

# Groton entrepreneur focuses on efficiency, problem solving

By Jill Callison

Shawn Gengerke doesn't want to build a better mousetrap. Instead, the fourth-generation South Dakota farmer's focus is on building first-of-a-kind products that can solve decades-old problems.

Take the Operation Harvest Sweep™ for example.

"Corn shatter loss has been a problem since the corn header was designed 60 years ago," said Gengerke, the owner of Leading Edge Industries of Groton. "It's got to the point farmers started to accept it."

Three years ago, however, after an excessively dry harvest where the corn was stressed and the shatter rate was high, Gengerke decided he would not accept it any longer. An innovator for years, he had organized his company formally in 2008. That fall, Gengerke began focusing on what became Operation Harvest Sweep.

The final result includes deck plates that are custom-built to fit the buyer's corn header. Their lipped design allows them to retain shattered kernels, not let them fall to the ground. Impact pads help reduce shatter when the corn cob hits the metal paddle on the gathering chain, while the sweep brings the deck plate to the auger.

Prototypes were built and sent out to the field for two harvests, and now Operation Harvest Sweep is on the market.



Submitted photo

Operation Harvest Sweep includes custom-built deck plates, with a lipped design that helps them retain kernels.

## Saving corn shatter

"We've sold out four times in three months so the response has been great," Gengerke said. "It saves 80 to 85 percent of all the corn shatter, and that's huge for us farmers. Every bushel counts right now. And not only do we save the corn but also the following year we don't have to battle the volunteer corn that takes nutrients and water and reduces the soybean yield."

Reducing corn shatter plays a vital economic role in a producer's bottom line, said David Karki, a South Dakota State University

Extension agronomy field specialist from Watertown, as does reducing the volunteer corn that comes up during a regular rotation with soybeans.

"If you lose two kernels every square foot, you're losing one bushel per acre," he said. "You want to grab as many kernels as possible and don't let it fall on the ground."

Leading Edge introduced its first product, the Load Judge, in 2014. In a short time it began gathering awards, including a FinOvation Award from Farm Industry News that honors the top 20 ag products. The readers pick the finalists themselves, Gengerke said.

It also was named to the AE50 by the American Society of Agricultural and Biological Engineers, which honors top innovations in agricultural engineering.

"It's probably the most esteemed innovation award in the States," Gengerke said.

## Calculating grain load

The Load Judge compiles data received from six self-calibrating sensors and one moisture sensor inside a grain trailer. This data is inputted into a predetermined algorithm. The system senses proximity and calculates the shape and size of the impending load.

The calculated data is instantly transmitted to a free app for the driver's smartphone or tablet. The driver doesn't need to leave the cab to monitor the loading, just pull the trailer ahead as needed.

"It seems like when you're hauling grain it's either 100 degrees or 10 below," Gengerke said. "So you're dealing with not only dust and health issues and the safety that comes with vertical ladder climbing, you're out in the elements. It's not a fun thing."

Most technology uses cameras, but the dirt and dust that build up during loading grain quickly affects their accuracy and usability. Leading Edge developed a new technology that wouldn't be overcome by dust conditions or dirt build-up.

While consistently loading corn is important, the Load Judge's health and safety aspects cannot be overlooked, Gengerke said.



Submitted photo

The Load Judge uses data collected by sensors to calculate the shape and size of an impending load of grain.

“It’s not healthy breathing in dust and dirt,” he said. “With the Load Judge, we can keep you in the cab, out of the elements.”

**Economic benefits**

With Operation Harvest Sweep, the economic benefits can be dazzling, Gengerke said.

“If the corn is stressed at pollination or a hot and dry harvest season, the loss could be up to the 8- to 10-bushel range like it was three years ago in the Aberdeen area,” he said. “It pays for itself the first year or sooner. It’s a huge deal, and only a handful of products in the ag industry will do that.”

The Gengerke family has farmed in northern South Dakota for almost 125 years, and Gengerke himself lives on the original homestead settled by his German ancestors. He has been interested in making farm equipment faster and more efficient since he was 5 years old and used Crayons to draw a 40-row planter that he could hitch to his toy tractor.

“The Leading Edge company is about efficiency for the farmer, improving the bottom line and fixing the hard problems,” he said.

Operation Harvest Sweep is assembled at a plant near Groton, while the Load Judge is assembled in nearby Wahpeton, N.D.

Gengerke and Leading Edge currently have three other products in research and development. He promises they are all first of a kind and says all three will save the farmer money.

“The hard problems to fix, that’s what we do,” Gengerke said.

**Online:**

To learn more about Operation Harvest Sweep, visit <http://harvestsweep.com>.

To learn more about the Load Judge, visit <http://loadjudge.com>.

**Mark Mayfield will headline Corn Growers meeting Jan. 9**



Mark Mayfield

To commemorate its 30th annual meeting, the South Dakota Corn Growers Association has booked an extremely popular, comedic speaker. Mark Mayfield, known as the “Corporate Comedian,” will serve as master of ceremonies.

The annual meeting will be held Jan. 9 at the Sioux Falls Convention Center, one weekend earlier than in recent years.

Mayfield, who was raised on a Kansas farm, has merged his corporate background as a lobbyist with his comedy background as a nightclub performer to create a comedic presentation style. He is author of the book, “Mom’s Rules,” a look at things mothers say to their kids. He gives nearly 100 presentations annually to a variety of corporations, conventions and trade associations.

The meeting will include a full day of educational presentations by top agricultural specialists on key topics. The event will be capped with an evening banquet featuring musical entertainment.

Several other speakers have been booked for the event. Ray Wyse of SWAT and Brian Splitt of Allendale will give a marketing presentation.

Water issues will be a topic discussed by a panel that will include Sean McMahon of the Iowa Agriculture Water Alliance and Chip Bowling, president of the National Corn Growers Association.

An ethanol panel will include Brian West of Fuels, Engines and Emissions Research Center at the Oak Ridge National Laboratory. Names of additional speakers will be announced when plans are finalized.

All of the educational seminars are free. There will be charges for lunch and the evening banquet.

More details will be available on [sdcorn.org](http://sdcorn.org) as information becomes available. SDCGA members also will receive information in the mail.



**Mark your calendar**

**What:** South Dakota Corn Growers Association 30th Annual Meeting

**When:** Jan. 9

**Where:** Sioux Falls Convention Center