



"Like New" Field Cultivator

Texas farmer David Eskew spent about \$6,000 using all new materials to build his own 30-ft. field cultivator.

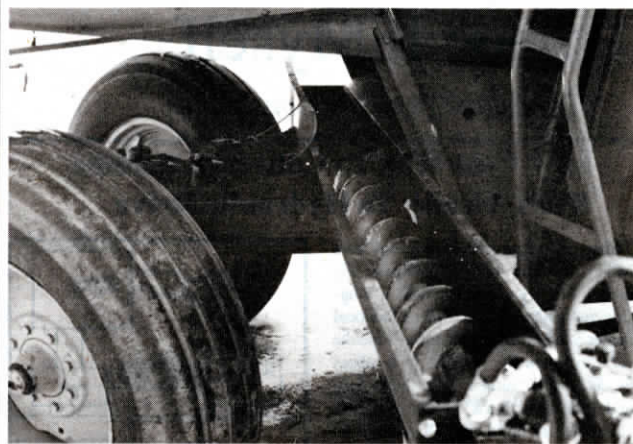
"It's built as heavy or heavier than a commercially-built machine. I saved money over a new machine and I enjoy the work," he says.

The only parts purchased ready-made were the hydraulic cylinders (both wings fold up), shanks, and spring teeth on the

tag-along harrow bar. He used a shop press to make all curved pieces and to bend the U bolts.

A hitch at the back pulls an anhydrous trailer. Eskew uses the front shanks for injection and the rear to cover. The spring teeth follow and smooth the ground.

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Combine Chaffer Return Boosts Clover Seed Yields

A combine-mounted chaffer return system, complete with two hydraulically-powered, U-shaped trough augers which return chaffer screenings to the header for rethreshing, is producing higher clover yields for customers of Glen Skogsberg, a custom combiner from Nampa, Idaho.

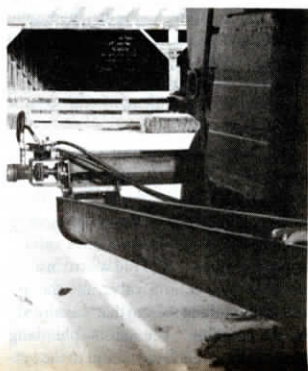
"It really shines in clover seed, which is very hard to thresh out of the hull," says Skogsberg. "My customers have reported yield increases of 10 to 50%. What's more, the system produces less cleanout seed. The average is 5 to 7%, compared to 25 to 30% for conventional combines."

The add-on system, mounted on a Deere 7720 combine, features two augers, each powered by a hydraulic motor on one end. The rear cross auger is 9 ft. long and 6 in. in dia.; the side auger is 18 ft. long and 9 in. in dia. A slide gate is fastened on the back side of the rear cross auger.

A separate reservoir (mounted under the feeder house) and pump (under the front axle) power the two hydraulic motors. The pump is belt driven by the cylinder.

The rear auger runs in front of the combine's rear tires and across the back of the combine, right behind the straw walkers and tight against the chaffer. To make room for it, Skogsberg lengthened the combine 10 in. by moving the rear wheels back.

By loosening two bolts, he can raise or lower the slide gate, usually keeping it in the down position. As the combine's fan blows chaff toward the slide gate, lighter

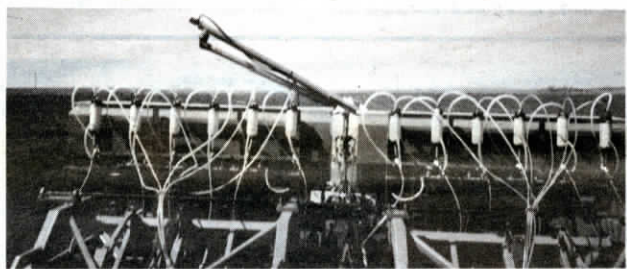


chaff without seed blows over the top of the gate; heavier chaff containing seeds hits the slide gate and drops into the cross auger. The cross auger then delivers this chaff to the side auger connected to the combine's header. The side auger whisks seed forward and into the header for rethreshing through the cylinder.

To keep chaff floating and to maximize seed savings, Skogsberg says he runs the fan a little faster than normal.

The system cost about \$4,000 to build. "It will help on small grain but not as much as on clover which is much harder to thresh out of the hull. A conventional combine loses some grain over the chaffer but nothing like it does with clover seed," Skogsberg points out.

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"Built From Scratch" Grain Drill

"I built this 20-ft. grain drill with all new materials for about 1/4 the cost of a comparable new unit. And it's got features you can't find on any commercial drill," says Russ Bomesberger, Onaka, S. Dak., who spent the better part of a winter and about \$8,000 - putting together his state-of-the-art grain drill. Its key features, in addition to cost savings, are strength and outstanding trash clearance.

The heavy-duty drill is equipped to band fertilizer and "cold flow" liquified anhydrous with the seed. Big hoppers on each 10-ft. drill hold 40 bu. apiece for a total of 80 bu. A 48-gal. liquid phosphorus tank mounts in back and the drill pulls a 1,500 gal. anhydrous tank. A minimum 180-hp. tractor is required to pull it.

"I used all the best ideas I could find on commercial machines and combined them with the features I wanted. This will be the third season I've used it and while there's nothing major I would change, I'm always modifying it in small ways," says Bomesberger, who also built his own corn planter from scratch.

Each 10-ft. drill section is fitted with 12 shanks staggered in three rows front to back. There's 30 in. of clearance between each row and diagonally there's 36 in. of clearance between each shank.

Each shank is fitted with a front tube that puts down straight nitrogen at 82%

(liquified anhydrous) and a center tube that lays down the phosphorus. Both are placed 3 to 4 in. deep. A cover plate at the rear of the shank seals up the fertilizer furrow.

A pair of seed tubes plants the crop in paired rows about 3 in. to either side of the shank. There's about 7 in. between each set of paired rows. A row of pneumatic packer tires - one tire per paired row - follow at the rear of the drill.

"Seeding two rows per shank eliminates half of the shanks that would normally be required. And I'm able to get fertilizer in a band that's readily available to seedlings," says Bomesberger.

He used heavy 1/4-in. walled steel tubing to build the drill (most commercial units use 3/16-in.). The shanks, which all mount on parallel linkages to seed at a uniform depth across the width of the drill, feature spring trip reset mechanisms allowing the drill to easily handle rocks and other obstacles. There's room for a row of no-till coulters but Bomesberger says the heavy drill penetrates so well coulters haven't been needed. The drill is fitted with its own fill auger so it can be serviced by any truck.

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