

Tillage Implement Prepares Seedbeds At High Speeds

Italian company Farmtec Green manufactures the Curly 610 seedbed preparer for all types of soil no matter the amount of residue present.

The 6-meter-wide Curly features a self-cleaning front cage roller followed by two rows of elastic flagella, ground-driven rotors which uproot weeds and refine the soil at high working speeds. A set of three smaller leveling rollers follow and complete the ground preparation.

The Curly 610 is designed to produce the best results at speeds of 10 to 22 mph and works at a maximum depth of just under 6-in. A minimum 350-hp. tractor is recommended for best results.

Unique features include a hydraulic cylinder system making each component independent for optimal tillage even on uneven ground, an adjustable rear leveling bar, and a tight turning radius tow bar that exceeds 90 degrees.

The Curly is also available in 10 to 30-ft.



Curly features a self-cleaning front cage roller, two rows of elastic flagella, ground-driven rotors, and a set of three smaller leveling rollers.

metric sizes. All models fold to a transport width of 3 meters or just under 10 ft.

The retail cost of the Curly 610 is 60,000 Euros or roughly \$64,000 USD.

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Arrays of solar panels were erected over corn fields to study the relationship between the sustainable generation of solar power and its impact on crop production.

Mixing Solar Panels With Field Crops

Rakesh Agrawal and Mitch Tuinstra, professors at Purdue University, calculated that there isn't enough vacant land in Indiana to provide for the state's electricity needs using solar panels.

They figured roughly 5 to 15 percent of Indiana's agricultural land would be required for solar installations. So they decided to see if solar panels could be erected on cropland without negatively impacting food production.

"Corn doesn't like shade, and solar panels are large and bulky and create shade. Any photons we take away from corn results in a reduced yield. There's a cost for harvesting photons with these systems," says Tuinstra.

To help answer their questions, arrays of solar panels were erected over corn fields.

"It's more than just putting panels in a field," Tuinstra says. "Our installations are automated to track the sun. In these situations, they'll create shade, but at certain times of the year, they'll anti-track with the wide portion of the panels parallel to the sun's rays without shade being created. Plus, crops are in the fields for only a few months, but the

systems will operate all year long."

Agrawal explains it becomes even more complicated in cloudy weather when solar units don't generate as much electricity.

"We're studying how we can cut some light, but not beyond a certain point. Calculations about when panels should track the sun and when they shouldn't are ongoing," he says.

Tuinstra explains farmers are already being approached by solar companies offering a payment per acre to install solar setups on their cropland. Farmers would be guaranteed an income for years, but many are concerned about the idea's soundness.

"There are no borders for these types of considerations," he says. "It's not just corn, but wheat, rice, and whatever crops are grown around the world. In the future, we'll see more highly automated systems interacting between the crops, the environment, and power generation."

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Left to right, Omani Red garlic, Russian hardneck garlic, early Purple Wight softneck garlic, and Solent Wight softneck garlic.

He's An International Seed Saver

For the past 35 years, documentary filmmaker Adam Alexander has traveled the world finding rare and unique vegetables. Rather than sell the seeds he finds, he grows them out, along with others from his collection of around 500 varieties, and shares the seeds with other collectors and everyday growers.

"This coming year, I plan to grow around 120 varieties of vegetables and about a dozen varieties of soft fruit," says Alexander. "To bring them home and save seeds, they have to be delicious. Many are endangered and might have been lost if not for my intervention. I'm also sent favorites of other collectors and get seeds from seed-saving organizations and gene banks."

Alexander grows out the seeds in his greenhouses and 3 1/2-acre garden in Wales. This year he hopes to return at least a dozen varieties of saved seed to the Heritage Seed Library. Around 70 varietal plantings will be used to refresh his stock and to share with others. He will also be growing about 20 Ukrainian heritage varieties to see how well they do in the U.K.

"I hope to bulk up the supply to give to displaced Ukrainians here and across Europe," says Alexander. "I'll also be sending around 10 Syrian varieties to refugee camps in Jordan and Kurdistan for displaced Syrians who want to grow vegetables that remind them of home."

Alexander is rightfully proud of finding old varieties thought lost and returning them to production. While in northwestern India, he heard about a favored local chili pepper known as Mathania. Due to accidental pollination with hybrid chilis, the preferred flavors had been lost. Alexander began to search for it and found it in a remote part of the region. It had been grown by successive

generations of a local family.

"My guide bit into one and tears of joy welled up, as he said he hadn't tasted one for more years than he cared to think," says Alexander.

Alexander has grown them since, but he also returned seed to the regional agricultural station. He tells similar stories about a landrace pea from Spain, a landrace lima bean from northern Myanmar, and more. He's collected seeds from across the Middle East, Southeast Asia, and India, as well as across North and South America.

Peas and carrots are Alexander's favorite vegetables. He claims at least 50 pea varieties in his collection. His number one shelling pea is Avi Juan, which he collected from a like-minded seed saver in Catalonia, in northeastern Spain.

"Avi Juan is a shelling pea that grows to well over 8 ft. with long pods containing up to 11 large peas that are sweet and delicious," says Alexander. "Just getting them into the kitchen requires an iron will; they're so gorgeous raw."

Alexander covers his top 10 favorites on his website and details many of them and others in his recent book, "The Seed Detective: Uncovering the Secret Histories of Remarkable Vegetables."

The variety of seeds available to share is posted on his website. They change each year and are available in limited quantities. Alexander does ask for a small donation and postage for each packet requested.

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Davis designed and built his own street sweeper that runs on a 4 1/2 hp. gas engine.

He Built His Own Mini Street Sweeper

When the street sweeper drives past Jerry Davis' Princeton, Minn., home in the spring, there's nothing to sweep. He's already taken care of it with his mini sweeper.

"During the winter, the trucks sand the roads, and in the spring, they sweep the sand into the ditches and yards. So as not to have the sand accumulate and cover the grass, I use the pickup sweeper to remove the debris before the trucks get there," Davis explains.

In the 60's, he worked at a company that built industrial sweepers, so Davis understood what he needed. He took his plans to a sheet metal worker to build the exterior, but Davis built the frame and the brush.

"I brought six 6 by 36-in. strip brushes from Grainger (plastic fibers set in metal) and created a 16 by 36-in. cylinder with the attached strips," he says. Davis tried different chains and sprockets to get the right rpm's so that the brush picks up the sand and throws it into a hopper in the back of the machine. He turns the brush with a 4 1/2-hp. gas engine.

Davis makes about three passes on the street in front of his property and overlaps in front of his neighbors to remove sand and debris that would likely be thrown on the grass with an industrial street sweeper.



6 by 36-in strip brushes throw sand into a hopper in the sweeper.

"My sweeper will hold about 15 gals. of sand, then I drive it to where I want to dump it and just lift the hopper (hinged on top), and the sand falls to the ground," he says. Davis adds he's also used it on his lawn to pick up grass and leaves.

It's worked very well, he says, and he hopes to replace the gas motor with a quieter electric motor.

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