

# FY2011 Agriculture & Natural Resources Impact

## Water Conservation in Row Crops

Lincoln County

### ANR Program Overview Lincoln County

Educational Contacts	2,781
Methods Utilized	8
Volunteers	46
Value of Volunteer Hours (\$)	70,542.37

### ANR Highlights

# of On-Farm Demonstrations	26
Acres in Demonstrations	25
Pesticide Applicators Trained	25
Acres Soil Tested	13,784
Irrigation Sched. Prog. Acres	4,000
# Utilizing IPM approach	150
# Educational Contacts	2,781

*One grower commented on the use of the Phaucett program, "that it is a great tool for increasing the uniformity and efficiency of irrigation on his farm. I only regret that we didn't have time to run it on every one of my fields."*



*Multiple Inlet Rice Irrigation (MIRI) utilizes poly-tubing to pump water into each paddy or bay at the same time as opposed to conventional rice irrigation that pumps water into top paddy and then moves it across the field through a levee and gate system. As a result of using MIRI, fields are flooded faster with less water.*

### Relevance

In recent years there has been an increased focus on reducing water usage for crop irrigation due to the declining aquifer in eastern Arkansas. Without irrigation, profitable crop production is not possible in South Arkansas. The irrigation cost for producers has increased due to the rise in energy cost. These are two reasons for water conservation.

### Response

In response to the increased emphasis placed on ground water depletion, demonstrations were established utilizing Multiple Inlet Rice Irrigation (MIRI) and the Phaucett irrigation program. MIRI uses flexible poly tubing stretched across the field to allow water to be pumped into each paddy at once rather than pumping all water into the top paddy. The Phaucett program uses a computer program designed to determine proper hole sizes for the irrigation tubing. Hole sizes are based on flow rate, row length and slope. The use of both practices allow the grower to irrigate more uniformly while saving water and reducing pumping costs.

### Results

By using the Phaucett program in a selected field on the Jackson Farm, we showed a savings of ~\$175.00 and 486,000 gallons of water per irrigation. In 2011 these savings totaled almost \$2000.00 and 4.9 million gallons of water. This does not include the savings in time and labor costs. By placing flow meters in rice fields, we have shown that MIRI saves on average 25% ground water and pumping costs in rice production. For every acre of rice that is grown using MIRI, 243,000 gallons of ground water and \$33.56 per acre in pumping costs are saved.