



2024 Ogallala Aquifer Program – Forage Research Planning Meeting

December 10-11, Bushland, Texas
Introduction and Session Orientation

*A Research Consortium for the Southern Ogallala
Aquifer Region:*

Kansas State University
Texas A&M AgriLife
Texas Tech University
West Texas A&M University
USDA ARS, Bushland and Lubbock

OAP Objectives 2025

- Develop and evaluate **water management strategies and technologies, including dryland cropping systems**, that could **reduce water withdrawals** for irrigation while maintaining and/or enhancing the economic viability of the agriculture industry and the vitality of the Southern Ogallala Aquifer Region.
- Develop and evaluate **management strategies and technologies** that would increase the productivity and profitability of **forage or other short-season** cropping systems that **reduce or eliminate water withdrawals**.
- Improve the understanding of hydrological and climatic **factors that affect water use and economic profitability**, and provide estimates of the climatic, hydrologic, cropping, and profitability conditions that are likely to occur on the southern High Plains over the next 50 years.
- Determine the **impacts of alternative water withdrawal/use policies** on the economic viability of the agriculture industry and the vitality of the Southern Ogallala Aquifer Region.
- Develop **best management practices for alternative crops** that increase the sustainability of dryland farming or high value crops that maintain farm income with decreased pumping from the Ogallala Aquifer.

Guidance: We are an R&D organization

- We do **Research** to answer questions related to problem solving.
- But are the answers to those questions **consequential** to a sustainable agricultural **economy**?
- Let's ask consequential questions.
- We **Develop** solutions to problems based on answers to consequential questions.
- **Solutions** come in many forms but must be transferrable and economically viable to be effective
- So, let's close the loop with **technology transfer** and **economic analysis**.

Research Plan Timeline – 2024-2025

- **December 2024:** Call for pre-plans
- **February 26-27:** OAP Workshop – work to finalize pre-plans
- **April 2:** Deadline for pre-plan submission to Gwen Coyle
- **April 9:** Deadline for budget submission
- **April 25:** Deadline for pre-plan review and ranking
- **April 30:** Leadership meets in executive session
- **May 1-21:** Writing of agreements with the universities
- **May 23:** Submission of agreements to the USDA ARS Area Office

The workshop – Today

- Industry Insights
 - Ogallala aquifer conditions - Kansas, Brownie Wilson
 - Ogallala aquifer conditions - Texas and eastern New Mexico, Ginny McGuire
 - Beef industry viewpoint, Matt Davis
 - Dairy industry viewpoint, Darren Turley
- Research Keynotes
 - Past Forage Studies and Economics in Western Kansas, Dr. John Holman
 - Forage Production with Limited Water, Dr. Jourdan Bell
 - Forage Production for the Dairy Industry, Douglas Duhatschek
 - Questions and discussion

The workshop – Tomorrow

- OAP Team Reports – Projects in progress
 - Summer legumes an alternative protein source for the Ogallala Aquifer Region, John Holman
 - Evaluation of limited irrigation forages in Western Kansas, Lucas Haag
 - Smart forage sorghum: Precision sensing for optimized irrigation water management, Hope Nakabuye
 - Identification of climate resilient alternative field and forage crops for the Southern Great Plains, Srini Ale
- Research Possibilities
 - Augustine Obour, Juan Piñeiro, Wenwei Xu, Rocio Reyes-Estevez, Zhanguo Xin
- Discussion Breakouts (self-sorting)
- Report outs

The Changing Nature of OAP R&D Efforts

- In 21 years, the realization of aquifer decline and its impact on sustainability of rural economies has changed perceptions and aspirations
- This is true for the public at large, the farming community, the vertically integrated animal industries, water planners, economic planners (banks), other water users, and all who rely on agricultural production
- Past foci lose relevance and new foci come to the fore
- A shift to forage production systems and other profitable but less water consuming systems is imperative, but characteristics of successful systems and their economics are unknown
- Understanding of how new productive systems best meet the needs of animal industries while preserving rural economies is key
- Stabilizing the aquifer remains of paramount importance

Thank you to:

- Gwen Coyle and her associates for meeting organization and much more....
- Texas A&M University for providing for eats and treats
- All our speakers for sharing their time, energy, and hard-won knowledge to broaden our perspectives and deepen our insights
- All of the OAP participants from four universities and two ARS locations for their diligence and cooperation for 21 years