THE UNIVERSITY OF GEORGIA
COLLEGE OF AGRICULTURAL & ENVIRONMENTAL SCIENCES

Research and Policy Quarterly Update
June 2009

A message from Dr. Charles Stripling, Vice Chair, Advisory Committee (SIRP)

IGEL and SIRP

WHAT!!!! OK, so you already know that SIRP stands for Stripling Irrigation Research Park, but if you are like I was three years ago at this time, you had never heard of IGEL, which stands for Institute for Georgia Environmental Leadership. IGEL is a "leadership program dedicated to building and sustaining a diverse network of environmentally educated leaders who will help resolve Georgia's environmental challenges" (igeleaders.org). Each year, over 30 Georgians from a variety of backgrounds are brought together for four training sessions of three days each, with the emphasis on leadership skills, conflict resolution, and finding common ground on environmental issues. Leaders are not selected because they are "environmentalists" (whatever that might mean) but because they are in positions in which they must, whether they want to or not, confront environmental issues in our state. Each year, participants are selected from all regions of the state representing businesses, civic groups, educational institutions, environmental organizations, industry, government, forestry, and agriculture.

Unfortunately, Southwest Georgia is an area that has traditionally been under-represented in the IGEL classes. I, along with several other IGEL Board members and staff, have pushed for more representation from this region. Consequently, in our 2009 class we will have, for the first time, three Southwest Georgians – Marilyn Royal of the Mitchell County Development Authority, Kevin McIntyre of the Jones Center and Scott Loehr of the Flint RiverQuarium. Agriculture has also been under-represented and still is, but hopefully we will see an increase in farmers or, at least, agriculture-related individuals.

On the other hand, the IGEL program has given great exposure to Southwest Georgia agriculture and, especially, the Stripling Irrigation Research Park. Each July the group spends three days in the Albany area studying agriculture, agri-business, forestry, and water issues. On the second day, IGEL participants spend the morning at the Jones Center, and then arrive in the early

afternoon for a tour of SIRP, a presentation about a vital issue to our area (last year was ethanol, this year the Flint River Basin Program) then a panel discussion about agriculture and water issues with farmers from our area. Murray Campbell, Chairman of the Advisory Committee for SIRP, is a regular panelist, as is Bubba Johnson, President of the Mitchell County Farm Bureau. Other panelists over the years have included Cader Cox, Marty McClendon, and James Lee Adams, all excellent spokesmen for our area. After the panel discussion and question-and-answer session, the IGEL group divides into four sub-groups and visits several agriculture, forestry, and poultry/alligator operations, guided by local farmers. The day ends with a reception and dinner at Covey Rise Plantation, where IGEL members have the opportunity to talk individually to local agricultural and political leaders. The Southwest Georgia experience ends the next day in Albany with discussion about the previous day and additional learning about our area. The SW Georgia session has traditionally been one of the highlights of the program, especially the visit to SIRP.

This year's visit will be on Thursday, July 23rd and, along with the members previously mentioned, includes representatives from GA DNR, Coca Cola, Georgia Power, Atlanta Regional Commission, The Nature Conservancy, Oglethorpe Power, AGL, Cobb County Water System, Mohawk Industries, as well as a variety or other organizations. This year's group will join over 200 other "IGELIANS" from previous years. The end result is a network of environmentally educated leaders, but not a consensus of opinions or the promotion of a specific issue. For our area, we see greater understanding of the importance, potential and problems of agriculture, and for SIRP, an appreciation of the necessity of research and its application for water efficiency.

A message from Dr. Dinku Endale, USDA-ARS, Natural Resource Conservation Center, Watkinsville
Agricultural Engineer and Researcher at SIRP

Conserving Water – Enhancing Returns: Conservation Tillage Corn for the Southeast

What is the problem?
As a result of periodic and at times severe droughts, soils with low water holding capacities, and limited opportunities for profit, corn production in Georgia declined over the past several decades (1.6 million acres in the 1970s to less than 300,000 in 2006). Following the adoption of its first Comprehensive Statewide Water Management Plan in early February 2008, Georgia is on course to drafting regionally-based water development and conservation plans with agriculture being one of the economic sectors that will receive close scrutiny.

Are there solutions?
We believe so. First, recent soaring demand and price of corn due to expansion of ethanol production presents growers in Georgia with opportunity to re-engage in profitable corn production. Second, by adopting conservation tillage in corn production growers can: a) overcome weather and soil limitations that have previously hindered productivity, b) improve irrigation and rainfall use efficiency, and c) participate in the new Conservation Stewardship Program of the 2008 Farm Bill with increased compliance with federal and state regulations regarding environmental and water management strategies.

What is being done?
On this premise, a team of scientists and support personnel from University of Georgia and USDA Agricultural Research Service, with partial support from the Georgia Corn Commission, are conducting research contrasting corn growth, water use and yield under conventional and

conservation (strip-till) tillage with different levels of irrigation (none, full, and in between). Cereal rye is used as winter cover crop. The research is conducted at two UGA state-of-the-art irrigation research facilities located on two prominent soils of the Costal Plain: Stripling Irrigation Research Park at Camilla (Orangeburg loamy sand) and Lang Farm at Tifton (Tifton loamy sand). Our observations after three years of research have lead us to believe that we should now focus our research on optimizing successful high residue conservation tillage production systems alone with the best irrigation scheduling and management options for corn.
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What is the impact?

So far we have demonstrated that strip-till increases soil water content in both soils and that corn under strip-till grows more vigorously by the tassel stage. Yield under strip-till matched or bettered that under conventional tillage with reduced or equal water use. Georgia's corn growers need scientifically based information pertaining to tillage and irrigation management practices, that maximize soil water availability and use, water use efficiency, and prevent drought stress, and help them meet regulations targeted at improved environmental and water management stewardship.

Team:

Scientists: Dinku Endale (ARS), Jim Hook & Dewey Lee (UGA), Wayne Reeves, Wilson Faircloth, Dana Sullivan, and Diana Rowland (ARS)
Field team: Calvin Perry, Rad Yager, Ivey Griner, Jay Hathorn, Gene Fowler, Heather Hunter (Camilla); Sidney Cromer, Robert Pippin, Ricky Fletcher (Tifton); Stephen Norris (Watkinsville), Joseph Powell, John Gardner (Dawson)
Student support: Burt Calhoun, Rebecca Hickey, Hannah Clement, Nicole Apperson, Andrea Johnson, Melissa Hobgood, Jaime Fulmer (Tifton); TJ Boone, Shaun Jones, TJ Tucker, Andrew Stargel (Camilla); Corrin Breeding (Watkinsville).

A message from Calvin Perry, Superintendent

Field Activities:

The rains received at SIRP have impacted the need for irrigation in many of our research plots. This can be a confounding factor when conducting irrigation research – but SIRP is in the humid southeast and rains do occur in our region and must be considered when such research takes place.

Field activities continue full speed in field corn, sweet corn, tomatoes, bell pepper, watermelon, cotton and peanut. Our winter wheat is patiently awaiting harvest. The drip irrigated tomatoes, peppers and watermelons continue to require irrigation as rainfall doesn't contribute much to the plant requirements under plasticulture.

New Hires:

Ward Cole is UGA employee, grant funded. Ward is currently a senior at UGA. He is scheduled to graduate in December 2009 with a degree in Ag Education.

Shaun Jones is USDA employee, also grant funded. Shaun is a junior at Darton College, Albany, Ga. He is a Political Science Major.

Upcoming Events

June 22, 2009: The Nature Conservancy will be meeting at SIRP.
June 30, 2009: SIRP's Field Day

June 30, 2009: SIRP Advisory Committee Meeting, 2:00pm