

## Crop Production

# No-till trilogy: Saving time, soil and water

## NO-TILL TRIBUTES



By **ROD ZESSIN**

ROD and Jenny Zessin of Madison have continuously no-tilled corn and soybeans for 15 years on silty clay loam soils, 80% of which are considered highly erodible. Corn and beans are both planted in 30-inch rows. Initially, Rod drilled soybeans in 7½-inch rows with a John Deere 750 drill, then switched to a John Deere 1530 Tru-vee drill in 2000. He plants corn using residue managers. His rainfall averages 22 to 25 inches annually.

**Q** Why did you first start using continuous no-till for crop production, and why do you continue using continuous no-till?

**A** I first started no-tilling as an experiment to try to comply with the conservation requirements of the farm bill. I no-tilled my first plot in 1988, and that plot has been no-till ever since. I converted to complete no-till to save time and hours on machinery after being in a disk/chisel system. I continue to no-till because of the moisture savings, yield benefits and time savings.

**Q** What are the most significant benefits you derive from using continuous no-till crop production systems?

**A** The most significant benefit of no-till is the time and fuel savings, and the retention of soil moisture. Additionally, soil erosion has decreased, which is most evident after spring thaws and spring rainstorms. However, the erosion difference from field to field in my area is becoming less with the dramatic turn Madison County has taken toward more continuous no-till in recent years.

**Q** What has been the greatest challenge or hurdle in implementing continuous no-till in your operation?

**A** Cold soils in the spring for corn planting are a challenge. With the implementation of better corn seed treatments, such as Gaucho and Poncho, this has taken a different turn.

**Q** Where did you seek advice when adopting and fine-tuning continuous no-till?

**A** We sought advice from a neighbor who adopted for a continuous no-till system at the same time. Also in

the early- to mid-'90s we attended no-till conferences to get some ideas. We have always used a lot of our own plot data to decide if some new practice works or doesn't work.

**Q** What advice would you offer others considering converting to continuous no-till?

**A** The people who do it will tell you it works. But it's important to start with the right frame of mind. If you start out believing it will not work, then it probably won't. You need to learn how to adjust to the new environment.

**Q** What tips concerning no-till equipment and residue handling would you offer?

**A** A good planter properly maintained with good seed V-openers is a must. If your planter is not in good working order, then no-till is probably going to struggle a bit. Good seed V-openers properly set with good down pressure will perform fine in almost all conditions found in Nebraska.

**Q** Have you experienced shifts in weeds, insects, diseases or other pests since you began continuous no-tilling?

**A** Considering I have been in no-till most of my farming career, I have not experienced these shifts. However, corn borers do not change, grass still grows and so does water hemp. In fact,

I would say that with good residue cover and adequate moisture late in the season water hemp can and will grow well. We switched to two-pass corn herbicide programs to help solve some weed issues we had in the corn.

**Q** How has continuous no-till impacted available soil moisture and/or irrigation water management for your crops?

**A** This is the biggest advantage of a continuous no-till system. The improved soil structure allows for greater water infiltration, thus more water available for the crop. The same for irrigation — more water infiltrates and less water evaporates because water does not reach the surface. With conventional tillage the first irrigation pass often just rewets the surface dried out from tillage; whereas in a continuous no-till system, the first irrigation pass becomes more available for plant use. As we continue to move forward with water issues in Nebraska, no-till is one practice all Nebraskans can benefit from.

**Q** What impact has continuous no-till had on your crop yields and profitability?

**A** I have practiced no-till since I began to farm full time, but I have no side-by-side comparisons regarding full-tillage methods. I feel, however, that it has been beneficial for me in the long term. I have seen yield decreases from time to time, but there have definitely been more yield increase benefits.

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## Pioneer, EPIC join forces

**P**IONEER Hi-Bred has teamed up with the Omaha-based Ethanol Promotion and Information Council to educate consumers about the benefits of ethanol fuels. The effort includes funding for ethanol promotion and education programs.

"Ethanol is a factor in the effort to reduce our nation's reliance on petroleum," says Dean Oestreich, Pioneer president.

"EPIC has already helped to significantly raise awareness about the benefits of biofuels, and we are proud to be joining forces with them to continue their efforts to promote ethanol," Oestreich says.

"EPIC's efforts, combined with our commitment to develop traits and technologies that help increase harvestable yield and ethanol production per acre, are helping create a promising future for biofuels," he adds.

The investment from Pioneer includes a sponsorship of Team Ethanol in the IndyCar Series for the 2007 season. This will be the first year in IndyCar Series' history that all IndyCars will run on 100% fuel-grade ethanol.

"This partnership will help raise awareness of the performance and environmental benefits of ethanol to consumers across the country," says Tom Slunecka, EPIC executive director.

Pioneer is a subsidiary of DuPont. Pioneer's commitment is one part of a three-part strategy by DuPont to deliver new technologies to the growing biofuels market.

The strategy includes improving the yield of grain ethanol production through the research and technology expertise of subsidiary Pioneer, developing technologies to convert other agricultural feedstocks and energy crops into biofuels, and discovering new technologies to make advanced biofuels with enhanced fuel properties such as biobutanol.

Pioneer has nearly 180 high total fermentable ethanol hybrids that are part of its IndustrySelect program, which provides seed products with specific grain traits to end users, including the ethanol industry.

Through a \$38 million matching grant partnership with the U.S. Department of Energy, DuPont is developing an integrated technology package to harvest, store and produce cellulosic ethanol from entire corn plants, Oestreich says.

DuPont is also collaborating with POET, a biofuels developer, to accelerate the commercialization of cellulose to ethanol at Emmetsburg, Iowa.