The Ogallala Aquifer in western Kansas and the Texas High Plains is declining at an unacceptable rate. Aquifer depletion rates of one- to three-feet per year are commonplace in that region, with very small amounts of recharge occurring. Water availability, cost, and policy, together with technology development and adoption rates, will reshape the rural landscape in coming decades.

To ensure the sustainability of rural communities in this region, continued investments are needed in irrigation management, water conservation and agronomic research. With continuing depressed commodity prices and water shortages, water becomes a commodity with potentially competing uses.

Objectives

- Investigate water management within existing cropping systems and conceptualize new water-efficient cropping systems
- Develop and evaluate integrated crop and livestock systems that reduce dependence on underground water resources while optimizing productivity, product quality and profitability
- Investigate designs, performance and management of equipment and systems used for irrigation
- Provide estimates of the economic impacts of various water management activities and strategies
- Provide a common assessment of the groundwater resources in the Ogallala Aquifer and relationships with climate
- Educate producers, water professionals, youth and policymakers about soil water, crop water use, precipitation and aquifer management and irrigation principles
- Develop and evaluate water-saving technologies for the confined animal feeding operations and industries that process agricultural commodities

Components

- Science and Technology: Conduct scientific research and technology development to enhance water use efficiency and promote aquifer sustainability

http://ogallala.tamu.edu
• **Social Sciences:** Provide information to water users that will result in balancing economic, environmental and social concerns for the utilization, conservation and protection of the Ogallala Aquifer

• **Policy:** Provide scientifically sound data to planners and policymakers to enable development of effective water management policies that will result in balancing the utilization and protection of the Ogallala Aquifer and helping sustain rural economies

**Collaborators**

- Texas AgriLife Research
- Texas AgriLife Extension Service
- USDA Agricultural Research Service, Bushland and Lubbock
- Texas Tech University
- West Texas A&M University
- Kansas State University
- USDA Natural Resources Conservation Service

**Funding Agency**

- USDA Agricultural Research Service