

“Crop Shields” Let You Double Or Triple Cultivation Speeds

By Mark Newhall, Editor & Publisher

“It breaks up the flow of dirt coming off a cultivator shovel, sending it to either side. Dirt is stopped from covering up plants so you can travel 2 or 3 times as fast through the field without damaging crops,” says Curt Forde of Profit Organics about his patent-pending new Flow-Shield – a seemingly simple idea that he thinks might be key to helping more farmers grow weed-free crops without chemicals.

It consists of a square 6 by 6-in., 1/8-in. thick steel plate that bolts to any existing cultivator shank with a 2-bolt bracket, which allows it to be easily adjusted up or down for tall or short corn.

“I got the idea while cultivating a wet corn field,” says Forde. “Slabs of dirt were knocking over plants and it hit me that if I had a plate above the shovel, it would prevent the problem by busting up chunks and directing dirt back down to the surface. I made and tested one plate and then added them to all the shovels. I could hardly believe how fast I could go even in small corn or beans, allowing me to complete about 3 days worth of cultivating in only 1 day.”

If you’re cultivating small crops, you set the shovel depth shallow and simply adjust the shields as low as possible on the shanks. If you’re cultivating taller corn or beans, you set the shields approximately 1/2 the height of the crop.

“Basically, the faster you drive the better Flow-Shields perform because of the impact of dirt and weeds hitting the plates. This impact separates soil from weed roots and results in quick wilting and drying, killing the weeds,” says Forde.

Profit Organics sells Flow-Shields for \$10 apiece. Two are used per row for 30 and 38-in. rows. Just one is needed per row in 12, 15 or 20-in. rows. Shipping is extra.

Forde runs Profit Organics, which is a membership-based research group of farmers

which has been pioneering various new methods of crop production. In addition to the Flow-Shield, he has built an equidistant diagonal spacing planter. It plants corn in 12 in. rows spaced 12 in. apart in the row with a plant population of 43,560 per acre. They’re testing other row widths and plant populations as well.

In addition to the planter, he’s come up with a method to build a “rowless” cornhead. Starting with a 12-row 20-in. cornhead, he removed the dividing snouts and cut off the steel plates for mounting the snouts, exposing the gathering chains and sprockets. A small 6-in. wide divider was added, allowing the gathering chains to move the stalks into the snapping rolls.

Last year he used the home-built header to harvest 12-in. rows running in any direction across the field. He says there’s no need to spend money on a factory-built ultra-narrow row header when you can make your own with his relatively inexpensive modification.

“Our goal is to develop lower-cost methods to raise weed-free highly productive crops on smaller, medium-sized and large farms – both for farmers who want to minimize chemical use and for organic farmers. Flow-Shields are a critical part of this approach. I wouldn’t be afraid to take on a 10,000-acre farm with a 12-row cultivator. I could keep it weed-free because of the speeds you can travel with Flow-Shields installed. When you’re going fast through a field, it looks like a couple little snowplows on either side of the cultivator shovel.

“Markets for non-gmo crops are growing. We’re showing both organic and conventional farmers new ways to take advantage of these more lucrative markets,” says Forde.

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Flow-Shields attach with a 2-bolt bracket to cultivator shank. Height of shields can be adjusted depending on size of weeds being cultivated.



Forde made this “rowless” narrow-row cornhead to harvest corn planted in 12-in. rows. He started with a 12-row, 20-in. IH cornhead, cutting off the steel plates for mounting the snouts so he could move the row units closer together. He added a 6-in. wide divider with a turned up point (below) between row units to help feed stalks into header. Header was used with and without snouts to harvest corn, running in any direction through field.



Grizzly robotic utility vehicle can be programmed to do a variety of jobs around the farm.



“No Human Needed” Robotic Tractor

You can program this Grizzly robotic utility vehicle to clean poultry barns, move irrigation pipe, and do a variety of other jobs on the farm.

“Our company’s vision is to automate the dulllest, dirtiest and deadliest jobs,” says Robin Albrecht, account executive for Clearpath Robotics. The Kitchener, Ont., business was started by four engineering graduates 5 years ago to develop robotics to serve military, mining, agriculture and other industries.

The Grizzly is currently marketed primarily to researchers working to incorporate robotic systems into agriculture. The 80 hp electric utility vehicle can haul heavy loads.

“It has a heavy-duty differential drive while sensors, GPS, cameras, lasers and scanners tell it how to react,” Albrecht says. While

it’s set up to do specific tasks, it can also be programmed to avoid obstacles, such as a dog or wildlife running in front of it.

It’s like having a hired hand that can take care of jobs any time of the day or night, Albrecht says. “It’s very customizable so it can be set up for a wide variety of tasks.”

The Grizzly is being tested for a variety of jobs. For example, a Grizzly is in the process of being shipped to Australia for cow herding.

“We can make anything mechanical robotic,” Albrecht says. “We love working with new clients that have ideas.”

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A generator/starter mounted on front of the tractor is used to belt-drive the motor.



Electric Start Added To Old Tractor

“It really starts easy now,” says Carl Stamper, Olive Hill, Ky., who completely overhauled his 1952 Simplicity walk-behind garden tractor and added a homemade electric start.

He says there’s a lot of history behind the project.

“My dad bought a new Simplicity garden tractor in 1952 for \$386, and my job was to keep it running. As a result, over the years I’ve gained a love for these tractors,” says Stamper. “I developed back trouble and sometimes had trouble starting it, so I decided to convert the 5 3/4 hp Briggs & Stratton to electric start.”

He tore down the engine and completely rebuilt it. A generator/starter mounted on front of the tractor is used to belt-drive the motor. He added a big V-pulley to the motor, and installed a voltage regulator. He also built a metal case to hold a 12-volt battery. A metal dash was added between the handles and a key switch mounted on it that’s wired to the

starter generator. He also installed an amp meter.

“When I turn the key it turns the starter generator on, and once the motor is going it goes back to being a generator. A car coil located below the battery feeds the points and fires the engine,” says Stamper. “It starts super easy and is very quiet.”

He says Simplicity tractors were well built and came with a wide variety of attachments. “They have 3 forward gears and one reverse. In my opinion, they were way ahead of their time. I’ve used my Simplicity tractors for 63 years, and they’re still going strong.

“My 1952 Simplicity is equipped with a lay-off plow on back that’s supported by 2 wheels that are used to regulate the depth. I also have another Simplicity with a cultivator supported by 2 wheels.”

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