

## Crop Management

# Plan out an upgrade path

By WILLIE VOGT

**S**PEND time with Joe Cunningham, Ag Management Solutions tech for Gooseneck Implement, Minot, N.D., and you learn plenty about the growing demand for high-tech tools for the area's farmers. And he sees the full range of producers, from those just starting out

— like Precision Start participant Craig Wienbar — to those who are installing top-of-the-line real-time kinematic GPS.

"This is a growing area for us," Cunningham says. "When I started three years ago, it was a lot slower. Today I'm on the phone, catching e-mail and running to catch up." Farmers are interested, and a lot of those calls are

"shakedown" issues as producers get familiar with the equipment.

"A lot of times, I can solve any issues a farmer has by just having him press a couple of buttons," Cunningham says. "These systems are pretty dependable."

As Cunningham has found, farmers are moving faster toward this technology as they see the benefits. As you



**PRECISION APPROACH:** With precision manual guidance, even an experienced producer like Craig Wienbar, Palermo, N.D., can see a difference.

move more equipment onto the precision path, is there a solid plan? That's an important question for managing the investment and getting the most use for every dollar.

For example, top-end RTK GPS has a larger investment cost, so working out the payback time frame early will make a lot of sense. Yet does every piece of equipment need the most advanced monitor and GPS receiver combination?

Your top-end sprayer setup might be best-suited for a top-of-the-line system, but if you've got a fall-tillage rig, a manual guidance product such as a lightbar might be just the right tool.

The key is to consider your upgrade strategy and how it will play out over a three- or five-year time frame. Matching the "precision level" to the equipment is important, too.

Working through those details will enhance your investment in precision agriculture and offer you increased return on investment across your equipment line.

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## GPS receiver, data connection

**T**HE StarFire 300 GPS receiver, like its big brother StarFire iTC, can output data using the National Marine Electronic Association protocol. This approach, also used by other GPS receivers on the market, means these units can work with competitive equipment or provide information to other programs you might want to use.

For example, it is possible, using NMEA data strings, to hook up a handheld GPS device or a laptop computer for use in preparing soil sampling grids or running field boundaries. The StarFire 300 provides the following NMEA message strings:

**GGA:** GPS fix data including time, position and fix related information

**RMC:** recommended minimum specific GPS data, including UTC time, status, latitude, longitude, speed over ground, and magnetic variation of the position fix

**ZDA:** UTC time, day, month and year, local zone number and local zone minutes

**GSA:** GPS position fix mode, satellite vehicles used for navigation and dilution of precision values

**VTG:** actual track made good and speed over ground



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