USDA Agricultural Research Service
U.S. DEPARTMENT OF AGRICULTURE

Ogallala Aquifer Program

2025 Ogallala Aquifer Program Workshop

February 26-27, Lubbock, Texas

Introductions 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.

Research Plan Timeline

- **December 2024:** Call for pre-plans
- **February 26-27:** OAP Workshop – work to finalize pre-plans
- **April 2:** Deadline for pre-plan submission
- **April 9:** Deadline for budget submission
- **April 25:** Deadline for pre-plan review and ranking
- **April 30:** Leadership meets in executive session
- **May 2-20:** Writing of agreements with the universities
- **May 23:** Submission of agreements to the USDA ARS Area Office

The workshop – Today

- Research Progress Towards Q-Stable Production Systems
  - Rotation, tillage systems, and cover crops
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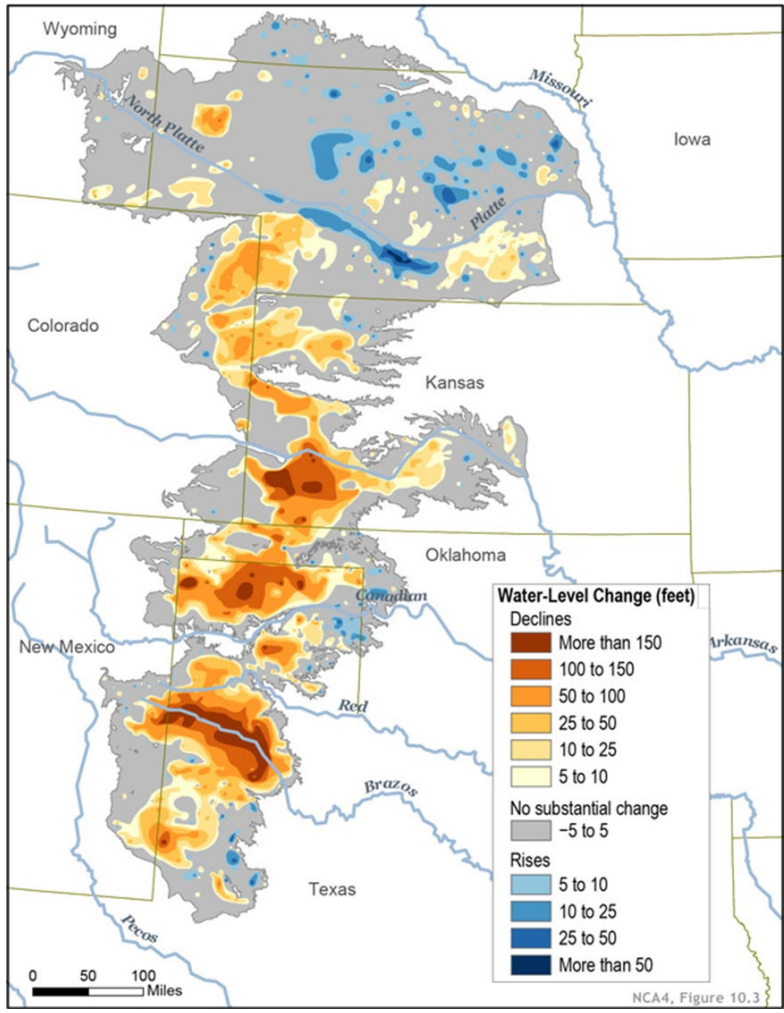
  - Integrating Livestock into Traditional Rotations
  - Evaluating Site-specific Water Management
  - Optimizing crop water productivity of industrial hemp
  - Guar as an Alternative Crop for Dryland Production
  - Spring Cover Crop Research
  - Economic Analyses
  - Water Use as Affected by Irrigation Application Method
  - Alternative Water Use Modeling for Cotton, Corn, & Soybean
- Poster session
- Dinner

The workshop – Tomorrow

- Update on the Big Cotton Project
- Panel Discussion: Q-Stable Production Systems
- Breakouts – Discuss approaches to achieving Q-stable production systems
- Report Outs
- Pre-plan team writing and completion
- Posters still up
- March 22 is World Water Day!



The Changing Nature of OAP R&D Efforts

- In 22 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 as we search for

  Q-Stable production systems
- A shift to forage production systems and other profitable but less water consuming systems is imperative
- Understanding of how new productive systems best meet the needs of animal industries is key
- Understanding of economic outcomes remains crucial

Thank you to:

- Dr. Noureddine Abidi, Monica Hightower and their Texas Tech University team for assessing multiple locations, then handling arrangements, logistics, catering and so much more…
- The National Ranching Heritage Center staff for their gracious and effective hosting of our meeting
- Gwen Coyle, Ben Herron and their associates for meeting organization and much more….
- All our speakers for sharing their time, energy, and hard-won knowledge to broader our perspectives and deepen our insights
- All of the OAP participants from four universities and two ARS locations for their diligence and cooperation for 22 years