

HEAVY SOILS NO ROADBLOCK FOR NO-TILL

By Harley Buchholz



A FAMILY OPERATION: Dan and Gina Stokes work to involve their entire family in their farm. Their success with no-till has even led to creation of a new business.

There are a lot of crop farmers — even those who no-till regularly, and some crops and soils specialists, as well — who don't believe no-tilling will work well on heavier, red clay soils. Dan and Gina Stokes, near Omro, have been proving them wrong for years.

"Once you get that little layer of humus on top, the clay actually responds better than lighter soils," Dan says. "When I started [no-till], we got a worm crop. With conventional tillage you get lumps [of soil]. You've got to avoid compaction. If the seeds are in clumps, it dries and they won't germinate. No-till is more about management. You have to look at management more with no-till."

The Stokeses "are the best no-tillers I've found," says Nick Schneider, Winnebago County Extension ag agent. "They have proven to me that a farmer can be extremely successful no-tilling on Kewaunee and Hortonville red clay. Some of the best soil structure I have ever found was on this farm."

TWO DECADES OF NO-TILL

The Century Farm's history goes back three generations, and no-till has been practiced for more than 20 years. Dan's parents, Loren and Marie Stokes, embraced the idea of no-tilling, even though it was not the norm. Dan and Gina purchased the farm from his parents three years ago and

NO-TILL PASSION SPARKS NEW BUSINESS

DAN STOKES is so enthused about no-till planting practices that he's started his own business: Stokes Custom No-Till and Harvesting. He works for about 15 customers, estimating he'll plant and harvest about 1,300 acres this year, including his own.

"I've got four or five customers who've been no-tilling for many years," he says, while others "want a field here and a field there, and the next year they'll work it up."

That's not the way to make no-till work for you, he and his wife stress. "No-till is not a quick fix," advises Dan's wife, Gina, a partner in their crop and dairy farm, Udder Generations, LLC. "If you're going to stay in it, you need to use it a minimum of five years."

Dan also is a certified crop adviser, a title gained after completing state

and national testing. He says he continues the necessary education credits mostly for his own benefit, to diagnose issues with insects and weeds and to maintain his nutrient management plan. Courses are offered through University of Wisconsin Extension and Fox Valley Technical College, where he needs an additional 40 credits every two years to maintain his certification.

"Few farmers have gone to that length," says Nick Schneider, Winnebago County Extension agriculture agent. "[Dan] can write a nutrient management plan. The benefit a producer gets [from the certification] gives him an advantage. It gives him motivation to get to other educational events."

Schneider says there are six to 10 certified consultants in Winnebago County. They all take continuing education in crop, nutrient, soil and water, and pest management. "They attend a balanced group of classes," he says.

PRECISION MONITOR: Dan and Gina Stokes' son Jordan follows the planter to make sure everything is working as designed.



formed Udder Generations Farm LLC. They've since expanded the original 400 acres to 460 and rent another 100. They cash-crop about two-thirds of it, and raise feed for their herd of 60-plus Holstein and Guernsey mix dairy cows and a few dairy steers.

Corn, soybeans, wheat and alfalfa are the crops, and "we no-till it all," Dan says. "At first it was not so much for conservation. It was more labor-saving, time-saving."

"And machinery," Gina adds. She says machine repair costs are lower from not plowing, plus they save on fuel.

Dan and his wife work side by side. "It takes all of us," Gina says. "The kids are wonderful helpers." They have four children: Spencer, 15, who shares his dad's love of working in the machine shop; Cerrina, 12; Jordan, 9; and Sidni, 7.

"We have a lot of automatic machinery, which helps a lot," says Dan. And it helps, too, that he's a good mechanic, able to keep his mostly older tractors and field equipment operating. He designed his own tool trailer several years ago and uses it not only to work on his own machinery, but also to do repairs for others. Last year he built a 48-by-64-foot shed and workshop with in-floor heating so he can work on equipment in relative comfort.

"We try to keep our machinery on the light-weight side so we don't have so much compacting," Gina says.

Dan adds, "Compaction in no-till will kill you." Avoiding it, he believes, along with the basic no-till practices, helps foster an exploding worm population in his fields.

"That part I just can't hardly believe," he says. "We actually have a university guy who comes out and counts them." And the no-till refuse left on the fields? The worms "come up and pull it down," Gina points out. Their tunnels work "like a natural tile system. They do a wonderful job. They're the best little employees we've got."

ROTATIONS AT WORK

Along with help from the worms and no-till planting, Dan sees his crop rotation of corn, soybeans and alfalfa, or wheat and then alfalfa, as a big part of soil conservation. "We did some cover crops last fall," he adds. "I think that helps a lot. It keeps the soil in place." He used rye and tillage radishes as covers and has been pleased with both.

RISING FROM THE RESIDUE: Healthy corn plants thrive in the no-till environment Dan Stokes is providing on his heavy soils near Omro.

"Probably when a field is open in fall we'll try [radishes] again," he says. Last year he planted a rye and radish mix as a cover, but, perhaps because of the competition, "the radishes didn't get as big as I thought they would. Rye has a tendency to kill weeds. I think that held [the radishes] back."

He'll take crops off of his alfalfa fields for three years "and then take the nitrogen credits from that to grow corn." He has followed corn with

MAKING NO-TILL WORK IN TOUGH CONDITIONS

A LONG-TERM commitment to soil conservation through a combination of no-till practices, crop rotation, cover crops and grass waterways has created a superior soil structure for crop and dairy farmers Dan and Gina Stokes, according to Nick Schneider, Extension agriculture agent for Winnebago County.

"Their soil structure is top of what I've run into," Schneider says. This is despite a range of heavier soils, including red clay that many say doesn't easily accept no-till practices. "The Stokeses find a way to do it well," says Schneider. He points out that including forages in the crop rotation with corn, soybeans, wheat, and lately with cover crops, "leaves time for soil structure. It gives an opportunity for structure to develop."

Schneider says the cover crops the Stokes family uses "are a good match for this area. Both winter rye and winter wheat do well on our soils."

He sees a need to continue watching the development of tillage radishes as a cover crop. "I think we need more on-farm research and [University of Wisconsin] research to understand that combination," he says. "The trick is getting enough growing season in the fall."

He advises farmers trying no-till to stick with it. "A lot will try it, but they're not in for the long haul," he says. "Yield drops and they lose faith. For the Stokeses, the main key is a long-term commitment by the family."

Gina Stokes suggests at least five years of no-till before deciding whether to continue or abandon the practice.

None of the conservation practices of the Stokeses are radical, Schneider says. "But they do it really well, probably because they've been committed to it as a family."

corn. "I did more at first, but because I had enough corn for the cows, I just went to corn-beans," he says. "I'm going to go back to corn-corn now. I work the wheat in so I have straw for the cows. That's where cover crops come in. You've got to have something on the ground — either a cover crop or residue."

The Stokes family soil-tests every three to four years and fertilizes accordingly. "We watch the test recommendations real close," Dan says. Some fertilizer is broadcast; other is applied with the corn. Nitrogen is side-dressed on corn. Dan says they never experienced a yield drag from no-till.

His father started a number of grass waterways on the farm, and the family works to maintain them and add new ones as needed.

A piece of no-till advice from Dan: "You shouldn't really be planting at night. The trash and stalks get tougher. You need daylight — once the dew dries up. I try to get home just before dark."

Despite her husband's farm work, custom work and repair work, Gina says: "No-till has given us more family time, and we're able to work together. It also allows me to be a stay-at-home mom. I don't need day care."

Buchholz writes from Fond du Lac.

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