

2018 GOVERNOR'S WATER CONFERENCE: WATER TECHNOLOGY FARMS & AQUIFER IMPACTS

Moderator: Armando Zarco(KWO, Project Manager)

Dr. Jonathan Aguilar (K-State SW Research & Extension Center)

Nick Hatcher (Hatcher Land and Cattle)

Ryan Speer (Jacob Farms)

Weston McCary (Northwest Kansas Technical College)

PROGRAM OVERVIEW

- Part of the KS Long-Term Water Vision
- Began in 2016 with WaterPACK & ILS
- 3-Yr projects where irrigation technology is demonstrated; such as:
 - Mobile Drip Irrigation (MDI)
 - Bubblers and I-Wob sprinklers
 - Soil moisture probes
- Allows for agronomy research with K-State Research & Extension
- Supported by various state & local agencies, and many sponsors and vendors



80+ SUPPORTERS OF WATER TECH FARMS

21st Century Equipment

96 Agri Sales Inc

Ag Systems, Inc.

Agrela Ecosystems

AgSense

AgVenture

American Implement

American Irrigation

Amvac

AquaSpy

BASF Corp

Conestoga

CropMetrics

Dane G.Hansen Foundation

DataFarm

Davis

Dekalb

DigiFarm

DJI

Dragon-Line

Fieldnet by Lindsay

Fontanelle

Golden Harvest Seeds

Great Plains Precision Ag, Inc.

Groundwater Management District No. 1

Groundwater Management District No. 2

Groundwater Management District No. 4

Growsmart by Lindsay

Heartland Soil Services

Helena

Hortau

Innovative Livestock Services

Kansas Corn Commission

Kansas Corn Growers Association

Kansas Department of Agriculture

Kansas Department of Commerce

Kansas Farm Bureau

Kansas Geological Survey

Kansas Grain Sorghum Commission

Kansas Its (KITS)

Kansas Water Office

Komet

K-State Research and Extension

K-State University - KS Mesonet

Lindsay Corporation

ModernAG

Nash Water Well Service

NETAFIM

Nex-Tech

Northwest Kansas Groundwater Conservation Foundation

NW Kansas Technical College

Ogallala Aquifer Program

OnTarget Ag Solutions

Outback

Phytech

Pioneer Hi-Bred International

Precision Planting

Presley Solutions

Red Barn Enterprises, Inc.

Sand-D-Akr Farms

SatShot

Seaman Crop Consulting, LLC

Senniger

Servi-Tech

Simplot

SST-Proagrica

Syngenta

T&O Farms

Teeter Irrigation, Inc.

TerrAvion

The Climate Corporation

The Garden City Company

Todd and Diana Long

Trimble

Tri-State Irrigation

United Sorghum Checkoff

Valley

Valmont Industries

Veris

WaterPACK

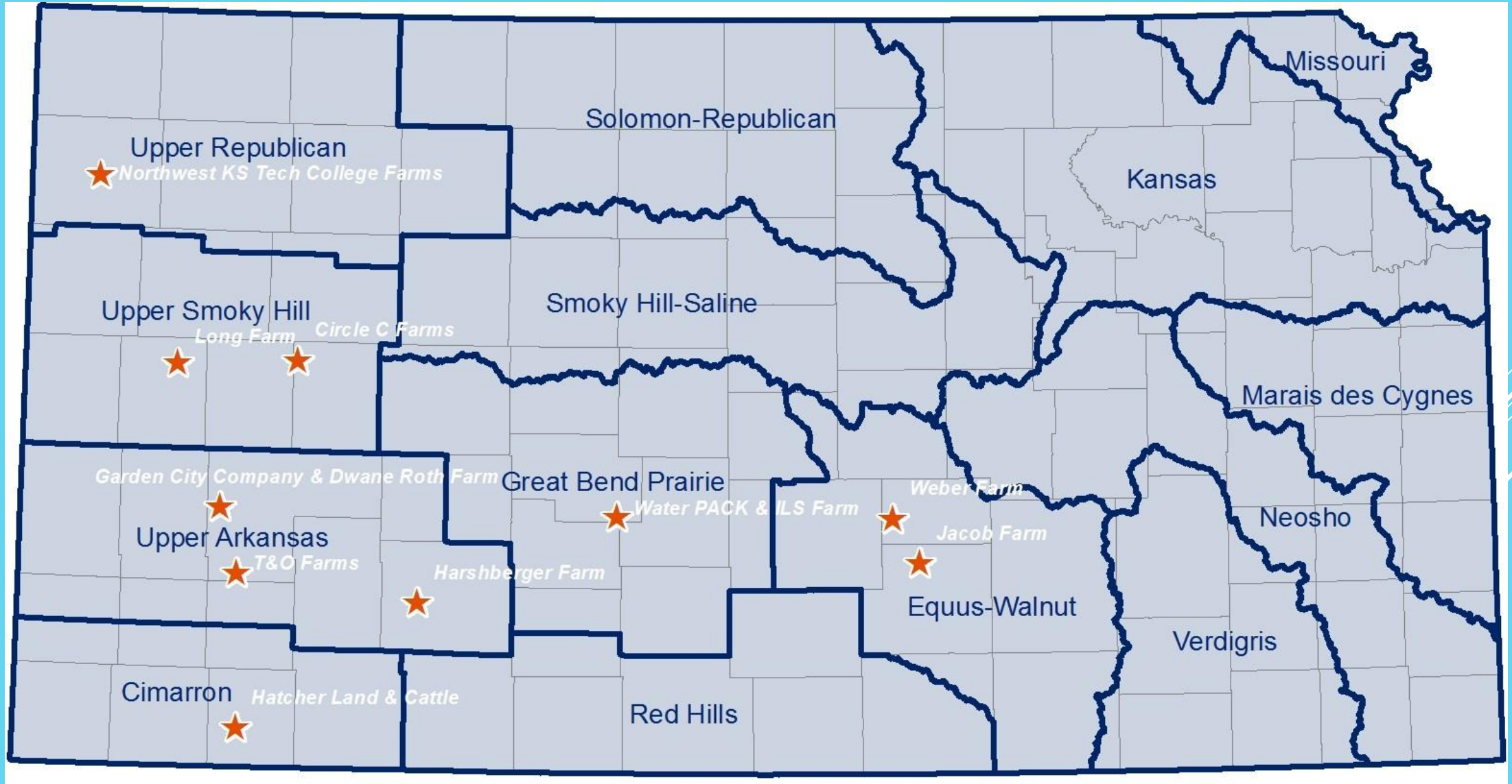
Western Irrigation Supply House

Western Sprinklers, Inc.

Woofter Irrigation

Zimmatic by Lindsay

WATER TECHNOLOGY FARMS IN 2018



ACTIVE FARMS TODAY

- WaterPACK & ILS- Innovative Livestock Solutions Partnership; 2016-2018
- T&O Farms (WCA)- Tom Willis; 2016-2018
- Garden City Company (WCA)- Dwane Roth; 2016-2018
- Circle C Farms (WCA)- Steve Compton; 2017-2019
- Hatcher Land & Cattle (WCA)- Nick Hatcher; 2017-2019
- NW KS Technical College- Weston McCary; 2017-2019
- Long Farm (WCA)- Matt Long; 2018-2020
- Weber Farm- Eddie Weber; 2018-2020
- Jacob Farm- Ryan Speer; 2018-2020
- Harshberger Farm (WCA)- Gary Harshberger; 2018-2020

(WCA)= also entered into a Water Conservation Area with KDA-DWR.

WATERPACK & ILS

2016-2018 (3rd Year)

Fields 15 & 16 Only

120 Acres each pivot

2018 Harvest Data:

Mobile Drip Irrigation (MDI)

8.0" of water

220 Bushels/Acre

27.5 Bushels/Acre/Inch of water

Low Drift Nozzles (LDN) & Rotators

14.5" of water

240 Bushels/Acre

16.6 Bushels/Acre/Inch of water



WATERPACK & ILS (CONT.)

Tech Farm Average Yield

Field 16:

232 Bushels/Ac with 13.0" of water
17.8 Bushels/Acre/Inch of water

Field 15:

234 Bushels/Ac with 15.3" of water
15.3 Bushels/Acre/Inch of water

Non-Tech Farm Yield (for comparison)

Field 13:

230 Bushels/Ac with 21.6"
10.6 Bushels/Acre/Inch of water

Field 14:

231 Bushels/Ac with 17.7"
13.0 Bushels/Acre/Inch of water



GARDEN CITY COMPANY & DWANE ROTH

2017-2019 (2nd Year)

2018 Harvest Data:

125 Acres of Corn

Two hail events (22% loss of crops)

160 Bushels per acre

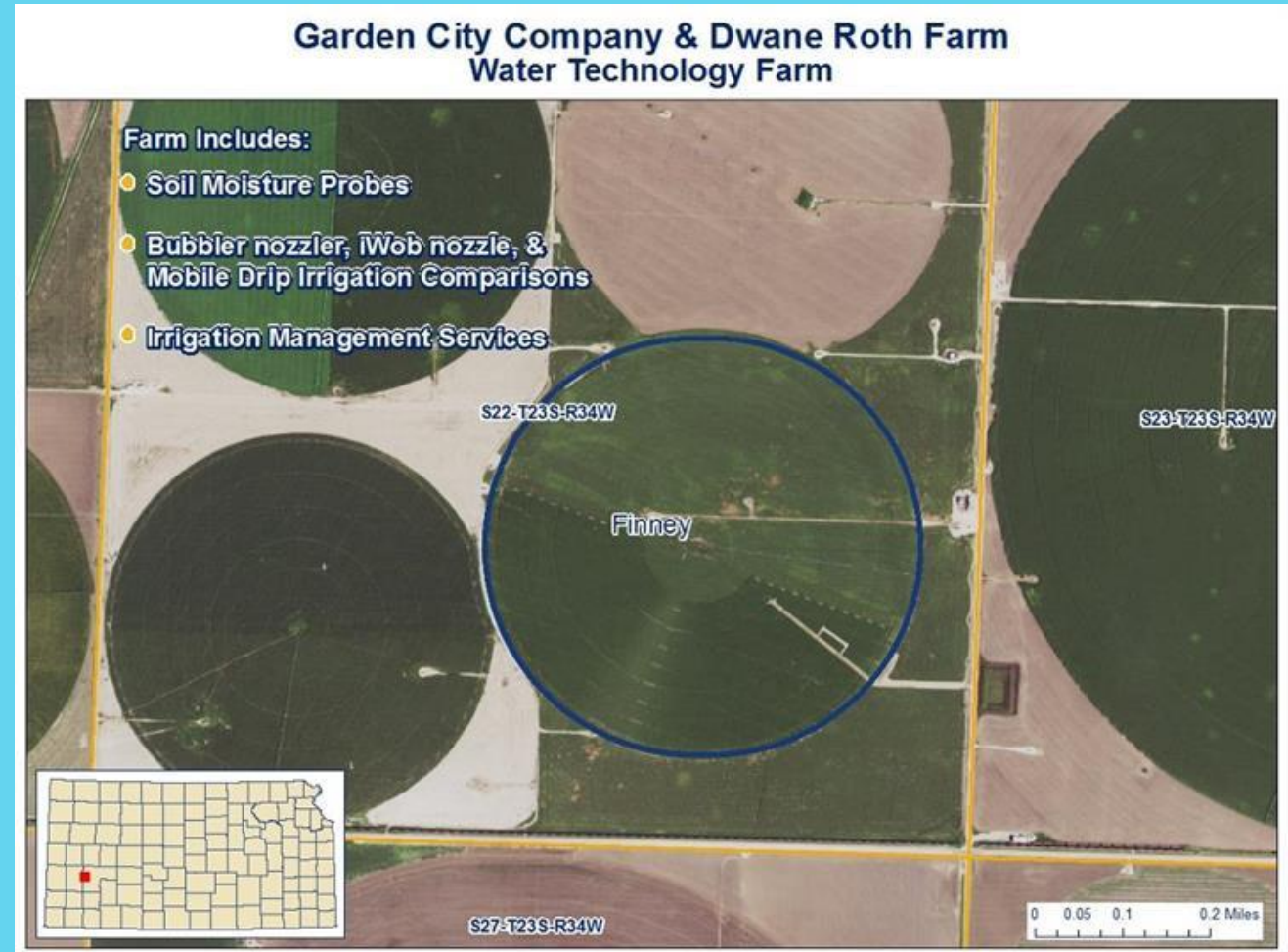
100 Acre-Feet of water total

9.5" of water

- 6.0" of groundwater (63 AF)

- 3.5" of surface water (37 AF)

16.8 Bushels/Acre/Inch of water



SPEAKERS



Dr. Jonathan
Aguilar

K-State Research
& Ext



Nick Hatcher

Hatcher Land &
Cattle



Ryan Speer

Jacob Farms



Weston McCary

Northwest Kansas
Technical College

CLOSING COMMENTS

- Thank You
- Interest in a Water Technology Farm (Dec 1st)
- 2019 Field Days (July-Aug)
- Questions?

Armando Zarco

(620) 276-2901

Armando.Zarco@KWO.KS.Gov

Garden City, KS (KDA-DWR Office)