benefits of both soil moisture sensors and crop growth models. Study location - VRI pivot - north half.

**Dr. Glen Ritchie** (UGA-Tifton). Project to determine the growth habits of *cotton* subjected to multiple nitrogen and irrigation levels (with Dr. Glen Harris). Study location - VRI pivot, south half.

**Rad Yager** (SIRP), **Calvin Perry** (SIRP), **Dr. Scott Tubbs** (UGA-Tifton), **Amanda Smith** (UGA-Tifton) and **Dr. Glen Ritchie** (UGA-Tifton). Project to determine the effects of tillage (surface and deep) on yield and quality of *cotton* irrigated using subsurface drip irrigation (SSDI). Second, evaluate the tillage + irrigation systems for best water use efficiency. Third, compare performance of short season and full season cotton varieties under the different tillage + irrigation systems. Study location - Access Field.

**Dr. Glen Harris** (UGA-Tifton). Project A - Studying potassium rates and timing on *cotton* on irrigated deep sands. Potassium fertilizer prices remain high and the need for split applications on irrigated deep sands has never been confirmed. Applying 6 rates, either applied soon after planting or split 1/2 soon after planting and 1/2 at first bloom. Study location - Drip Field.

**Dr. Glen Harris** (UGA-Tifton). Project B - Looking at calcium nutrition on large-seeded runner *peanut* varieties. Project involves Georgia Green (small-seeded) and GA 06G (large-seeded) with 0, 500, 1000 and 1500 lb/a gypsum. These will be carried through to yield, grade, germination and % Ca in seed. Study location - Drip Field.

**Calvin Perry** (SIRP) and **Dr. Gerrit Hoogenboom** (UGA-Griffin). Project to evaluate an experimental product on *corn* and collect physiological data for crop growth model development and validation. Study location - Drip Field.

**Dr. Stormy Sparks** (UGA-Tifton). Multi-year project studying the effects of plastic mulch color on the thrip-related spread of tomato spotted wilt virus in *tomatoes* as well as varietal differences (with Dr. David Langston). Study location - Drip Field.

**Dr. John Beasley** (UGA-Tifton). Study to determine the potential interaction of runner-type *peanut* cultivars to irrigation and non-irrigation production. The cultivars in the trial are: Georgia Green, Georgia Greener, Georgia-06G, and Georgia-02C. The irrigated plots are being irrigated based on UGA EASY Pan as the trigger. Study location - Camilla Lateral - north section.

**Dr. Glen Ritchie** (UGA-Tifton). Study to determine the growth habits of 4 *cotton* varieties subjected to water stress over a defined time period, determine growth habits of cotton subjected to multiple seed treatments (with Dr. Guy Collins). Study location - Camilla Lateral - middle section.

**Rad Yager, Mitchell May, Ed Harrison, and Brad Mitchell** (all UGA Extension). Project to develop and refine irrigation management strategies that conserve water while maintaining current yield and quality levels in *sweet corn*. Study location - Camilla Lateral - south section.

**Dr. Phillip Roberts** (UGA-Tifton). Commercially available Bt *cotton* technologies are being compared in untreated and insecticide treated environments for efficacy against caterpillar pests. Study location - Pine Field.

**Dr. Glen Ritchie** (UGA-Tifton). Project comparing *cotton* grown at 4 levels of irrigation in both conventional and conservation tillage. Also testing the effects of these tillage and irrigation regimes on plant growth, including height, maturity, vegetative index, and plant temperature. Using remote sensing tools to detect early water stress. (with Calvin Perry). Study location - Newton Lateral, north section.

**Dr. Dinku Endale** (USDA-ARS-Watkinsville). Project to develop best irrigation management practices for conservation tillage *corn* in the Coastal Plain of Georgia, determine minimum total water requirements for consistent growth and quality grain development under varied soil conditions. Study location - Newton Lateral, middle section.

**Dr. Wilson Faircloth**, USDA-ARS Dawson. Project to develop and refine irrigation management strategies that conserve water while maintaining current yield levels in *peanut*. Study location - Newton Lateral, south section.