



Texas A&M AgriLife programs receive water conservation awards

Two groups involving Texas A&M AgriLife Research and Texas A&M AgriLife Extension Service personnel were recognized in fall 2012 with Save Texas Water Blue Legacy Awards in Agriculture from the Water Conservation Advisory Council.

The Blue Legacy Awards, which annually recognize outstanding water conservation efforts and successes of the agriculture community, were given to the Ogallala Aquifer Program, a university and federal agency research-education consortium, and the AgriLife Extension–Panhandle District 1 2011 North Plains Corn Irrigation Demonstration Project: Efficient Profitable Irrigation in Corn, or EPIC.

The Ogallala Aquifer Program was created by Congress in 2003 to find solutions to problems arising from declining water levels in the High Plains aquifer, according to Dr. David Brauer, research agronomist with the U.S. Department of Agriculture’s Agricultural Research Service and manager of the program.

Brauer said the program includes approximately 80 state and federal scientists from the Agricultural Research Service, Kansas State University, Texas A&M University through AgriLife Research and AgriLife Extension, Texas Tech University and West Texas A&M University.

Dr. Kevin Wagner, Texas Water Resources Institute’s associate director and Texas A&M’s representative on the program’s leadership team, said: “For the Ogallala Aquifer Program to win this award illustrates the progress and achievements that have been made in promoting water conservation while helping to maintain or improve

the profitability of farming and the prosperity of farming communities in the Texas High Plains,” Wagner said. “The institute is proud to support the Texas A&M AgriLife researchers and Extension specialists involved in this important program.”

Dr. John Sweeten, resident director of the Texas A&M AgriLife Research and Extension Center at Amarillo, said that in addition to developing water conservation technologies for agricultural producers, the program provides scientifically based data and knowledge.

“Using this information, both farmers and policymakers can make effective decisions regarding water use and conservation,” Sweeten said.

AgriLife Research and Extension personnel at Amarillo and Lubbock extensively involved in the Ogallala Aquifer Program include Steve Amosson, Jim Bordovsky, Ken Casey, Paul DeLaune, Nich Kenny, Shuyu Liu, Thomas Marek, Jaroy Moore, Seong Park, David Pointer, Dana Porter, Pat Porter, Nithya Rajan, Charlie Rush and Qingwu Xue.

EPIC is a demonstration effort conducted by AgriLife Extension and funded primarily by the North Plains Groundwater Conservation District, said Kenny, AgriLife Extension irrigation specialist in Amarillo. It is designed to address the adoption of improved irrigation management strategies to increase water-use efficiency, crop productivity and production profitability.

EPIC includes project members Kenny and AgriLife Extension county agents Scott Strawn, J.R. Sprague, Marcel Fischbacher, Michael Bragg, Kristy Synatschk and Brad Easterling. 

Includes information from a Texas A&M AgriLife Today news release.



The Ogallala Aquifer Program was created to find solutions to problems arising from declining water levels in the major aquifer. Texas A&M AgriLife Extension Service photo.

Experts investigating graywater for landscapes

A Texas A&M AgriLife Research ornamental horticulturist is working with others in The Texas A&M University System to determine the feasibility of using graywater to irrigate home landscapes.

“There has been interest in and discussion about the possible use of graywater for irrigating home landscapes, but so far little formal research has been done to validate its practicality,” said Dr. Raul Cabrera, associate professor of ornamental horticulture at the Texas A&M AgriLife Research and Extension Center at Uvalde.

Cabrera said graywater is essentially “soapy” water left after tap water has been run through a washing machine or used in a bathtub, bathroom sink or shower and does not contain serious contaminants.

He said while it is difficult to precisely estimate the statewide potential for water savings by using graywater, it may reduce household landscape water use by up to 50 percent, depending on the size and type of landscape plants used and the household’s geographical location.

“The average household uses as much as 50-60 percent of its water consumption for the landscape—grass, ornamental plants, trees, etc.,” he said. “Considering that the average family of four produces about 90 gallons of graywater per day, if this was used to irrigate a landscape, it could represent a significant water savings.”

Using graywater is one of the easiest ways to reduce the need for potable water typically used in a home landscape, said Dr. Calvin Finch, director of the Water Conservation and Technology Center (WCTC) in San Antonio, which is administered by the Texas Water Resources Institute (TWRI) and Texas Center for Applied Technology (TCAT), both part of the Texas A&M University System. TWRI is participating in the graywater research by providing funding through its Rio Grande Basin Initiative. The initiative is administered through the U.S. Department of Agriculture’s National Institute of Food and Agriculture.

Finch said the 2012 state water plan identifies more than 500 specific activities that, if implemented, would help meet the state’s future water needs.

“One of the low-hanging-fruit projects that is often overlooked is use of graywater from households,” he said. “Research results indicate that with minimum precautions water from our showers, bathroom sinks and clothes washers could be used to meet up to 10-15 percent of our overall landscape water needs.”

Graywater differs from reclaimed water in that it is not water captured from sewer drainage or stormwater systems and then run through a wastewater treatment facility, Cabrera said.

“Reclaimed or ‘purple-line’ water is used for irrigation by some large-acreage operations such as golf courses, sports fields and large businesses,” Cabrera said. “But graywater is just potable water that has been used for fairly benign household activities and could be reused immediately or stored and used soon after its initial use.

“It is also not what is referred to as ‘black’ water, which is used water from a toilet or the kitchen sink, both of which have a higher potential for containing bacteria and other organisms considered hazardous for human health. In this regard, graywater poses a minimal risk, particularly if we look primarily at water generated from clothes-washing machines.”

Cabrera said one concern about using graywater on home landscapes is possible salt content.

“Some detergents may have a high salt content in the form of sodium, chloride or boron, which could potentially ‘burn’ a plant,” he said. “Part of our research here will involve determining the salinity and specific constituents found in graywater and their effect on plants, plus determining the efficacy and function of irrigation systems.”

He said there is also the concern that some of the constituents in soapy water might plug drip irrigation systems, thus requiring additional and periodic care and maintenance.

“Additional research will address how variations in water quality, such as soft versus hard water, may affect the salt content and chemical constitution of the produced graywater and how it affects plant growth and quality,” Cabrera said.

He said TCAT will “evaluate the plumbing and delivery technology needed to retrofit a household” so graywater could be used to irrigate a home landscape. 💧

The original Texas A&M AgriLife Today story can be found at today.agrilife.org.