TEXAS A&M AGRILIFE EXTENSION | TEXAS A&M ENGINEERING TEES | TEXAS A&M AGRILIFE RESEARCH

FY 2014 & FY 2015 Exceptional Item

Appropriated Amount (biennial):
$3 Million

ADVANCEMENTS IN WATER RESOURCE MANAGEMENT

Benefit to Texans

Rising water demand associated with the growing Texas population has come face-to-face with limited water supplies. Decreased intensity of the 2011 drought across much of Texas does not reduce future challenges.

County-by-county needs assessments conducted in 2011 involving stakeholders, producers, and residents, identified water as the top statewide priority. There is an urgency to develop and implement new technologies and best practices in both rural and urban environments.

OBJECTIVE

Leverage Texas' agricultural and life sciences expertise to address urban and rural surface water, groundwater, and reusable water issues through research, technology development, and best practices.

Improve municipal, manufacturing, irrigation, recreational, and agricultural water utilization and conservation.

How and when water is used or reused in homes, businesses, or industries — including landscapes and production agriculture — require both research and education to reach a high-quality water future. Supplies must be assessed and managed with emphasis on such factors as bacteria, nutrients, storm-water runoff, routine conservation and treatment/reutilization strategies.

As three of the nation's preeminent research and education agencies, Texas A&M AgriLife Extension Service, Texas A&M AgriLife Research, and the Texas A&M Engineering Experiment Station will align their expertise and outreach capabilities to benefit Texans. This investment in water research and education will make a critical difference in the state's ability to increase the efficiency and utility of its water resources. It will also facilitate research to develop advanced technologies and next-generation best management practices for water in Texas.

Aggressive strategies for education and research, backed by outcome measures that demonstrate the impacts on water use and conservation, can lead to a safe and sufficient water supply for Texas. There is likely no higher priority for our state's future.

Description and Justification

Drought made 2011 the driest year on record and exposed the frailty of Texas water supplies and management. AgriLife Extension Service, AgriLife Research, and the Engineering Experiment Station, seek funding through this exceptional item for resources and 28 FTEs to provide more aggressive research and extension education about water.

Initiatives include the following:

- Develop models that predict the potential impact on water supplies due to drought, land use, and municipal water use under different climate scenarios
- Accelerate development and adoption of innovative conservation technologies that solve water supply problems and secure future supplies
- Develop, educate, and assist in implementing more comprehensive practices for managing irrigation water use and water-capture methods to improve efficiency across cropping systems, residential and business areas, urban landscapes, and forage production. These practices will include alternative sources such as saline water, reclaimed water, gray water, and wastewater. Expand AgriLife's existing Evapotranspiration Network to use weather data and soil and crop conditions for real-time decision making to maximize crop production with minimal irrigation
- Deliver water use and conservation education to Texas residents, water districts, and municipalities via four regional training teams and through online courses
- Target modern plant breeding and biotechnology to develop geographically appropriate drought-tolerant and water-use-efficient plants
- Develop efficient, cost-effective, advanced irrigation, water capture, and treatment technologies
- Analyze the economic impacts and policy implications of water investments in the agricultural sector across both rural and urban Texas
- Analyze the adoptability, return on investment, and environmental benefit of new water technologies

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