

## Multiple Inlet Irrigation in Rice



**County:** St. Francis

**Agent:** Cody Griffin

**Cooperator:** Sid Fogg

**Investigator:** Joe Massey

**Previous Crop:** Soybeans

**Soil Type:** Clay Loam

**Demo Field Cultivar:** Roy J **Control Field Cultivar:** Roy J

### **Objective:**

To compare water savings and efficiency with that of a conventional cascade flood irrigation system. To observe time and money saved in labor cost from irrigation. To efficiently be able to water the field up uniformly without having water run through the spills.

### **Demo Setup:**

The flowrate was measured at the well for gallons per minute. Poly pipe was ran through the field from the well into the last patty. The field contained 20 rice patties. Each patty was measured in planimeter to determine the acreage. Blue Gates were put in the polypipe at each patty to regulate how quickly each patty would fill up. We divided the flowrate by the acreage to determine the GMP per acre would be needed to water evenly. By multiplying that number by acres in each patty we determined the amount of water should be distributed. Knowing how many GPM each patty should have we installed the blue gates into the poly pipe which have an output of 75 GPM when the pipe is full. Small adjustment of blue gates were made on the first irrigation to complete set up.

Control field was watered conventionally by a cascade flood. Both fields were same soil type and rice cultivar.

## Results:

It appears that there was no water savings associated with MIRI which also had increased labor costs. If the producer only used 23 acre-inch using a cascade flood, they are doing a great job. Miri Demo Field had a large amount of rice lodged due to sheath blight. Stand was very high compared to recommended stand count that correlated with the severity of sheath blight in field.

### **Miri Demo Field – 175 Bu/acre 15% moisture**

80 acres

529936 x 100 Flowmeter Reading = 52,993,600 gallons per 80 acres = 662,420 gallons per A = 24 acre-in irrigation applied.

Labor Hours 18.75 Hours

Agent Hours 5 Hours

### **Control Field – 191 Bu/acre 15% moisture**

60 acres

36967 x 1000 Flowmeter Reading = 36,967,000 gallons per 60 acres = 616,117 gallons per A = 23 acre-in irrigation applied.

Labor Hours 19.5 hours

