South Dakota Soil Health Coalition
10 Years & Growing

Soil Visions

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Small-Scale Farming and Gardening at the Soil Health Conference

By Chris Goldade
South Dakota Soil Health Coalition Soil Health Technician



SDSHC Soil Health Technicians Chris Goldade, left, and Wyatt Johnson, right, explain soil health management practices for small-scale agriculture producers at the 2025 Soil Health Conference in Watertown, SD. SDSHC photo.

Interest in small-scale agriculture and gardening and how soil health relates to these topics has grown steadily in recent years. To meet this growing demand, the 2026 Soil Health Conference, Jan. 13-14 in Aberdeen, SD, features an expanded lineup of breakout sessions designed specifically for gardeners and small-scale farmers.

Across the two-day event, five concurrent breakout sessions will each include at least one topic tailored to small-scale producers. These sessions cover a wide range of practical and innovative subjects, including navigating Farm Service Agency programs, using wool pellets as fertilizer, applying permaculture principles, how to work with a restaurant to become a farm-to-table producer, and a Q&A panel featuring four local experts on no-till gardening and the importance of soil health.

The entire agenda is packed with opportunities for everyone involved with agriculture to learn, be inspired, and connect. Keynote speakers like Blake Vince and Dr. Randy Jackson will inspire you to use cover crops, improve pasture management, and increase overall soil health. Dr. Thomas Dykstra will also share fascinating insights on how improving plant health can naturally reduce pest pressure.

A few sessions stand out as especially exciting to me. Timothy Meagher will discuss how he partners with growers to supply his restaurants with local food and why sourcing products from farms with healthy soil matters so much to him. Robin Buterbaugh from SDSU Extension will introduce the fundamentals of permaculture, a design approach focused on working with natural systems rather than against them. And at the end of the first day we'll host round-table discussions on several topics including composting, no-till gardening, and high-tunnel greenhouse production.

With more than 50 exhibitor booths and 34 speakers, the amount of knowledge available at this event is truly remarkable. The schedule includes ample time to visit with vendors and sponsors, and all presentations will be professionally recorded for later viewing. This is an event you won't want to miss. We look forward to seeing you there.

Sign up at www.sdsoilhealthcoalition.org/soil-health-conference

Innovating Prairie Stream Recovery with Wool-Based Restoration Materials

By Kate Rasmussen
World Wildlife Federation

Prairie Stream Restoration in South Dakota

Prairie streams, especially in arid regions, are an essential lifeline for life in the grassland ecosystem, from western tiger salamanders to migratory birds to grazers like sheep and cattle. Well-functioning prairie streams, both perennial and intermittent streams, offer water holding capacity during droughts, and create habitat for diverse plant and animal communities. The goal of stream restoration in the grasslands is to help heal the watersheds that sustain the prairie plants, wildlife, livestock, and people that call the ecosystem home.

In places where prairie streams have become channelized (the opposite of a well-functioning stream), WWF offers assistance for landowners interested in streambed restoration. This often looks like structures made of natural materials that are small and porous dams. The goal isn't to stop water, but to slow the flow of water down to help reverse the channelizing of the stream. Slowing water down encourages water infiltration and in the long-term helps grow a diverse network of plant species to stabilize the streambed. Ideally, the structures collect the sediment that flows downstream, and plants grow over the structure, allowing the system to function well on its own.

What WWF is doing

A key effort across the NGP and Western US to help bring functioning streams and the adjacent wetland zones, or riparian areas, back has been the implementation of low-tech structures into streambeds. These low-tech structures, often referred to as Beaver Dam Analogues (BDA's), are made without the use of heavy equipment and engineering firms and are instead built by hand in streambeds intermittently to mimic the dams beaver historically placed on the landscape. The structures put flooding back in the water system and are the first step in creating beaver friendly habitat, facilitating the conditions necessary for riparian plant communities to recover and flourish.



Courtesy photo.

These BDA's are typically made by hand using local materials. Natural materials are preferred for BDA's as the long-term goal is for the succession of the natural plant communities to take over and for the structures to eventually become part of the landscape.

Near mountain landscapes, BDA's are made using rock, local sod, willow, and sticks. Aside from sod, the prairie ecosystem has a limited or nonexistent supply of local materials, creating a major hurdle for prairie streambed restoration projects.

Barriers to Prairie Streambed Restoration- Wool as a Solution

Hauling in rock for structures has been a common practice for stream restoration but bringing rock into a prairie system that doesn't already have rock is expensive, labor intensive, and if improperly installed can cause more erosion. While the prairie doesn't produce the type of natural materials typically used in low-tech stream restoration, there is no shortage of wool. Wool has long been used as a soil amendment in gardens, and in more recent years has been the subject of study as material for land restoration. The unique qualities of wool may make it an exceptional material for land restoration as the fiber is porous, so it may increase the soil's water holding capacity, add structure to soil, and offer a slow-release fertilizer as it contains about 17% nitrogen. Researchers from Montana State University conducted a study using wool as a restoration material on severely degraded ground and found three to four times the amount of perennial plant cover grew in the test sites using wool.

Pilot Project – Ollila Ranch, South Dakota

The Ollila ranch graciously offered to be a test site for a small pilot project using wool as a material for low-tech streambed restoration structures on their ranch. So far, the wool structures have performed very well in

Continued on Next Page

Conference — Continued from page 2

moisture events and required a fraction of labor and time to install compared to the traditional structures. More time is needed to better understand how the wool structures compare to traditional ones over time, but so far, the trial has exceeded expectations.

The Ollila Ranch has also partnered with SRI to fund and implement virtual fence collars on their sheep, a newer technology in the livestock industry, that will allow the Ollila's to practice the level of precision grazing that is helpful in improving the wildlife habitat. The collars will give the Ollila's the ability to more precisely manage the grazing on riparian sites, giving plant community regeneration the best chance possible.



Courtesy photo.

Circular Supply Channel

The short-term goal for using wool as a material in streambed restoration is to first test the practice in different locations with varying conditions to see if it's a viable option and to figure out the best ways to use wool in the stream structures. The long-term project goals are to add value for sheep producers who have excess or unmarketable wool, reduce waste, create a solution for cost and labor barriers to prairie stream restoration, and help recover watersheds on a landscape scale for the benefit of the communities, both human and wildlife, that rely on a functioning prairie ecosystem.

Through the work the Sustainable Ranching Initiative does in the Great Plains, WWF has the opportunity to connect a large network of land managers who are already improving their grazing lands and wildlife habitat to wool-based streambed restoration resources as well as potentially connect sheep producers with a value addition to their wool.

WWF's Sustainable Ranching Initiative (SRI) works in partnership with a large network of ranchers and tribes in the Northern Great Plains to offer resources for producers managing grasslands with livestock. The Sustainable Ranching Initiative was created to help protect arid grassland, restore prairie ecosystems, and support rural communities. The initiative offers resources to livestock producers in western SD, Nebraska Sandhills, northeastern WY, and Eastern MT through the Ranch Systems and Viability Program as well as through assistance for grassland reseeding and streambed restoration projects.

Livestock producers who are interested in improving the prairie habitat they manage, have access to resources through the WWF Sustainable Ranching Initiative program called the Ranch Systems and Viability Planning program (RSVP). The RSVP program is an enrollment-based program with monitoring, infrastructure cost share, education funding, and a peer learning network to help producers make lasting positive changes on the prairie landscape.

SRI partners with 123 ranches in the NGP, spanning over 1.4 million acres in western SD, Nebraska Sandhills, northeastern WY, and Eastern MT, who are committed to intentionally managing the prairie land they steward. If you are interested in learning more about the RSVP program or restoration assistance, please email Kate Rasmussen at kate.rasmussen@wwfus.org.

Kate Rasmussen is a World Wildlife Foundation Sustainable Ranching Initiative Specialist based in Spearfish, SD.

Upcoming Soil Health Events

Jan. 6-8
Dakota Farm Show
Vermillion, 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

Feb. 2
FFA Rodeo
Rapid City, SD

Feb. 2
AgFest
Pierre, SD

Feb. 5-7
Rogue Food Conference
Rapid City, SD

Feb. 13
South Dakota Producers Summit
Rapid City, SD

Feb. 20
South Dakota Producers Summit
Huron, SD

June 24-25
West River Soil Health School

July 16
Value of Plant Diversity For Land and Livestock
Online

Sept. 15-17
Soil Health School
Twin Brooks, SD

Access Our Events Calendar HERE.

2025 Year in Review

The South Dakota Soil Health Coalition celebrated a banner year in 2025! This year marked the Coalition's 10-year anniversary. We celebrated with a special tour of the Dakota Lakes Research Farm in August featuring guest speaker Ray Archuleta. The Coalition hosted two Soil Health Schools and one of the largest Soil Health Conferences in its history in January. Directors and staff members attended dozens of workshops, conferences, partner events, field days, and school visits throughout the state.

The Coalition has published articles, videos, and radio ads, maintained its online resources including Growing Connections, SD Grazing Exchange, and SD Fresh Connect, and has begun recordings for a new podcast called Soil Strategies o debut in 2026!

In 2025, the Coalition became a proud sponsor for the South Dakota Leopold Conservation Award! We are currently seeking nominations for the next award winner, so if you know of someone who deserves this award, visit tinyurl.com/2026SDLeopold to learn more!

We hope you and your family has a Happy New Year and that we get to see you all at the 2026 Soil Health Conference, Jan. 13-14 in Aberdeen, SD!







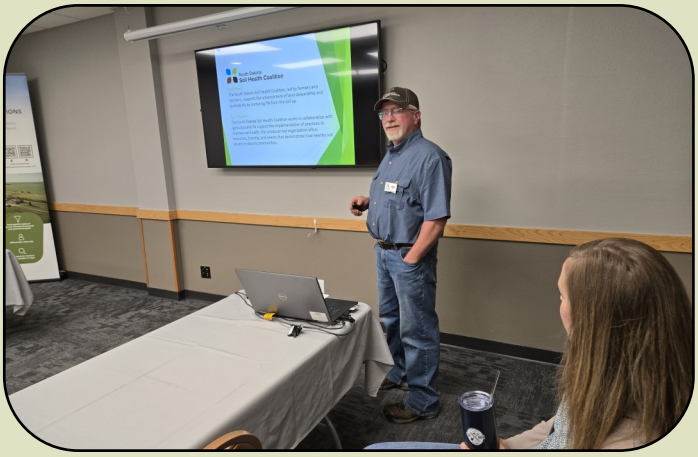













2025 Soil Health School









South Dakota
Soil Health
Coalition

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SDSHC Is Making Real World Changes with Cost-Share

The South Dakota Soil Health Coalition offers financial and technical assistance for the adoption new conservation practices! Check out the Coalition's real world impact through since the beginning of its cost-share programs! If you would like assistance with adopting a new soil health management practice, contact the Coalition!

