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Water management tips for 2015

By CURT ARENS

The severe drought of 2012 proved how crucial water quantity is to irrigators. So, innovative growers have adopted ways to maintain yields and save water at the same time. Aaron Zimmerman of Pierce, Neb., who farms sandier soils with his brother Ryan, has been working over the past two years on strategies to save water, cut expenses and improve the bottom line.

With commodity grain prices dipping far below 2013 levels, Aaron is trying to get the most yield pop per pivot drop. After 2012, he realized how important water resources are to the long-term viability of his farms. "We are very reliant on irrigation. It was a hard thing to get through our heads, but we learned that this water resource underneath us is not infinite," he explains.

Changing rules

When the Lower Elkhorn Natural Resources District began to develop new groundwater management policies that affected Aaron and his neighboring irrigators, he became consciously involved in the process. "We wanted to help shape the policy into something that would be usable," he says. Since then, Lower Elkhorn NRD has imposed restrictions on new irrigated land and other quantity-control measures in some specific control subareas within the district.

Although they are not farming in one of the specified groundwater quantity subareas, Aaron and his brother voluntarily imposed their own rotational use system to help save water resources and get the most out of what they used. In conjunction with an AgSense remote monitoring system, Aaron began to irrigate only at night on a rotating basis.

"We start up the pivots between 8 and 10 p.m. in the evening and run until between 6 and 10 a.m. the next morning, and then we shut down," he says.

Monitoring systems have allowed



WATER SAVERS: Aaron Zimmerman (right) and his brother Ryan are employing numerous innovative irrigation technologies and strategies. They water at night only, voluntarily, to save water, cut costs and improve efficiency.

Aaron to keep track of his evapotranspiration gauges, soil moisture probes and pivot operations remotely to develop watering prescriptions for each field. "Having the AgSense system made it easier to visually set up the graphical interface on the monitoring website," he says. "We can easily draw up the prescription. We can sit at our desktop computer and use Google Earth maps to see the historically stressed places in our fields."

Management is a necessary component to make it all work. "You still can't replace boots on the ground, but the monitoring gives you a good idea about where to start."

Although the Zimmermans have been using VRI since 2009, the monitoring system allows them to know if they are staying ahead of in-season crop water

needs. "The year 2012 was brutal," Aaron says. They had a challenge in keeping crops watered. "In sandier soils, you can't mine the soil profile for moisture unless you are at the right growth stage at the end of the season," he says.

Practices save moisture

In addition to pivot and soil monitoring, the Zimmermans have also implemented strip tillage to retain some of the moisture-saving advantages of no-till, but still allow for better emergence during planting in a corn-on-corn situation. Extra residue left on the surface helps conserve soil moisture.

They've also added pressure regulators and drop nozzles on their pivots to improve water use efficiency.

"Irrigating only at night was a big

change for us," he says. "But now we can watch our soil probe data, watch our graphs and actually see if we have been gaining over the past week." In the past two years, the trendline of the soil moisture probes has been up. "Every year we keep cutting back a little more, and we'll see how little we can irrigate" and still maintain high yields, he says.

Public perception is an added benefit to rotational use. "If someone is driving down the road during the heat of the day and they see that our pivots aren't running, it reminds them that farmers want to do their part to grow a crop and still preserve water resources," Aaron says.

Learn more about the Zimmerman farms' irrigation strategy by emailing aaron@zimminc.com.

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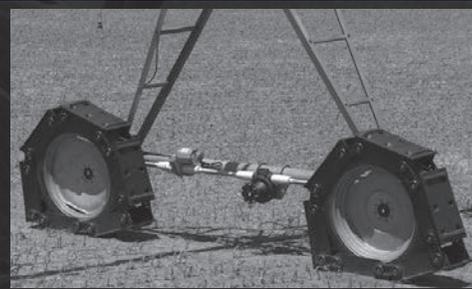


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