



# **Texas Groundwater District Demonstration Project Targets Ambitious Water Conservation Goals**

**A**s the Ogallala aquifer continues a steady decline, the Texas Panhandle's North Plains Groundwater Conservation District is in the second year of a project intended to demonstrate the impact of more efficient irrigation practices on producer viability. Dubbed the 200-12 Reduced Irrigation on Corn Demonstration Project, the district hopes to show that 200 acres of corn can be grown using only 12 inches of irrigation water.

"In a normal year, area corn growers pump around 30 inches from the aquifer in order to produce an average of 260 bushels," said Phil Haaland, one of three area farmers who originated the demonstration project and a district board member. Rainfall varies throughout the district, generally ranging between 15 and 20 inches. "In the Texas Panhandle, 15 to 20 inches doesn't go as far as in the north because of evapotranspiration," said Danny Krienke, a district board member and another original demonstration project participant.

The district initiated the project last year, and the original three participants were located in diverse areas of the irrigation service area. This enabled the district to obtain a full view of the various soil profiles in the region as it aims to provide a comprehensive basis for evaluation.

In the project's first year, the district experienced above-average rainfall, making it easier for participants to subsist on the reduced irrigation. However, rainfall in the project's second year has not been as generous. "This year has been the exact opposite," Krienke said. "There is zero rainfall to speak of. . . . Everything is totally dependent on irrigation."

The added stressors of high temperatures with low humidity and wind have made it difficult for some to continue to participate. As many as 60,000 acres in the district have been abandoned for the season in an effort to concentrate the already limited pumping capacity.

However, these two extremes—one wet season and one dry season—will help the district understand the effects of reduced irrigation in diverse weather conditions. "As the district is faced with the challenge of managing the resource into the future, the board can approach any decision with good data," said Kirk Welch, the district's public information and conservation



**Cooperators met with producers during field days to exchange ideas and get an up-close look at the first-year demonstration sites.**

**North Plains Groundwater Conservation District board members, from left, Phil Haaland, Harold Grall, Brian Bezner and Danny Krienke.**

education manager, noting the intent to run the demonstration for five years.

To gain efficiency, project participants are applying an array of water-saving strategies, including conservation tillage, pest and fertilizer management, and new technologies for irrigation water management.

Participants are using probes to gain better information about the moisture level in the soil. Once downloaded via the Internet, this real-time information helps farmers make irrigation decisions using the best data available. When combined with remote irrigation monitoring and control technology, it can be acted upon quickly to achieve maximum water savings.

“The bottom line is, when it’s all said and done, is our net income on that acre at least as good as it was before?” said Harold Grall, a board member and one of the original project participants. The answer to that question for two out of three demonstrations last year was “yes.” While the dry conditions are creating significant challenges this year, participants are still guardedly hopeful for some positive outcomes.

“If a technique like strip-tilling or a technology like the new moisture probes has success in a dry year like this one, producers will pay attention,” said Grall. “These practices will be more widely adopted because they represent a way for growers to remain viable even in these adverse circumstances.”

The demonstration project received the backing of the Texas Water Development Board, which contributed

funding for one-third of the costs. Additionally, the district is working with Texas A&M University, which is conducting a sister research project to help farmers increase water savings in the future.

Krienke noted that the demonstration project focuses on corn because of its prevalence in the region. “The board felt pretty strongly that it’s not its place to place to pick winners and losers,” he said. “The focus is on corn because that is what people are growing.”

“This is not experimentation,” said Haaland. “These are real-world, field-scale demonstrations to see how far we can push the envelope and still remain profitable.”

Overall, the district hopes to use the demonstration as a step toward ensuring the continued vitality of the region’s agriculture. “The district’s demonstration project can make a positive difference in water conservation and the future of farming in our area,” said Steve Walthour, the district’s general manager. “However, for this project to make a difference, it must move from the demonstration phase to the adoption phase, sooner rather than later.”

*For more information on the North Plains Groundwater Conservation District, visit its website at [www.npwwd.org](http://www.npwwd.org).*