Project Overview

Intern: Felipe Alves
Major: Agricultural Engineering
School: University of Nebraska-Lincoln

Organization Background

The University of Nebraska-Lincoln Extension offices assist Nebraskans in numerous ways, spanning from crop and livestock production, youth development, and entrepreneurship. These offices are an important resource for providing unbiased, research-based information throughout the state. They also link researchers and Nebraska residents to new practices and technologies that are discovered each year.

Project Description

Utilizing existing relationships between producers and extension educators, the intern assisted local farmers in increasing the efficiency of their water use. Early in the summer, Watermark soil moisture sensors were installed in irrigated fields with producers unfamiliar with the technology. The intern helped these producers learn to use the ETgage, sensors, and digital meters in order to optimize their water use during the summer.

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 (gallons/yr)	Cost Savings ($/yr)	Energy Savings/yr	GHG Reduction (MT-CO_2 Equivalent/yr)
Crooked Creek Country Club	1.4 million	$165	2,110 kWh of electricity	2.3
Producer #1	7.4 million	$4,217	9,300kWh of electricity	15
Producer #2	8.8 million	$720	7,200 kWh of electricity	35
Producer #3	8.5 million	$947	1,386 therms of natural gas	7
Watermark Sensors Installations	155.5 million	$13,000	130,000 kWh of electricity	453