South Dakota Soil Health Coalition
10 Years & Growing

Soil Visions

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Fall harvest reveals wildlife benefits of soil health

By Janelle Atyeo
for South Dakota Soil Health Coalition

Judging by the number of pheasants stirred up from his fields during corn harvest, Craig Stehly was anticipating a bountiful hunting season.

He attributes that to the weather, a good hatch this spring, and also to the green he sees in his fields growing amongst the brown corn stalks.

Craig and his brother Gene Stehly farm around Mitchell, South Dakota. For the last couple of years, they've planted corn with a row of cover crops in between. The green skip row provides a haven for pheasants and a buffet for deer late into the fall.

There are lasting benefits for the farm, as well.

"We really enjoy the wildlife on our farm, and we see a lot of benefits for soil health," Craig Stehly said.

The Stehlys planted two rows of corn, 22 inches apart, then skipped a row. When they made a pass through the field with fertilizer in June, they broadcast a mix of crimson clover, radish, oats and annual rye grass seeds over the skip row. The clover will help fix nitrogen in the soil and allow the brothers to apply less when the field is planted back to corn next spring.

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Craig and Gene Stehly plant corn on 22-inch rows and then leave a 44-inch gap for cover crops on their farm near Mitchell, SD. Craig Stehly said he noticed lots of pheasants in the green cover crop spaces during harvest this fall. Courtesy photo.



An outstanding lineup of expert speakers Will cover a wide range of topics at the 2026 Soil Health Conference!

Learn more on Page 4!

Wildlife — Continued from page 1

Cover crops satisfy a few of the principles of good soil health, providing an armor to protect soil, a living root to feed microbes below ground and a diversity beyond the straight corn and soybean rotation.

They also allow producers to integrate livestock onto cropland while giving pastures time to recover from grazing. That rest leads to better pasture health in the spring as well as offering great nesting habitat for pheasants, said Eric Magedanz, senior private lands habitat biologist with South Dakota Game, Fish and Parks.

Once the chicks hatch, cover crops give the brood a place to hide from predators. A diversity of plants brings a diversity of insects for young birds needing protein for rapid growth. Pheasant chicks hatched in a more diverse landscape have a better chance of survival, Magedanz said.

Wildlife was scarce when the Stehly brothers returned to their family farm after college.

"I saw one pheasant that year. That was all that was left," Craig said. "We went from thousands to one."

It was a drastic decline from Craig's first hunting season in the 1960s, a period during which their dad set aside acres for the Soil Bank Program. The Eisenhower administration launched that program to address surplus commodities, boost farm income and conserve land that was prone to erosion.

When long-term conservation contracts expired in the 1970s and farmers were called to grow for a global market, they took up the practice of farming fence row to fence row.

"We took all the Soil Bank out, and any habitat whatsoever was destroyed," Gene Stehly said. "It absolutely decimated the pheasant population as well."

Today, most people adopt soil health practices to increase organic matter in the soil, allow for better water infiltration or grow more bushels, Gene said, "but to us, the wildlife is important."

Healthy habitat and profitable farms can coexist, and diversity is key.

The Stehlys started growing cover crops in the 1990s and now aim to plant a third of their acres to covers. They grow food plots and pollinator habitat, in addition to a cover crop mix after wheat harvest and cereal rye after corn.

They've seen the rye become a spot for nesting waterfowl in the spring. The mix of radish, turnip, rapeseed, oats, flax and clover is popular with deer through the winter. The animals paw through the snow to dig up radishes and turnips.



A pheasant hunt in a sorghum field in northeast South Dakota. Courtesy photo.



Gene and Craig Stehly use a variety regenerative agriculture practices on their farm near Mitchell, SD, which provide food and habitat for wildlife. USDA South Dakota photo.

"Having that ground cover, the wildlife flourish. There's a place for them to get out of the weather," Craig said.

Cover crops have a cost – buying seed and taking time and fuel to manage – but the Stehlys appreciate the long-term benefits as soil organic matter grows, water infiltration improves and erosion issues dissipate. Also, some programs offer financial assistance to help producers establish cover crops, like the Soil Health Improvement and Planning Project administered by the South Dakota Soil Health Coalition.

At the same time, the brothers are opting not to farm some of their acres that weren't yielding a profit.

They worked with the Every Acres Counts program to remove from production marginal acres – wetlands or areas impacted by saline issues where crops don't grow well. They've converted 45 different plots on their farm to native grasses. One buffer they established in the early 2000s now supports 48 different forbs, Gene said. The plants serve as an important early food sources for pheasant chicks.

"We end up with more profit and more wildlife, and that's better for the environment," Gene said.

Landowners are often surprised to learn that setting aside even just an acre or two can make an impact on pollinators and wildlife, Magedanz said. At that same time, it can bump up yield averages for the field.

"Inherently, it is a benefit to the operation's bottom line," he said.

Game, Fish and Parks works with numerous agencies and nonprofits to help landowners find programs to fit their goals. It's a fantastic partnership, Magedanz said, and important work when more than 80 percent of South Dakota is privately owned.

"The majority of wildlife is raised on private land," he said. "We're fortunate to have the landowners that we do, that have the deep connection with their operations and their business, and also with the wildlife."

To learn more about the connection between soil health and wildlife, visit www.sdsoilhealthcoalition.org.

Membership Minute: Carson and Brooke Stange


Courtesy photo

Carson and Brooke Stange have a farm near Stratford, SD. They raise corn, wheat, soybeans, and cattle. They have one daughter, Lainey. Their farming journey started in 2020. Carson grew up on his family farm, and he wanted his daughter to have the same opportunity. He had been working for a neighbor as a farm hand, and his wife was teaching in Aberdeen at the time. They started with planting the home quarter to alfalfa, and that led into renting a little more ground each year and adding row crops. Now they are farming full time, and Brooke is also helping on the farm as well as being a stay at home mom.

Carson has been working to improve the soil ever since he and his wife started. Each year he tries to add at least one principle of soil health. He said it has been a delicate balance of remaining profitable while experimenting with new things. Right now, they use no-till practices, cover crops, and a multi crop rotation.

Carson said one new thing they will be implementing next year is an added number of livestock. They have always had a few cows around, but they are planning to grow that so they can make better use of crop rotations and cover crops. "It's tough to put an actual monetary value on the benefits of cover crops," Carson said, "but when you are grazing them, it's something you can actually add to the balance sheet."

Carson said that ever since he learned about soil health in college at Lake Area Tech, he has wondered why anybody would farm any other way. "It just seems to make sense to me," he said. "Also, as a young farmer starting out, it saves a lot of money to not have to purchase a high horsepower tractor and all the tillage implements. I'm passionate about taking care of the land and my long-term goal is to build a diverse and resilient operation that I can someday pass down to the future generations."

The most important lesson Carson said he has learned is that each farming operation is unique in its own ways. "I like learning from different operations, but I know I can't just copy and paste what they are doing and be successful," he said. "What works well for one person might not work for the next. Listening to others' successes or mistakes helps me to devise a plan for my own operation."

Cason's best day on his farm so far was June 17, 2022. "It was a clear blue sunny day, and my daughter wanted to ride with me while raking alfalfa that morning. We were out in the field and the spray plane showed up to spray our wheat field the next quarter over," Carson said. "Lainey thought it was pretty fun to watch him turn above us each time. A little while after he was finished spraying, she leaned her head over on me and fell fast asleep. It's days like this that make you feel confident that you're right where you're supposed to be."

Buffer zones are a boon to farmers and wildlife

By Janelle Atyeo
For South Dakota Soil Health Coalition

"We need grasslands and we need wetlands. We need a healthy complex, which also includes cropland," said Matt Hubers.

Hubers is a Ducks Unlimited agronomist based in Roslyn, South Dakota, where prairie pothole wetlands serve as prime breeding grounds for waterfowl. Those potholes are surrounded by farmland, and a buffer of native grass between cropped acres is beneficial for the farmers and the birds.

A swath of prairie grass helps filter out fertilizers and herbicides before they reach the water where ducks like to congregate. Buffers also protect crops from foraging fowl. Geese are notorious for helping themselves to small, succulent corn plants.

"Especially during molt when they can't fly, they congregate on these water bodies. They don't have to walk far, and it's providing really good forage for them," Hubers said, adding that a grass buffer will deter geese from foraging on crops.

Grass buffers planted square around the wetland make it easy to drive farm machinery in a straight pass around them, he said.

Ducks Unlimited helps administer the Regional Conservation Partnership Program with the Natural Resources Conservation Service. The program helps farmers seed crop ground back to grass, offering deferral payments and helping install waterlines and fences so land can be grazed.

While native grass is the best habitat for wildlife, Hubers calls season-long cover crops a second best.

"Mother nature does not like to have bare soil out there," Hubers said.

Upcoming Soil Health Events

Nov. 7-8
South Dakota Local Foods Conference
Aberdeen, SD

Nov. 10-11
Range Beef Cow Symposium
Cheyenne, WY

Nov. 13
Tri-State Beef Technology Series
Red Oak, IA

Nov. 14
Tri-State Beef Technology Series
Ithaca, NE

Dec. 2
Ag Horizons Conference
Pierre, SD

Dec. 2-3
SD Cattlemen's Annual Convention
Deadwood, SD

Dec. 4
Ag Outlook
Sioux Falls, SD

Dec. 4-5
SD Grassland Coalition Annual Conference
Box Elder, SD

Dec. 11
Northern Plains Forage Association Annual Meeting and Seminars
Brandon, SD

Jan. 13-14
2026 Soil Health Conference
Aberdeen, SD

Jan. 20-21
No-till on the Plains Winter Conference
Kansas

Jan. 21
Ranchers Workshop
Mission, SD

Jan. 21-23
Northern Plains Sustainable Food and Farming Conference
Aberdeen, SD

Access Our Events Calendar HERE.

Taking action: Conference to outline benefits of regenerative ag

By Stan Wise

For producer Blake Vince, running a successful farm comes down to acknowledging one simple fact.

"I recognize the only thing, at the end of the day, that's totally 100 percent in my control is my expenses," Vince said, "and by that, I mean the things that I can decide whether to or not to spend money on specifically."

Vince, a fifth-generation producer, will explain how regenerative agriculture has benefited his family's southwest Ontario farm at the Soil Health Conference, Jan. 13 -14 in Aberdeen, SD.

His family adopted no-till practices in the early 1980s, and that has allowed them to reduce their machinery and fuel costs. "Those are the things that I recognize straight away as the benefits of no-till is that we can reduce the amount of horsepower that we need," he said. "We can reduce the amount of fuel that we need per acre."

Time is another resource producers need to think about, Vince said. "So instead of having employees out there making passes back and forth up the field, doing all this tillage that I really don't see as a necessity, I can have that employee doing some other jobs that need to be done," he said.

Longterm no-till and other soil health management practices have led to increased soil fertility on his farm. He has seen a reduction of 25 to 33 percent in his nitrogen use, Vince said.

Vince grows a diverse crop rotation, including cover crops, and has started grazing livestock on his cropland. These practices have paid off not only with reduced expenses but also with improvements to his soil health.

He said he and his wife purchased their first farm with their own money in 1999, and at that time, the farm's average soil organic matter was 3.5 percent. "Today, that same farm, 20 years later, is crowding closer to 5.5 percent," Vince said.



Blake Vince grazes Hereford cattle on cover crops in the fall on his farm in Ontario. Courtesy photo.



Blake Vince is an Ontario producer who uses regenerative agriculture practices on his farm. He will be a presenter at the 2026 Soil Health Conference, Jan. 13-14 in Aberdeen, SD. Courtesy photo.

That increased organic matter allows his soil to infiltrate and store more water.

"So, as we've gone away from tillage, and we're focused on no-till, our water infiltration rates have increased dramatically," Vince said. "We don't see the standing water that some farmers see with a long-time commitment to tillage."

That's a benefit that helps make his farm more resilient in droughts.

"That water infiltration capacity and then increasing water holding capacity really is a godsend on a year like this, specifically when we haven't had a lot of rain," Vince said. "And so, then the roots are able to proliferate deep into the soil profile and grab ahold of the available nutrients that the plant needs to grow."

Other benefits

Other conference speakers will highlight different benefits of conservation agriculture.

Entomologist Thomas Dykstra, laboratory director of Dykstra Laboratories in Gainesville, Florida, notes that

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healthier plants with a higher sugar content in the plant material suffer less insect pest pressure.

"When we know that the sugar is high enough, the plant is healthy enough that the proteins are well formed, and those well-formed proteins cannot be broken down by insects," Dykstra said. "They are looking to have food that is partially broken down because it is easier for them to digest."

Dykstra said that less healthy plants with imperfectly formed proteins release certain molecules like ethanol which are indicators of protein degradation and make the plants more attractive to insect pests.

To grow healthy plants, Dykstra said, producers need well-oxygenated soils and a healthy soil biome. "If you wanted to raise healthy plants, you cannot do that without the necessary microbes," he said, "and in many cases, the fungi that are needed in order to impart that level of health."

Other conference speakers will highlight additional benefits of conservation agriculture.

"What is pretty clear from data is, in the short term, employing regenerative practices can have an immediate improvement on water quality, ground water and surface water quality, so that if you're living in a place where your drinking water is degraded by nitrate, you can certainly contribute to improving things immediately for you and your family and your neighborhood," University of Wisconsin-Madison Professor of Grassland Ecology Randy Jackson said. "If you care about birds and pollinators and hunting and these kinds of things, regenerative practices give you a better chance to manage for improved habitat and variety of habitat that, in some cases, can and should improve your livelihood, improve the profitability of your farm."



Entomologist Thomas Dykstra is the laboratory director of Dykstra Laboratories in Gainesville, FL. He will be a presenter at the 2026 Soil Health Conference. Courtesy photo.



University of Wisconsin-Madison Professor of Grassland Ecology Randy Jackson, center, explains his research during a field day. Jackson will be a presenter at the 2026 Soil Health Conference. Courtesy photo.

Why it matters

The Soil Health Conference, hosted by the South Dakota Soil Health Coalition with support from its partners, will feature speakers from across North America who will present information about conservation agriculture that will be of interest to producers, landowners, and gardeners.

Jackson and Vince outlined why it's an important topic for everyone in agriculture.

"The soil is a finite resource in human lifetimes, and what's taking thousands and thousands of years to build – the soil itself and the organic matter that's in it – we are wearing away and eroding in decades and even years, and it's not sustainable," Jackson said. "And our future selves, future generations deserve better. And in fact, if we don't do something to reverse the degradation of our agricultural soils, there aren't going to be future generations the way we might like there to be. So, it's an existential crisis."

Vince said it's up to land managers to take action.

"We all know that we have been seeing a decline in soil productivity, and we think that there's somehow a silver bullet solution, that miraculously seed genetics or some new traits are going to come forward, and it's going to save the day," Vince said. "But I think the onus of responsibility lies squarely on the shoulders of the practitioner to figure it out and get on with it and do something that is indeed beneficial."

The 2026 Soil Health Conference will be held Jan. 13-14 at the Best Western Aberdeen Hotel and Event Center in Aberdeen, SD. Students may register for free, and admission is $100 for all others. To learn more about the conference and register, visit www.sdsoilhealthcoalition.org. For questions, contact the South Dakota Soil Health Coalition at sdsoilhealth@gmail.com or 605-280-4190.

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Student Video and Essay Contests Announced for Soil Health Conference

The 2026 Soil Health Conference will be held Jan. 13-14 at the Best Western Aberdeen Hotel and Event Center in Aberdeen, SD! We want to make students a part of that conference in a big way! Students may register for the conference for free, and SDSHC has organized student video and essay contests whose cash prize winners will be announced at the conference! The contests have been designed to give students the opportunity to learn more about soil health and showcase their knowledge in creative ways. The top prize in the essay contest is $400, and the top prize in the video contest is $750. The deadline for entry is Dec. 21. See the complete rules at www.sdsoilhealthcoalition.org/soil-health-conference/students.

Find Your Forage Solutions on the South Dakota Grazing Exchange

The South Dakota Grazing Exchange is a FREE map-based website that allows landowners and producers to list their available forage resources, such as pastureland, cover crops, etc., as well as livestock available for grazing. Landowners and livestock producers can see what resources are nearby and contact each other to form private grazing agreements. This is a great way to integrate livestock onto cropland, derive revenue from cover crops, and find additional forage for livestock! Learn more and sign up today at www.sdgrazingexchange.com.