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Futuristic Farming

GPS technology arrives on the farm

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LYFORD — Farming in this small town south of Raymondville is going high tech.

Glenn Wilde, a local grower, has been using a Global Positioning Satellite system to plow, plant and fertilize with little human intervention.

The tractor is steered by a satellite stationed thousands of miles above the earth that Wilde is cultivating.

Wilde, who farms about 4,000 acres of cotton and grain, bought the system last November and says it has made a big difference.

"It's exciting," he said, referring to the tool manufactured by AutoFarm, a company based in Menlo Park, Calif. "It's kind of a gold mine, but we need to mine its potential."

Ellis Moore, a grower from the Texas Panhandle, said he has been using the GPS for a little more than two years.

"It saves me in labor, time, fuel and my yields have increased," he said. "Last year, I took in $50 (more) per acre."

Joe Hermosa / Valley Morning Star

Wade Riley, a field service technician, explains the AutoFarm system that uses GPS receivers on the tractor cab roof and a receiver in the base station. The base station allows GPS uniform accuracy to less than one inch.

He said $50 may not sound like a whole lot, but multiplied that by thousands of acres, it adds up.

"I farm about 10,500 acres, mostly with corn," Moore said. "I used to spend about $360 per acre. Today that is $310 per acre."

Wilde said the GPS system will help the farming community because it's cost-effective, maximizes the use of the land and provides the most accurate way to work a field.

AutoFarm and writers from several farm publications met at Wilde's farm recently to learn first-hand how the system, which was introduced in 1991, works.

It practically turns a tractor into a robot, although company officials said a driver is still needed.

The tractor is equipped with a computer terminal that is activated by touch. No manual steering is needed as the tractor is directed by GPS.

The only time a driver steers the tractor is when it has to turn, although the computer has the ability to perform even this task.

Wade Riley, a service technician with AutoFarm, said the company doesn't let tractors turn on their own because of liability issues.

"What if something goes wrong and this tractor keeps going toward that highway?" he said, pointing at vehicles passing along Highway 77. "It could keep going and going until it runs out of fuel."

AutoFarm said the GPS system, called AutoSteer, is the most advanced piece of equipment it builds.

Matthew Rossow, director of field marketing with AutoFarm, said a GPS antenna receives signals from a satellite stationed about 13,000 miles away.

The tractor responds to signals sent from a satellite to a receiver on the ground. To perform to its capabilities, a tractor cannot be more than six miles from the receiver.

Rossow said that GPS allows tractors to plow a field with such precision — within a fraction of an inch — that an extra row can be added every four passes. Even the most experienced human operator cannot match that.

A downside of the GPS system is its price tag: $40,000.

Add that to the cost of a new $123,000 John Deere tractor and attachments, and the cost quickly climbs.

But Wilde said it's an investment that should pay off in the long run.