



### Low-Maintenance Forage Wagons

When it came time to replace his three commercial forage wagons, David Hoover decided to build new wagons himself. He came up with a nifty new no-maintenance, easy-to-use design.

"I eliminated the pto's, bearings, roller chains, and apron chains on these wagons. All you have to do is hook up one hydraulic hose and pull a lever to dump," says the Patton, Penn., farmer. "End gates open, close and lock automatically as the wagons are raised and lowered."

The wagons are 10 ft. long and 7 ft., 8 in. high. They're 8 ft. wide at the rear and 7 ft., 9 in. wide in the front. Tailgates that hinge 4 ft. from the rear so they'll lift over the top of the wagon.

Lengths of cable run from the bottom of the wagon frame and to the top of each end gate. As the wagon box is raised hydraulically, the cables tighten and lift the gate. As the wagon is lowered, the reverse takes place and the gate locks with two arms or latches on each side of the gate.

Wagon frames are made of square steel tubing. The sides, front and back are made



Photo shows wagon with plywood sides in place.

of plywood.

Wagon boxes mount on 18-ton running gears fitted with 10 by 22.5 in. tires. "The running gears are Canadian-made and they're the heaviest I've ever seen," Hoover notes.

Hoover built the wagons last August for \$5,500 apiece.

Contact: FARM SHOW Followup, David Hoover, 772 Carroll Rd., Patton, Pa. 16668 (ph 814 674-5412).

### Hog Feeders Make Great Bulk Feed Bins

Old hog feeders can be easily converted into low-cost bulk feed bins, says Johnny Crawshaw, Clay Center, Kan.

Crawshaw removes the feed pan and bolts on a tapered sheet metal cone that has a 6-in. dia. opening at the bottom. A steel spout with a sliding gate is then bolted to the bottom of the cone. Four steel legs bolt onto the sides of the feeder.

Crawshaw stands the bins outside the fence surrounding his hog feed lot and uses a 5-gal. pail to drop feed into buckets on the other side of the fence.

"I just open the slide to drop feed into buckets," says Crawshaw. "The spout has an adapter so I can change the angle at which feed comes out of the bin. A 2-ring bin holds about 60 bu. of feed. I use 1 1/2-in. dia. steel tubing to make legs and weld angle iron skids onto them so I can easily move the bins around. I apply silicone to all joints to make the bins weathertight."

Contact: FARM SHOW Followup, Johnny Crawshaw, 1603 19th Road, Clay Center, Kansas 67432 (ph 913 632-3979).



# FARM SHOW

## "Made It Myself"

Some of the best new products we hear about are "made it myself" innovations born in farmer's workshops. If you've got a new invention or favorite gadget you're proud of, we'd like to hear about it. Send along a photo or two, and a description of what it is and how it works. Is it being manufactured commercially? If so, where can interested farmers buy it? Are you looking for manufacturers, dealers or distributors? (Send to FARM SHOW, Box 1029, Lakeville, Minn. 55044)

Mark Newhall, Editor



### 3-Pt. Subsoiler Made From Moldboard Plow

"It does a good job breaking up hardpan and cost little to build," says Johnny Crawshaw, Clay Center, Kan., who used the frame off an old Deere 3-bottom moldboard plow to build a 3-pt. subsoiler.

It has three shanks spaced 30 in. apart. Crawshaw mounted two long beams on the outside and a short one in the middle. He cut the frogs off the moldboards down and bolted them to the shanks, then re-welded new chisel points onto the frogs. Other plow beam sections were used to make the 3-pt. hitch. A tripod-shaped frame made from 2-in. dia. steel pipe runs from the top link on the 3-pt. to the back of the shanks to help stabilize the chisel points. A pair of welded-together 55-gal. tanks mount on back of the frame, strapped in place with lengths of cable. Crawshaw fills

the tanks with water to keep the shanks down in the ground.

"It works good even in tough ground. I pull it about 16 to 18 in. deep," says Crawshaw. "My only cost was for the three chisel points at \$5 apiece. I use my Oliver 1850 tractor to pull it. The tractor is rated at 94 hp but I opened up the fuel injection pump so that it now has 115 hp.

"I also mounted an 8-ft. wide blade built by my father on front of the tractor and use it to build waterways, push trees, level feed lots, etc. The blade is mounted on an old truck frame rail that bolts onto the tractor frame. A 3 by 8-in. hydraulic cylinder is used to raise or lower it."

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