

TEXAS A&M AGRI LIFE RESEARCH

BLACKLAND—TEMPLE

ABOUT BLACKLAND RESEARCH CENTER

Blackland and USDA scientists are leading the development and use of computer simulation models to assess the impacts of changes in agricultural and urban land use and to help manage natural resources. The state-of-the-art models address soil, nutrient, and pesticide losses that affect water quality. They also help researchers identify best management practices for enhancing agricultural productivity and profitability and for managing water supplies during extreme weather events such as drought and flooding. These models are the primary tools used worldwide for developing conservation programs, identifying limitations to agricultural productivity, and finding sources of non-point pollutants affecting water quality. Agriculture, natural resources, and environmental assessment and modeling activities include the following:

- Developing and applying the Agricultural Policy Environmental eXtender (APEX) model and the Soil and Water Assessment Tool (SWAT) to

address soil erosion, water quality, and agricultural productivity.

- Developing a web version of the APEX model to help NRCS field staff identify and design the best combination of conservation practices for USDA Conservation Programs.
- Expanding the capabilities of APEX, SWAT, and PHYGROW models to address agricultural management and ecosystem changes influenced by climate, flooding, stream-bank erosion, animal grazing, and drought for natural grasslands, forestlands, and urban areas.
- Working with land managers at Fort Hood military base to address soil erosion, watershed protection, and urban stormwater control.



The original Blackland Experiment Station, 1927

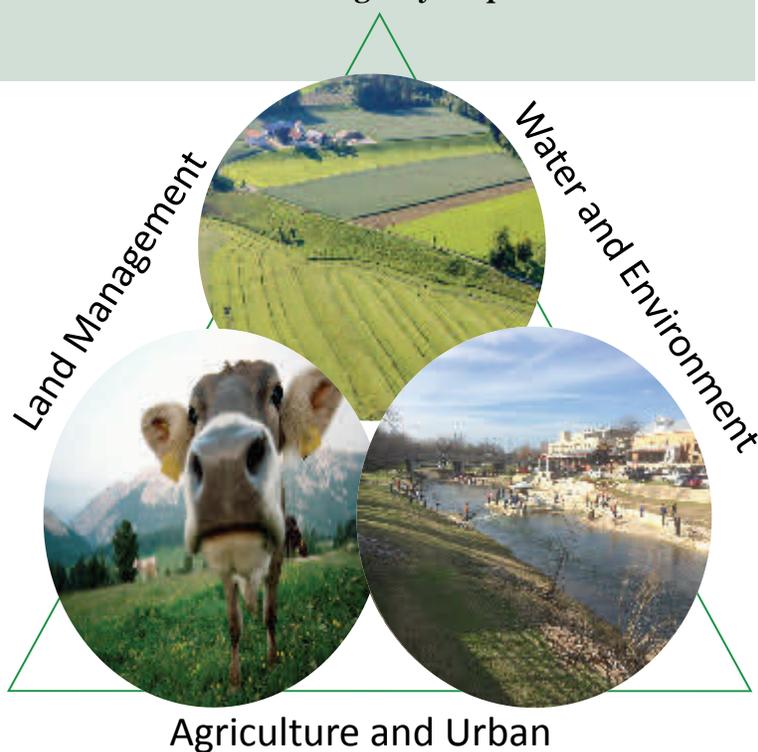
First called the *Blackland Experiment Station*, this research center was established in 1909 by the Texas legislature and named after this region's unique soil characteristics. The station was moved to its present site in 1927 and sits on 524 acres in south Temple. USDA's Natural Resource Conservation Service and Agriculture Research Service are co-located with Texas A&M AgriLife Blackland Research Center to facilitate partnership and research collaboration.

Blackland Research Center's Project Impacts

- Works with USDA to assess conservation practices in Texas and the Upper Gold Coast. These findings inform the U.S. Congressional Agricultural Committees.
- BRC assists the Fort Hood Military Reservation by conducting extensive hydrological-based erosion monitoring to protect downstream waterbodies. Receiving reservoirs Belton and Stillhouse Hollow provide flood protection and are major water sources for over 900,000 residents in the area.
- The livestock forage quality analysis receives over 18,000 samples from farm operators , and continues to be a management practice financially supported by USDA.
- The Grazingland Nutrition Lab is studying DNA to assess the plant species composition in the diets of cattle. This provides an monitoring technique for identifying stress factors.
- The U.N. Food and Agriculture Organization uses Blackland's Livestock Early Warning System in Kenya. This System helps inform policy-makers of which counties will receive emergency response and disaster recovery funding.

AgriLife-Blackland partners with USDA-Natural Resource Conservation Service and USDA-Agricultural Research Service to improve sustainability of our precious natural resources. Research sponsors include:

- ◆ USDA-NIFA, NSF, USAID, World Bank, FAO, DoD, EPA
- ◆ Texas State Soil and Water Conservation Board, TCEQ
- ◆ Many other public/private sponsors



ABOUT TEXAS A&M AGRILIFE RESEARCH - *A member of the Texas A&M University System*

Established in 1888, Texas A&M AgriLife Research is the state's premier research and technology development agency in agriculture, natural resources, and the life sciences. Headquartered in College Station, AgriLife Research has a statewide presence, with scientists and research staff on other Texas A&M University System campuses and at the 13 regional Texas A&M AgriLife Research and Extension Centers. The agency conducts basic and applied research to improve the productivity, efficiency, and profitability of agriculture, with a parallel focus on conserving natural resources and protecting the environment. AgriLife Research has 550 doctoral-level scientists, many of whom are internationally recognized for their work. They conduct hundreds of projects spanning many scientific disciplines, from genetics and genomics to air and water quality. The annual economic gains from investments in Texas's public agricultural research are estimated at more than \$1 billion. Through collaborations with other institutions and agencies, commodity groups, and private industry, AgriLife Research is helping to strengthen the state's position in the global marketplace by meeting modern challenges through innovative solutions.

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Find out more!

