

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.



WATER TECHNOLOGY FARMS

Goals and Objectives



THE PROJECT WAS A CRITICAL COMPONENT IN PROMOTING IRRIGATION WATER MANAGEMENT ADOPTION IN NORTHWEST KANSAS ON SEVERAL FRONTS.

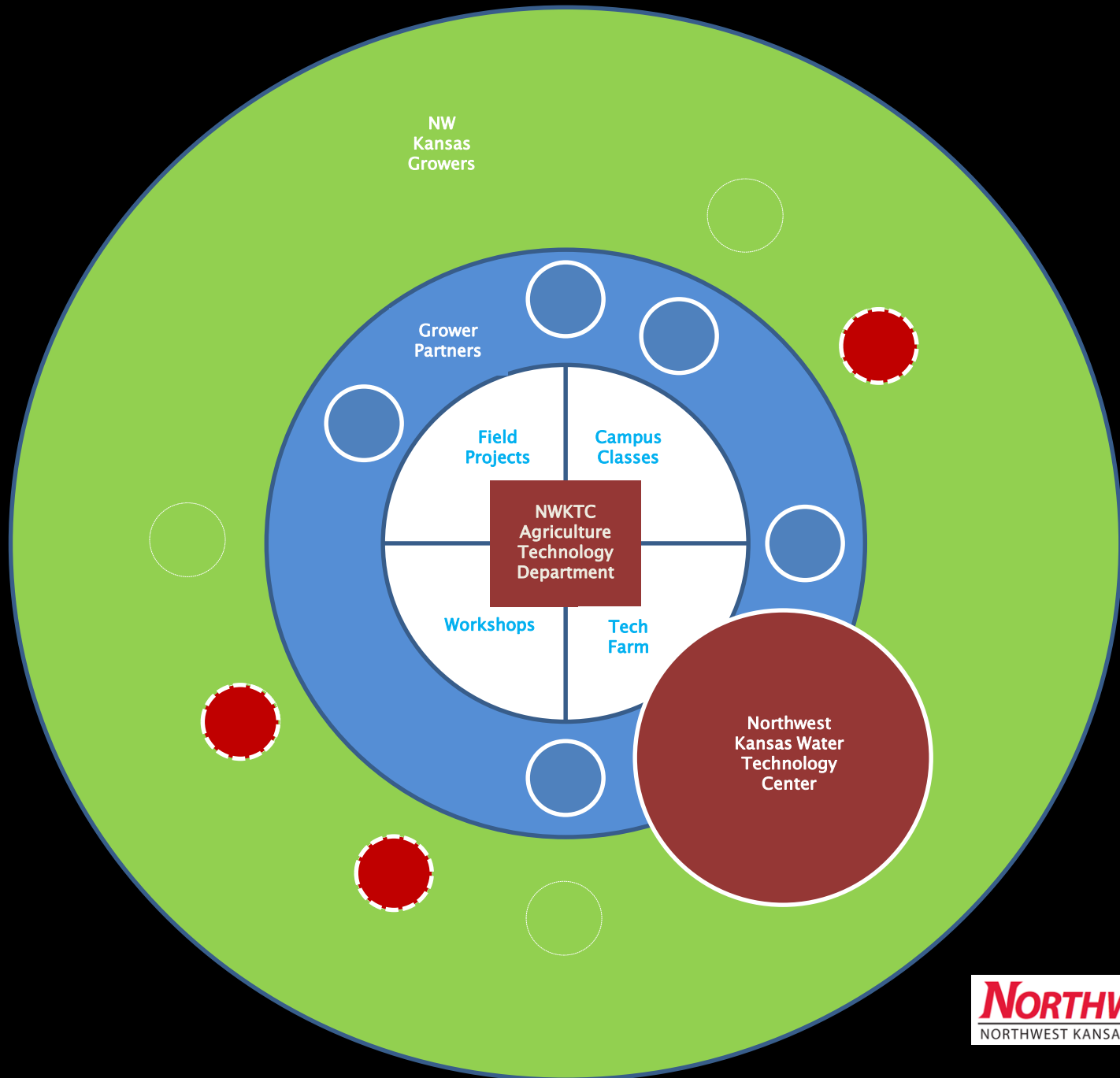
- The project aided in acquainting previously unexposed growers to available irrigation water management technologies that they might not have otherwise explored.
- The project helped several other growers continue their efforts to effectively utilize irrigation water management technologies.

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.



NW
Kansas
Growers

Grower
Partners

Field
Projects

Campus
Classes

NWKTC
Agriculture
Technology
Department

Workshops

Tech
Farm

Northwest
Kansas Water
Technology
Center

WATER TECHNOLOGY FARMS

Tech Farm



WATER TECHNOLOGY FARMS

Water Technology Center



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

WATER TECHNOLOGY FARMS

Summary



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

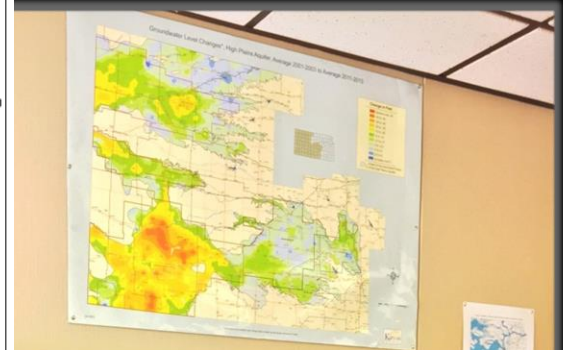
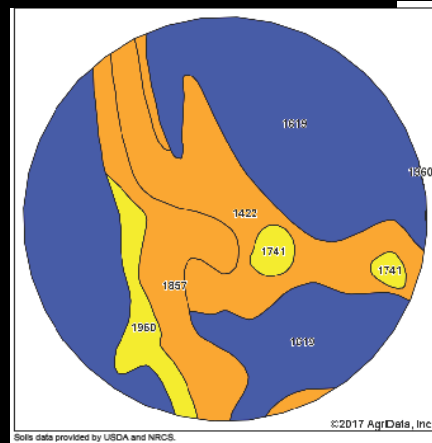
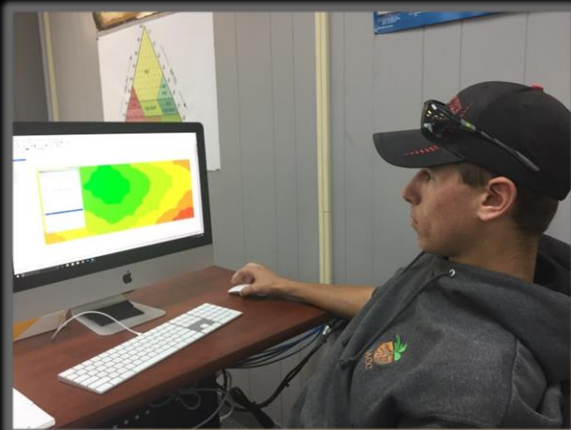
WATER TECHNOLOGY FARMS

Data Collection



WATER TECHNOLOGY FARMS

Processing and Planning



WATER TECHNOLOGY FARMS

Training



WATER TECHNOLOGY FARMS

Training



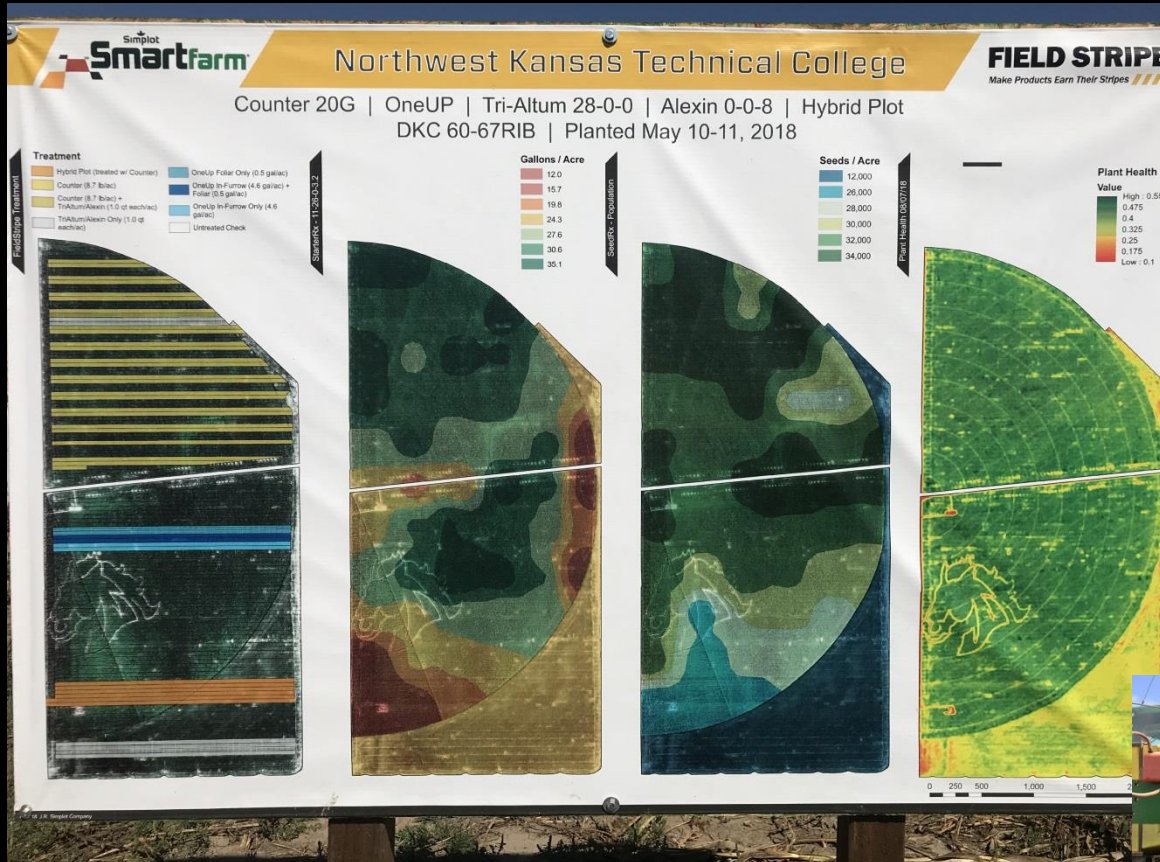
WATER TECHNOLOGY FARMS

Training



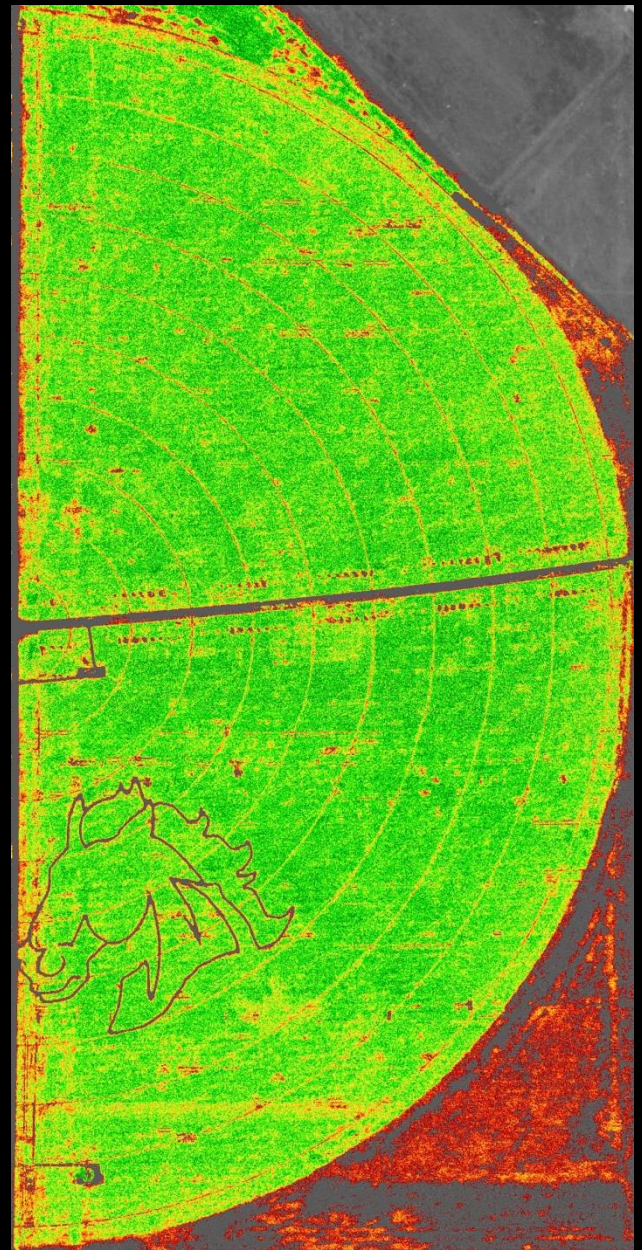
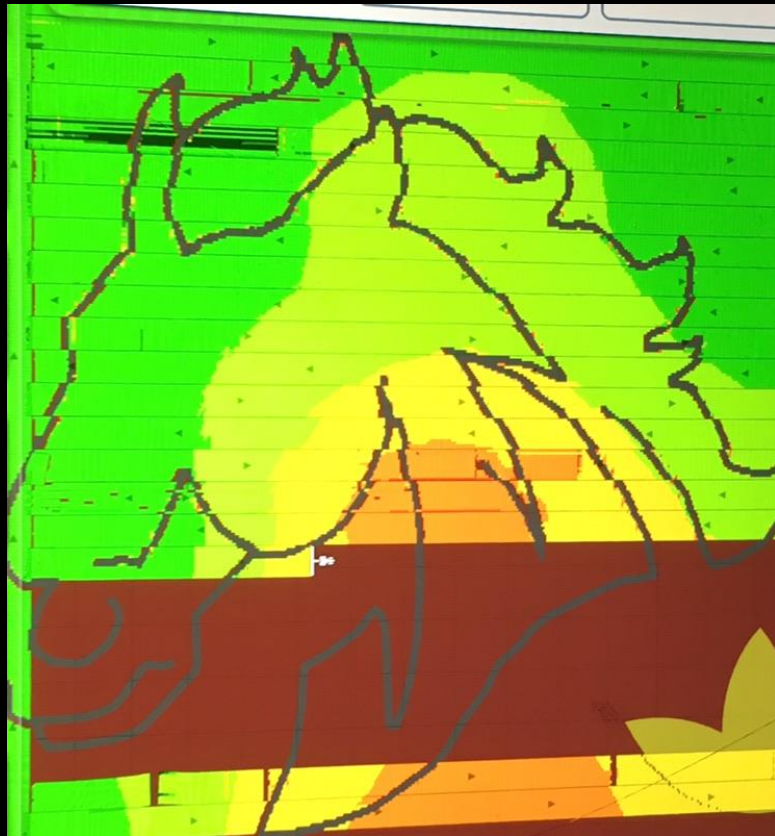
WATER TECHNOLOGY FARMS

Planting



WATER TECHNOLOGY FARMS

Planting



WATER TECHNOLOGY FARMS

Equipment Installation



WATER TECHNOLOGY FARMS

Operations



WATER TECHNOLOGY FARMS

Equipment Installation



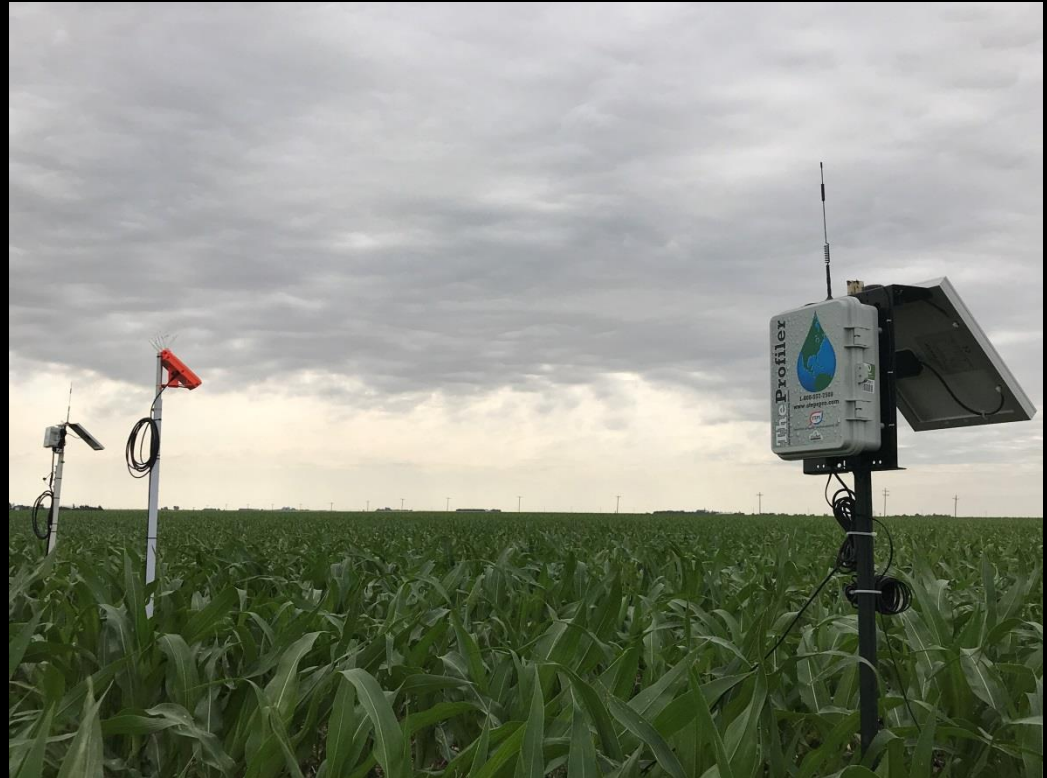
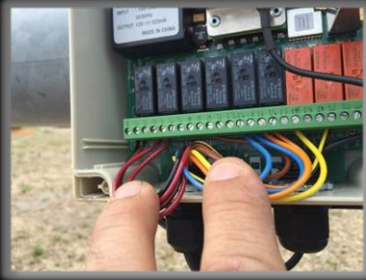
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Equipment Installation



WATER TECHNOLOGY FARMS

Equipment Installation



WATER TECHNOLOGY FARMS

Equipment Installation



WATER TECHNOLOGY FARMS

Operations

NWKTC_Irrigated ((17-8-39))

Field

- Dashboard
- Crop Data
- Yield Data
- VRI Plan**
- Weather
- Adjustments
- Setup
- Properties

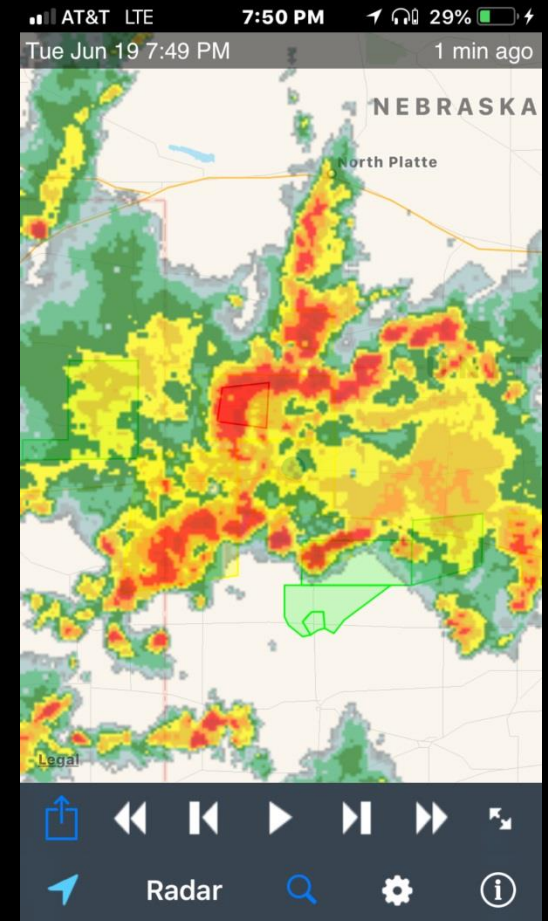
| Area | Start | End | H ₂ O | Acc | Speed | Depth |
|------|-------|-----|------------------|-----|-------|---------|
| 1 | 0 | 1 | | acc | 12 % | 1.02 in |
| 2 | 1 | 2 | - | - | - | - |
| 3 | 2 | 3 | - | - | - | - |
| 4 | 3 | 4 | - | - | - | - |
| 5 | 4 | 5 | - | - | - | - |
| 6 | 5 | 6 | - | - | - | - |
| 7 | 6 | 7 | - | - | - | - |

Direction: Forward



WATER TECHNOLOGY FARMS

Weather



WATER TECHNOLOGY FARMS

Weather



WATER TECHNOLOGY FARMS

Drip Irrigation System



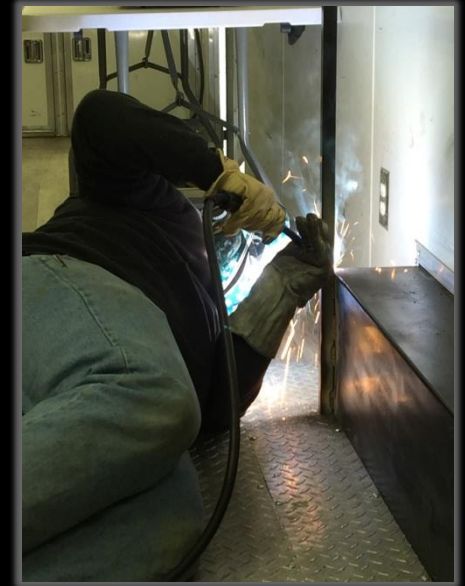
WATER TECHNOLOGY FARMS

Drip Irrigation System



WATER TECHNOLOGY FARMS

Water Tech Mobile Classroom



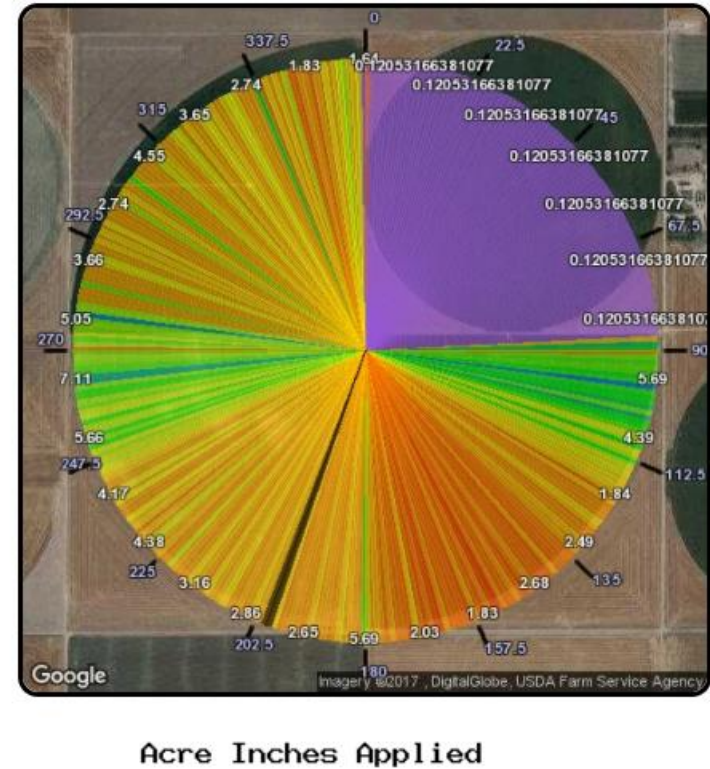
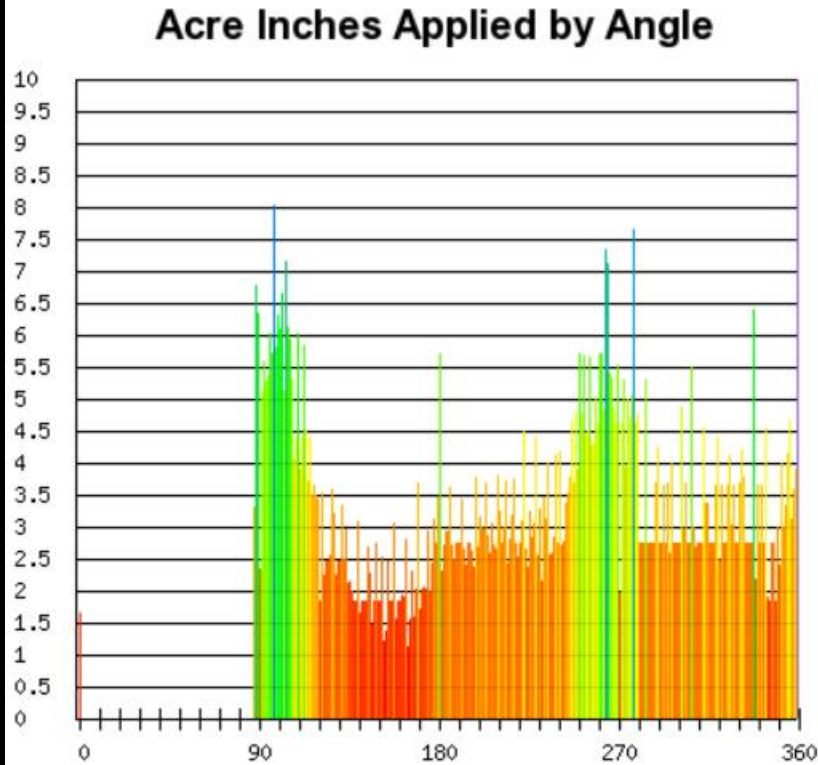
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Water Tech Mobile Classroom



WATER TECHNOLOGY FARMS

Data and Results

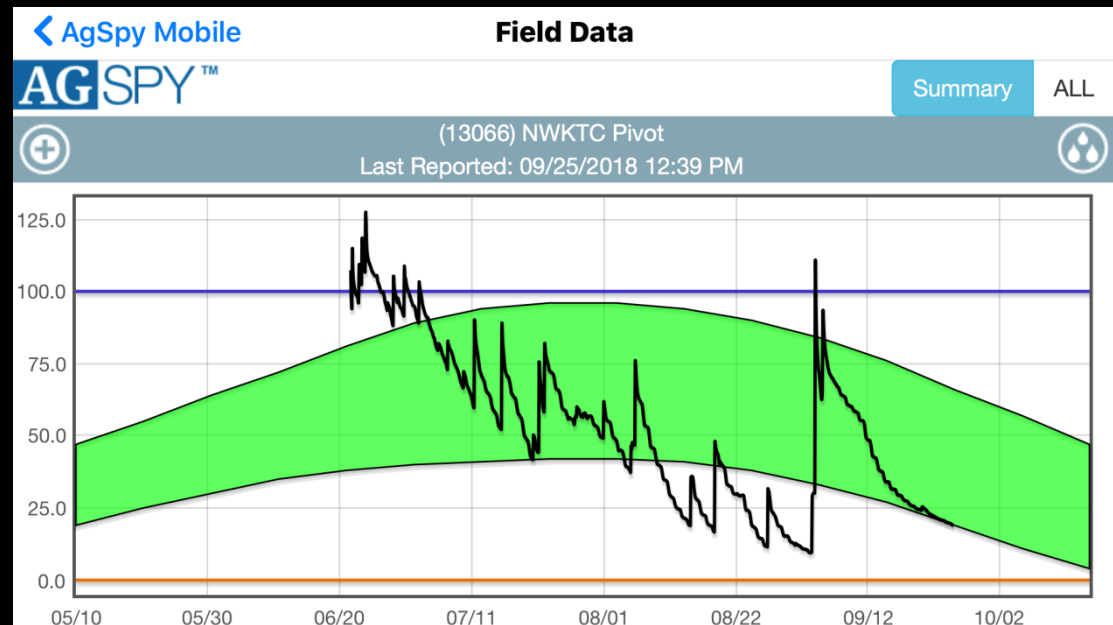


WATER TECHNOLOGY FARMS

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

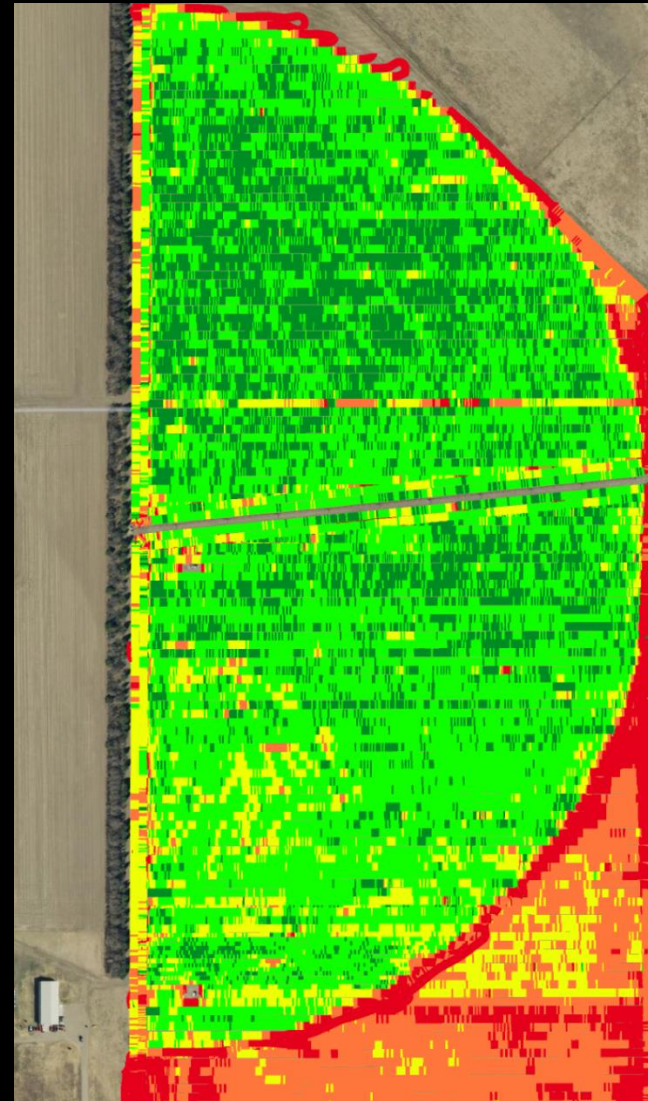
Data and Results

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

