



SOIL-SEED CONTACT: The Schirms used a vertical-till machine after broadcast-seeding oats to ensure good soil-to-seed contact and a quick start for the cover crop.

A seed corn, covers duet

By LYNN BETTS

THEY are still new to cover crops, but Dustin and Dan Schirm like what they've seen so far. "We started small, testing with less than 20 acres of cereal rye after seed corn in 2011," Dustin says. He and father Dan put in a few more acres the next two years, and then jumped to more than 250 acres last fall.

"We became more comfortable with managing them," Dustin Schirm says. Most of those cover crop acres were seeded into corn stubble after seed corn harvest.

"Cover crops match up with seed corn for a couple of good reasons," he says. "First, we've learned the earlier you can get cover crops seeded, the better they get and perform. The earlier harvest of seed corn is well-suited to that. You want to get the fall growth. And that's the second reason cover crops work well with seed corn. You really need fall growth because there's less cover with seed corn stalks than with commercial corn.

"Our overall goal is to work cover crops into our system to maximize the benefits of cover crops, maintain yields and minimize any downside of economic effects," says Schirm. "Any time you change management, you need to be sure you're helping, not hurting, the operation economically. There is a cost to establishing cover crops that comes along with the benefits."

The Schirms, farming 2,400 acres of corn and soybeans with Dan's brothers, Davey and Randy, in Benton County, are getting some help evaluating the economics, as well as the environmental benefits, of cover crops on a 50-acre field.

They're among novice and experienced farmers in seven Midwest states participating in a three-year study led by the Conservation Technology Information Center. CTIC and a number of partners

are looking at contributions of cover crop practices to pollinator habitat, nutrient cycling, soil health, economics and other aspects through a Conservation Innovation Grant from USDA's Natural Resources Conservation Service.

"That project is one reason we're increasing acres of cover crops," Schirm says. "Another reason is we're involved in the Benton and Tama County Nutrient Reduction Demonstration Project. We're in the Middle Cedar Creek Watershed; it's one of the watershed projects that offer incentive payments for cover crops, nitrogen management, erosion control practices and other measures that reduce the amount of nitrates and phosphorus leaving farms and flowing into waters downstream."

They signed up the maximum of 80 acres of cover crops for the program, and then added another 200 acres of cover crops on their own. "We're just starting on it, but cover cropping is something we want to do," says Schirm, who serves on the board of the watershed project. About 40% of the seed corn acres in his neighborhood now have cover crops. "It's been a growing trend the past three years," he says.



FLYING OATS: Broadcast seeding of oats works better if mixed with heavier material, so dry P and K fertilizer are mixed with oats seeded as a cover crop.



LEARNING CURVE: Dustin Schirm (left) and father Dan check coverage of oats, broadcast as a cover crop last fall after seed corn harvest. They say they're still learning about cover crops but are getting more comfortable with the practice.

The Schirms are using oats as their primary cover crop, broadcast-seeding them after seed corn is harvested. "Ideally, you would drill the oats in for good soil-to-seed contact," notes Schirm, "but we were trying to use the equipment we have to fullest advantage at minimal cost without a big change in our cropping system. We usually have New Century FS Co-op spread P and K dry fertilizer on our cornstalks before next year's soybean crop. Oats spread better with fertilizer, so it makes sense to us to seed the oats cover crop in the same operation."

Keys to good oats growth

Good soil-to-seed contact gives oats a better start. So the Schirms used a Landoll vertical-till machine to work the soil just a little, leaving a heavy amount of residue on the ground. "It might work some years without any tillage, but this way we didn't have to wait for a rain," Schirm says. The oats grew to about a 6-inch height last fall and died over winter. In spring, the Schirms no-till their soybeans into the cornstalk and dead oat residues.

On Sept. 1 on a small patch of open ground, Schirm drilled a mixture of oats, Austrian winter peas, crimson clover and radishes as an experiment. It's still too early to know all the effects, he says, but he did get 8 to 10 inches of growth last fall. The early seeding (three weeks earlier than the oats cover crops were seeded on the rest of his farm) resulted in much more fall growth than the rest of his cover crops.

"Everything winter-killed," he notes. "That's what we expected and wanted. We didn't want to have to terminate it in the spring. The winterkill is a big reason we went to oats as our primary cover crop."

That experiment was undertaken for the future. "We were looking to see if we could use a highboy or airplane to seed before harvest in our seed corn," he says. "The growth difference was substantial. That transfers to more benefits underground, too. The radishes were dominant; peas grew, but not that well. It looks like more oats and radishes in a mix might be the future for us. It's tough to quantify, but we believe the oats residue and roots will hold more soil in place in the spring. The longer they can grow in the fall, the more they can build the soil and protect it in the spring."

The seed company Schirm grows seed for is open to his cover crop ideas and doesn't have rules against using cover crops. "We'll try some more new things this year," he says. "We will have some side-by-side plots of soybeans with and without cover crops to see if we get a bump in soybean yields. Maybe we'll fly some cover crops on, probably some cereal rye. We might try cover crops after soybeans. Things are up in the air now."

He adds, "Our primary goal is to raise the best crop we can, but we also want to alleviate soil erosion and build our soils. We're getting more comfortable with cover crops as we go and are also more convinced of their benefits."

Betts writes from Johnston.