

# Between-Row Mower Cuts Row Crop Weeds

Crimped cover crops hold down weeds for a time, but when weeds finally break through, organic grower Pieter Los has the answer. His 3-pt. mounted, between-row mower clips them off before they can go to seed.

"Mats of crimped cover crops work fine for a few months, but as an organic grower, I have few alternatives when weeds break through," says Los. "I can't use a flamer because of the heavy residue, and I don't want to cultivate."

Los discovered that University of Missouri organic row crops agronomist Kerry Clark had similar needs. Along with Clark, Los applied for and received a grant from SARE (Sustainable Agriculture Research & Education) to design and build a between-row mower.

"We came up with a design for 22-in. wide, hydraulically-driven mowers to use between 30-in. rows," explains Los. "I built a 3-mower unit for use on my farm and a 7-mower unit for the University."

Los started with cultivator toolbars. He stripped away the shanks, but kept the guide wheels and the parallel linkage mounts.

Replacing 16-in. shanks with a 4-in. tall mower deck required adding 2-ft. extensions. Los used 3/8-in. thick, 3 by 3-in. angle iron mounted to the toolbars with U-bolts.

He worked with Certified Power, Inc., a hydraulic engineering firm, on the design and choice of hydraulic components. He fabricated and assembled most parts himself. What he couldn't do, he took to a local machine shop.

The first step was to size the hydraulic pump by volume and pressure. Los used a pto-driven 12 gpm pump on the 3-mower unit and a 22 gpm pump on the 7-mower unit, both with 3,000 psi at 540 rpm's. He opted for a Cyclone Reservoir with an in-line radiator for cooling. The cyclone removes air bubbles and reduces total fluid needed compared to a standard reservoir.

The hydraulic motors are hooked up in series. In the case of the 7-mower unit, that meant a flow divider sending fluid to 3 motors to one side and 4 to the other.

Both mowers used the same blades and decks. Size of both was determined by the need to get as close as possible to crop stems in the row while leaving room for variations in spacing.

"The 22-in. deck leaves about 3 in. on either side of the row," says Los.

Where possible, Los used off-the-shelf, commercially available components. "Pick the heaviest mower blades available," he advises.

A list of components and sources are available from SARE. Los estimates costs for the 3-mower unit of about \$4,200 and about \$5,800 for the 7-mower unit.

"Both units work," he says. "I think the design has potential for use in no-till, as well as with cover crops and for control of herbicide resistant weeds."

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Los's 3-pt. mounted mower clips weeds off between crop rows before they can go to seed. Mowers are operated by a pto-driven hydraulic pump.



Portable hammock fits across width of truck cab using a sewn-in beads trapped over the tops of both doors.

## In-Cab Hammock

Truck drivers who don't have a sleeper cab can take a power nap in comfort with this in-cab, portable hammock.

The Cabsnoozer is a simple hammock made from tough synthetic canvas. It fits across the width of the cab, using a sewn-in bead trapped over the tops of both doors. It will support a driver weighing up to 417 lbs. The kit can be adjusted for width by repositioning a "beading rod" in a series of sewn-in

slots. When not in use, the Cab Snoozer rolls up into a bag not much bigger than an umbrella and can be stored behind the seat.

A version designed to fit inside a van will soon be available. The Vansnoozer is quickly installed using rubber chocks over the doors. It's adjustable for length and for tension and will also fit in most station wagons and SUV's. (www.highwayhammocks.com).

## Dog-Powered Scooter Puts Pets To Work

Folks with dogs that love to run and pull can give them the exercise they need with the new Dog-Powered Scooter invented and manufactured by Mark Schuette of Bend, Ore.

"This will give everyone a taste of the sport of dog mushing, whether you live in Alaska or Florida," says Schuette. No snow is necessary, and it is safer, easier and less expensive than dog sledding due to its innovative design.

Instead of the dog pulling from the front, Schuette created a 2-point harness for the dog on the side, behind the driver. That gives the driver complete steering and braking control over the dog; and the dog adds stability to the scooter.

"The benefit is that the dog is behind and you steer the dog," Schuette says. With a safety wheel cover on the back tire and shock absorbers in the rigging, it's also safe and comfortable for both the dog and the person on the scooter.

Schuette's base model is a \$600 scooter set up for one dog. He also has 2 and 3-dog models and a fat tire model that works in snow and on rough terrain.

"The scooter is narrow enough to run 2 or even 3 dogs on a side down busy sidewalks, at public events and dirt trails. It's really good for aggressive dogs because it keeps them under control," Schuette says, adding that blind and deaf dogs can run safely with the scooter.



Secured by a 2-point harness, dog pulls from the side and behind the driver. Scooter is narrow enough to run 2 or 3 dogs at a time down sidewalks.

"Most dogs are totally under-exercised which can result in behavior problems. This lets you spend more time with your dog in a way that's fun for both of you."

The scooters are currently only available through the Dog-Powered Scooter website. "I'm trying to keep the cost as low as possible," he says. "Hopefully, I can find an investor to do production to get the price down so more people can afford to buy one."

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