



Electric-powered Weed Zapper kills weeds by using an electric charge to explode weed cells from tip to root.



Boom mounts on front of most tractors and is powered by a rear-mounted, pto-driven generator.

They're Killing Weeds With 40-Ft. Electric "Zapper"

By Jim Ruen, Contributing Editor

Two Missouri brothers are killing weeds with 14 kV of electricity. Their Weed Zapper is catching on with organic and conventional farmers. The amazing machine kills weeds in minutes, exploding weed cells from tip to root with an electric charge. However, if it hadn't been for FARM SHOW, the Weed Zapper might not exist.

"When my brother Mike first suggested using electricity, I laughed," recalls Ben Kroeger, Old School Manufacturing. "Then he pulled out an old issue of FARM SHOW (Vol. 5, No. 2) with a story about the Lasco Lightning Weeder."

The brothers and their dad Tony own a heating and electrical business. However, Ben and Mike each also run organic farms on the side. Weed control is a big issue for them.

After locating a Lasco weeder and renting it for a season, the 2 were sold on the concept. About the same time, they heard about 2 brothers in Illinois who had been working on a similar weed-killing machine.

"They had a prototype, but it still needed some work," says Kroeger. "We bought the business and the prototype, added safety features, a flex boom and other improvements. We also made sure all parts were off the shelf. If a problem develops, the local hardware store can keep the farmer going."

Safety features for the high-voltage Weed Zapper were key. The Kroegers put on their electrician hats and added 4 safety systems. A seat sensor kills the power if the operator stands up. When the system is shut off, there is no residual power left in the contact bar. If grounding coulters under the boom leave

the ground, power to the boom is shut off. Finally, if the tractor's forward motion stops for even a short time, power is shut off to the boom.

Seeing what a proven and improved prototype could do, the brothers and other family members went into production. This past season they had 18 machines in the field. They expect to deliver as many as 60 to buyers by May 1, 2019. The machines are going about as fast as the brothers can find time to build them.

"By early October we had 40 of the 60 we plan to build this winter sold," says Kroeger. "An Iowa co-op has 2 they lease to customers and have ordered 3 more this year."

The Weed Zapper comes in 4 models ranging from the 12 1/2-ft. Annihilator 6R30 that covers six 30-in. rows, to the 16R30 with its 40-ft. spread. Recommended tractor size starts at 135 pto hp. Each unit is built to order for front or rear mount with optional trailer tow packages and wide row configurations.

The boom with its copper electrodes mounts to the front of most tractors and is powered by rear-mounted, pto-driven generators. Depending on size of the booms, they range from 100 kW on the 6-row machine to 200 kW on the new 40-ft. model. All top out at about 14 kV.

When current traveling down the bar touches a weed, it flows into the stem and boils the water in the cells, bursting them. The more moisture in the plants, the more effective the Weed Zapper is.

"Grasses take longer, and as weed stems get woody, they are harder to kill," says Kroeger. "However, we've killed year-old saplings in fallow fields."



Weed Zapper comes in 4 models ranging from 12 1/2 to 40 ft. wide.

A slick feature of the Weed Zapper is its versatility. The rear-mounted generator is 3-pt. mounted in the field. However, since it was designed by farmers for use on their farms 35 miles apart, transport ease was key.

"We needed to be able to take it down the road behind a pickup, including through a city of 20,000 people," says Kroeger. "The generator has transport wheels that flip down and lock into position, turning it into a trailer with a tongue that also flips down and locks in place."

Hooks on the rear of the generator allow the folded up boom to be carried during transit. They also allow the boom to be used as a rear-mount system, if desired.

When folded up, the 40-ft. boom will have a transit width of just under 12 ft. and a height of 9 ft. above ground. Pricing for the Weed Zapper ranges from \$35,000 for the 6-row unit to \$58,000 for the new 40-ft. unit.

Kroeger says the Weed Zapper is ideal for pre-season and in-season weed control,

catching weeds that emerge above the canopy. However, it also works great as a burn down system for cover crops prior to planting.

"We've had great success with a wide variety of cover crops," says Kroeger. "All you need is contact with the bar."

Kroeger says he and his brother are working on larger machines for future introductions. While initially intended for organic acres, conventional farmers struggling with herbicide resistant weeds also are ordering machines.

"The introduction of Roundup led to the demise of the Lasco Lightning," notes Kroeger. "Now weeds resistant to Roundup and other herbicides are making the timing right for the Weed Zapper."

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Pickup Running Boards Made From 2 By 8's

They aren't fancy, but Gary Swensen of Yankton, S. Dak., says the running boards he made out of wood for his Ford F-250 pickup work fine.

"They make it easier to climb in and out of the cab. I spent only about \$100 to make them," says Swensen.

He came up with the idea after he bought a used 2000 Ford F-250 SuperCab 4-WD pickup. It was difficult to get into the cab because it was so high off the ground.

He went online and ordered running boards that cost about \$275. "As soon as I opened the box I could tell those running boards wouldn't work because they were built too light. So I returned them but kept the mounting brackets, which I had ordered separately.

"My son said 'Why don't you just buy a couple of 2 by 8's and paint them?' I prefer function over fashion, so I decided to try out his idea."

He bought an 8-ft. long, treated 2 by 8

for each side of the pickup and bolted the 3 angled mounting brackets into the pickup frame using pre-drilled holes from the factory. He bolted each 2 by 8 horizontally onto the brackets, then attached a 2 by 4 to the top of the 2 by 8 to fill the gap between the pickup and the running board to keep dirt and gravel off the boards. Then he spray painted the boards black.

"I built these running boards about two years ago and they've held up fine," says Swensen. "Only two people have ever noticed they're just wooden boards. Even my wife says they don't look too bad."

"I paid \$90 for the mounting brackets, but they're built heavy and were well worth the money. Last winter I drove through some deep snow and was concerned the brackets might not hold up, but there was no problem."

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Gary Swensen mounted wooden running boards made from 2 by 8's on his Ford F-250 pickup. "They aren't fancy but they work fine," he says.