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New Electrical Crop Desiccation

Responding to the phasing out of potato desiccation chemicals, CROPZONE, an ag-tech start-up founded in Germany, together with Nufarm, an Australian-based company, developed NUCROP, an electrical alternative and complementary solution to chemical-based weed and crop control.

This system is established on a unique hybrid herbicide concept combining a conductive liquid called Volt.fuel with electro-physical weeding.

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The application begins with the uniquely adapted and configured Volt.fuel being sprayed onto potato crops. The key formulation allows the active ingredient electric current to work effectively and minimize the amounts needed. As a result, the working width and treatment speed can be increased, and the plant application becomes even more targeted.

An electric current of 2,000 to 5,000 volts is generated by the tractor with a PTO generator and special high-voltage units. Using unique applicators, the current is passed through plants and, depending on the type of applicator, also through roots and soil. This destroys the water supply to the plants to such an extent that they dry out and die.

The application can be done at a speed of 4 to 5 mph (6 to 8 kph) in all climate conditions delivering an immediate effect.

"The active ingredient must always reach the site of action as effectively as possible," says Christian Haschka, Media Relations & Head of Corporate Affairs. "The current needs to penetrate the contacted leaves with

as little loss as possible and then destroy the water supply in stems and, in some cases, roots. Volt.fuel bridges leaf hairs and irregularities on the leaves, and softens wax layers, thus increasing electrical conductivity. Less energy for more effect is the result."

When treating with NUCROP and long-range applicators (LRA), desiccated roots, especially the taproot of thistles have been observed to a depth of about 6 in. (15 cm.). Damage also depends on the type of applicator, soil moisture, plant species and the amount of energy applied.

The application is safe for workers and organisms living in the soil.

"Initially, NUCROP will focus on potato desiccation in Germany, France, the UK, and Benelux," Haschka says. "We'll be expanding the range of applications (greening control, weed control) and our geographic scope to include other countries from 2022 onward. We aim to reduce the rising pressure on farmers due to the phase-out of ever-more chemical herbicides and the need to replace them effectively without compromising on product quality or climate protection while conserving soil life and quality. We intend to launch NUCROP at prices competitive with current alternatives, enabling us to achieve faster growth."

The design and production of the machines takes place in Germany.

In 2022, CROPZONE will have two systems running in Iowa and Saskatoon, Canada. They'll be supported by Deere for their North American rollout. A full launch is expected in 2023.

Contact: FARM SHOW Followup, Christian Haschka, NUCROP, (christian.haschka@nufarm.com; www.nufarm.com/us; www.nucrop.com; www.cropzone.com).

EZ Hinge Keeps Gates Swinging

You can hang gates quickly with EZ Hinge. The quick-to-attach brackets have caught on fast since being introduced to FARM SHOW readers nearly five years ago (Vol. 41, No. 5).

"My dad came up with the idea in 2017 when it took 1 1/2 hrs. to line up holes in a neighbor's gate post," recalls Terri Tegtmeier, EZ Hinge. "Since then, we've sold the hinges all over the U.S."

Tegtmeier's dad, Wayne, was a welder and pipe fitter for 30 years, who got into farming late in life. Faced with problem steel pipe posts, his simple hinge idea came naturally. His EZ Hinge brackets eliminate welding and drilling.

The brackets are made from heavy-duty, 1/2-in. steel plate and schedule 40 steel pipe. Mounting gates requires only a tape measure, a 9/16-in. socket wrench and a crescent wrench.

The brackets come in four sizes to fit pipes from 1 1/2 in. to 4 1/2 in. outside diameter. All are designed to accept the standard 5/8-in. or 3/4-in. J-bolt provided by gate manufacturers. Prices range from \$34.50 to \$37.50.

Contact: FARM SHOW Followup, EZ



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Hinge, Fair Play, Mo. 65649 (ph 417-599-9985; ezhingefarmgate@gmail.com; www.ezhingefarmgate.com).



Rolls weigh approximately 70-lbs. and can be handled or moved by one or two people quite easily. A utility knife or wheel grinder is needed to cut the material to size.

Concrete Canvas Repairs Old Culverts

Repairing or replacing degraded and rusting culverts is time-consuming, energy taxing and expensive due to unpredictable supply chain issues and steel prices. Coleman Moore Company provides a less expensive repair option with its Concrete Canvas Culvert Repair product.

Their 3 by 32-ft. rolls come in three thicknesses or weights for variable strengths. One side of the geotextile material features an impermeable liner, the other a woven top, both sandwiching an impregnated concrete layer.

Rolls can be installed lengthwise or parallel to water flow inside a smaller pipe or cut into approximately 5-ft. lengths and placed side by side in a larger culvert pipe.

Kevin Good, Coleman's account manager, says rolls weigh approximately 70-lbs. and can be handled or moved by one or two people quite easily. A utility knife or wheel grinder is needed to cut the material to size.

Once water is diverted from a culvert and any debris removed, Good suggests using Quikrete to fix any major holes and give the pipe a smooth flow line.

"Then, measure and cut the concrete canvas repair material to the desired size,

and place it overlapped by about 4 to 6 in. if side by side or lengthwise in a smaller pipe," says Good. "Screw it into the existing culvert walls and material joints with sheet metal screws and a washer every 6 to 8 in. The liner keeps water from getting underneath."

The final steps include adding water to activate the concrete, then letting it cure for about 12 to 24 hrs. A bead of caulking could also be run along any edges as an additional means of keeping moisture from under-running the material.

The Concrete Canvas product should last 10 to 15 yrs. in culvert repair.

Testing has also been done to confirm environmental safety in streams and bodies of water.

Coleman Moore Company is a distributor of the product which is manufactured in Europe. They are expanding their network into Nebraska, South Dakota and Minnesota.

Rolls of the Concrete Canvas retail for approximately \$600 plus S&H.

Contact: FARM SHOW Followup, Kevin Good, Coleman Moore Company, 220 New York Ave., Des Moines, Iowa 50313 (ph 515-518-5387; kevin@colemanmoorecompany.com; www.colemanmoorecompany.com).



PECO's PS5 Power Sprayer's new design can spray up to 40 ft. and has a long-lasting battery.

Hand-Pulled Sprayer Easy To Use

"Many older people find it easier to use than other sprayers," says Jeff Simerly, the engineer who developed the PECO PS5 Power Sprayer. The 14-in. wheels and balance of the sprayer with an adjustable handle, make it easy to use and move over all types of terrain.

It can spray insecticides, fertilizers and other chemicals because of the sprayer's Viton valves and Santoprene diaphragm. It can even be used to spray disinfectants. Just run water through the pump after each use to thoroughly clean the nozzle.

"The new sprayer body is all aluminum, and the pump will spray anything from a 40-ft. stream to a fine mist. The wand has been upgraded to a 29-in. stainless steel wand,"

Simerly says, and the 10-ft. hose increases the spraying range.

The pump builds up to 40 psi and shuts off to conserve the energy of the gel cell battery that lasts up to six hours of steady use. The charger plugs into the sprayer and a standard outlet.

"The handle rotates down to a compact shape to fit in a truck under a tonneau cover, or the back seat of the car," he adds.

The sprayer retails for \$575 through PECO and its distributors and dealers.

Contact: FARM SHOW Followup, PECO, 10 Walden Dr., Arden, N.C. 28704 (ph 800-438-5823; sales@lawnvac.com; www.lawnvac.com).