

## Homemade Hitch Simplifies Feeding

"I built a hitch that hooks my TMR mixer to my skid steer loader so I can use the skid steer to feed dairy cows," says Wisconsin dairyman Richard Huth. "This setup lets me use the skid steer for two jobs, saves me hundreds of steps and more than 30 min. of time every day."

Before building his custom hitch, Huth was using a tractor to pull his TMR mixer to three different locations, then walking back to get his skid steer to load grain and silage. Then he'd jump on the tractor to feed the cattle. Doing this once or twice a day wouldn't have been a problem, but Huth has more than 100 cows and young stock that require 9 mixer loads of feed every day. "It was a time-consuming process and always a hassle in muddy or snowy conditions," Huth says.

Huth's invention is made like a typical 5th wheel gooseneck hitch for a pickup. The 4-in. steel tube frame for the hitch is bolted to the

TMR mixer and extends forward about 18 in. in a U shape. The front of the hitch holds a ball socket that mounts on the bucket of Huth's 45 hp skid steer.

"Now I can pull the mixer to the silos or silage bags with the skid steer, unhook the mixer, fill it with the feed that I need, then grab the mixer with the skid steer and unload it and never leave the seat," Huth says.

Huth rigged up a 10 hp electric motor to run the mixer and bought a 12-volt hydraulic power pack to operate the mixer unloading door and the scale. Switches to turn the mixer on and off and raise the unloading gate are accessible from his skid steer. "It operates just like a pto model, but it runs off the electric motor," Huth says. When he's done feeding for the day Huth plugs the batteries into a charger so they're ready for the next day's use. When he mixes his main batch of feed the electric motor is plugged in and doesn't use battery power.



**Richard Huth built a hitch that connects his TMR mixer to his skid loader so he can use it to feed his dairy cows. It works somewhat like a 5th wheel gooseneck hitch.**

Huth says the hitch, which was built by local blacksmith George Edmond, cost him about \$300.

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## Bridges Built With Recycled Plastic

The bad news: Plastic bottles in the landfill won't deteriorate.

The good news: Plastic bridges, made from plastic bottles, won't deteriorate either.

AXION International, Inc., transforms #2 high density polyurethane into a heavy-duty composite strong enough to build bridges.

"We shipped a 90-ft. bridge to Scotland with prefab panels. It was dropped in and assembled within four days," says Jim Kerstain, founder and Chief Technology Officer of AXION. "We specialize in shorter span bridges (up to 120 ft.), but with the right support we could do bigger bridges."

In addition to the speed of installing them, they have several advantages including longevity and low maintenance. Plastic doesn't rust, absorb moisture or attract bugs.

It never needs painting.

AXION has an exclusive license with Rutgers University in New Jersey to manufacture STRUXURE™ beams, pilings and boards. The technology bonds plastic material together without chemicals. Beams connect with standard fasteners and don't require special equipment for installation. Prices are competitive with standard bridge construction, Kerstain says.

For example, a 26 by 15-ft. vehicular bridge over Rogers Brook in York, Maine, cost \$70,000 for materials and \$25,000 for construction.

AXION also manufactures ECOTRAX™ railroad ties.

AXION's target market is municipalities, the military and customers seeing industrial



**A New Jersey company specializes in building bridges made from 100 percent recycled plastic.**

quality products. STRUXURE is also suitable decking material for boardwalks.

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## Deere "Scarer" Speaks Their Language

Speak their language and deer listen. That's the premise behind a couple of new deterrent products from Bird Gard, LLC. After a decade of research with the University of Nebraska, Lincoln, and a couple years of testing in orchards, vineyards and landscaped areas, Deer Shield was put on the market last year.

The basic model for backyard gardeners has a motion sensor and speaker to protect up to 1 1/2 acres. When a deer approaches within 75 ft., the sensor activates a digital recording of a deer sounding alarm, with hostile and territorial calls. Any deer in the area will instinctively flee.

"Deer are habitual. They like traveling in the same patterns. This is a behavior modification device that causes them to change their travel and feeding patterns," explains Rick Willis, marketing manager for Bird Gard.

The \$250 unit can be powered by 110-volt power or a standard 12-volt, which will power the unit for several months.

A Super Pro model covers up to 6 acres with four speakers set every few hundred feet that blast out the deer calls in a random pattern. It works because deer understand the language and it makes them afraid, unlike cannon sounds used in the past, which birds and wildlife adapt to.

"It's creating a defensible line," Willis says. "We're keeping the deer a great distance from the crops."

For example, a pear grower in Oregon had problems with deer coming from a nearby wooded property. Speakers were set in a line along the orchard, and the deer changed their travel patterns and stayed out of the orchard.



**As deer approach, motion sensor activates digital recording of a deer in distress.**

The Super Pro model can have up to 4 speakers (\$800 for four). An optional solar panel (starting at \$150) ensures continuous power without the hassle of checking batteries.

"Anyone who buys it has a year to determine if it's satisfactory. If not, we refund every cent of the purchase price," Willis says.

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## Bucket Claw Digs Through Rock

To dig through rock with his backhoe bucket, Paul French equipped it with chisel plow teeth. He soon was able to chew through the 2-ft. thick solid rock and anything else in the way with the "bedrock claw".

"I went to a Tractor Supply store and bought two chisel plow teeth," he says.

He cut the teeth in half to make four teeth and made a mounting bracket that would slip over the lip of the bucket. He used two pieces of steel, 1 by 3-in. wide with a length the width of the bucket. He tacked the teeth on one piece of steel and tacked steel spacers between it and the second piece of steel. The spacers fit between tips/minor teeth on the bucket lip. The spacers helped stabilize the bracket and keep it from moving side to side under pressure.

"I used a MIG welder to fasten them together and a stick welder to make it solid," says French.

When digging, the bracket and teeth are held in place by the pressure of the bucket against the ground. However, to keep them from falling off when lifting the bucket, he attached the chisel plow bracket to the bucket.

"The old tooth extensions were bolted to the sides of the bucket tips," says French. "With the chisel plow bracket in place, I put 7/16-in., grade A bolts through the side holes with the threads to the inside, and slipped a 3/8-in. coupling over the bolt followed by a washer and lock nut. They don't connect to the bracket, but they keep it from falling off when I lift the bucket out of a hole."

Even though French is now able to trench as deep as he needs, he still employs an old trick to protect water pipes.

"An older fellow I knew told me about



**Paul French fitted his backhoe bucket with chisel plow teeth, allowing him to dig through solid rock.**

laying pipe in the 1930's and being unable to dig down deep enough to get below the frost line," recalls French. "He said if you laid several layers of 2-in. thick wood planks over the water line, it would protect them from frost and freezing."

French has used the method for years. He says it always works, even when the soil is driven over and compacted as with a road.

"The slabs seem to shield the pipes and absorb the frost," he says.

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