

# Strip-Till Farmer

The No. 1 Source For Strip-Till Practices And Equipment



## Targeted Strip-Till Fertility Boosts Corn Yields

**Spring strip-till and precise fertilizer placement have helped Wisconsin's Steve Duwe break the 200-bushel barrier in corn and successfully experiment with strip-tilled soybeans.**

*By Jack Zemlicka, Technology Editor*

Steve Duwe understands the anxiety that comes with heavy rains and the havoc they can wreak on fields in the fall.

In 2008, extreme flooding pushed corn harvest back, and an early winter prevented him from doing any fall tillage.

"After those extreme rains, I wasn't real happy with all of the erosion we saw on our rolling ground with our chisel-plow system," says the Johnson Creek, Wis., strip-tiller. "That was my big push to make the change to strip-till to try and reduce the potential for erosion in extreme-weather years, and build an excellent seedbed."

In 2009, Duwe committed to strip-tilling all 740 acres of corn on his 1,100-acre operation, which also includes about 400 acres of no-tilled soybeans. He built a 12-row rig using a Moore Built toolbar and Dawn Pluribus row units with a lead coulter, followed by trash whippers that push residue to the side.

Two angled coulters in the back stir the seed zone, and then two gauge wheels with inside blades fluff the strip and prevent clumping.

Having done his equipment research on what type of unit would work best in his soils, Duwe knew he wanted a coulter system rather than a mole-knife unit to accommodate spring strip-till.

"Around here, we have pretty heavy soils and we normally have to do some sort of tillage in spring to get an acceptable seedbed, even if it's extremely light," he says. "The prospect of doing fall strip-till didn't really appeal to me, because I knew I'd have to repeat a step in the spring.

"I wanted a system I could just do in the spring, right before planting and get the seedbed results I was looking for."

The transition to strip-till required a change in philosophy about fertility, but it rewarded Duwe with higher yields, decreased erosion and room to experiment.

### Aggressive Fertility

One reason Duwe prefers spring strip-till is because it lets him apply fertilizer immediately prior to planting. With fall strip-till fertilizer applications in his area of southeastern Wisconsin, Duwe says there is greater potential for spring runoff.

Another concern for Duwe is that soils on his lower, black ground traditionally have higher pH levels, and he's learned that applying phosphorus as close to planting as possible maximizes the potential for plants to absorb the nutrients.

In his traditional tillage system, Duwe applied all of his phosphorus and potassium in the fall before chisel plowing.

"We don't apply anything now in the fall on our strip-tilled corn," he says. "We get a much better response from phosphorus in spring with the corn planter or strip-till rig than we would 6 months earlier because we'd experience more tie-up."



**GETTING EQUIPPED.** In 2009, Johnson Creek, Wis., farmer Steve Duwe committed to strip-tilling all 740 acres of corn on his 1,100-acre operation. He built a 12-row rig using a Moore Built toolbar and Dawn Pluribus row units with a lead coulter, followed by trash whippers that push residue to the side.

Duwe has a mounted Montag fertilizer cart on his strip-till rig and, traditionally, applies 150 pounds per acre of potassium chloride (0-0-60), 120 pounds per acre of diammonium phosphate (18-46-0) and 50 pounds of blended ammonium sulfate (AMS) in the strips.

With his 12-row Kinze 3200 planter, he then applies 13 gallons per acre of 32% urea ammonium nitrate (UAN) alongside the row and 3 gallons per acre of liquid ammonium phosphate (10-34-0), and a zinc solution with Ascend Growth Promoter, in furrow.

Duwe relies on Kinze's EdgeVac vacuum seed meter system, but doesn't follow the strip-till passes with auto-steer. He instead follows the strips by manually steering the Case IH 225 CVT tractor.

"Our strip till zone is 7 or 8 inches wide, and it's generally easy to follow it manually," he says.

Duwe then variable-rate sidedresses 32%, with some Thio-Sul, according to the prescription for corn-on-corn or corn following soybeans.

"We fertilize aggressively for high yields and want to maintain soil health," he says. "When I first put this program together, a few people told me I was putting too much right in the row, but we've never seen any burning effects like with a potash/DAP combination.

"On some fields known for lower fertility, when the planter was off the strip we could see a dramatic difference because those plants weren't in that nutrient zone. This system has been doing the job for us."

## Yield Improvement

Duwe says he hasn't saved money on fertilizer costs by moving from a fall to spring application, but he's seeing the pay-back with higher corn yields.



**FITTING THE FIELD.** To accommodate his heavy soils, Duwe prefers a coulter system, rather than a mole knife unit for spring strip-till. Two angled coulters in the back stir the seed zone, and then two gauge wheels with inside blades fluff the strip and prevent clumping.

were doing conventional till, we'd average in the 160s, so we've picked up some additional yield from a better system, along with other factors like seed hybrid technology."

## Soybean Trials

Duwe traditionally no-tills soybeans, but this year, weather delayed corn planting and he had an opportunity to strip-till about 40 acres of soybeans.



**AGGRESSIVE FERTILIZATION.** Duwe moved from applying most of his fertilizer in the fall to an ambitious spring program when he moved to strip-till. In the first year, he saw corn yields grow by 50% on a rented field to include a 222 bushel per acre check across the middle of the farm.

In his first year strip-tilling, Duwe rented a conventionally tilled farm that had traditionally produced poor corn yields.

The previous operator applied phosphorus in the fall, but very little potash, and both corn and soybeans showed deficiency symptoms.

"Since it was a rented farm, I didn't want to broadcast potash all over. I wanted to keep it in the seed zone and get the boost," he says. "We probably had a 50% boost in yield over the previous year.

"We did some trials that fall, after the first year, and we had 222 bushels per acre for a yield check across the middle of the farm."

Duwe says it was a good testament to the strip-till system, especially since it was his first year trying it."

This year, we're shooting for 185 bushels per acre and last year, even with the drought we were in the lower 170s," he says. "Back when we

were doing conventional till, we'd average in the 160s, so we've picked up some additional yield from a better system, along with other factors like seed hybrid technology."

“I was planting what was going to be the last of my corn, because we were running out of time. I had stripped about 60 acres and planted in the afternoon, but after about 20 acres I got rained out,” he says. “It was at least 10 days before I could get back into that field and I wasn’t going to plant corn anymore because it was into June.”

He normally plants soybeans in 15-inch rows, and as he strip-tilled the soybeans he tried to not to plant right on the strip to avoid potential burn — but had a hard time on rolling ground.

As it turned out, rains diluted the fertilizer applied in the strip for corn, and soybeans thrived on the readily available nutrients.

“The soybeans we planted on that strip were bigger and grew faster,” Duwe says. “Now the question is, was that from the tillage effect or from the fertilizer boost that was there?”

- Courtesy of Lessiter Publications ~ [www.striptillfarmer.com](http://www.striptillfarmer.com)