Water Conservation Through Corn Irrigation Analysis
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Project Goals
- To decrease the amount of water wasted in corn production
- To promote efficient irrigation systems
- To determine the best irrigation technique for Nebraska

Background
- 70% of the world’s water is used for agriculture (1).
- Corn production uses 22% of irrigated water (2).
- 45% of irrigated corn is in Nebraska; therefore, it is important to implement water efficiency methods (3). [Map of irrigated corn production]

Irrigated Corn: 2007

Methods
- Implement and analyze each system in 20 acre corn fields in Nebraska

Analysis of Predicted Results
- The water conservation efficiency for subsurface drip irrigation is higher by over 20%, when given 50 gallons of water per acre for 5 consecutive years in the month of August.
- The increase in average crop yield for sub surface irrigation was statistically significant compared to sprinkler and furrow.

Cost and Funding
- When analyzing implementation, maintenance, labor, and water costs, subsurface irrigation is more expensive than sprinkler and furrow irrigation combined.

Recommendations
- 20% of federal funding currently used in irrigation maintenance should be transferred to water conservation. These funds would include the implementation of more efficient irrigation systems, like subsurface drip irrigations.
- More research should be completed to determine if subsurface drip irrigation is viable for other regions of the world and other crops on large scale operations.

References