

PULLS TWICE AS EASY, DOES TWICE THE JOB

First-Of-Its-Kind "Coulter Cultivator"

"It weighs half as much but does twice as good a job," says the inventor of a new "coulter cultivator" that teams up a rolling coulters with a 13-in. wide half-sweep to move easily through even the trashiest ground with less draft than conventional sweep-type cultivators.

Inventor Larry Rauenhorst, Olivia, Minn., came up with the idea as a way to work through heavy ridge-till surface trash with the least possible cultivator weight. He notes that conventional cultivators require as much as 800 lbs. of down pressure to maintain penetration. Rauenhorst's new design uses two coulters which run near the row where soil is softer and there's little residue. In field tests he has been able to maintain penetration with less than 400 lb. of down pressure per row.

"It does a much better job killing weeds than conventional sweep cultivators, which bury weeds. Everyone who's seen it work says it moves through the field like magic," says Rauenhorst.

The new-style cultivator is set up so that the rolling coulters provides the lead cutting edge. It cuts through trash, running as close to the row as possible, both stabilizing the cultivator and shielding the row. The tip of the trailing 13-in. wide half-sweep is positioned right behind the coulters, mounted on a 1/2 by 4-in. shank. The sweep is canted for a 25° "angle of attack" to the ground and runs 1 to 2 in. deep.

"You can pull it fast at 6 to 10 mph without getting any dirt in the row, thanks to the coulters which acts as a shield. The sweeps "fluff up" the ground between rows, slicing off weeds but not burying them," Rauenhorst explains.

An 8-row, 30-in. model is set up with space that's adjustable from 6 to 16 in. between coulters for the row and there's 1 in. or more of overlap at the tail ends of the sweeps. Rauenhorst equips his cultivating tractor with mono-rib front tractor tires which follow a groove left by a



Rolling coulters run alongside row to act as shield. Trailing half sweeps overlap several inches.

shovel that was mounted on the planter.

Rauenhorst, who also invented a ridge-till plant system that was the first on the market to use slanted tilt wheels to hug the top of the ridge, says his new cultivator works well under all conditions. "It particularly shines under tough trashy high residue conditions with big perennial weeds and it easily penetrates hard surfaces. It dramatically reduces the problem of 'slabbing', which occurs with some big-sweep cultivators, because each half-sweep lifts up only a thin slice of soil. A 6-in. sweep, equipped with ridding

wings, trails behind pushing loosened soil to the sides."

Rauenhorst did 4,000 acres last year with two prototype 8-row cultivators and says the half-sweeps outlast conventional sweeps.

K & M Manufacturing, Renville, Minn., has taken over production of the cultivator and limited number will be available this year.

For more information, contact: FARM SHOW Followup, K & M Mfg., Box 409, Renville, Minn. 56284 (ph toll free 800 328-1752; in Minn., call 800 992-1702).



Skid-steer loader rides above hopper and, as grain empties out, it drives across tire ramps and into the box car.

**LETS GRAIN AND FERTILIZER HANDLERS
SHIP IN LESS EXPENSIVE BOXCARS**

First-Of-Its-Kind Boxcar Unloader

A new Canadian-built free-standing boxcar unloader makes it possible for grain and fertilizer dealers to unload boxcars wherever they stand, eliminating the need to ship in more expensive hopper-bottom cars or to wait for "ramp time" at rail sidings.

The 35-ft. long machine consists of a 20-ft. long, 15-in. wide conveyor belt mounted on a trailer chassis for pulling down the road. At the base of the conveyor is a ramp designed to support both the hopper and a skid steer loader. The unloader is backed up to the boxcar door and the truck parked under the end of the conveyor (which raises up as high as 12 ft.). When the boxcar door is opened, the skid steer loader pulls the grain, or other granular material, down into the hopper. As soon as possible, the skid steer loader crosses to the boxcar

on the unloader's built-in tire ramps and empties it. It goes back onto the top of the conveyor for transport.

The machine is powered by a 22-hp. diesel engine which drives hydraulics that power the conveyor. Total width of the machine is 8 ft., 6 in.

"We came up with the idea when a local customer — a feed dealer — asked us to build something that would do the job," says Chris Nickless, marketing director for the manufacturer, Ty-Crop Mfg. "So far as we know it's the first of its kind."

The unloader sells for \$11,500 (U.S.).

For more information, contact: FARM SHOW Followup, Ty-Crop Welding & Mfg. Ltd., 48945 Yale Road East, Chilliwack, B.C. V2P 6H4 (ph 604 794-7078).

COSTS \$7 A YEAR TO HEAT

Concrete Waterer Built To Last a Lifetime

"We think it's the most rugged, energy-efficient livestock waterer on the market," says Eric Robinson of Superior Precast's new concrete E-80 Superbowl that features covers which help reduce yearly heating costs to \$7.00.

An adjustable thermostat and electrical heating element (600 watt, 118V) are located beneath the concrete bowl. "Because of its mass, the concrete bowl retains heat for a long period of time to cut operating costs, and virtually eliminates the possibility of any stray voltage since concrete is a poor conductor of electricity," explains Robinson.

He adds that the electrical equipment can be removed by taking out one nut. An added feature to the waterer is that it has a concrete cap with a 9-in. dia. hole that fits over the 12 by 17-in. opening. Cattle drink from the waterer by pushing down a plastic type disc that fits into the hole. The concrete cuts heat loss by about half in the winter. In the summer, you can keep the cap on or take it off. Left on, it reduces algae growth and keeps water cooler.

The waterer's bottom compartment is insulated with 2-in. thick, high-density styrofoam insulation coated with a reflective foil.

The waterer comes in two sections which weigh 200 lbs. (bottom) and 100 lbs. (top) and are thus easily han-



Floating plastic disc inside waterer's "donut hole" cover helps seal out both hot and cold air.

dled without special equipment. Height is 24 in. The valve cover and bottom door are made of heavy galvanized metal. The top section is molded in fiberglass for a glass-smooth finish that's easy to clean.

Single unit, with cap, sells for \$370 (Canadian dollars) and handles about 80 head of livestock. A double unit is also available.

For more details, contact: FARM SHOW Followup, Superior Precast, Box 10, Shallow Lake, Ont., N0H2K0 (ph 519 935-2211).