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As driver slowly passes by, grasshoppers jump up and hit the electrified grid. A 2-ft. wide plastic shield beneath unit collects the dead grasshoppers.

By Janis Schole,
Contributing Editor

Giant Bug Zapper Kills Grasshoppers With Electricity

Grasshoppers are no match for the "Grasshopper Zapper," a field-size bug zapper invented by Ken Podgurney and Roger Beaudoin of Whitecourt, Alberta.

Grasshoppers have been on the rampage the past few years due to dry conditions on the western prairies. "The beauty of our machine is that honey bees and other beneficial insects just fly around it because it moves slowly through the field."

The patented zapper consists of a center 20-ft. wide by 4-ft. high steel mesh panel, with a 10 by 4-ft. wing on each side. The 40-ft. width can be extended up to 60 ft., if desired. The 2,000-lb. aluminum unit can easily be pulled by an ATV (on smooth, level ground) or a small tractor on hilly terrain. The rig also has an end hook-up for easy transport field to field.

Each panel has 3 grids, which are electri-

fied with 15,000 volts produced by a pulse 3,500-watt generator. Height can be adjusted from 4 to 32 in. off the ground. A 2-ft. wide plastic shield beneath the unit prevents plant material from coming into contact with the electrified grids, minimizing the risk of grass fires. The shield also collects the dead grasshoppers, which can then be used for poultry feed or fertilizer.

"There are eight 12-in. tires on the unit and it's designed to be pulled slowly. As you pass by, the grasshoppers jump up and hit the electrified grid," Podgurney says. "For safety, when the machine starts moving, a sensor on the back wheel detects motion and turns on the electricity. When the machine stops, the power turns off."

The inventors say one pass generally kills 35 per cent of hoppers.

"This is not a miracle machine... you're

not going to get them all with just one pass. Some say it's labor intensive, but it is an economical investment that doesn't harm the environment and provides effective control. It kills adult grasshoppers which are the ones that are laying eggs and are the most difficult to kill with chemicals," Podgurney says. "To get the adults, the chemicals have to be very strong and it's likely to cost about \$6 per acre, plus the cost of a sprayer. Each female grasshopper lays at least eight eggs, so it's advantageous to use the device throughout the season to try to eliminate new eggs from being laid."

Podgurney and Beaudoin have been perfecting their machine for the past three years and put it on the market in June. So far, they've sold two units, both to Saskatchewan farmers.

With a price tag of \$25,000, the pair ad-

mits it's difficult for producers to find the money to purchase, so there is the possibility that they may rent the machines out in the future or sell it to custom operators.

"The people who need it the most have been devastated the past three years with drought and grasshoppers. We believe more people could benefit if each hopper-infested municipality were to buy one and rent it out to farmers. They could have the machine paid for pretty fast," Podgurney says.

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When snow fell on his canola crop, Tom McMillan replaced the header on his MacDon 2950 swather with the blower and pulleys off an auger-mounted grain vac attachment.



A section of steel hose taken from another old grain vac serves as the blower hose. He drove alongside canola swaths at 6 mph to blow snow off.

Swather Snow Blower Helped With Late Harvest

When the weather gives you lemons, make lemonade. That's the outlook Tom McMillan of Pickardville, Alberta kept in mind last year when a snowfall conspired to keep him from harvesting his crops.

"We still had 500 acres of canola and 1,000 acres of barley on the ground and the swaths were covered in a couple of inches of snow," he says. "The idea of creating a snow blower came to us out of desperation. It made all the difference."

McMillan removed the header from his 2950 MacDon swather. On the left lifting arm, he used scrap iron to mount the blower and pulleys he took off an auger-mounted grain vac attachment. He used a section of steel hose taken from another old grain vac for the blower hose. The system used the swather's knife drive PTO to power the

blower, and since it rode on the lifting arm, he could control the height.

It took McMillan two and a half days to assemble his blower. Then he drove alongside the canola swaths at six miles per hour to blow the snow off. The combine followed behind, and back at the yard, he ran the canola through his dryer.

It worked well, but he was only able to get over 50 acres before the weather changed again, thawing and then freezing the moisture into ice on the swaths. At this point, the blower was no longer useful, so after combining, he had to screen the ice out with his rotary grain cleaner screener, and then dry the canola twice before storing it.

McMillan says he also found the unusual snow blower useful for "sweeping up" the final remnants of barley that had temporarily

been stored on the ground. "It did a better job than anyone with a shovel or broom could have done."

Before harvest began this year, McMillan converted his blower back into a swather. It took only about 10 minutes.

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