

Opposing Coulters Build A Better Berm

Strip tilling in continuous corn residue is difficult, but Mark Muench solved the problem by mounting opposing coulters on a Salford strip-till tool. The opposing coulters build the berm he needs, and mole knife shanks break up wheel track compaction. The design works so well that Salford Equipment adopted the design and has made it an option for other customers.

"Everything I used was Salford components," says Muench. "I just rearranged them."

Muench was so impressed with the equipment and how it worked that he has since become a Salford dealer. When he first rearranged their tillage tool, he was just a frustrated farmer.

"I had tried various machines that worked under ideal conditions, but not under heavy residue," recalls Muench. "I bought the Salford tool to tear up corn stalks."

The tool had a rolling basket and concave coulters. Muench liked how it handled the residue, but he needed berms to plant and fertilize in the spring.

Over the next two years, Muench tried different components and arrangements, removing the baskets and turning the

concave coulters to oppose each other. He added the shanks with mole knives every 30 in. to get under compaction. Rolling wavy coulters (5 to a row) till a 20-in. strip ahead of the coulters with a 10-in. untilled strip in between.

"The mole knives have pneumatic tubes attached to apply anhydrous ammonia at root level," says Muench. "The coulters follow the knives and build a berm over the fertilizer."

Muench says he always plants directly over a knife track. As a result, he says, the roots practically explode.

"You can stick your hand 6 to 7 in. into the ground where the shank ran," he says. "In the drought last year, we averaged 140 bu./acre and had fields that went over 160 without rain. There was a lot of 70 to 100 bu./acre corn in the area. Our organic matter is up about half a percent, the soil is healthier, and we have no erosion."

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Strip-tilling in continuous corn residue is difficult, but Mark Muench solved the problem by mounting opposing coulters on a Salford strip-till tool.



Opposing coulters build the berm, and mole knife shanks break up wheel track compaction. Salford now offers a tillage tool based on Muench's design (right).

Loader-Mounted Unit Chops Up Carcasses For Composting

The Smidley Piece Maker from Marting Mfg. makes disposal of animal carcasses easier and faster. It breaks up large carcasses that don't otherwise fit Marting's 5-ft. dia. in-vessel composter.

"We make our industrial composter for the swine market, but get lots of requests for a unit that can handle cattle," explains Matt Winter, Marting Mfg. of Iowa. "We could make a larger composter vessel, but we decided instead to make a unit that breaks a large carcass into smaller pieces to fit our existing composter."

The heavy-duty Piece Maker is ultra simple and built to handle the job of slicing through muscle and bone. It consists of an upper jaw that closes between two lower jaws.

At more than 7 ft. wide with jaws that will open to 42 in., the unit is built to pick up and process a full-size dairy cow. Winter says it closes very slowly, so there's no "back-

splash" of carcass material.

"It weighs around 2,000 lbs. and requires 2,000 to 2,500 psi to power the cylinders," he says. "Most skid steers can handle it, or it can be mounted on a 3-pt. hitch. We also have quick-attach units for payloaders and telehandlers."

The current design will retail at just under \$20,000. Winter says the company is also planning to make a composter with a built-in Piece Maker. In the meantime, the device has proven so efficient at breaking up and handling large carcasses that Marting is considering making a smaller unit for swine.

"It speeds the process of decomposition whether in composters like ours or in a static compost pile," says Winter.

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Smidley Piece Maker has an upper jaw that closes between two lower jaws to break up carcasses.

Prairie Strips Hold Soil, Protect Pond

Seth Watkins is using strips of prairie to help clean up a farm pond and reduce erosion. He seeded 8 acres out of 50 or about 12 percent of the field to native prairie. He figures the payback will be well worth the reduced tillable acres.

"Most of the farm is terraced, tiled or pastured," says Watkins. "One 50-acre field was decent tillable ground, but steep enough we needed to do something. We were getting algae in a pond from phosphorus run off and ruts from soil erosion."

The pond was what Watkins refers to as shallow water habitat. He looks for naturally wet areas in the farms he operates and seeds them down rather than tile them. They catch and hold run off and attract wildlife. The problem field was a perfect watershed draining into a shallow water habitat pond.

"We get 15 to 20 percent of our revenue from hunting leases," he explains. "Our vision is to hold the soil and bring back birds. It's also the right thing to do."

Watkins pastures a 600-head cow-calf herd and grows row crops and alfalfa on 2,800 owned and rented acres. His local Natural Resource Conservation Service district conservationist suggested the prairie strips to hold the soil. Research at Iowa State

University has shown that planting 10 to 20 percent of a watershed to native prairie reduces sediment loss from a watershed by 90 percent.

Watkins notes that an earlier program using strips of brome grass didn't work. Low lignin content meant the grass broke down too quickly, and a short root system didn't hold moisture moving through the ground. Deep-rooted native prairie grass holds water and has a higher lignin content.

"We went in with a laser to identify the contours and then seeded the strips," says Watkins. "The ridge above the field breaks fast so we put a pretty wide strip at the top to catch the water off the ridge. Then we added a couple more farther down on the hillside to slow it down."

He didn't follow a formula that identified how much to plant or exactly where. "We looked at slope and grade and used some of that information, but in part we just looked at the land to see what would work here and there," says Watkins.

Watkins acknowledges that putting in some terraces and no tilling would probably hold the soil as well. However, he sees diversity above ground as a sign of a healthy environment with its own value.



Seth Watkins plants strips of prairie to hold runoff and attract wildlife around naturally wet areas of land he farms.

"The strips look right," he says. "I don't know if they will work like intended, but I like the birds and bees and wildlife they attract. We are a cash operation, but we look at how we can protect the land for ourselves and for the families we rent it from. These

strips are one more tool in our toolbox."

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