Staggered Cultivator Shanks Improve Performance

Wisconsin organic crop farmer Curt Forde built an 8-row 3-pt. mounted row crop cultivator with a single shank between each row. Forde initially had all 9 shanks in a straight line, but that configuration was throwing too much soil onto the growing crops in the rows. He modified the implement and added 8-in. extensions to the shanks on rows 2, 4, 6 and 8.

Curt Forde added an 8 in. extension to the shank mounts on every other row of his cultivator to create a staggered soil flow off the shovel.

Flowshields mounted on each shank divert soil down and over grass and oats around the growing crop.

"Now instead of soil hitting the corn from both sides at the same time, the flow is staggered, which easily knocks the weeds or the oats away from the corn plants," Forde says.

Forde uses a Flow Shield on each shank, a device that he invented, which Farm Show wrote about in 2014 (Vol. 38, No. 2). Each Flow Shield is a 6 in. by 6 in. flat metal plate that bolts onto a shank to deflect soil and break up chunks coming up from the shovel. Forde says having staggered shanks with the Flow Shield mounted on every other row forward and back does a better job of covering the oats or just plain weeds in grass. A 4-row wide or 6-row 30-in. cultivator can be set up the same way.

Forde says farmers who've already purchased a Flow Shield for their 30-in. or 40-in. cultivators can improve the cultivating performance and weed covering ability by moving one of the shanks forward or back to get the same effect he's had with his 20-in. row setup.

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Chain is hooked to the end of the pipe on the ground and wrapped around the post and up through the eye on the vertical pipe to the tractor hitch.

Nifty Way To Pull Fence Posts

David Arko built his homemade post puller last winter so he could remove an old windbreak fence this spring. He built the puller from materials that were part of the fence he is taking down, using oil field pipes that the previous property owner had used for fence rails.

Arko used a 5-ft. pipe with an eye welded at the top for the vertical piece, then welded it to a short 2 1/2-ft. pipe and a 5-ft. pivot pipe secured with bracing. He hooked the chain to the end of the pipe on the ground and wrapped the chain around the post and up through the eye on the vertical pipe to the tractor hitch.

"It uses leverage and the low gear of the tractor," Arko says. "All of the stress is on the chain."

The pivot pipe on the ground acts like the claw of a hammer pulling up the pole as the tractor moves ahead.

Arko notes that by spring his region in Colorado had received more than average rainfall and that the poles came up very easily with his pulling setup.

"This would work for someone who doesn't have a loader. It could also be used with a pickup," Arko says of his setup.

The pivot pipe on the ground acts like the claw of a hammer to pull out fence posts.

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Rotary hoe allows control of the angle and down pressure for better weed control.

Look What They're Doing With Rotary Hoes

"Rotary hoes are absolutely fantastic tools. There is a window where they work really well, but sometimes it is a very narrow window," says Jonathan Hostetler, at TH Fabrication, manufacturer of a couple of new weed control machines - the Row Focus Rotary Hoe and the Swinging Spider cultivator. "When a nearby farmer came to us looking for better weed control, we realized we could open that window up."

The original concept was to control the depth and turn the rotary hoe units at an angle for better weed control in-row. Hostetler and his partner Chris Kennell came up with a heavy-duty parallel linkage that attaches to any toolbar. They added 3/16-in. gauge wheels for precise depth control. The tillage element consists of 5 rotary hoe wheels spaced 2 in. apart that can be adjusted up to 15 degrees. A variety of add-ons can be attached behind the rotary hoe wheels.

"By controlling the angle and the down pressure, we can penetrate crust and be much more aggressive at disturbing the crust inside the row for better weed control," says Hostetler.

It's all about proactive weed control, says Hostetler. "The Row Focus units can provide weed control from pre-emergence until corn is 3 to 4 in. tall," he says. "At that point, the farmer can use our Swinging Spider cultivator."

Hostetler says the Swinging Spider is designed to address farmer frustrations with Lilliston-style tools. "We heard so many good things about Lilliston, the way the spiders move dirt in a really effective way," he says. "However, we were told it was a headache to change the direction of the spider gangs."

The custom fabricators were told that to adjust the angle, the gang had to be unbolted from the toolbar, repositioned and reset.

Hostetler and Kennell came up with a patent pending swing arm that lets the spider gang be moved either right or left using a simple plate and pin system. A worm gear on the spider gang changes the angle of the spiders for more or less aggressive soil action.

"We took a proven concept and made it more user friendly," says Hostetler. "With our design, the operator can change or modify the position and the angle quickly and easily."

After beta testing the 2 tools in 2020, they did limited marketing this spring. "We made a modest run of the Row Focus this past winter for a handful of farmers across 5 states," says Hostetler. "We make them as individual row units for farmers who want to use their existing toolbars or as a complete toolbar and row unit package. We have 3 of the Swinging Spider systems on farms."

While the company is taking orders for the 2022 cropping year, setting a price in a rising steel market is difficult. "If we priced what we built this past winter, we would be in the range of $2,500 per row unit for the Swinging Spider and around $1,900 for the Row Focus units," says Hostetler. "We are still tweaking them and may make changes based on farmer input. Prices will depend on that and what the steel market does."

Introducing the 2 products has been a new experience for TH Fabrication. Both grew out of meeting customer needs.

"We focus on custom projects, not repairs," says Hostetler. "When we started on the rotary hoe improvements, we didn't realize the path we were starting down."

With 2 new weeding tools under their belt, the fabricators are now working on a third. They are developing a strip till unit. It is still in the prototype stage, but they plan to do beta testing this fall.

"The idea is for a farmer to be able to do strip tilling in the fall and then come back with the Row Focus in the spring to freshen the strip and control weeds," says Hostetler. "We work with a number of organic farmers with non-chemical weed control needs. They are a very good group for collaborating and sharing ideas that can work for conventional farmers as well."

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Swinging Spider allows for easy adjustments of the arm and the individual "spiders".