



CASE IN POINT

- LOCATION:** Paulman Farms Sutherland, Neb.
- SITUATION:** 6,500 acres total, 80% irrigated
- CHALLENGE:** Strict regulations limit water use, requiring careful management of irrigation
- DEPLOYMENT:**
 - AgSense® Field Commander®
 - AgSense Crop Link®
- EFFECT:** Saves time and energy; maximizes efficiency of water usage to produce high-quality crops

Persistence and Technology Pay Off for Nebraska Farm Family

Roric Paulman grew up on the farm his grandfather had established near Sutherland, Neb. With his dad’s blessing, he moved to Omaha in his early 20s to gain business experience. Roric got married, started a family, and ran a six-state auto/diesel service business.

During the farm crisis of 1985, Roric’s dad called him one day and said, “Do you want to farm?” Roric quit his \$75,000-a-year job and moved to the farm with his wife and children.

Six months after the move, Roric’s father passed away at age 48 from a massive heart attack. “The farm went back to Farm Credit and we had a machinery sale,” Roric recalls. “We started over with the help of the landowners who let me custom farm for a little bit.” Over time the family was able to buy back their land, and by December 2012 they owned all the land from the original farm.

Today Roric, his wife Deb, and their 26-year-old son Zach run Paulman Farms with the help of eight employees and two agronomists. In addition to handling most of the bookkeeping and accounting for the farm, Deb (a former teacher) is head of staff development for Unit 16 of Nebraska ESU. Zach joined the operation full-time after graduating from college in 2012. His three older siblings worked on the farm while they were growing up but decided to pursue other occupations.

The Paulmans’ biggest challenge as growers is variable weather. In addition to having about nine hail days per year, their area receives sporadic rainfall. As a result, 80 percent of their 6,500-acre farm is irrigated with center pivots of varying sizes. Water supplies are limited, requiring careful attention to water usage.

“We’re in an area where pumping is highly restricted, so all of our withdrawals are measured and tallied,” Roric notes. “We have a five-year budget for water, but we could burn through most of our allocation in one year if we weren’t paying attention. After 30 years, we’re pretty good at controlling our water usage and the AgSense technology has allowed us to become even more precise.”



Roric first heard about AgSense in 2010 when he met the company's CEO, Terry Schiltz, at a farm show. The Paulman family had used other pivot control systems, so they understood the value of remote monitoring and control of irrigation pivots. They began using AgSense in 2011 and currently use Field Commander to monitor and control their pivots and Crop Link to track weather and real-time pumping gallons per minute. With Crop Link, Zach says, "You can tell how much rain you're getting in different locations."



Roric, Zach, and two of their employees use AgSense daily, relying on cell phones and notebook computers to monitor and control the equipment, and a desktop PC to set up and configure the user interface. Their irrigation system includes equipment from several manufacturers, and AgSense is compatible with everything they own.

In addition to monitoring water usage via Crop Link, the Paulmans rotate crops to conserve water, improve soil and minimize threats from insects and disease. This season's crops include milo, yellow corn and popcorn, hard red winter wheat, black turtle beans, black-eyed peas, yellow field peas and soybeans. Planting begins in April and the last harvest takes place in December.

Different crops have widely varying water requirements, Roric says. Corn and soybeans need about 25 inches, for example, while wheat and dry beans require 14 to 15 inches. "Because of allocations, we can't grow corn or soybeans five years in a row," he explains. "Particularly during a drought, there wouldn't be enough water."

To make sure groundwater will be available for future generations, Roric co-founded Nebraska Water Balance Alliance (NEWBA) in 2010. The organization has 145 members, including growers from Kansas and Colorado as well as Nebraska.

Before the advent of today's technology, Roric says, farmers relied on gut instincts and agronomists' estimates to make irrigation decisions. "Almost all operators had a feel for how to irrigate, but we didn't have the precision or the tools that we do today," he says.

Roric appreciates the accuracy and reliability of AgSense technology. "AgSense has come a long way since 2011," he notes. "They've made it much more accessible. But what has always impressed us is the reliability. The darn things, almost without exception, always work."

One of the primary benefits of using AgSense is the time saved, according to Roric. "To physically visit the pivot point and well of every machine we own, we have to travel 143 miles. We still need to do that sometimes, but AgSense has allowed us to utilize our time much better. When a pivot is stuck or broken, we know about it immediately and we can prioritize our work."

"All of our electric wells are monitored," Roric adds. "We get a text message when they go on and off. AgSense keeps building out more reporting and access and putting the data into a more usable format so we can decide whether to change our water application across a field. We can hone in our end guns and make sure they're not wasting water on a road ditch or in a pond or on a county road. There's so much we can do with it."

"Trying to decide what to adopt and what not to adopt and how to utilize certain technologies on our farm is something that we talk about quite often," Zach says. "Different technology is right for different users. AgSense offers the greatest pieces of technology we've got. It's simple to use, and it hasn't let us down yet."