



The Johnstons pull their ripper with a Steiger 4-WD, typically at a depth of 18 to 20 in.

## Home-Built Deep Ripper Boosts Yields 20-Bu./Acre

A home-built deep ripper boosts yields as much as a 20-bu. per acre in corn by bringing clay subsoil to the surface to increase the water handling capacity of surface soils, says an Illinois farmer.

Earl Johnston and his sons, Danny and Doyle, farm on impermeable soils common to southern Illinois, Indiana and Ohio and a good portion of Missouri. Claypan subsoils restrict root system penetration and limit drainage.

After a pipeline ran through their farm, the Johnstons noticed that crops grew better over the pipeline where the soil had been disturbed.

The next year, they tried to duplicate the effect using a commercial ripper.

"We cut a 13-shank V-ripper down to 7 shanks," says Earl. "But it was built pretty flimsy and I had to rebuild it often. We finally put together our own home-built ripper that's much heavier. It's the last one we'll ever need."

The Johnstons designed and built the 15-ft. ripper to pull behind their Steiger Tiger II equipped with a 350 hp 903 cu. in. Cummins diesel.

It's built on a rectangular frame built out of 6 by 8-in. tubing. It features 7 1 1/2-in. wide by 6-in. deep by 44-in. long shanks cut out of flat steel. Spaced 30-in. apart, they're fitted with 3-in. wide teeth also made out of flat iron, and mounted at an angle so they run further forward at the bottom than at the top. Rolling 24-in. dia. coulters off an old DMI moldboard plow run in front of each



Ripper is equipped with 7 44-in. long shanks fitted with 3-in. teeth.

shank to keep trash from building up on them. The rear of the machine is fitted with tandem wheels off an old ripper and 15-in. implement tires and spindles off various old machinery.

The men built a caddy for the ripper out of the rear axle off an old International 715 combine. It carries the weight of the 3 to 4-ton machine when it's out of the ground and transfers the weight to the tractor drawbar when it's in the ground, Johnston notes.

The machine features 36 in. of ground clearance, compared with 24 in. on commercial units the Johnstons looked at.

"It's designed to run 24 in. deep but you need more of a tractor than we've got to go that deep," says Earl. "We typically run it 18



Ross Lay of Litchfield, Ill., built deep ripper he calls a "spader". It's fitted with 4-ft. blades off a road grader mounted at an angle and running 5 ft. apart. Lay runs his ripper 26 to 32 in. deep, pulling it behind a 350 hp tractor. The ripper pulls up 8-in. ribbons of claypan subsoil. Yield checks have shown a 30 bu. advantage in corn and a 6 bu. advantage in soybeans.



to 20 in. deep."

Last fall, the Johnstons ran the ripper over 500 to 600 acres of drilled bean ground and 500 to 600 acres of corn in 30 in. rows. They traveled across fields in all directions at 5 to 6 mph, pulling up slabs of clay as much as 24 in. wide by 10 in. deep. They're mixed into the topsoil with secondary tillage in spring.

The ripper uses about 2 gal. per acre of fuel, comparable with conventional ripping, Johnston says.

The payoff is as much as a 20 bu. per acre increase in corn yields and as much as a 6

bu. per acre increase in soybean yields because of the improvement in moisture holding capacity, he says.

"For example, it can rain an inch in 10 minutes where we've used it and the water will all soak right in," he says. "The only disadvantage is that if you have a real wet fall you're going to get stuck a lot with the combine."

Out-of-pocket expense was about \$5,000.

Contact: FARM SHOW Followup, Leslie Earl Johnston, R.R. 1, Box 16, Mason, Ill. 62443 (618 238-4318).

## "Best Livestock Shelter Ever"

"It's the most versatile livestock shelter ever," says Land Resource Associates, manufacturer of prefabricated "instant" shelters that can be configured for various seasonal and management needs.

The new portable livestock shelter features a frame built out of 1 1/2-in. tube steel covered with corrugated metal. They're constructed on skids for easy portability within fields and are designed to permit ready coupling to additional shelters.

The winter configuration of the shelter provides protection from the wind while allowing exposure to the sun. The summer configuration provides shade while allowing breezes to pass through the shelter.

Basic shelter is 8-ft. high by 10-ft. long by 13-ft. wide and sells for \$995, including roof. Additional bolt-on units sell for \$745.

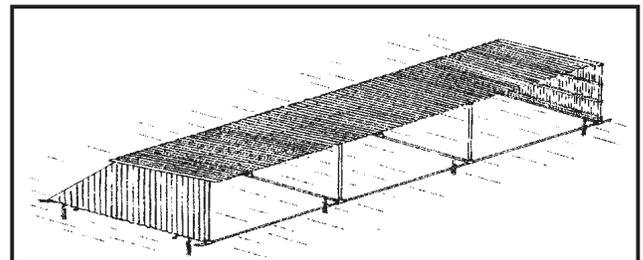
Also available in windbreak style. Basic unit is 8-ft. high by 10-ft. long by 5-ft. wide



Livestock shelter consists of a 1 1/2-in. tube steel frame covered by corrugated metal.

and sells for \$595. Additional units sell for \$445.

Contact: FARM SHOW Followup, Land Resource Associates Inc., 1030 SW Orleans, Topeka, Kan. 66604 (ph/fax 785-233-5632).



The structure's modular design allows additional units to be added.



Rear door can be closed in winter.



In summer, rear door can be opened.