

Pilot explores carbon markets



Ben Mergen milks 50 Holsteins, raises a small herd of beef cattle and grows mostly corn, soybeans and alfalfa on his farm near Albany in Stearns County. He's worked with Stearns County SWCD staff on a pilot project designed to quantify environmental benefits of implementing soil health practices. A three-year NRCS agreement helps to subsidize the pilot project's enrollment costs.

Photo Credits:
Ann Wessel, BWSR



Natural Resources Conservation Service
Service website:
www.nrcs.usda.gov

USDA is an equal opportunity provider, employer and lender.

Farmers who implement soil health practices could tap an emerging revenue stream, earning credits for improvements that benefit water quality and sequester carbon. The Sauk River watershed is one of a dozen U.S. pilot sites.

ALBANY — Stearns County farmer Ben Mergen was among the first to sign up for a pilot project that will quantify environmental benefits of the cover crops he's implementing on his dairy and beef operation.

Verifying the carbon sequestration and water-quality improvements that result from soil health practices will position Mergen — and others within the Sauk River watershed, one of about a dozen pilot sites across the U.S. — to sell credits on a national market.

The nonprofit [Ecosystem Services Marketplace Consortium](#), a public-

private partnership of the ag supply and value chain, is seeking buyers as it prepares for a 2022 launch. ESMC and The Nature Conservancy developed the pilot to help farmers earn additional revenue for practices that improve soil health, sequester carbon and reduce pollutant-carrying field runoff. The pilot will fine-tune testing protocols used to verify credits.

“Along with nitrogen-scavenging and nutrient-scavenging, keeping something living in the soil and erosion control, it's just another aspect of cover crops that maybe will bring a profit,” Mergen said as he and



Ben Mergen and his daughter Ella checked a 13-acre soybean field on June 29 in Stearns County's Farming Township. Mergen planted the beans directly into a living cover crop. Working with Stearns County SWCD staff and NRCS assistance, this year Mergen is trying cover crops on 90 acres. He's also among the first within the Sauk River watershed signed on to an NRCS-supported pilot project that could lead to another revenue source for the farm: carbon credits.

daughter Ella checked a soybean field.

Mergen moved back to the farm 10 years ago from Indiana, where he'd been working for Gavilon Grain.

At the time, his father, Roger, was ready to cut back. He still helps with fieldwork and twice-daily chores. But Mergen — a fifth-generation farmer — lives on the home place with his wife, Alicia — a full-time dental hygienist in Melrose — and their three daughters.

The Mergens milk 50 Holsteins and raise a beef herd of 25 cow-calf pairs. They raise about 500 acres of corn, soybeans, alfalfa and the occasional spring wheat crop.

With dairy, beef, corn and soybeans, it's exactly the sort of farm the pilot project is seeking.

Funding from the USDA's Natural Resources Conservation Service (NRCS), The Nature Conservancy and the Minnesota Department of Agriculture cover costs associated with the three-year signup period, which ends in 2022.

"Right now, the big benefit is you get to the front of the line for the cost-

“ If there’s a way to cut back on your labor and your time ... and still be profitable, maybe if you do have to take a yield hit, between the fuel savings and the cost of having the machinery, that should pan out. If you get a payment on top of it from the ESMC, that only helps. ”

— Ben Mergen, Stearns County farmer

share programs,” said Leif Fixen, agriculture strategy manager for TNC in Minnesota, North Dakota and South Dakota.

The ESMC tool can be used for third-party valuation of carbon reduction or water-quality improvement within a company’s supply chain. Or it can generate tradeable credits that can be sold to a company.

“The farmer will be able to market each of those credits independently,” Fixen said. “Once the marketplace is launched, you’ll be able to sell your carbon credit, you’ll be able to sell a water-quality credit — and potentially even inside of that water-quality credit you’ll be able to sell your nitrogen credit, you’ll be able to sell your phosphorus credit and you’ll be able to sell your total suspended solids credit. A lot of that is a little less known right now,

how that all will work.”

The pilot aims to enroll 50,000 acres within the Sauk River watershed, which drains to the Mississippi River. The watershed was chosen partly because the Stearns County Soil & Water Conservation District (SWCD) already was working with producers on [All Acres for Our Water](#). Another pilot designed to spur conservation practices, All Acres for Our Water involves TNC and the Minnesota Land Trust.

By early summer, Stearns County SWCD Administrator Dennis Fuchs said enrollment totaled about 500 acres. SWCD staff members contact landowners, offer technical assistance and help producers apply for reimbursements. SWCD staff also helped with soil sampling, which will be repeated in five years.

“I think it’s another avenue to reach farmers looking to improve their resources. It’s also another opportunity to leverage additional financial resources for our farmers as they implement additional conservation practices,” Fuchs said.

The 50-acre enrollment on Mergen’s farm is also part of All Acres for Our Water, which centers on the Backes Lake subwatershed.

“What we’re trying to do is clean up the water — either stop erosion of soil or runoff of nutrients. That’s where all of this will tie in so that we can cut down on the nitrates, whether it’s in groundwater or whether it’s getting into a stream and heading down to the Mississippi and out to the Gulf,” Mergen said of the programs. “As far as benefits, besides what’s on the farm and in our pocketbook, it’ll be the environment with the cleaner water, and then the carbon capture has to do with climate change.”

Mergen first tried cover crops five years ago with a 40-acre signup through NRCS’ Conservation Stewardship Program.

“You kind of got paid to try it, so there wasn’t a whole

lot of risk involved, which is a nice way to start any kind of project you don't know a whole lot about," Mergen said.

This season, his cover crop enrollments total 90 acres. The programs in which he's involved will generate about \$11,000 in assistance.

He tried something new on the 13-acre bean field: planting green. This spring he seeded soybeans into a living cover crop. Mergen said the method required closely watching the rye, which tends to take off in the spring, but a well-timed chemical application successfully killed the cover crop. The beans, planted at the same time as conventionally tilled fields, were thriving in late June.

"I'm hoping to get at least half my ground covered in cover crops, if not three-quarters," Mergen said of his long-term goal.

His best advice to those considering soil health practices: "Start small. Don't do more than you think you can handle in spring or fall."

This year, Mergen further committed to soil health practices when he became a cover crop seed dealer and

ESMC Pilot Project Details

ENROLLMENT: Minnesota is one of about a dozen states where the pilot project is underway. A handful of other enrollments from watersheds in southwestern Minnesota was based on landowner interest.

PILOT FUNDING: In Minnesota, funds from the USDA's Natural Resources Conservation Service, the state Department of Agriculture's Minnesota Agricultural Water Quality Certification Program and The Nature Conservancy leverage partners' cost-share and technical assistance. The three-year NRCS agreement helps to subsidize enrollment costs.

PROJECT PARTNERS: In Minnesota, they include the Stearns County SWCD, AgCentric, Centra Sota Cooperative, the Environmental Initiative, Field to Market, the Headwaters Agriculture Sustainability Partnership, Houston Engineering, Land O'Lakes' Truterra, [MBOLD](#), Midwest Dairy, the Minnesota Milk Producers Association, Syngenta and the University of Minnesota Forever Green Initiative.

POTENTIAL BUYERS: Buyers could include retailers seeking to claim a zero-carbon net impact, or municipalities that find it more affordable to improve water quality via upstream credits vs. a new wastewater treatment plant.

bought a strip-till machine.

"I'm trying to be more profitable with less work. So cutting back on some of the fieldwork — that's where I picked up that strip-till machine. I'm hoping to get away from full tillage and leave as much cover on as I can and keep some growing roots in the ground. I think that keeps

the microorganisms alive," Mergen said.

"I'm hoping to do some custom work, maybe see if some other people want to try the strip-till," he said. "No-tilling soybeans looks like it's working pretty well so far. We'll see what the yield monitor says, but so far it looks like a pretty nice stand."

“

Environmental markets offer a voluntary way of achieving our desired air and water outcomes at potentially the lowest cost to society.

”

— Leif Fixen, agriculture strategy manager for TNC in Minnesota, North Dakota and South Dakota



The Minnesota Board of Water and Soil Resources is among the ESMC pilot project supporters. BWSR's mission is to improve and protect Minnesota's water and soil resources by working in partnership with local organizations and private landowners. www.bwsr.state.mn.us

