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SOIL VISIONS



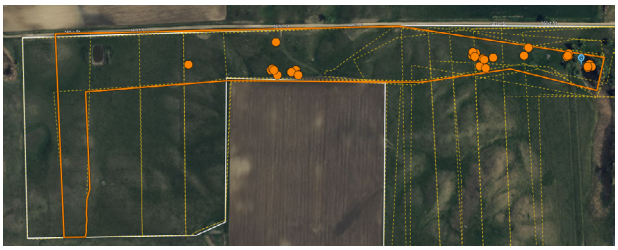
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Managing Livestock and Soil with Invisible Fence

By Maddy Kludt

A fence that doesn't exist might sound impossible, but it became a reality for a group of South Dakota cattle producers this summer.



Producers using virtual fence technology can draw boundaries on maps of their property and monitor cattle locations in real time. Courtesy image.

Through South Dakota Soil Health Coalition's Virtual Fencing Program, producers were able to use Gallagher eShepherd's virtual fencing collars and technology to move, monitor, and manage their cattle from mobile devices or desktops. They were able to lease the collars for the summer to test whether the technology could help address challenges on their operations ranging from labor shortages to pasture management.

"I believe virtual fencing will revolutionize grazing, provided the operator pays close attention to his grass or whatever resource he is grazing," Shawn Freeland said. Freeland is a livestock producer near Caputa, SD, who has been using virtual fencing for the last two years.

"There's never been a time where it's been so easy to mimic nature's grazing template," he said.

Virtual fencing gives producers new opportunities to manage grazing

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See highlights from the 2026 Soil Health School and first ever Small Scale Ag Soil Health School Pages 4-5

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more precisely and provide recovery periods for pastures, creating visible soil health and forage utilization improvements.

For Kurt Stiefvater, a Salem, SD, producer who participated in the program from July to October, that flexibility created noticeable changes in both his cattle's behavior and his valuable forage resources. "They utilized the forage more because we could control it a bit better instead of just an open field," he said.

Stiefvater also observed that some desirable plants were able to complete their growth cycle. "I think some of those grasses were able to go to seed where they've normally been cow harvested and consumed by the cow," he said. Greater control over grazing time and intensity also created opportunities for improved plant recovery and healthier pasture conditions, key principles of soil health management.

Freeland said the technology can open up new grazing opportunities. "Virtual would work really well in a crop rotation with perennials in it," he said. "A farmer could graze crop residue or cover crops on their farm ground and quickly and easily move the cattle to a perennial pasture in the event the frost comes out or wet weather shows up."

Many producers are searching for tools that can improve both operational efficiency and quality of life. The South Dakota Soil Health Coalition recognized this need for advanced technology and launched a program to aid producers in adopting new practices. The program aims to address ecological, social, and economical challenges such as grazing management, labor shortages, water quality, and producers' lives outside of their operations.

The initiative was announced in January at the Soil Health Conference. Applications were received from producers throughout the state, highlighting a wide range of reasons for interest in the program. As spring approached, applicants were reviewed and selected based on a variety of program criteria such as location, number of head requested, and previous interest in virtual fencing collars.

Once participants were selected, they began onboarding and training with the virtual fencing system and introducing the cattle to the collars in their training paddocks. While many participants entered the initiative with little or no hands-on experience with the technology, the training period helped build confidence in themselves and their cattle before the collars were fully deployed in the field.

Stiefvater was initially curious about how quickly the cattle would adapt to the technology. "I was surprised how fast they would learn where the boundary was with the audio signal first before any shocking went on," he said.

Participating producers used the collars to improve



The South Dakota Soil Health Coalition has a launched a program to allow livestock producers to lease virtual fencing collars to gain experience with the technology and see if it will work in their operations. Courtesy photo.

rotational grazing efforts or manage areas where traditional fencing was difficult, expensive, or impractical to install. One of the most significant advantages Stiefvater observed was the reduction in time spent managing fence. "It definitely freed up time. We didn't have to manage the physical fence as much," he said. Greater control over grazing time and intensity also created opportunities for improved plant recovery and healthier pasture conditions.

While the experience was positive for the operation, Stiefvater acknowledged that adopting a new management tool required patience and a willingness to learn. "Probably the biggest challenge is learning the app a little bit and getting that figured out," he said. However, he emphasized that the opportunity to gain hands-on experience in this unique program made the process of learning the tool worthwhile. "Being able to use them here, lease them and use them for a period of time was awesome. When you actually do it and have kind of a hands-on feeling of using them, it makes a difference."

Beyond the immediate benefits, the program also provided producers with an opportunity to evaluate how virtual fencing may fit into their long-term operational goals. By reducing barriers to adoption and providing learning opportunities, SDSHC has helped producers explore new approaches to livestock management across South Dakota.

While virtual fencing may not replace traditional fence in every situation, for many participants, the experience showed that an invisible fence can have a visible impact on both the land and the ones who depend on it.

To learn more about the benefits of virtual fencing and regenerative grazing, visit **www.sdsoilhealthcoalition.org** or contact the SDSHC at 605-280-4190 or **sdsoilhealth@gmail.com**.

Latest Soil Strategies Podcast Episode Features Jon Stika



John Stika. SDSHC photo.

In the most recent episode of the Soil Strategies podcast, host Roy Thompson interviews soil scientist, author, and renowned soil health advocate Jon Stika about restoring soil function, challenging conventional thinking, and what it might take to change the future of agriculture.

Stika, author of *A Soil Owner's Manual*, said soil is a living biological system designed to work alongside plants. "If you deal with the soil the way it's designed to function, you'll get the full horsepower," he said.

The episode touches on the difference between fertility and soil function.

"You can have a soil situation that has lots of N, P, and K available to the plants. It can be available because you put it there as fertilizer. It can be there because you tilled the soil, and the bacteria broke down," Stika said. "There's a lot of nutrients available. But as soon as those nutrients are gone, it's kind of game over. There's no biology there to support the plants once that burst of fertility is gone."

Stika said that if producers can restore the soil food web so that it builds soil structure and feeds the plants, they won't have to apply as much fertilizer.

If producers want to gauge the health of their soil, Stika said they simply have to look at their aggregate stability, their water infiltration, and their earthworm counts. "Those are some simple things — aggregate stability, water infiltration, earthworms. Those are the ones you can do all by yourself. You don't have to send it to a lab."

To hear more of Stika's insights, watch this episode and previous episodes at **www.sdsoilhealthcoalition.org/podcast**.

NCR-SARE Farmer Rancher Grants



North Central Region-Sustainable Agriculture Research and Education is currently accepting proposals for the Farmer Rancher Grant Program. The competitive grants are for ideas initiated by farmers and ranchers who want to explore sustainable solutions through on-farm research, demonstration, and education projects. The grants are a maximum of $15,000 for individuals or a max of $30,000 for teams of two or more producers. The deadline for proposals is Dec. 3. For more info, visit **northcentral.sare.org/grants**. For more information about SARE grants and to hear from previous SARE grant recipients, be sure to attend the 2027 Soil Health Conference, Jan. 26-27 in Sioux Falls.

Events Calendar

Nov. 4
Soil Health Hour
Webinar
Online

Nov. 6
Coffee at Cottonwood:
Hands on Virtual
Fencing

Dec. 3
Ag Outlook 2026
Sioux Falls, SD

Dec. 2
Soil Health Hour
Webinar
Online

Dec. 3-4
SD Grassland Coalition
Annual Conference
Box Elder, SD

Dec. 8
Managing Soil:
Maximizing Profit
Viborg, SD

Dec. 8-9
SD Cattlemen's
Association Annual
Convention
Pierre, SD

Jan. 26-27
Soil Health
Conference
Sioux Falls

Connect with landowners who have available forage resources, including cover crops and crop residue at the South Dakota Grazing Exchange!
sdgrazingexchange.com

2026 Soil Health School









The South Dakota Soil Health Coalition held its annual East River Soil Health School Sept. 15-17 at David Kruger Farms near Twin Books, SD, and the Abbey of the Hills near Marvin, SD.

"We want producers to succeed," SDSHC Board Chairman Brian Johnson said. "We are here to educate and offer assistance to producers, so they can make more informed decisions on how to care for the soil on their farms."

Host producer David Kruger began using no-till practices to grow corn and soybeans over 20 years ago, and since then has adopted other soil practices, including adding cover crops and small grains to his rotation. He has also experimented with wide-row corn and growing winter camelina. School participants had the opportunity to see how Kruger's practices have improved his soil and his bottom line.

Kruger said that after several years of using regenerative ag practices, "the soil starts to take care of itself, and it takes less commercial fertilizer to grow the same amount of crops."

Classroom sessions during the school focused on understanding the basic properties of soil, the principles of soil health, soil biology, soil economics, and much more. Between field exercises, classroom

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2026 Soil Health School





session, and discussion panels, Soil Health School was two and a half days of non-stop regenerative ag education.

Presenters included Soil Health Coalition Board members and staff, SDSU Extension specialists, NRCS soil scientists and specialists, crop consultants, independent and university researchers, and producers.

Many participants attended the school on scholarships generously sponsored by the South Dakota Soybean Association.

The school was a collaboration between SDSHC board members and staff, Natural Resources Conservation Service, SDSU Extension, Agricultural Research Service, and many speakers and volunteers. A huge thank you goes out to everyone who supported the school!

SDSHC Launches New Small Scale Ag Soil Health School

The Coalition held its first Small Scale Ag Soil Health School on Aug. 28 in Huron with the help of NRCS, SDSU Extension, and Beadle Conservation District. The event helped participants learn how to incorporate regenerative ag practices into their gardens and small scale farms. The school is part of SDSHC's effort to improve the soil on which our food is grown.







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2027 Student Soil Health Video and Essay Contests Open

Do you know a creative student who is passionate about regenerative agriculture and would like to win some money with their talents? Then make sure they know about the 2027 Student Soil Health Video and Essay Contests!

These contests allow students to use their imaginations while showcasing their soil health knowledge.

The essay contest is open to all middle school, high school, and post-secondary students, and the top prize is $400. The video contest is open to all K-12 students, and the top prize is $750. The deadline for both contests is **Dec. 31, 2026**. Winners will be announced at the 2027 Soil Health Conference, Jan. 26-27 in Sioux Falls.

Full contest rules and submission instructions can be found at **tinyurl.com/SDSHCstudents**.

Register now for the 2027 Soil Health Conference!

Registration is now open for the 2027 Soil Health Conference, Jan. 26-27 at the Best Western Plus Ramkota Hotel in Sioux Falls. This year's conference will have an outstanding lineup of speakers including Keith Berns, Chuck Rice, Erin Martin, and many more! The event will be an excellent chance to learn more about regenerative agriculture and network with people who can help you on your soil health journey! Learn more and register at **sdsoilhealthcoalition.org/soil-health-conference**.

