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Made-It-Myself Compost Mixer

John Krueger believes in repurposing things, so when he needed a concrete mixer, he made one out of a pressure tank. After he built a better mixer for his front-end loader (Vol. 47, No. 5), he repurposed the pressure tank again. Now, his wife uses it to mix compost. "After cutting the top off the pressure tank, I had added baffles to the inside and plating

to the inside bottom of the tank," recalls Krueger. "Those tanks aren't as strong as you might think."

Krueger fixed a driveshaft to the inside plate and extended it out of the bottom of the tank. He used 1/4-in. 2 by 2-in. angle iron for a support frame with two triangular sides. A 4-in. channel iron cross plate is suspended

loosely from the tops of the sides.

A pillow block bearing bolted to the top of the cross plate and a second one bolted to the underside hold the shaft in place on the cross plate while allowing the shaft and tank to rotate.

"I mounted a sprocket to the bottom of the shaft and ran a chain drive to a right-angle gearbox I attached to the underside of the cross plate," says Krueger. "A belt drive on the gearbox attaches to a 1/2-hp. electric motor also attached to the underside of the cross plate. The gearbox reduces the motor's speed from 1,750 rpm's to 30 to 40 rpm's."

A pipe/handle attached to the cross plate lets him tip the tank. A pin lock with a spring secures the tank in one of three positions. For filling, it can be locked at a 45-degree angle. Once filled, it can be left in a vertical position while mixing.

Krueger fabricated a hatch cover for the open end from an old piece of cookware. A steel strap with a slot at one end and a steel rod at the other end is bolted to the porcelain cover. To hold it in place, Krueger slips the rod between two bolts at one end and slides the slot on the end of the strap over a bolt in the edge of the hatch.

"The lid comes off completely, but if we run the motor when the tank is in the 45-degree position without cover, it flings material out the open end," says Krueger.

No longer needed for concrete, Krueger has turned the mixer over to his wife to use for compost. She adds chopped-up kitchen waste to other materials, including enzymes and water, to make compost for the garden.

"She has a recipe all her own," says Krueger. "She spins it once or twice a week, depending on the material."

The only change he made to the mixer in transitioning it to a compost maker was to move the off/on switch. Previously it was on the mixer. The change was for safety's sake, given the grandchildren who visit.

"I mounted a 110 lever-type switch to a wall on a nearby building and routed the motor to it," says Krueger. "For the machine to operate, you have to step over to the switch and hold it down to rotate the tank. It would be almost impossible to continue running if the operator walked away from it."

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ScherGain system has no moving parts and no scales. The only electronics are activated magnets and a remote control.



Simple Grain Loss System

No scales, calibrations, or calculations are needed with the ScherGain grain loss detection system. A remote triggers a pan to drop in front of the chaff discharge as the combine passes over. When clean grain from the chaff sample has been separated with sieves, it's measured by volume and compared to a chart to determine if the combine settings need to be adjusted.

"It's a farmer's way to do things - simple," says Trevor Scherman, ScherGain. "We used it for 15 years, and after neighbors started asking for it, I put a video of how

it works on Twitter (X), and away it went."

For the past 7 years, Scherman and his father Pat have been building and marketing the ScherGain system throughout North America, as well as Australia, and, to a limited extent, South America. Customers report reducing grain loss by 3 to 4 bushels per acre.

The ScherGain system has no moving parts and no scales. The only electronics are activated magnets and a remote control.

"We started with a drop pan held in place by two cotter keys connected to a rope,"

recalls Scherman. "We'd pull the rope, and the pan would fall as the combine moved through the field."

Over time, the Schermans went from pulling the rope to pressing a button on a remote. They replaced the rope and keys with a power pack and two electro holding magnets.

"Adapting to a magnet was straight experimentation," says Scherman. "We kept trying magnets until we found ones that would work."

Use is as simple as the design. Activate the magnets with the remote. Attach the pan to the axle.

"Either the front or back axles are good places to attach the pan," says Scherman. "If the metal surface is too thin, the magnets won't hold on. The thicker the metal, the stronger the hold."

With the straw chopper raised, Scherman recommends driving 50 to 150 ft. down the field at desired settings and speed. At a predetermined point, a helper uses the remote to deactivate the magnets, dropping the pan ahead of the stream of chaff and straw. Once the combine has passed over the pan, the operator stops to evaluate grain loss with the helper.

The pan system comes with multiple screening sieves to separate the grain. Once



ScherGain tray attached to axle.

a sample is clean, it's measured by volume in the included gauge and compared to the crop chart to calculate grain loss per acre. If excessive, settings and speed can be revised for less loss.

As Scherman points out, why accept 3 or 4 bushels per acre grain loss if it can be avoided?

The ScherGain Solution System is priced at \$1,950. Measurement charts cover 13 different crops. They include common header widths and the levels on the gauge that would represent 1, 2, and 3-bushel losses for each crop.

Contact: FARM SHOW Followup, ScherGain Solution System, Battleford, Sask., Canada (ph toll-free 888-601-1605; www.schergain.ca) or if outside of Canada or to order by phone, contact Thunderstruck Ag (ph 833-567-7726; sales@thunderstruckag.com).

"It's faster, smoother, less fatiguing, and significantly easier than a traditional walk behind tiller," says Compton.



Made-It-Myself Pull Behind "Super Tiller"

By Lydia Noyes, Contributing Editor

Brendan Compton of Augusta, Kan., built a twin-engine pull-behind super tiller. "It operates off of a 'sleeve hitch' or 'integrated hitch' (that I also built) for my Deere 322 garden tractor," says Compton. "I use it for garden tilling and planting food plots for hunting."

Compton first explored commercial tiller options but didn't want to spend the money. "My dad had a couple of old rear tine tillers

that he no longer needed," he says. "This gave me the idea of building something that would fit behind the Deere 322. I had built a hitch to pull a plow behind the 322, so I designed the tiller to fit this hitch."

Compton initially considered building a common shaft that would be run by a single engine, but he didn't know how much power that would require. He wanted to stick to a design that could run on the equipment he

already owned. "I opted to maintain two separate engines, two belts, and two tiller units," he explains. "I thought if I hit a rock or something on one side, it would reduce the potential for damage to the tiller unit since it would only affect one side."

Compton built the tiller for easy disassembly, maintenance, and design modification. The project took a lot of scrap metal. Most of his materials came from the two old tillers, although he estimates he spent \$100 on a new Predator engine, \$20 for gauge wheels (added later), and \$50 in other metal and hardware.

"The tiller works great, he says. "I can till up virgin sod in a single pass. I control depth with a lever on the garden tractor, and I never have to deal with the struggles we're all familiar with when running a rear tine tiller. It's faster, smoother, less fatiguing, and significantly easier than a traditional walk behind tiller." Initially, he found it difficult to control depth, but adding gauge wheels solved the problem and allowed it to roll over high spots. "The tiller is very maneuverable thanks to the Heim joint/pin on the long tongue," he says. "The wheels on the back of the unit are two separate bogies, so it floats



Compton built a hitch for his Deere 322 to pull his tiller.

over uneven ground more smoothly."

Compton sold his invention several years ago when he moved and needed larger equipment. To his knowledge, it's still in use. "If I were building it again, I'd consider building it into a single unit with a single, larger engine for less maintenance."

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