

# They Built Their Own Sweet Corn Harvester

By C.F. Marley, Contributing Editor

When Mark Schottman of Wheeler, Ill., decided to get serious about sweet corn production and marketing, he knew he would need a mechanical harvester. He also knew that if anyone could build such a machine it would be his neighbors, Roger and Bruce Elliott, well-known innovators who have been featured in FARM SHOW numerous times.

The one-row, self-propelled machine that the Elliotts and Schottman came up with can harvest 80 to 90 dozen ears in only about six minutes.

"I used it for the first time this summer to harvest 30 acres of sweet corn and it worked great. I spent only about \$10,000 to have it built," says Schottman, who sells the corn to local stores and at farmer's markets, as well as at roadside stands.

The 2-WD, hydraulic-driven machine measures 25 ft. long, 12 ft. wide and rides on four 26-in. high flotation tires. The operator sits on a platform between the front wheels. After the ears are stripped from the stalk, they fall onto a conveyor equipped with poly paddles and a slippery poly bottom. The conveyor drops the ears into a large wooden hopper on back of the machine. There, an employee removes any stalkage that may still be attached to the ear.

The machine's chassis, engine and hydrostatic transmission, front and rear axle, and drive train all came off an International Harvester 1440 combine that had been in a fire. The Elliotts used box tubing to build the frame.

The machine grabs the stalks high up between counter-rotating rubber belts and pulls them back through a pair of rotating rolls that pinch the ear off the stalk. At the same time, a rotating steel disc equipped with blades cuts the stalk off near the ground. The

leftover stalks go on through and fall to the ground.

A pair of round idlers on front of the machine are used to guide the belts. The idlers are spaced 8 in. apart and are offset, with one about 4 in. ahead of the other, so that the belts can "give" a little yet at the same time hold the stalk tight. The rolls that pinch the ear off the stalk are positioned vertically about 18 in. behind the cutting disc. The rolls rotate downward at an angle while the belts pull the stalk up at an angle, which causes the ear to pop off the stalk much the way snapping rolls on a corn head pop ears off stalks.

"When I took it to the field this spring, a lot of people stopped and watched," says Schottman. "The rig's rear wheels do the driving and steering. It turns about as short as a combine. The only limitation is that the corn has to be standing fairly well or else the counter-rotating belts will miss it. The combine's 436 cu. in. diesel engine has about 120 horsepower, which is more than I need. In fact, the entire machine is probably overbuilt.

"The wooden hopper that collects the ears locks in place on a track. When the hopper is full, I unlock it and roll it to the back of the machine, then use a forklift to lift it off and put another hopper on the track. The box will hold about 80 dozen ears of corn.

"I paid \$2,000 for the combine and \$600 for a new two-section hydraulic pump. One section of the pump operates the rig's hydraulic motors, and the other operates the steering and hydraulic lift. I bought the hydraulic motors from someone who was tearing out an old car wash."

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Hydraulic-driven machine grabs stalks high up between counter-rotating rubber belts and pulls them back through a pair of rollers that pinch ear off stalk.



Ears fall onto a conveyor which drops them into a large wooden hopper on back of machine. Rotating steel disc in front of conveyor cuts stalk off near ground.

## Modified Mower Cuts Clean And Fast

Nothing cuts scrub trees and brush faster and cleaner than one of Mack Louthan's cedar tree "stingers". The little 3-wheelers can spin around a pasture of cedar or other trees, cutting them down like so many blades of grass.

The Oklahoma innovator makes his maneuverable tree cutters from used Dixon mowers and table saw blades. He went with the Dixon because he had a local dealer where he could get parts.

"Dixon lawn mowers start at around \$4,000 new, but I convert used ones with bad motors," he explains. "I install industrial Briggs and Stratton engines with alternators that produce the 14 to 15 amps needed for the electric clutch on the saw."

Louthan starts by removing the mower deck cover and cutting off the two front wheels. Then he builds an A-frame using 2 by 1/4-in. steel from the rear of the original mower frame. Louthan then mounts one of the original front wheels at the end of the A-Frame to create a rear pivot wheel. The seat and all controls are relocated from in front of the drive wheels to a new position behind them and mounted on the A-Frame. He also mounts the gas tank directly behind the seat with the battery mounted on the frame just ahead of the rear tire.

"I replaced the Dixon battery with a car

battery," he adds. "When you are constantly kicking the electric clutch in and out on every small tree, the original batteries couldn't handle the load, and they wore out in about six months."

The belt-driven cutterhead is the original mower head. It extends about 3 ft. in front of the wheels and is modified slightly to take a 12-in., carbide tipped, rip saw blade from a table saw. Louthan likes the carbide tips, as he invariably loses some to steel fence posts or rocks. He can order them in bulk and, using a jig and a torch, quickly insert new tips as needed.

He spring-loads the cutterbar to keep the blade about a foot off the ground. Louthan runs a spring from the cutter head to the top of the motor. Foot rests on either side of the motor pivot at the heel with an extension from the toe running down to the cutter bar. By pressing on the toe of the foot rest, the saw blade can be shoved down to cut trees and brush at ground level.

"You can get out and under a fenceline and cut close to posts," says Louthan. "You can cut trees up to 2 in. in diameter without stopping, just hit them and keep going. You may have to stop and saw for a few seconds on larger trees. It's about as easy a way to cut scrub trees as you can get."

Louthan keeps three machines going steady



"It's about as easy a way to cut scrub trees as you can find," says Mack Louthan about his home-built 3-wheel tree cutter.

and is usually booked up for months at a time. He charges \$35 per hour for the service. Thanks to regrowth, he has lots of repeat customers. "People that use us one time seem to have us back every year," he says.

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