Water Conservation Through Irrigation Efficiency

To ensure adequate water supplies for the future, Texas must realize the full benefits of existing technologies; develop more efficient irrigation products, management, and reuse practices; educate agricultural and landscape irrigators; and identify policies that encourage conservation. In support of Governor Perry’s Pure Water, Plentiful Water initiative and the State Water Plan, The Texas A&M University System has established an **Irrigation Technology Center (ITC)** to coordinate its water conservation programs throughout the state.

### San Antonio: Addressing Urban Water Issues

A new urban irrigation program will be initiated in San Antonio. It will address urban water issues, focusing on research and extension work in urban irrigation, equipment testing and certification, and wastewater reuse. Applied research studies and instruction on landscape irrigation, sprinkler testing, run-off collection, irrigation scheduling and testing also will be provided. The programs of the ITC in San Antonio will be closely coordinated with urban water utilities and authorities.

### The High Plains: Improving Agricultural Irrigation

The Halfway/Helms Farm and the Agricultural Research and Extension Center at Amarillo-Bushland will serve as key facilities for agricultural irrigation research and education programs. Scientists from Texas A&M, Texas Tech, and West Texas A&M Universities, as well as the USDA-Agricultural Research Service, will work cooperatively on projects aimed toward ensuring long-term water availability under conditions of declining aquifer water levels in the High Plains.

Studies of incentives and policies needed to foster water conservation will be conducted. Technology research will include precision irrigation management, feedback control, true-scale testing of operating systems, application of pesticides and fertilizers through irrigation systems, evapotranspiration, and tillage systems. Irrigation research conducted through ITC will be coordinated with groundwater conservation districts, irrigation districts, and the Texas Water Development Board. In addition, facilities at the Agricultural Research and Extension Center at Lubbock, Etter, the AgCARES Farm in Lamesa, and the Western Peanut Growers Farm in Gaines County, will be enhanced to support the research effort.

### Research and Extension Centers to Address Regional Needs

The strengths and capabilities of the A&M System’s Agricultural Research and Extension Centers (AREC) throughout the state will be brought to bear on regional water issues. (see map inside)

### Texas Water Facts

- At current rates of water use, demand is projected to exceed supply by 2010.
- Agricultural irrigation accounts for 65% of the total freshwater used each year.
- Between 20% to 40% of the total municipal water used goes on commercial and residential landscapes.
- As much as half of the water used for agricultural and landscape irrigation is wasted because of inadequate equipment or management.
A Statewide Irrigation Technology Center Focused on Solutions

The Irrigation Technology Center will provide solutions to irrigation inefficiency by independently developing and testing design standards for irrigation components; by performing full-scale testing of irrigation systems; by providing education and training services for irrigators and industry personnel; and by fostering linkages with academic programs.

The ITC will have five divisions:

- **Urban Programs** - provides hands-on instruction and applied research for residential and commercial landscape irrigation systems for a variety of end users.

- **Agricultural Crops** - works with underground water conservation districts, irrigation districts, and farmers to develop precision irrigation technologies and policies to encourage efficient use of irrigation water.

- **Wastewater Reuse** - establishes collaborative programs with water supply corporations and municipalities to promote the use of recycled water and to conduct training and applied research on the special nature of wastewater reuse.

- **Equipment Testing and Certification** - tests and certifies the performance of landscape and agricultural irrigation equipment, including laboratory testing of components, field testing of complete systems, and development of performance standards.

- **International** - a self-supporting division that provides fee-based testing, training, research and development of irrigation technology for agencies and organizations in Mexico and other countries.
Capitalizing on the Synergy of the A&M System

Recognizing the importance of both research and education in addressing the state’s water issue, the Board of Regents of The Texas A&M University System approved the establishment of the Irrigation Technology Center in May 2002. The ITC is part of the Texas Agricultural Experiment Station, and will work in partnership with Texas Cooperative Extension, and other agencies and universities.

The Center will be administered through the Texas Water Resources Institute, a research and public information unit of the Experiment Station, which serves as a focal point for water-related research and outreach for Texas universities. Research and extension faculty at ITC facilities, Texas A&M and other universities and Agricultural Research and Extension Centers will work cooperatively to address the vital issue of water for Texas.

Funding Water Research and Education

The Texas Agricultural Experiment Station is seeking a state appropriation of $2 million per year over the next biennium to cover unmet operating costs. Additional revenues will be realized from the testing and certification labs, education and training fees, software sales, fees, grants, contracts and donations.

The Irrigation Technology Center: Water for the Future

Solutions to Texas’ water problems are within our grasp. Existing and new technologies can enable agricultural producers to increase irrigation efficiency and significantly reduce water use. Application of these technologies and best practices to commercial enterprises, public and residential landscapes will likewise help all Texans conserve our water resources. Through research and education, the Irrigation Technology Center will help ensure the future of Texas.

Supporters

The following organizations have provided financial support and/or statements of support for the Irrigation Technology Center:

- BexarMet Water District
- City of San Antonio
- Edwards Aquifer Authority
- San Antonio River Authority
- San Antonio Water System
- Texas Turf Irrigation Association

Potential Cooperators:

- Agricultural commodity organizations
- Free Trade Alliance San Antonio
- Groundwater conservation districts
- Irrigation districts
- Other universities
- Regional water planning groups
- San Antonio area chambers of commerce
- Texas Association of Groundwater Districts
- Texas Commission on Environmental Quality
- Texas Department of Agriculture
- Texas State Soil and Water Conservation Board
- Texas Water Development Board
- U.S. Bureau of Reclamation
- U.S. Geological Survey
- USDA Agricultural Research Service
- USDA Natural Resources Conservation Service
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