



## NEBRASKA FARMER INCREASES IRRIGATING HOURS, REDUCES FUEL COSTS WITH PROPANE IRRIGATION

### A PROPANE CASE STUDY

**W**ayne Brinkmeyer has been farming in southeast Nebraska for more than 42 years and currently manages 1,600 acres of wheat, corn, and soybeans near DeWitt, Neb. With Nebraska's history of notoriously hot and dry summers, roughly half of the state's cropland and pasture is irrigated, and Brinkmeyer's operation is no exception.

Though Brinkmeyer has irrigated for years with seven electric motors and one diesel engine, he was in the market for a new engine in 2013 and wanted to try something new. He heard about the benefits of propane-powered irrigation from his pivot and engine dealer, Roehrs Machinery in Beatrice, Neb.

#### MAKING THE UPGRADE

Though Brinkmeyer had never used propane for irrigation, he was familiar with older technologies but didn't think they could handle his irrigation needs.

"I had experience about 20-25 years ago with propane irrigation and wasn't impressed, so that's when I went away from it for diesel," Brinkmeyer said.

Through Mark Bathel, his irrigation sales representative at Roehrs, Brinkmeyer learned about the many advances in propane irrigation technology and the wide range of brands and engine sizes.

He decided to purchase a new Ford 6.8-liter propane engine by Engine Distributors Inc. and applied for purchase incentives offered through the Propane Education & Research Council (PERC) Propane Farm Incentive Program. Brinkmeyer was able to apply for the program online and found the application process quick and easy.

"I've never been more impressed with an application process," Brinkmeyer said. "It was very simple, user friendly and the person who I talked to on the phone was very knowledgeable."

#### COMPANY

Wayne Brinkmeyer  
DeWitt, Neb.

#### CHALLENGE & SOLUTION

When Wayne Brinkmeyer needed a new power supply for his 1,600-acre operation, he considered electric motors and diesel engines, but chose a clean, cost-effective propane engine.

#### RESULT

- Reduced fuel costs by 38 percent compared with diesel and 20 percent compared with electric motors.
- Enabled Brinkmeyer to continue irrigating on hot days when power for his electric motors would have been limited by his utility provider.
- Propane engine maintains a smooth RPM, which is important for pivot irrigation.

*“The biggest surprise about upgrading was how much propane engines have advanced over the years.”*

**Wayne Brinkmeyer**

After just one week, Brinkmeyer received \$400 per liter of displacement, or \$2,720 toward the purchase of his new engine, and an additional state incentive of \$750 provided by the Nebraska Propane Gas Association. The purchase incentives he received reduced the upfront costs of his new engine by 20 percent and were a major factor in his decision to try propane.

“The purchase incentives, and the new technology available, tipped the scale in the favor of trying propane irrigation,” Brinkmeyer said.

### **POSITIVE FIRST IMPRESSIONS, IMMEDIATE RESULTS**

Brinkmeyer put the engine to work during the 2013 growing season and was immediately pleased with its performance.

“My new engine runs smoothly and maintains an even revolutions per minute (RPM) which is important because on a pivot you need a very consistent and reliable speed of operation,” Brinkmeyer said.

Brinkmeyer found that it cost less to operate his propane irrigation engine than it did his diesel or electric motors. Brinkmeyer spent approximately \$8 per hour to operate his propane irrigation engine, which was 38 percent less than the cost to operate his diesel engine and 20 percent less than electric.

One benefit of propane-powered irrigation new to Brinkmeyer was that he was able to continue to run his engine during hot Nebraska summer days when his utility regulates electricity usage. When irrigating with electric motors, Brinkmeyer was forced to shut his engines off during the peak usage times of 12 p.m. to 6 p.m. By switching to propane irrigation, he gained an additional four to six irrigating hours per day.

“When we have a dry growing season, it’s very important that we’re able to run our engines for more hours. We would only be able to run electric motors 12 out of 24 hours of the day, but we can run the propane irrigation engines at any time,” Brinkmeyer said.

### **HIGH TECH ENGINES**

Propane is a domestic, American-made and convenient fuel source that’s used by more than 40 percent of farms for building heating, irrigation, crop drying, and weed control. With new technologies and more efficient engines always in development, Brinkmeyer says he will consider propane the next time he purchases an engine.

“The biggest surprise about upgrading was how much propane engines have advanced over the years,” Brinkmeyer said. “The design of the engines is much better. They’re quieter and they run smoothly.”



Brinkmeyer also hasn’t overlooked propane’s environmental benefits and his overall reduction in harmful greenhouse gas emissions. His propane engine’s EPA-certification may qualify him for governmental sustainability programs down the road.

### **FOR MORE INFORMATION**

To learn more about propane-powered irrigation engines and the PERC Propane Farm Incentive Program, visit [propane.com/agriculture](http://propane.com/agriculture).

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The Propane Education & Research Council was authorized by the U.S. Congress with the passage of Public Law 104-284, the Propane Education and Research Act (PERA), signed into law on October 11, 1996. The mission of the Propane Education & Research Council is to promote the safe, efficient use of odorized propane gas as a preferred energy source.