



Rotary harrow has three non-powered rotating wheels, two in front and one in back. All three wheels fold up for transport.

Big 30-Ft. Folding Rotary Harrow

“You can run it at speeds up to 12 mph and do a great job working up the seedbed,” says Lee Roy Douglas, Douglas Welding & Machine, Inc., Kipp, Kan., about the new 30-ft. folding rotary harrow he introduced at the recent 3-I show near Great Bend, Kan.

Rotary harrows have been on the market for years but Douglas says his is the first to have more than one wheel and the first to fold for transport.

The new unit has three non-powered rotating wheels, two in front and one in back. The perimeter of each wheel is equipped with 9-in. long, replaceable steel spikes spaced 10 in. apart. Spikes also mount on six spokes that radiate outward from the wheel hub. Depth is controlled by hydraulically raising or lowering a pair of carrier wheels.

“It’s great for seedbed preparation and other jobs, such as tilling weeds out of recently seeded alfalfa,” says Douglas. “It works better than a conventional harrow because the spikes are constantly moving instead of being dragged in a straight line. As a result they disturb more ground and have a much better chance of killing weeds. Each wheel has 70 spikes so they really chew up the ground. It’ll pulverize gopher mounds. You can let the wheels down as little as one inch or lift them up all the way and put the entire weight of the machine on the ground. When you sink the rings into the ground it’ll pull dirt along which you can use to fill in low spots.

“One farmer used the machine to reseed

his CRP ground. He burned the vegetation first, then broadcast seed and used the harrow to mix the seed into the soil. The machine can even be used on milo and corn stalks without plugging up. The key is to run the machine level so that all three wheels keep turning. It doesn’t work well on hilly ground, however.

“To replace the spikes all you do is pull a pin and drop the old spike out, then pin the new one in,” says Douglas.

Douglas says he got the idea for the 3-wheel model after repairing a commercial single wheel model for area farmers. “The spikes on that machine are welded on so if they break you have to weld new ones on. Farmers kept telling me they wished they had a bigger, heavier-built model with the capability to control depth. The rings on my wheels are made from 1 1/2-in. wide, 3-in. high, 3/16-in. thick rectangular steel tubing that’s been rolled into a circle so they’ll take a lot of abuse. It’s built heavy - all the wheels turn on 4,500-lb. spindles and hubs.

“My machine does pull surprisingly hard because it moves a lot of dirt. It takes a tractor with at least 125 hp to pull my 30-ft. model. I also make a 22-ft. model that can be pulled by a smaller tractor.”

The 30-ft. model sells for \$10,500; the 22-ft. model for \$8,000.

Contact: FARM SHOW Followup, Douglas Welding & Machine, Inc., 116 W. Main, Kipp, Kan. 67401 (ph 785 536-4902).



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Tractor-mounted, 4-row injector is fed by a 660-ft. long, 4-in. dia. rubber drag hose that in turn hooks up to aluminum irrigation pipe.

“Built-From-Scratch” Manure Injection System

By C.F. Marley

Using aluminum irrigation pipe and large diameter rubber supply hose, Art Leefer, Carlinville, Ill., pumps liquid manure from his lagoon to a home-built, tractor-mounted, 4-row injector.

Manure travels through the aluminum pipe for up to a mile and then through a 660-ft. long, 4-in. dia. rubber drag hose that’s hooked up to the injector. It injects 1,000 gpm 4 to 6 in. deep. He uses five lengths of 3-in. dia. hose to apply manure behind the sweeps, pulling the rig with his Deere 4430 2-WD tractor.

The aluminum pipe comes in 30-ft. lengths and is moved from field to field on a trailer. Once Leefer’s done with a 40-acre section, he disassembles the pipe and loads it on a trailer to move to a new site.

“It’s an effective way to handle manure because I don’t have to haul any tanks to the field or worry about soil compaction. Also, it’s a high volume system because there’s no starting and stopping to fill tanks. Once I start pumping I can go for 10 hours without having to stop,” says Leefer. “I started using this system about 15 years ago before commercial drag hose systems like mine were even available.

“I go back and forth at a perpendicular angle to the pipe, covering up to 40 acres at a time.

“I use the system to apply manure to about 100 acres per year. I grow all my corn and soybeans on ridges and inject the manure directly into them. I set my tractor wheels to

run between the ridges to reduce compaction. I apply the manure in the fall after harvest and also in the spring. I usually apply it on soybean stubble but not corn ground because the hose might drag the trash into piles. I rotate two years of corn with one year of beans. The manure is so high in nitrogen that I don’t even have to apply any fertilizer on corn the first year following soybeans. However, I’ve found that soybeans show the greatest yield benefit from manure. My beans average about 60 bu. per acre. I don’t go back to the same field for five years.

“I go very slow through the field in order to apply a heavy rate. I inject about one acre per hour and plan on covering about 10 acres per day.

“The only drawback is that it is a fairly labor intensive system because we have to lay out all the hoses to get started every time we want to do another 40 acres. It takes most of a day for three people to set up.”

Leefer built his own injector by stripping down an old chisel plow, leaving four sweeps and mounting 14-in. coulters off an old moldboard plow ahead of them. He cut the 1 1/2-ft. long manifold, which mounts on top of the injector unit, out of 3/8-in. thick steel. Steel plates at each end of the rig keep the injector-mounted hoses from getting caught under the toolbar whenever he stops and backs up at the end of the field to turn.

Contact: FARM SHOW Followup, Art Leefer, 21490 Cascade Rd., Carlinville, Ill. 62626 (ph 217 854-3257).



Aluminum pipe comes in 30-ft. lengths and is moved from field to field on a trailer.