He Plants Sweet Corn "Check Row" Style

Market gardener Daryl Horn wanted the labor-saving advantages of "check row" planting for his sweet corn crop, but he didn't use a special planter or wires. All he used were two 300-ft. long tape measures.

His wife recently sent photos of him standing in a 1-acre "check row" field that he planted to sweet corn last spring, using a pouch and an Easy Plant "stand and plant" planter to plant a few seeds at a time into hills.

Check-rowing was a method of planting where each hill of 2, 3 or 4 seeds was exactly the same distance from adjoining hills. A field of check-row-planted corn had the appearance of a checkerboard, with a hill of corn stalks at the exact intersection of each line. That made it possible to cultivate the rows in 2 directions and made it much easier to keep fields weed-free.

However, check-row planting was a highly labor-intensive technique. With the advent of chemical weed control, check-rowed corn fell out of favor and is rarely seen today.

"I'm trying to break into market gardening and liked the idea of check-row planting because it lets me cultivate in both directions with my walk-behind BCS rototiller," says the Husum, Wash. resident. "I had been using a 1-row Earthway pull-type planter to plant sweet corn in narrow rows. It planted super fast and worked great. The problem was that I had to remove all the weeds in the field by hand, which took too much time. The rototiller was too wide to fit between the rows so I used a wheel hoe, and after that I hand picked weeds within the rows. I could barely keep up and spent most of my summer weeding.

"With check row-style planting I can use my walk-behind rototiller in both directions to control weeds, which works 10 times faster than weeding by hand. The only drawback is that setting up the field and planting this way takes a lot of time and labor."

He used the two 300-ft. tape measures to lay out the field in 36-in. rows. The field has fence lines bordering the north and west sides. He stretched one tape measure to its full length alongside the fence line and pulled it tight. He then marked the fence line every 3 ft. Then he went to the other end of the field where there wasn't a fence, stretched out the second tape measure, and inserted stakes with small orange flags on them into the ground every 3 ft.

He then used the Easy Plant "stand and plant" planter to plant the row, walking alongside the tape measure laying on the ground and planting a handful of seed into a hill every 3 ft. After he finished planting one row, he unclipped the tape measure from the fence line and moved it over 3 ft., then clipped it back on and planted the next row. "Every time I moved the tape over I clipped it to the marks I had already made on the fence," says Horn.

Market gardener Daryl Horn stands in a 1-acre "check row" field he planted to sweet corn last spring, using two 300-ft. long tape measures and a "stand and plant" planter. "It lets me cultivate in both directions with my walk-behind rototiller," he says.

"The BCS rototiller is 36 in. wide, so I removed 2 tines to provide 3 in. of clearance on either side of the machine. I made 2 passes with the cultivator in both directions until the corn got too tall to cultivate."

Horn planted different sections of the field 2 weeks apart, which resulted in a continual harvest for selling at farmers markets. "The field had previously been in pasture and needed nitrogen, so I used an irrigation sprinkler to make several foliar applications during the growing season," he notes.

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SimplePUMP Is Just What It Sounds Like

Easy to install and use, the SimplePUMP lives up to its name. It is ideal for off-grid wells or as a backup to electric-powered wells. Drop it in, pump, and you have water.

"The inventor couldn't find a hand pump he was happy with so he created the SimplePUMP," says Steve Schmid, SimplePUMP Company. "He realized others might want one like it. We took over from him in 2003, and it has evolved since to include gear drives and solar ready packages."

Installation is as easy as replacing the well cap with one with an inlet for drop pipe and sucker rods. Slide in the required lengths of pipe and install the pump head. All that remains is to add a hand lever or gear motor.

The chief feature of the SimplePUMP, beyond ease of installation, is pumping ease. According to the company, it takes about one fifth the pumping effort needed for conventional pumps.

Unlike most hand pumps, it can be connected to a pressure tank or gravity flow tank. All that is needed is a CV-1 check valve with pressure gauge. It can be located at any point between the pump and the point of delivery.

The simple pump can even be connected to house plumbing directly via an outside hydrant or, in older homes with a gate valve, through an outside faucet.

The SimplePUMP can be used in wells as deep as 325 ft. or as shallow as 10 ft. and produce up to 5 gpm, depending on well depth.

Components in contact with water are stainless steel with graphite-impregnated bronze bushings for an expected 50-year lifespan.

The SimplePUMP can be used by itself with well casing as small as 2 in. in diameter or alongside submersibles when the casing is 4 in. or larger.

"No well is the same, and no static water level is the same, so we need to talk with customers to properly select and price a system," says Schmid. "Costs vary by the depth of the water level, as that affects the lengths of rod stem and guides."

SimplePUMP installs by replacing your well cap with one that has an inlet for drop pipe and sucker rods.

Schmid estimates the most expensive system for the maximum recommended depth of 325 ft. at approximately $3,000. A very shallow well, he suggests, might cost as little as $1,200 to $1,300.

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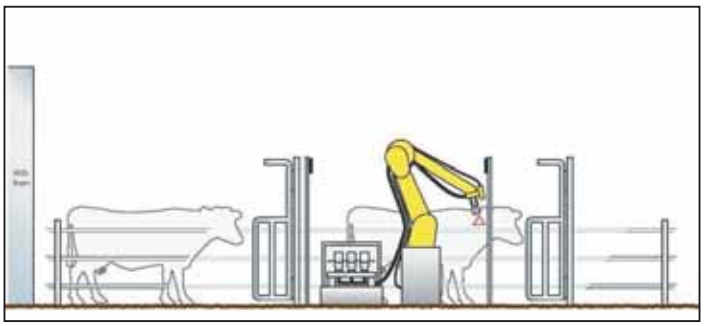
Robotic Injection System Could Save Dairies Big Money

Two California dairymen believe that a robotic vaccination system they invented called SURESHOT could save large dairy operations several thousand dollars a year. Co-developers Marinus Dijkstra and Alexander Chuck, who have 20 years dairying experience, say their system can save about $85 a cow on labor, keep cows more healthy, and possibly get an additional $200 income per cow simply by obtaining 100 percent compliance rates. Dijkstra manages milking operations on two farms for Cottonwood Dairy of San Jacinto, Calif., and Chuck manages Cottonwood Compost, which produces soil amendments from manure generated at the dairy.

The SURESHOT robotic system automatically administers vaccinations to cattle in a controlled environment, using RFID tags on each animal to verify animal and dosage requirements. Dijkstra says robotic vaccinations are just an addition to robotic systems already being used for milking and feeding dairy cattle.

"Vaccinating large herds like ours requires a lot of labor and record keeping, and it's not something handled by one or two people," says Dijkstra. "It's difficult to find employees to handle the work and educate them for compliance requirements, and it's always a struggle to find and identify the cows that need the vaccinations."

SURESHOT selects cows needing a vaccination and directs them through an automated gate to a holding area. A robotic arm reads the RFID ear tag on the animal, determines the vaccination needed, then delivers the injection. Electronic tracking and dosing information is integrated into the computerized dairy management system that maintains each animal's feeding, milk production, reproduction and health records.



SURESHOT robotic vaccination system uses RFID tags on each animal to verify animal and dosage requirements.

Dijkstra and Chuck have applied for a provisionary patent on their system, named the new company Pharm Robotics, and are working with Sprint Accelerator, Dairy Farmers of America, Cobank and other industry experts and mentors to build and test the prototype.

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