Gutschmidt used 30 rolls of aluminum wire in repairing the damaged cattle trailer.

Reader Rebuilds Storm-Damaged Cattle Trailer

Roger Gutschmidt rebuilt an 8 by 22-ft. aluminum cattle trailer that had been picked up in a windstorm and rolled several hundred feet.

"There were pieces scattered all over," recalls Gutschmidt. "My neighbor wanted it rebuilt, so we gathered what we could. I'd done every kind of welding with steel, cast iron and other metals, but I'd never welded aluminum."

By the time the job was finished, Gutschmidt had learned more about working with aluminum than he could've imagined.

"When it was all done, I'd gone through 30 rolls of aluminum wire," says Gutschmidt. "I learned that the key to welding aluminum is having it clean. I used a wire brush to remove any oxidation or used a chemical cleaner. You can't weld through oxidation on aluminum. It's worse than rust on steel. If it isn't clean, it won't be a good weld."

Some smaller pieces, along with the flat roof panels, had to be replaced. Many of the larger pieces, including the roof hoops, had to be straightened or reshaped to their original curves.

"The roof hoops were 2-in. aluminum channels, and some had to be straightened," says Gutschmidt. "I also had to re-form the curved plate that is the transition between the vertical sides and the roof. That required pulling my metal press into the middle of the shop floor to have room to work with the 20-ft lengths."

While replacement curved plates could've been purchased from the manufacturer, Gutschmidt notes that extruded plates are very expensive.

"I found that working with the plates was a 2-man job," he says. "When aluminum gets bent, it's very hard to straighten at the bending point. You would think it would be easy, but it's not. We had to use a pipe wrench with a 3-ft handle to manhandle it."

Once the hoops and walls had been straightened and mended with aluminum-wire welds, the roof was rebuilt.

"We purchased rolls of aluminum sheeting, unrolling them across the hoops and riveted them in place," says Gutschmidt. "We used standard rivets instead of pop rivets, which made this a two-man job as well. One person had to hold the base inside the trailer under the rivet, while the other was on top using the tool to mushroom the head."

From the outside, the trailer looks as if it had never been rolled. However, the interior shows the many welds needed to patch pieces back together. While it may have been Gutschmidt's first time welding aluminum, he's set for future jobs.

"Just like with steel, if you work with aluminum, there are always scraps left over," he says.

Contact: FARM SHOW Followup, Roger Gutschmidt, Gutschmidt Manufacturing, 202 Elm St. E., Box 311, Gackle, N.D. 58442 (ph 701-269-0537).

Cattle trailer before rebuild.

Kentucky Developing Warm-Season Rye

University of Kentucky researchers are nearing the release of a warm-season rye developed for Kentucky farmers. Normally a cool-weather crop, David Van Sanford, a professor and wheat breeder, has hopes for a warm-season rye alternative.

"Kentucky 10 is a promising alternative, and my prediction is it'll be released soon," says Van Sanford. "It's open-pollinated, so growers will have the option of saving it for reseeding, selling it for use as a cover crop, or marketing it as distiller's grain or as livestock feed."

Van Sanford notes that both the cover crop market and distilleries offer premium prices compared with feed markets. He and his fellow University of Kentucky researchers are working with a select group of dedicated small-grain farmers to evaluate Kentucky 10 and a limited number of European hybrid rye varieties. Their goal is to develop a short-maturity, short-stature rye that stands well and resists Fusarium head blight. Van Sanford hopes rye can serve as an alternative to winter wheat in double cropping with soybeans.

"Some of the European hybrids stand well but mature late," he says. "That's a problem in double cropping, where every day after June 15th that you plant soybeans, you lose half a bushel in yield."

He notes that although Kentucky 10 is taller than the European hybrids, it stands well and matures earlier. However, it typically yields about 25% less than the hybrids do.

"This was an exceptional year for small grains in the state, and we are seeing open-pollinated rye running 70 to 80 bushels per acre," says Van Sanford.

University of Kentucky researchers continue to refine and improve it while working with several other potential varieties.

"I expect that, down the road, growers will plant both the European hybrids and open-pollinated varieties like Kentucky 10 that can be sold into the cover crop market," says Van Sanford.

While rye acreage remains relatively small in Kentucky, a 5-year research grant aims to change that. University researchers are working with a small group of growers to fully evaluate every aspect of production and use.

"They're diligent growers with attention to detail," says Van Sanford. "Working with them, we hope to understand how to grow rye and identify profitability."

One early finding is a reduced need for nitrogen compared to wheat. This is just one of the aspects of rye that the group hopes to document.

Another is the use of rye by Kentucky distillers. Craft distillers are collaborating with rye producers to develop Kentucky-grown rye spirits.

"One of our cooperators grew three different varieties of rye for sale to a distiller this year," says Van Sanford.

Woodford Reserve Distillery committed to purchasing rye grown by four farmers for a 5-year period. The rye will be used in production and in distillery trials for sensory testing of the final distillate. Beginning in the summer of 2023, the distillery has run small trials on 10 varieties to evaluate flavor nuances that affect bourbon.

University researchers are also evaluating the use of rye in hog rations. Van Sanford describes the market as promising, with several research projects underway to better assess its potential.

University of Kentucky researcher Dr. Szuleta in a Kentucky rye field.

Contact: FARM SHOW Followup, Prof. David Van Sanford, 327 Plant Sciences, Lexington, Ky. 40506 (ph 859-218-0770; dvs@uky.edu).

Center-Pivot Irrigation For Smaller Fields

Center-pivot irrigation is now coming to smaller and irregularly shaped fields. Since Valley Manufacturing (later Valley Irrigation) licensed the patents in the 1950s, center pivots have become the dominant form of irrigation. The systems have also grown ever larger. While the average size is around 1,300 ft, Valley's 8000 series has a maximum radius of 2,800 ft, or more than half a mile. The latest introduction from the company is a dramatic change in size.

"Center pivots have typically provided their best return on investment on larger fields," says Nick Scates of Valley Irrigation. "However, our Small Field Center Pivots are designed to allow farmers with fields from 25 to 60 acres to get the benefits of center pivot technology."

Scates has a personal interest in smaller center pivots. He grew up on a farm on the Ohio River's edge.

"Our fields varied from 5 acres to 200," he recalls. "Our larger fields had center pivots to maximize production, but they didn't fit the small fields."

Introducing a center pivot that makes sense for small fields required the company to rethink its design.

"We scaled down our larger systems without compromising design quality," says Scates. "We went from our traditional 4-leg pivot with a 6 5/8-in. riser to a 3-leg pivot with a 5-in. riser and a triangular pad, built for one to five spans."

Customers can delete the collector ring required for continuous rotation, further reducing the cost of a system in an irregularly shaped field. Fewer barricades at field boundaries for a partial-circle machine with one to five spans, compared with 10 to 15 spans, also provides savings.

What hasn't changed is the precision irrigation technology. Like their larger siblings, Small Field Center Pivots offer remote control, monitoring and machine diagnostics via Valley's AgSense 365. They're also compatible with Valley ICON digital panels featuring a touchscreen interface and push-button control.

"The Small Field Center Pivots can be managed as part of the farm's fleet, just like the larger systems on the larger fields," says Scates.

Three-leg pivot with triangular pad.

He suggests that farmers interested in the smaller systems contact their Valley Irrigation dealers for design and cost estimates.

"Center pivot systems for small and irregularly shaped fields really need to be custom-tailored for the operation," says Scates. "Visit our website to learn more."

Contact: FARM SHOW Followup, Valley Irrigation Headquarters, 28800 Ida St., Valley, Neb. 68064 (ph 402-359-2201; irrigation@valmont.com; www.valleyirrigation.com).