



An electric eye triggers hydraulic cylinder above each row that activates shovels.

USES ELECTRONIC EYE TO WEED BETWEEN PLANTS IN THE ROW

“Robot” Cultivator Weeds Between Rows

Costs for herbicides and hand hoeing of crops might soon be reduced or even eliminated with a new “robotic hoe” cultivator that weeds between plants within the row.

The patent pending hoe uses a sensing device triggered by an electronic eye that causes cultivator shovels to open up to go around each plant, then close after passing by. A prototype of the hoe, manufactured by the Friday Tractor Co., Hartford, Mich., was tested last year on 150 acres of bell peppers at Kamemat Farms, Fremont, Mich.

“We’ve had more than 1,000 inquiries from 46 states and are evaluating use of the robotic hoe in 25 to 30 different crops. We’re building models ranging from 1 to 6 rows. It greatly reduces the need for herbicides and hand labor and can save a lot of money,” says Phil Friday, president. “The economics are staggering. For example, Kamemat Farms, Fremont, Mich., had been employing 40 to 50 people to hand weed 150 acres at a cost of \$145 per acre. A 4-row robotic hoe allowed one person to do the job at one tenth the cost.

Each row unit is equipped with a hydraulic cylinder that’s powered by a pto-operated hydraulic pump. The cylinder is hooked to a pair of hinged arms, each supporting a shovel. The electronic eye, mounted on a rod ahead of each shovel, is aimed toward the row and senses weeds that are shorter than the crop. It sends an electronic signal that causes the cylinder to retract, pulling on the hinged arms which push the shovels toward the row. “Ideally the hoe should be used between 10 and 14 days after planting. Cultivating speed is 1 1/2 to 1 3/4 mph. The closer the plants are spaced together, the slower you must travel. It takes about 1/2 second for the shovels to move into the row. The hoe is adjustable for height, speed, sensitivity, and hoe opening duration,” says Friday.

Sells for \$10,000 to \$14,000 depending on number of rows.

For more information, contact: FARM SHOW Followup, Friday Tractor Co., Inc., 69226 CR 687, Hartford, Mich. 49057 (ph 616 621-3318).



A 3-ft. long rotating tube rides on carriage. Hole saw on end of tube drills out sample.

“EASY TO USE AND WORKS FAST”

Powered Hay Sampler

Researchers at Agriculture Canada, Melfort, Sask., have developed a powered hay sampler that can take a sample in about 30 seconds and even works in frozen bales or silage.

The coring tool is a 3-ft. long rotating tube mounted on a carriage that rides on horizontal tracks mounted on a 4-wheel trailer. A hole saw, which serves as the cutting tip, is welded to the end of the rotating tube. A core is drilled on the forward stroke of the carriage. After the tube reaches the required depth, the carriage is retracted and the sample is compressed, then pushed out into a sample bag or container.

“It’s much easier to use than a hand-operated drill and works much faster,” says E.Z. Jan, engineer. “Using a hand drill is awkward and time consuming. It takes about 5 min. to get a sample. Ours takes only 30 seconds. It takes a better sample because the

hay doesn’t heat up and lose quality. With a hand-operated drill you have to use a rod to push the sample out, and sometimes the sample is hard packed and difficult to force out. Our unit automatically ejects the sample and collects it for you.”

Two 1/2-hp electric gear motors are mounted on the unit. One motor moves the carriage back and forth and the other motor chain-drives the coring tool. The core sample is pushed out of the cutting end of the tube by a stationary rod extending the length of the tube.

Jan says all parts needed to build your own powered hay sampler can be bought for \$600 at a local hardware store.

For more information and detailed drawings, contact: FARM SHOW Followup, E.Z. Jan, Agriculture Canada Research Station, Melfort, Sask., Canada S0E 1A0 (ph 306 752-2776).



For cattle, trailer is equipped with a “walk on” stock rack attached to rear.

HAULS CATTLE, GRAIN, MACHINERY

“Do Everything” Trailer

You can haul cattle, grain and machinery with the new “do everything” trailer from Unique Trailer Mfg., Hays, Kan. “All of the various options can be added or removed by one man, working alone, in a matter of minutes,” says the manufacturer.

The basic unit is flatbed gooseneck trailer (25 ton). It can be equipped with a hydraulic winch, and a hydraulically-operated rear “beaver tail”.

For cattle, the trailer is equipped with fold-down racks and features a self-contained “walk on” stock rack which attaches to the rear of the trailer with two pins. The

rear portion of the rack drops below the main trailer deck 20 in., allowing loading and unloading of livestock without the aid of a loading chute.

For grain, the trailer is equipped with a hydraulic hoist and can be pulled with a single or tandem axle tractor. Soon to come, says the manufacturer, is a rig that will let custom operators haul grain and combines with the same trailer.

For more information, contact: FARM SHOW Followup, Unique Trailer Mfg., Rt. 2 So. Hwy 183, Hays, Kan. 67601 (ph 913 625-7343).



For grain, trailer is equipped with hydraulic dump hoist.