

On track with RTK

By ROD SWOBODA

HE didn't realize it at the time, but Don VerMeer's venture into ridge till in 1983 was the start of a 24-year search for a tillage and planting system that could allow him to line up his knifed-in fertilizer and future corn rows with sub-inch accuracy.

"Through all those years, I tried various solutions to guide the planter on the ridges, and more recently to plant corn on strip-till fertilizer zones," says VerMeer, who farms near Boyden in northwest Iowa.

He tried "V" wheels; an early ground-controlled Orthman Tracker he moved back and forth from planter to cultivator; three-point hitch sensors; and even a camera system. "On that one, I locked the sway bars tight, installed the camera, then used it and my markers to guide the planter," recalls VerMeer. "That sort of worked, depending on the dust, lighting and alertness of the operator."

Solve implement drift

While researching strip till in the fall of 2006, VerMeer liked what he read about the accuracy of real-time kinematic, or RTK, autosteering. But on his terraced and contoured fields, unevenly spaced "guess" rows made it impossible to knife-in fertilizer with his eight-row B&H strip-till toolbar, then plant into those strips months later with a 16-row planter.

The problem of implement drift, or drifting to the side, is most visible when pulling a planter or other tool across a sloping field or a contour around a hill. From experience, VerMeer knew that even on flat ground, variations in soil and moisture, and poor adjustment can pull implements a foot or more off center. Long row



PRECISION PLACEMENT: Don VerMeer uses this implement steering system with his strip-till fertilizer applicator. He uses the same implement steering system on his corn planter.

Key Points

- Adding RTK autosteer ensures planting accuracy.
- System keeps implements on the same repeatable path.
- GPS makes strip-till fertilizer placement most effective.

markers cause side draft, too.

VerMeer read about a new RTK GPS for implement control. He already had the strips fertilized, and that got him thinking about the potential benefits of GPS with year-to-year accuracy of less than 1 inch.

He visited the farm of Tom Niewohner, a Trimble dealer at Onawa. VerMeer looked at Niewohner's tracked Deere 8000 tractor, which is controlled by a Trimble AgGPS Autopilot RTK automated steering system.

"Then Tom came to my farm and set up a temporary base station on a 32-foot silo," says

VerMeer. "It looked like this RTK system might give us sub-inch repeatability to make strip till work in all of my fields."

Later that fall, VerMeer decided to buy an AgGPS Autopilot RTK system from Niewohner along with a new AgGPS TrueTracker implement steering system. He now has a GPS receiver mounted on the tractor and the implement providing autosteering for both.

A single FieldManager display in the tractor cab communicates the desired A-B path information to a controller on the strip-till fertilizer applicator or the planter. The signal instantly adjusts steerable coulters on the two-disk, rear-mounted Orthman Tracker IV system. This continuous split-second process causes the implement to follow directly in the tractor's path.

Years ago, VerMeer had

similar Tracker coulters on an Orthman cultivator, "so I was pretty confident that the quality and strength would be there in the new Tracker IV," he says. He has also installed an RTK base station with a repeater to ensure solid RTK correction signal coverage across the six miles of rolling farmland.

VerMeer installed the new RTK autosteer system on his

planter tractor just before corn planting last spring. However, in the fall of 2006 he had relied on row markers, not GPS, to lay down strips of fertilizer.

With no established GPS A-B reference lines for his new system to follow at planting, he relied on "eyeballing" and row markers to plant into the 5-month-old, eight-row strips. He has a 16-row planter.

No more row markers

When soybean planting time came last spring, VerMeer found that laying down new A-B lines with his RTK system went well, so he removed the massive row markers to make the planter easier to handle.

VerMeer laid down his first A-B lines in a level field with straight rows. He quickly progressed to sloping, terraced and contoured fields, using the "identical curve" setting on the FieldManager display. Some areas have fairly sharp curves.

"I kept thinking ahead to harvest and asking, 'Are these curves too tight? Are the guess rows going to be too wide for my equipment to work?'" he recalls. But as soybeans emerged and he began checking stands, VerMeer was pleased. Even on sharp curves running parallel to terraces, it was almost impossible to spot guess rows planted with the new system.

New management options

SIoux County farmer Don VerMeer says getting rid of uneven guess rows offers him a new range of machinery management options. "My terraces are 48 rows apart, so any implement configuration that divides evenly into 48 — including six, eight, 12, 16 or 24 — will work," he notes. "That includes running an eight-row strip-till fertilizer applicator, 16-row planter and 12-row corn head on the same crop."

VerMeer also plans to use this new level of repeatable precision to test different sidedress nutrient placement tactics for improving emergence and yield. "With RTK autosteering on the tractor, as well as the implement, we aren't limited by random movement of the implement anymore," he says.

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POSTMASTER: Please send address corrections to *Wallaces Farmer*, 191 S. Gary Ave., Carol Stream, IL 60188

Contact us:

Editor: Rod Swoboda
rswoboda@farmprogress.com
6200 Aurora Ave., Suite 609E,
Urbandale, IA 50322
Phone: 515-278-6693
Fax: 515-278-7796

Contributing Editors:
Tom J. Bechman, Dan Crummett,
Jeryllyn Johnson, Alan Newport,
John Otte, Arian Suderman, Ann Toner
and Lon Tonneson

Executive Editor: Frank Holdmeyer
Corporate Editorial Director:
Willie Vogt

Sales: Susie Decker 319-377-3080

Subscription questions:
800-441-1410

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Firms suggest ethanol pipeline

By ROD SWOBODA

A PIPELINE has been proposed that would carry ethanol from Iowa and other Midwest states to East Coast motor fuel markets.

A company that pipes gasoline to Iowa and other Midwest states, Magellan Midstream Partners, is exploring the possibility of building a dedicated pipeline to carry ethanol. Magellan, based in Tulsa, Okla., and another pipeline company, Buckeye Partners of Pennsylvania, have started a study to determine the feasi-

bility of the project.

The proposed line, which would cost more than \$3 billion to construct, would run from northwest Iowa to the New York harbor. Because of uncertainty about the future of federal biofuel incentives, the companies would need a government loan guarantee to make the pipeline financially feasible, says Bruce Heine, Magellan's director of government and media affairs.

A new federal energy law passed in late 2007 requires refiners to use 36 billion gallons of biofuels per year by 2022, guaranteeing a growing market for

ethanol producers. However, the future of biofuel tax credits and a tariff on imported ethanol is less certain.

Distribution is a challenge for the ethanol industry. Ethanol is not shipped via gasoline pipelines because of concern that the alcohol would corrode the pipes, as well as absorb water. Heine says the industry is studying ways to prevent the corrosion problem both in existing gasoline pipelines, as well as in dedicated ethanol pipelines.

"Having a dedicated ethanol pipeline running from