

"Owner's Report" On Automatic Guidance Systems

Are you satisfied with the automatic guidance system you bought for your tractor, cultivator, planter or other farm equipment? How could it be improved? What field chores do you perform with your guidance system? What are the primary benefits of operating it?

These are some of the questions we asked owners of guidance systems in an effort to highlight those guidance systems that perform with flying colors and to pinpoint "lemons" that fail because of poor performance or failure of the dealer or company to provide service. Names of owners of guidance systems were supplied to us "no strings attached" by the manufacturers.

Guidance systems vary in the way they sense the row and in the methods they use to keep equipment on the row. Some systems mount on the 3-pt. and shift the cultivator, planter or other equipment back and forth while others tie into the tractor steering system and steer the tractor back and forth. All are designed to relieve the operator of the need to manually keep equipment on the row, reducing stress and doing a faster, better job with less damage to crops.

Here's how our survey shaped up:

"I bought my first **Tri-R Innovations** Robotic Driver 2 years ago and now have four units. This automatic driving system works great for planting, cultivating, hoeing, stalk shredding, applying fertilizer, harvesting beans and corn, and spraying crops. The unit is very reliable and has made my life a lot easier because I have arthritis and am blind in one eye. It has eliminated cultivator blight, and improves guess rows. It works so well you take it for granted," says Bob Saathoff, Gibson City, Ill., about the innovative system that uses a small electric-driven rubber wheel to direct-drive the steering wheel.

"I use our 1985 **Orthman Tracker II** for cultivating because we ridge-till our crops and the cultivator must be exactly on row at all times or planting is very difficult the next year," says Garry Greving, Chapman, Neb. "The first year we had a lot of problems with the hydraulics because of warped hydraulic components and faulty electrical currents, but Orthman stood behind the system and got all the problems fixed. It works absolutely perfect year after year now."

Richard Salsman, Grant, Neb., owns a 1988 **Sunco Acura Trak** guidance system. "We can cultivate faster with less fatigue and get closer to the crop. The system is well-built and accurate. It works the way they said it would although it doesn't work real well on small crops. One improvement I'd like is that I wish the drawbar didn't have

system except on steep hills. We're looking at adding a pendulum to the control box to help get the cultivator uphill more," says David Kreutz, Giltner, Neb.

"We eliminated cultivator blight and it's faster, too!" says Randy Regier, Madrid, Neb., about his 1988 **Sunco Acura Trak** guidance system. "I ridge-till and need to stay perfectly on row to make the next year's planting easier. Acura does the job and I feel less stressed at the end of the day. I'm also more comfortable with letting others cultivate to give me a break. The only improvement this system needs is more on-the-go adjustment and easier fine tuning."

John Shoemaker, St. Paul, Neb., likes "The Guide" system from **Lincoln Creek Manufacturing**. "It adds less weight to the tractor than some other systems. We're able to cultivate much faster with less damage. We also use it at planting to provide more uniform 'guess rows'. This year we plan to use it to guide our hiller when making furrows for gravity irrigation. Also, if we switch to minimum till, this system would help us center crops on ridges. I do wish the system were equipped with a damped, zero centered meter to indicate position of the unit instead of, or in addition to, the light emitting diodes now used."

"We're saving a lot on herbicides because we can set our cultivator shovels much closer to the row. If you can drive a tractor and keep the wheels between the row, this guidance system will keep your equipment in perfect alignment," says Lowell Garrett, Adel, Iowa, happy with the "Navigator" from **HR Manufacturing Co.** "We've got the heavy-duty model for 12 to 16 rows. There's also a standard model designed for 4 to 8 rows. The system keeps our cultivator in correct alignment at all times and we also use it when planting. Performance could not be much better. Lets you easily cultivate corn from 2 in. tall, to 2 ft. with no problem. It has wands that run against the stalks when cultivating and a bullet-shaped sensor that follows the planter marker when planting. It doesn't take much of a mark to use it and once it's in the mark, it won't leave it. Mine was one of the first systems made and the company has updated it at no cost to me. All the first models were recalled because a shaft and pin were too soft, and to improve the design of the wands. Also, when you came to the ends of a field with the first unit, you had to reach up to flip a switch to return to center position. This was awkward since you already have enough to do at end rows. The system now has a remote switch that you can mount anywhere for easy access. This is by far the easiest-to-use guidance system on the market and it doesn't tie down the tractor it's mounted on. You can easily switch it to another tractor



This early prototype was mounted on a crop sprayer. Unlike mechanical "wand-type" sensors, it reads off the crop without touching it.

Home-Built "Non-Mechanical" Row Sensor

"There was nothing like it on the market so I decided to build my own," says Bill Kreitzer, Gibson City, Ill., about the "non-mechanical" row crop sensor he developed to eliminate the need for mechanical "wand-type" sensors that actually feel their way along the crop, guide along a mark dug in the field, or use gauge wheels to sense along a ridge.

Kreitzer is working closely with **Tri-R Innovations** in Gibson City to develop the sensor to work with the company's popular Robotic Driver guidance system that consists of a small rubber wheel that rubs against the steering wheel of tractors, combines and other equipment to provide automatic steering.

Kreitzer says the biggest problem in developing the new system was finding the right type of electronic sensor. At first he tried distance finders from Polaroid cameras and electronic tape measures. They worked fine but wouldn't work under distances less than 12 in. He also tried sound wave, infrared, and other "electric eye" type sensors. He says he recently found one that "works great at distances as



Kreitzer shows off early prototype which consisted of a Polaroid camera sensor mounted on a PVC drop-pipe.

small as 1/4 in." He plans to field test the unit this summer working with **Tri-R Innovations**.

Contact: FARM SHOW Followup, Bill Kreitzer, 10011 N. Church, Gibson City, Ill. 60936 (ph 217 784-4646).

when needed."

"So far we've only used our Robotic Driver from **Tri-R Innovations** on our combine but we plan to use it on our planter and cultivator this year," says Martin O'Neill, Ellsworth, Ill. "It drives the combine better than I can, keeping it on a straight course. The 220 platform on my Deere 7700 worked within a 3 to 4 in. range of the row we guided on."

"Guidance systems are no better than the sensor they guide off of. The industry needs to come up with some sort of sonar or radar device that can read off the row to eliminate errors by mechanical feelers," says Lee Gatzke, Tulare, S. Dak., who's generally satisfied with his Navigator from **HR Manufacturing Co.** "It does everything they said it would do, taking the stress out of planting and cultivating on ridges. It has also reduced our herbicide use and losses during cultivating."

Dale Large, Imperial, Neb., is pleased with his **Sunco Acura Trak** guidance system. "I chose this model because of the simplicity of it and it's worked so well I've recommended it to neighbors. I needed a guidance system because I had fertilizer tanks on my tractor which reduced visibility. The manufacturer has upgraded my unit since I purchased it and has further modifications in mind for the future. One of the ideas is to

move the guiding wands and control to an outside row to eliminate problems caused when the tractor wheel runs over the crop."

Charles Gowan, Oslo, Minn., is pleased with his automatic "steering pilot" system from **Sigmanetics, Inc.** "We bought it in order to plant sugar beets 24 hrs. a day and we're very satisfied because all the guess rows are uniform and straight. Works great."

"We use our Navigator system from **HR Manufacturing Co.** primarily to cultivate. We save crops, work faster and closer, and it's a lot easier on the operator. I like the way this system steers the cultivator back and forth rather than trying to shift it sideways, like other systems. We owned an Orthman system before and didn't like it," says Eugene Johnson, Johnstown, Neb.

"Our 1988 **Buffalo** cultivator fitted with the company's automatic guidance system does a super job cleaning up our fields. It did two times the work of my son's 1987 Buffalo cultivator without a guidance system. We were able to get closer to the crop and do a better job traveling faster. It does a super job on contours and is easy on the operator. No tiredness at the end of the day," says William L. Fortin, Danville, Iowa.

"The only problem I had with my **HR Manufacturing** Navigator system was that when I worked in small crops the sensing wand would jump over the crop and cause

"We can cultivate faster with less fatigue and get closer to the crop."

to be removed to use the system. It would also be handy to have an in-cab device to show where the cultivator is in relation to the crop."

"We're able to put in longer hours due to the fact that we're not concentrating on steering and can watch the planter or cultivator," says Robert Sweeney, Manvel, N. Dak., about his steering guidance system from **Sigmanetics, Inc.**, Concord, Calif. "It keeps the tractor in track at all times. You can even climb out and walk around the tractor and planter while it's moving and it'll stay on course. We're now much more accurate in both planting and cultivating."

"We started using 'The Guide' from **Lincoln Creek Manufacturing** for cultivating only but this year we're planting seed corn so we're using the system for planting male delay rows and it helps us keep right on track. It reduces a lot of stress, lets us go faster and improves the job, reducing cultivator wipe-out. We're very happy with the