Tim Renger and his father, Bucky, built this 13-row strip-till rig and fertilizer applicator from used cultivator toolbars.

13-Row Strip Till Rig Saves BigMoney

Tim Renger and his father, Bucky, of Bancroft, Iowa know the benefits of building things themselves. Over the years they've saved time and money by converting a hog building to a seed storage warehouse and office; fashioned their own liquid fertilizer storage and distribution system; built their own portable grain cleaning system; and created numerous labor-saving devices around their farm and shop.

All of those jobs were good practice for their most recent project: building a 13-row strip-till rig and fertilizer applicator from used cultivator toolbars, spare tillage coulters, assorted scrap steel and a selection of new parts.

"I looked at the cost of a new rig this size and, with the options I wanted, it would've set me back $80,000 to $90,000," said Renger. "To me that really defeated the purpose of saving money. It would take me 7 or 8 years to pay for that machine."

Instead, Renger headed off to farm shows to look at machines already on the market and get ideas for building his own. He developed a plan, then enlisted the help of strip-till specialist Kevin Kimberly to build his own machine.

"I wanted to build the machine strong enough to do primary zone tillage in the fall to a depth of 8 to 10 in. and apply liquid fertilizer, then come back over those same zones in the spring with a shallow pass and apply liquid nitrogen," Renger said. "We had to have a rugged frame, enough clearance for residue and large tillage coulters, and the strength to handle a 350 hp tractor."

Renger located two 3-point Hiniker 5000 cultivator bars and contracted with a local welding shop to build the frame. The two bars are spaced 34 in. apart with 7 by 7-in. tubing welded between them. Outside rows fold for transport and storage.

On the front bar for each row Renger mounted free-floating Yetter Shark Tooth row cleaners followed by a 20-in. Great Plains Turbo Till Coulter. The row cleaners clear trash in corn stalks or bean stubble while the large coulter till-strips on 30-in. centers. A 5 by 7-in. bar between the main frames carries two ripple coulters for added tillage and residue sizing. They follow the main coulter and are mounted 5 in. to each side. Coulters can be changed out to achieve more or less tillage, depending on soil conditions.

The rear bar carries a modified mole knife to inject fertilizer for each row followed by two closing coulters that fold soil into a nice berm. The rig is lifted and transported by a caddy cart built by Elk Creek Manufacturing.

Working in the fall, Renger carries 500 gal. of liquid fertilizer in stainless saddle tanks on the front of his tractor. In the spring, he pulls an 1,800-gal. Bourgault liquid tank that allows him to cover almost 40 acres between fills. "It's a real efficient machine that's saving us a lot on tillage and fertilizer application." says Renger.

He figures the cost to build his rig was about $30,000, including his labor. "We bought the used toolbars for practically nothing, bought the ripple coulters and turbo coulters new, used a lot of spare steel, hired a first class welder to frame it all up, and assembled it ourselves."

Their savings extend beyond the cost of building the machine. Renger, who farms 1,100 acres with his father, is now able to do his fall tillage and fertilizer application in one pass, which saves him several thousand dollars a year. Similar savings are realized in the spring when he goes over the same strips to fluff the zones and apply nitrogen before planting, again in one pass. Renger says with these efficiencies "The machine will pay for itself in 2 to 3 years."

Zone-on-zone coverage in the fall and spring is easy because Renger invested in an RTK guidance system with sub-inch accuracy. "Guidance is a necessary part of this system," Renger says. "I'm placing fertilizer in the bottom of the zone in the fall, in the middle of the zone in the spring, and planting corn and beans exactly on top of that fertilizer. My yield tests have shown a 10 bu. an acre advantage when corn seed is exactly over the fertilizer compared to 4 in. off the row. On 550 acres of corn, I paid for the guidance system in 2 years with that advantage, " Renger says.

Farmers who've seen the machine like the job it does, but always ask "why 13 rows?" The base unit is 6 rows wide, with 3 rows folding up on one side and 4 on the other. "When someone asks that question I always tell them it has 13 rows because 13 is my lucky number," Renger says with a wry smile. He quickly adds that row number 13 is the guess row on every pass across the field, helping to minimize side-to-side draft. Fertilizer is applied full rate on 12 rows, but half rate on each pass with the 13th row.

"With the high cost of machinery and fertilizer nowadays, it's all about economizing," says Renger. "I'm real satisfied with this machine because it works across all of our field and residue conditions. My yields have been as good or better than with conventional tillage."

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