Alliance shows crop vitality with less water

Limiting the use of water and other inputs on agricultural fields while still producing higher yields is possible.

Just ask members of the Nebraska Water Balance Alliance who have evidence that using water more efficiently can translate into economic viability.

NEWBA members, vendors, presenters and others met for a winter water summit Thursday at the Monsanto Learning Center.

The group identifies and develops workable alternatives to manage water to ensure healthy streams and sustainable ground water levels.

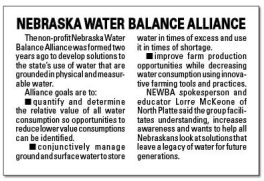
This past growing season, producers incurred high energy costs and used more water to irrigate during one of the driest years on record.

“We need to be aware of aquifer integrity and stream flows and we need to be accountable,” said Roric Paulman, board president.

Paulman has a farming operation outside of Sutherland where he documents changes or applications related to saving water and increasing or maintaining yield.

By such methods as measuring and reducing consumptive water use when and where it's possible, minimizing evaporation through innovative ways such as banking water and recharging the aquifer, consumption can be reduced, according to Ted Tietjen of Grant, coordinator of the Water Balance Demonstration project.

Tietjen talked about the need for real time water use management for producers.



NEBRASKA WATER BALANCE ALLIANCE

The non-profit Nebraska Water Balance Alliance was formed two years ago to develop solutions to the state's use of water that are grounded in physical and measurable water.

Alliance goals are to:

■ quantify and determine the relative value of all water consumption so opportunities to reduce lower value consumptions can be identified.

■ conjunctively manage ground and surface water to store water in times of excess and use it in times of shortage.

■ improve farm production opportunities while decreasing water consumption using innovative farming tools and practices.

NEWBA spokesperson and educator Lorre McKeone of North Platte said the group facilitates understanding, increases awareness and wants to help all Nebraskans look at solutions that leave a legacy of water for future generations.

Producers can quantify the amount of water applied, the amount of water in the soil on a given day or days and more through instruments such as ETGages, that measure evapotranspiration, flow meters and soil probes.

From probe information, pivots can be adjusted in application of water on crops—more in soil that needs moisture and less in areas where moisture is more plentiful.

Satellite imagery is also helpful.

Knowing how much water is used, during which stage of growth, and how much is available in the soil profile each day helps the grower project crop needs in the next few days, weeks or even to maturity, Tietjen said.

"This process helps growers maximize their water use and, in most cases, reduce operating costs and save water for future needs," he said. "It's critical to manage water over the

generations."

Conserving soil moisture and decreasing soil temperature can also be accomplished, Tietjen said, by maximizing the height of surface residue on corn and other crops to catch snow.

He noted that growers who practiced good residue management saw exceptional yields in both corn and beets in Nebraska during the 2012 season.

Digging trenches to catch runoff, filling them with wood chips and covering the area not only reduces soil temperature and prevents runoff but can save two inches of water per acre per year on 160 acres, Tietjen said.

That's an unbelievable savings of 7.8 million gallons of water, he said, which is possible by developing programs with the assistance of University of Nebraska ag officials and others.

Several growers in Nebraska, including Roger and Joe Wahlgren of Gothenburg, participated in the information-gathering and analysis project in 2012 as did several power companies, probe and ETGage vendors, the University of Nebraska Panhandle Station, natural resources districts and sponsors.

The project will continue in 2013 using telemetry so ETGages and flow meters can be read daily and shared by producers.

Using new tools and technologies and quantified data, Paulman said he hopes they can change the behavior of growers to do what they can to conserve water for future generations.

"It's not 'why can't we?' " he said. "It's 'why don't we?"

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