Electrically-charged brass rods mount along a length of pvc pipe. As weeds strike the rods they ground out the electrical circuits and send signals to a control box. It activates spray nozzles mounted on a boom behind the pvc boom.

ELECTRICALLY-CHARGED ROD DETECTS WEEDS, ACTIVATING SPRAY NOZZLES

New Spot Sprayer Uses Electric "Rope Wick"

At first glance, this new front-mount spray rig looks like a conventional rope wick applicator designed to wipe chemicals on tall-growing weeds. But a closer inspection reveals that it's actually a totally new concept in crop sprayers.

The "electric rope wick", as some have called it, consists of a series of electrically-charged brass rods mounted along a length of pvc pipe. As weeds strike the metal rods, grounding out the electrical circuits, signals are sent to a control box which activates spray nozzles mounted on a boom behind the pvc boom.

Developed by Darryl Davis, Marlin Anderson, and Roger Mosch of Hopkinsville, Ky., the new rig could revolutionize sprayer technology, they say.

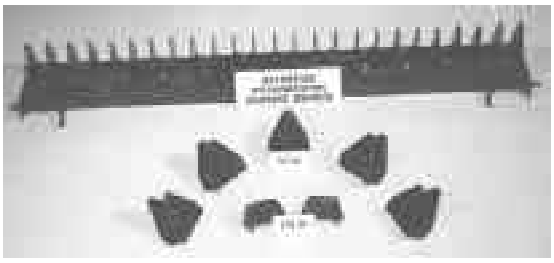
An electrical charge (supplied by a tone generator) is applied to the brass rod. Whenever a weed contacts the rod, current runs through the plant and into the ground, changing the frequency of a tone generator which triggers a tone decoder on an integrated circuit mounted inside a control box in the cab. A solenoid-controlled spray valve then sends chemicals to nozzles mounted behind the sensor. An adjustable delay on time permits mounting the nozzles at various locations.

"It provides spray coverage but doesn't lose chemicals to dripping and is much more versatile," says Davis. "I think it works much better than optic sprayers that use an infrared light beam because it's far less expensive, isn't limited by detection of chlorophyll, and isn't affected by dust. The brass rod can be broken up into sections and used over or around the row or between rows. You could use a front-mounted cultivator to spray between rows and a rear-mounted boom to spray above and around the rows. It works great for soybeans and cotton. I think that the idea will really be useful in a couple of years when farmers will be able to apply Roundup postemergence on corn.

"So far I've used it on a 6-row boom on front of my tractor. My neighbor Teddy Morgan tested another model last summer on his Deere high-rise sprayer equipped with a 60-ft. boom. He used it on over 1,500 acres while applying herbicide to no-till soybeans and nitrogen to wheat. He also has a manual override on the control box that allows him to spot spray weeds. The override has five switches, one for each set of nozzles, and each switch lights up whenever the nozzles it's connected to are activated. The manual override controller also has an on-off rocker switch that he can use to turn all of the nozzles on or off at the end of the field as well as a pressure regulator switch."

Davis is looking for a manufacturer. He estimates that a unit set up for a 12-row cultivator would sell for $10,000 to $12,000.

Contact: FARM SHOW Followup, Darryl Davis, 1721 E. 7th St., Hopkinsville, Kent. 42240 (ph 502 885-5608).



Chopper bar is fitted with sickle sections that replace the original short, blunt, U-shaped cutter blades. They wear well and stay sharp longer, says Skipper.

FULL SICKLE SECTIONS MAKE CHOPPER WORK BETTER UNDER TOUGH CONDITIONS

Add-On Chopper Kit For Axial Flow Combines

"We bought a 1460 Case-IH Axial Flow combine in 1979 and at that time we were told a straw chopper was not necessary in a rotary combine. We believed what we were told and found that if conditions were perfect, or extremely dry, it would do a reasonably good job chopping straw. The problem was that if we started before the dew had dried off, or if we worked after dark, it would not chop wheat or soybean straw," says Brian Skipper, Tilbury, Ont., who first tried keystock grates and notched bars on the rotor but nothing worked as well as other combines fitted with choppers.

"In 1992 we bought a 1688 Axial Flow and had it fitted with a factory chopper, which we figured would solve the problem. Unfortunately, it didn't. If the straw was a little damp or green, it didn't chop the straw well at all.

"We decided to take the chopper apart and guess what we found? The chopper bar was fitted with short, blunt, U-shaped cutter blades. It seemed obvious they wouldn't cut very well. We went back to our dealer to buy the longer version of the cutter blades, but they were also blunt and wore down too fast when sharpened.

"We decided to fit the chopper bar with regular sickle sections. We made a few prototypes using full sickle sections. They worked well, chopping the straw much finer so it would spread better. The sections wear well and stay sharp longer. We've used the same set for the past two year doing about 300 acres of wheat and 600 acres of beans each year. We feel this set will last another year before we have to turn them around to use the other side. They cost about the same as buying replacement cutter blades from Case-IH.

"They're easy to install and will fit all Case-IH Axial Flow combines. A set includes a package of 13 cutter blades with bolts and complete instructions. Sells for $99.95 U.S. ($124.95 Canadian)."

Contact: FARM SHOW Followup, Brian Skipper, 4371 Gleeson Line, Rt. 1, Tilbury, Ontario N0P 2L0 Canada (ph 519 682-3645 or 519 689-4868).

"FAR LESS EXPENSIVE THAN USING STEEL OR WOOD"

Livestock Corrals Made From Truck Tires

Old truck tires can be used to make low-cost corrals, says rancher George Work, San Miguel, Calif., who used about 1,000 truck tires to make a pair of corrals and alleyways for handling about 300 head of beef cattle.

"I got the tires free from a company that delivered them to my ranch at no charge," says Work. "One great benefit of using tires is that they have a cushioning effect that helps prevent injuries."

Each corral is circular in design and has an alleyway leading up to it. Work used 20-in. and larger truck tires for the bottom five layers of tires, which are stacked in vertical columns. He used a skidsteer loader to fill each of the five layers with dirt. He then added two more layers of smaller truck tires on top, overlapping them for strength but adding no dirt. He used an electric drill to screw all the tires together, using four 5/16-in. lag bolts per tire.

"I spent only a little over $1,000 to build it, including a labor cost of $400 to bolt the tires together," says Work. "I also spent about $500 on bolts and $150 on labor to fill the tires with dirt.

"The corral is located where seven pastures come together on the back side of our ranch. We use it to load cattle into a gooseneck trailer. A big advantage with using tires is that we didn't have to worry about setting steel posts into hard, rocky ground. Also, tires work beautifully for making curves. There's no extra cutting or fitting that's necessary with wood or steel corrals.

"I didn't overlap the bottom five layers of tires because it would have been impossible to fill them with dirt. I don't know if I needed to use bolts or not to hold the tires together, but on an alleyway where I didn't use bolts bulls flipped off several tires.."

Work made low-cost temporary gates for the corral by bolting strips of tire tread vertically onto steel pipe frames. He got the strips from a local company that removes the sidewalls and cuts the remaining tread into 6-ft. lengths so they can pile them into dumpsters. "We left only a 4 to 6-in. space between strips so cows can't get their heads between them," notes Work.

Contact: FARM SHOW Followup, George Work, 75903 Ranchita Canyon Road, San Miguel, Calif. 93451 (ph 805 467-3233).

Work used about 1,000 truck tires to make a pair of corrals and alleyways for handling about 300 head of beef cattle.

He bolted strips of tire tread vertically onto steel pipe frames to form low-cost temporary gates for the corral.