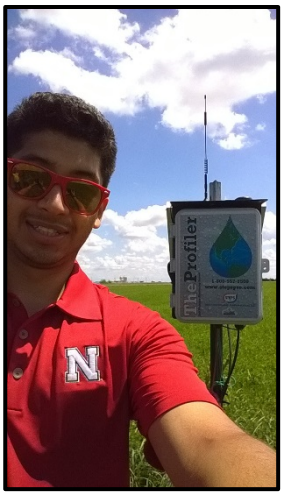
Project Overview



Intern: Rafael Estrada
Major: Civil Engineering
School: University of Nebraska-Lincoln at Omaha

Organization Background

Across the state of Nebraska, committed Extension offices and passionate educators are making a large impact in every sector of Nebraska life like its youth, its families, its farms and ranches, its communities and its economy. University of Nebraska-Lincoln Extension's goal "is to help Nebraskans transform knowledge into "know how" — having confidence, skill and understanding to make better decisions about their businesses, their communities, their families and their personal lives.

Project Description

Utilizing existing relationships between past producers and current Extension Educators and forging new relationships with new producers, the intern worked with local farmers to increase their water use efficiency by decreasing energy and water usage. Early in the summer, Watermark soil moisture sensors were installed in irrigated fields with producers who were both unfamiliar and experienced with the technology. The intern helped these producers learn how to use the sensors and digital meters in order to optimize their water use.

Pollution Prevention Benefits

Possible pollution prevention (P2) direct benefits include water, cost, and energy savings as well as greenhouse gas reductions from the implementation of recommendations. Other indirect benefits may include increased crop yield due to better water distribution and a reduction in time spent working on older, malfunctioning equipment.

Table 1: Summary of P2 Recommendation Benefits

Cooperator	Water Savings per Year	Cost Savings per Year	Energy Savings per Year	GHG Reduction per Year
Producer #1	12 million gallons	$580	7,200 kWh/year and 220 therms	9 MT CO_2e
Producer #2	7.2 million gallons	$1,010	1,500 therms	7.8 MT CO_2e
Producer #3	29 million gallons	$3,700	5,300 therms	28.3 MT CO_2e
Watermark Sensors	155.5 million gallons	$13,000	130,000 therms	453 MT CO_2e