PRECISION AGRICULTURE

TECH FARM

WATER TECHNOLOGY CENTER
The Precision Agriculture Technology Department Vision
To sustain agricultural economic viability in Western Kansas through workforce development, and focus on increased adoption of innovative technologies and sustainable practices.
THE PROJECT WAS A CRITICAL COMPONENT IN PROMOTING IRRIGATION WATER MANAGEMENT ADOPTION IN NORTHWEST KANSAS ON SEVERAL FRONTS.

- The project aided in acquainting previously unexposed growers to available irrigation water management technologies that they might not have otherwise explored.

- The project helped several other growers continue their efforts to effectively utilize irrigation water management technologies.
WATER TECHNOLOGY FARMS

Goals and Objectives

• The project promoted workforce development within the irrigation water management sector by securing several paid internships with regional water technology dealers.

• The effort overall was a monumental stride forward for the Precision Agriculture Technology program at Northwest Tech as the department was able to rapidly develop its irrigation water management curriculum, tools, equipment and relationships.
WATER TECHNOLOGY FARMS

Tech Farm
WATER TECHNOLOGY FARMS

Summary

2017

• 10 PARTICIPATING LANDOWNERS AND OPERATORS

• 18 FIELDS COMPRISED OF 2,046 ACRES OF IRRIGATED CROP LAND

2018

• 1 NWKTC TECH FARM

• 5 PARTICIPATING LANDOWNERS AND OPERATORS

• 11 FIELDS COMPRISED OF 1,134 ACRES OF IRRIGATED CROP LAND
A WIDE VARIETY OF TECHNOLOGIES, CONVENTIONS AND SERVICES

• Soil moisture probes
• Irrigation controllers
• Variable rate prescription speed tables
• Electro-conductive soil mapping
• Soil sampling
• Weather stations
WATER TECHNOLOGY FARMS

Data Collection
WATER TECHNOLOGY FARMS

Processing and Planning
WATER TECHNOLOGY FARMS

Training
WATER TECHNOLOGY FARMS

Training
WATER TECHNOLOGY FARMS

*Planting*
WATER TECHNOLOGY FARMS

Planting
WATER TECHNOLOGY FARMS

Equipment Installation
WATER TECHNOLOGY FARMS

Operations
WATER TECHNOLOGY FARMS

Equipment Installation
WATER TECHNOLOGY FARMS

Equipment Installation
WATER TECHNOLOGY FARMS

Equipment Installation
WATER TECHNOLOGY FARMS

Equipment Installation
### NWKTC_Irrigated ((17-8-39))

**VRI Plan**

<table>
<thead>
<tr>
<th>Area</th>
<th>Start</th>
<th>End</th>
<th>H2O</th>
<th>Acc</th>
<th>Speed</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>12%</td>
<td>1.02</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>6</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Google Map**

- 0.12 in
- 0.16 in
- 0.24 in
- 0.49 in
- 12.2 in
WATER TECHNOLOGY FARMS

Operations

![Graph showing soil water content over time and various metrics including Name, Serial, Status, # Days to Refill, and SM Last Reading.](image-url)
WATER TECHNOLOGY FARMS

Weather

[Image of weather radar and storms]
WATER TECHNOLOGY FARMS

Weather
WATER TECHNOLOGY FARMS

*Drip Irrigation System*
WATER TECHNOLOGY FARMS

*Drip Irrigation System*
WATER TECHNOLOGY FARMS

Water Tech Mobile Classroom
WATER TECHNOLOGY FARMS

Data and Results
WATER TECHNOLOGY FARMS

Data and Results

WATER USE – NWKTC Tech Farm

- 9.4 inches of irrigation water used
- 11.73 inches of rain received
- GMD4 LEMA allocation - 15.7 inches
WATER TECHNOLOGY FARMS

Data and Results

YIELD – NWKTC Tech Farm
• 236 bu/ac average

ROI – NWKTC Tech Farm
• $12,323 saved
WATER TECHNOLOGY FARMS

Moving Forward

EXHIBITS
WATER TECHNOLOGY FARMS

Summary

DEALERSHIP SUPPORT

CropMetrics™
Yield Optimization Technology

HORTAU
Simplified Irrigation

VALLEY

LINDSAY
CORPORATION

AquaSpy®

servitech

OnTarget

WOOFTER
CONSTRUCTION & IRRIGATION
COLBY / LEOTI, KS