Farmer-Built Soybean Cooker Processes Up To 5 Tons/Hr.

It's "humongus." One of the most ambitious farm shop projects we've seen lately.

It's the "you've got to see it to believe it" go-anywhere soybean cooker designed and built by Nebraska farmer Dale Harlan and his son Todd, of Hickman.

Mounted on a 40 ft. semi trailer flatbed, it goes right to field or feedlot to cook and cool soybeans at the rate of 5 tons per hour.

The Hickmans cook 1,500 to 2,000 bu. at a time for their specialized "bred gilt" hog operation which markets 6,000 to 8,000 head per year.

"We're really sold on cooked soybeans," says Dale, noting that cooking retains the fat content with only a slight reduction in protein. Cooked beans carry 17 to 18% fat content, compared to only .5% in soybean meal.

Raw soybeans are dumped into the hopper of the cooker's loading auger. They're weighed (to keep tab on the exact number of bushels processed) as they drop into a 20 bu. holding hopper. From here, they move into the long, horizontal drying tunnel. Made of old propane tanks, it's about 30 ft. long, 38 in. in dia., and revolves at 25 rpm. Flow of beans through the drying tunnel can be slowed or speeded up, as needed, by mechanically raising the output end of the drying tunnel, which has 30 in. of height adjustment.

The LP-gas burner and blower an, salvaged from a crop dryer, deliver 4.5 million btu's. "We drilled out the holes to boost the heat output," explains Todd. A 320 gal. propane tank mounted on the trailer holds enough fuel for about 10 hrs. of operation. A 77 hp irrigation generator provides power for the fan motor.

The large drum at the rear is divided into two compartments for cooking and holding cooked beans as they exit the drying tunnel. In one cycle, freshly cooked beans empty into Compartment A while beans in Compartment B are being cooled down. On the next cycle, Compartment B becomes the holding bin while beans in Compartment A are being cooled down. The arrangement allows the Hickmans to cool and dry cooked soybeans right on the truck at the rate of 5 tons per hr."We can go directly to storage with cooked and cooled beans without having to jockey around with separate holding wagons or bins," explains Dale

The entire rig weighs about 30,000 lbs. and is "road legal" for doing custom work. If any one part malfunctions, the entire system shuts down automatically.

"Interested FARM SHOW readers are welcome to come and see our cooker if they like. But you'd better call or write first to make sure one of us will be around, and that the rig isn't out someplace doing custom cooking," says Dale.

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Whirlwind Terrace Plow

"I think it's as good as any commercial terracer on the market," says John Moellering, Grinnell, Iowa, about the "whirlwind" terrace plow he built from a stripped-down moldboard plow and some spare parts.

The unique terracer, which can also be used as a ditcher, has two high-speed 14-in. dia. augers mounted vertically behind two cut-down plow bottoms. The bottoms slice off as much as an 11-in. slab of dirt and feed it to the augers which then throw the dirt as far as 30 ft. away.

"I started with an old 3-bottom International plow and cut off one of the bottoms. Then I mounted two heavy belt-pulley gearboxes from an old International W9 tractor above each of the moldboards and modified them so they could be powered by a shaft that runs back from the tractor pto. The augers — which I made myself — are hard-surfaced and mount into the bottom of the gearboxes," says Moellering.

To modify the plow bottoms, Moellering cut off the rear half of each plow bottom so they would simply slice off the dirt without turning it over. However, he left the leading edge of each bottom at its full 18 in. width. The two bottoms together cut a swath 36 in. wide.

Moellering can change pulleys in the gearboxes to change the spinning speed of the augers but says he generally leaves the high-speed 1000 rpm pulley in and simply varies tractor speed to vary the throw of dirt. To make terraces, he makes a series of passes.

Moellering says he got the idea for his terracer from an old 1-bottom International Harvester terracer manufactured years ago that had a similar auger throwing device. "Besides working well for terracing and digging drainage ditches, we've found it also works well for fighting fires. We leave it hooked to a tractor when we're combining wheat and, if a small stubble fire starts, we can quickly put it out by digging up around it and throwing dirt on it."

Moellering pulls the unusual terracer with a Deere 4430 125-hp. tractor. It'll cut a 36-in. wide trench as deep as 11 in.

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Homemade 4-WD Tractor

After seeing the astronomical prices for 4-WD tractors, Mark Jagunich, Iron, Minn., decided to build his own tractor and did so for about $3,400.

He uses the 200 hp rig mainly to push trees and clear land. It has a 3-pt. hookup and room for a pto. For clearing land, he attaches a pusher blade on the front. He's working on a home-built plow.

"The motor, automatic transmission and radiator for the tractor were removed from a 1973 Cadillac car. The engine is a 472, V-8 that develops plenty of torque at a low rpm. Drive shafts, front drive, rear drive, transfer case and tires were taken from a 1955 Austin Western H-99 road grader. I also purchased hydraulic controls, hoses, a hydraulic pump and structural steel," says Jagunich.

He adds that the motor, at just a high idle, will cause all 4 wheels to break traction even though the rig weighs 6 tons. The tractor has a top forward speed of 20 mph and "shifts as though it was still in the car".