New publication sheds light on agricultural water use in Texas

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Texas A&M AgriLife Research and Texas A&M AgriLife Extension Service experts recently released a report, Status and Trends of Irrigated Agriculture in Texas, highlighting the current status of irrigation in Texas.

"Irrigation is critical to our food production and food security and is a vital component of Texas' productive agricultural economy," said Dr. Kevin Wagner, associate director of the Texas Water Resources Institute and lead author of the special report.

"Decision-makers need the facts on just how much water agriculture is using as well as how much food and fiber it's producing with that water," he said.

Wagner said because of drought conditions and water supply concerns, Texans are looking to improve water conservation and management strategies across the board.

The content in the report was drawn primarily from data and reports published by Texas A&M University, AgriLife Research, AgriLife Extension, the Texas Water Development Board and the U.S. Department of Agriculture National Agricultural Statistics Service.

"The report aims to be a concise survey of the most current body of knowledge on irrigated agriculture in Texas," he said.

"Over the past several decades, significant advances have been made in irrigation efficiency, as many irrigators now use high-efficiency advanced irrigation technologies, such as low-pressure center pivot sprinkler systems or subsurface drip irrigation," said Dr. Dana Porter, AgriLife Extension agricultural engineering specialist in Lubbock, who contributed to the report.

"However, challenges remain and there are opportunities for continued improvements in water use efficiency through application of situation-appropriate efficient irrigation technologies and best management practices, including irrigation scheduling, and through use of drought-tolerant crop varieties and integrated crop and pest management practices."

Highlights from the report include:

- While statewide agricultural irrigation application rates have stayed relatively constant since the mid-1970s, agricultural yields have increased significantly as improvements in irrigation technology and management, crop management and crop genetics have been developed and implemented.
- Texas agricultural irrigation averages less than 18 inches per acre annually. In comparison, a College Station study found average households supplemented rainfall by applying 22 inches annually to lawns.
- The statewide economic value directly derived from irrigated agriculture was $4.7 billion in 2007.
- Regional impacts of irrigated agriculture vary greatly, and in regions such as the High Plains, the economic impact is significant. In the Texas High Plains alone, the total regional economic impact of converting all irrigated acres to non-irrigated dryland farming would be an annual net loss of more than $1.6

billion of gross output, more than $616 million of value added and nearly 7,300 jobs.

- Agriculture is a part of the broader food and fiber sector, which accounts for 9 percent of the state's economy.
- Although both surface water and groundwater are used for agricultural irrigation, the source of most agricultural irrigation water is groundwater. In 2000, 86 percent of the irrigated acres in the state used groundwater.
- Irrigation efficiency has gone from 60 percent to 88–95 percent in much of the state today, allowing Texas to get much more value and agricultural output from its water.
- As of 2008, center pivot sprinklers are used on nearly 80 percent of Texas' irrigated acres, and 87 percent of those acres are using highly efficient low-pressure center pivot sprinklers.

More information: twri.tamu.edu/docs/education/2012/em115.pdf

Provided by Texas A&M University