



INDIANA PRODUCER YIELDS HIGH QUALITY GRAIN, IMPROVED EFFICIENCY WITH NEW GRAIN DRYER

A PROPANE CASE STUDY

In 1937, Lowell and Ruth Carnahan began farming on 200 acres of land near Vincennes, Ind. and in 1977 incorporated the operation as Carnahan and Sons Inc. Lowell's sons, Dennis, Ross, and grandson John now oversee its operation, producing more than 4,200 acres of corn, soybeans, and soft red winter wheat each year. As prices for inputs continue to rise, Dennis Carnahan is always looking for new ways to increase his farm's productivity and save money. A switch to a larger, performance-enhanced grain dryer with a wireless control system enabled him to improve his grain quality, increase drying efficiency, and reduce environmental impacts.

MAKING THE UPGRADE

Carnahan & Sons Inc. have used propane-powered grain dryers on their family-owned farm since 1965. As the farm expanded in the 1970s and acres of corn, soybeans, and wheat were added, the Carnahans needed a larger, more efficient grain dryer to improve harvest efficiency and get their crop to market more quickly. After investigating several new dryers in December 2011, the farm's local equipment dealer, Midwest Ag Systems in Rockport, Ind., recommended GSI's propane-powered X-Stream dryer and referred them to apply for a \$5,000 incentive through the Propane Education & Research Council's Propane Farm Incentive Program.

Dennis Carnahan completed a simple application online at propane.com/farmincentive and quickly received the incentive. "It was very surprising. If you're dealing with other types of funding or incentives, it could take months or years. This was only weeks," he said.

COMPANY

Carnahan & Sons Inc.
Vincennes, Ind.

CHALLENGE & SOLUTION

When Carnahan & Sons Inc. upgraded their old grain dryer to the new GSI X-Stream, they increased efficiency and improved final grain quality on their 4,200 acres of corn, soybeans and soft red winter wheat.

RESULT

- Grain drying efficiency increased 20 percent over the older model.
- The GSI X-Stream's enhanced design, featuring inverters in the grain column and opposing fans, reduced energy costs, and improved final grain quality.
- The propane-powered dryer expanded the marketing window, allowing Carnahan and Sons Inc. to get crops to market faster with less crop loss.



The incentive from PERC lowered upfront costs on the unit and allowed Carnahan & Sons Inc. to add additional features to further enhance their dryer's efficiency. One feature was a wireless system, which allows monitoring of dryer operations from any location. The Carnahans can control dryer functions such as moisture, temperature, or dryer status, online or via a smartphone or tablet. "Once the dryer's going, we can monitor it or adjust it from wherever we are. It's very helpful to have that feature," said Carnahan.

IMMEDIATE RESULTS

When the most severe and extensive drought in 25 years settled into the Midwest during the summer of 2012 and ravaged crops nationwide, the Carnahans immediately put their new propane-powered dryer to work to dry several bushels of corn.

"Because of the drought, the crop didn't mature normally, so it stayed wetter in the field. We had to dry a higher percentage of bushels than in a typical year," said Dennis.

That same year they also used their upgraded system to dry their winter wheat. Reflecting on his experiences from the previous year's harvest, Carnahan estimates the GSI X-Stream is 20 percent more efficient than the previous model.

"We can have our crop ready to sell sooner, and the drying process makes the grain store properly, which reduces any chances of spoilage,"

Dennis Carnahan
Owner, Carnahan & Sons Inc.

The X-Stream's inverters inside the grain column and opposing fans distribute heat more evenly, reducing overall energy costs and improving grain quality. The larger size enables him to dry more grain per hour. These improvements allow producers to dry twice as many bushels of grain per gallon of propane than just 30 years ago.

"It was an unexpected payback for our wheat when the test weight increased as it went through the dryer," he said.

LONG-TERM BENEFITS

In seasons where weather conditions lead to late harvesting, grain drying can be an effective strategy to harvest earlier and get crops ready for market sooner to take advantage of premiums and higher market prices. In the long run, Carnahan anticipates the propane-powered grain dryer will provide them added market flexibility and greater control over harvest timing.

"We can have our crop ready to sell sooner, and the drying process makes the grain store properly, which reduces any chances of spoilage," Carnahan said.

American-made propane is a domestic, abundant, and convenient fuel used by nearly 40 percent of U.S. farms. The Carnahans use it for more than grain drying. A propane-powered forklift is an essential part of the farm's operations, and they use propane for space heating and water heating at home. As self-proclaimed early adopters, the Carnahans are always looking for new propane technologies to enhance the farm's productivity.

"Propane has proven to be a fuel that we can consistently look to for reliability and efficiency," Carnahan said.

FOR MORE INFORMATION

To learn more about propane-fueled irrigation engines, the Propane Farm Incentive Program, and the Propane Education & Research Council, visit propane.com/agriculture.

Propane Education & Research Council / 1140 Connecticut Ave. NW, Suite 1075 / Washington, DC 20036
P 202-452-8975 / F 202-452-9054 / propanecouncil.org

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.