



FY 2010-2011 Exceptional Item:
New Technologies to Sustain Texas Water Quality and Quantity

Requested Amount: \$4 million (biennial amount)

Program Description

Goals are to leverage the current efforts of Texas AgriLife Research and to target new statewide efforts to

- expand and evaluate new technologies to detect and model biological, organic, and inorganic contaminants in Texas water supplies;
- develop best management practices to manage water flow and reduce loadings of fertilizer, pesticides, bacteria, salinity, pharmaceuticals, and other contaminants in water;
- develop tools to detect or predict plant water stress and predict regional water shortages;
- develop more efficient methods for on-site delivery and use of water from a variety of sources in urban and agricultural environments;
- develop ornamental and crop plants that are more drought and/or salt tolerant;
- assist regional groups in managing water resources (e.g., managing water supplies to address instream flows, endangered species and other key issues); and
- address stormwater runoff, flooding and erosion in urban watersheds.

Benefit to the State / Results

- The development and adoption of new technologies that conserve and protect water resources in both agricultural and municipal sectors are critical to helping Texas meet its current and future water needs.
- AgriLife Research scientists have a proven track record of developing new water-saving technologies and management practices, and they will significantly leverage the funding received through this initiative from a variety of sources.
- This initiative supports the state's goals of furthering the development and application of knowledge through research and will enhance an adequate and safe water supply.

Improving Life Through Science and Technology.

- Several state agencies have been mandated to implement water-related programs and are in need of quality science to properly implement the programs.

Background Information

- Texas AgriLife Research scientists currently are involved in projects throughout the state that focus on enhancing the quality and quantity of Texas water resources. This research spans the biological, physical, social, and behavioral sciences and involves partnerships with public universities, private landowners, engineering firms, municipalities, and state and federal agencies.
- Drought, aquifer depletion, population growth, and altered watershed hydrology (e.g., a changing proportion of brush and herbaceous cover and an increasing amount of impervious cover associated with urban growth) have stretched some community water supplies to the limit.
- Water demands in Texas are expected to increase 27 percent by 2060.
- Irrigated agriculture currently accounts for about 60 percent of all water used in Texas. This demand is projected to decrease to 40 percent by 2060 due to an increase in municipal use and also to the development of more water-efficient crops and water delivery methods. Texas AgriLife Research scientists play a major role in the development and evaluation of these water conservation programs and technologies.
- By the year 2060, municipal statewide water demands are projected to increase from about 16 percent to more than 44 percent.
- The pressures on water quality also continue to increase because of increasing population and other factors.
- As aquifers have been depleted and reservoirs have aged, the quality of water provided by these systems has declined.
- Drinking water supplies of small communities, as well as individual water wells, are increasingly vulnerable to contamination and to higher salinity levels.

For more information, contact:

Mark A. Hussey, Ph.D., Director
 Texas AgriLife Research
 Texas A&M System
 113 Jack K. Williams
 Administration Building
 2142 TAMU
 College Station, TX 77843-2142
 p. 979-845-7984
 f. 979-458-4765
 mhussey@tamu.edu

Joe Cox, Assistant Vice Chancellor
 for External Relations
 AgriLife Agencies
 Texas A&M System
 113 Jack K. Williams
 Administration Building
 2142 TAMU
 College Station, TX 77843-2142
 p. 979-845-7984
 f. 979-458-4765
 joecox@tamu.edu