Erickson Says No-till, Wheat, Cover Crops Pay Off in Northern South Dakota

Concern that tillage took too much moisture out of their soil prompted Joel Erickson’s father, Don, and brother, Mark, to start using minimum tillage in the 1970s on their farm by Langford in Marshall County, SD. The Erickson family continued to till less and less during the 1980s, which saw the worst drought since the 1930s “Dust Bowl” days hit South Dakota and much of the nation.

“By 1992, we had converted to a no-till cropping system for our rotation of corn, soybeans, wheat and alfalfa,” Erickson says. “And in 1995, we started strip-tilling our corn.”

About the time the Ericksons began no-tilling all of their crops, the weather pattern started shifting from dry to wet, and then wetter, says Judi Schultz, who is the Natural Resources Conservation Service (NRCS) District Conservationist in Marshall County. She comments that in recent years, some farmers believe that no-till won’t work in current weather conditions.
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But Schultz sees the Erickson continue to succeed. Erickson says that no-till with wetter soils conditions does not hurt their cropping system. In fact, no-till and cover crops help in many ways.

The Ericksons added cover crops 10 years ago to help their no-till system handle heavy rains. “Our no-till fields can take, and keep, six inch rains that run off tilled fields,” he says. “We’ve been using cover crops behind our wheat crop for a number of years to improve our soil health and to provide fall grazing for our cows.”

Long-term no-till combined with cover crops creates excellent soil structure and improves aggregate stability, says Eric Barsness, Conservation Agronomist with the NRCS, Brookings, SD. He explains, “Soil with greater stability and structure are less subject to compaction. Water infiltrates faster in fields with years of no-till and cover crops, which can allow farmers to get in and plant, spray and harvest sooner after heavy rains,” says Barsness.

Erickson says that no-tilling saves time, money, fuel and machinery wear and tear. And he says that all of these financial benefits make a huge difference when the bottom line on crops prices is much lower now that just a year ago.

“With $7 corn, you didn’t have to watch the costs the way you do now,” he says.

Mark Erickson manages their cattle and Joel handles the crops. They have a cow-calf herd and feed out cattle. Joel also does custom silage harvesting. They grow corn, soybeans, wheat and alfalfa.

Joel Erickson started seeding mixes of peas and radishes and turnips for additional forage, but these forages do double duty as cover crops resulting in improved soil health.

Over the last decade, Erickson has learned which cover crops work best for their goals and soils and how to seed them. For example, he seeds turnips and radishes shallow with one rank on his air seeder, while seeding field peas about 2 inches deep with the other rank. And using their air seeder now is far more efficient and versatile than the John Deere 750 box drill they started out with, he says.

Around Labor Day 2014, Schultz and Barsness visited Erickson and went out to his fields to see how cover crops were doing in a harvested wheat field. Erickson seeded a cover crop mix after he combined hard red spring wheat. Just below the surface of the wheat stubble, a radish seed had germinated.
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Joel Erickson

Do Not Disturb

Including wheat in crop rotations provides three key benefits, Barsness says.

Wheat:

• Creates a big window to seed cover crops after wheat’s harvested,

• Soaks up excess moisture in wet fields, and

• Builds soil organic carbon levels through heavy exudates from the fibrous roots.

“All in all, having wheat in crop rotations, along with long-term no-till and cover crops can—and does—help farmers like the Ericksons manage excessive moisture and improve soil health,” Barsness says.

Helping Farmers Succeed

“Joel is not afraid to try something that he hasn’t done before and put it to work on his farm,” says Schultz. “He’s also very willing to help fellow farmers,” Schultz says. Whenever Erickson fields a question about his farming practices, he weighs the question and answers in a measured tone tempered by years of farming experience through drought and downpours.

For someone interested in changing their cropping system, Erickson says “Alfalfa is a wonderful place to start no-tilling.” He notes that “No-tiled corn into alfalfa has been our best corn yield up at the Conservation Cropping Systems Project farm by Forman, North Dakota.” He also says that “No-tilling corn into wheat stubble is about the toughest challenge he has had.”

While Erickson speaks softly, the passion that he and his brother have for healthy resources and for helping fellow farmers stands out. The Erickson family farm operation received the Conservation Farm Award from the Marshall County Conservation District in 2009.

Erickson’s Leadership in Science and Education

Erickson has been a member of the board of the Conservation Cropping Systems Project (CCSP) (visit: www.notillfarm.org) since it started in 2000. Based near Forman, North Dakota, the CCSP demonstrates no-till, strip-till, cover crops and other practices to benefit farmers in North Dakota and South Dakota.

The CCSP tests ideas and practices, which enables Erickson and other farmers to see what does, or does not, work well before they try new practices on their farms. For example, Erickson has been interested in the excellent, but inconsistent corn yields that the CCSP has seen with “bio strip-tilling” cover crops.

At the CCSP, radish and Austrian winter peas were planted in alternating rows on 15-inch spacing, Erickson says. The idea is that the void created by winterkilled and decayed radish roots will mimic the mechanical tillage that coulters, shanks or knives perform on a strip-tillage machine. The winter peas create nitrogen. Results at CCSP have been both promising, but inconsistent due to recent wildly variable weather.

Abundant earthworm castings in Erickson’s corn field with a diverse crop rotation including cover crops are an indicator that the soil biology is functioning well.
Erickson says that his goals are to continue promoting conservation practices and watches closely of the practices being tested at the CCSP farm in North Dakota. Once he sees results, Erickson moves forward quickly with implementing the tested CCSP practices that work for his operation. “I want to leave the farm to our daughter Kristen or to our son James in better condition than when I started,” he says.

No-tilling saves time, money, fuel and machinery wear and tear.

- Joel Erickson, Langford, SD

Diverse crop rotations support healthy root systems that have active “good” microbial organisms to support plant immunity to diseases and improve yields.

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