

Board of Directors

Levi Neuharth
Chairman

Shawn Freeland
Vice Chairman

Terry Ness
Secretary/
Treasurer

Dan Forgey

Doug Sieck

Bryan Jorgensen

Brian Johnson

Candice Mizera

Dennis Hoyle

Staff

Austin Carlson

Jim Clendenin

Baylee Lukonen

Dave Ollila

Stan Wise

Cindy Zenk

2021 Soil Health Conference Now a Virtual Event

The South Dakota Soil Health Coalition's 2021 Soil Health Conference goes high tech.

Directors, who are keeping members' and presenters' health at the forefront while maintaining the top priority of sharing vital information about improved soil health, have voted to host a virtual 2021 Soil Health Conference.

"I never had changing to a virtual conference even as a consideration until the committee met last week. Now I am excited about the variety and participation those in attendance will be able to partake," said Shawn Freeland, Conference Committee Chair and Vice Chairman of the SDSHC.

The conference scheduled for Jan. 6-7 begins at 10 a.m. each day. Our outstanding speakers are still slated to give their presentations, and opportunities for networking exist, as well as youth participation.

Jimmy Emmons, Oklahoma farmer and rancher, is scheduled to tell us about his operation that has been no-till since 1995 and uses a nine-crop rotation. His inaugural Oklahoma Leopold Conservation Award-winning operation frequently uses cover crop mixes with more than 10 species and makes it a priority to incorporate livestock back onto crop ground.

Loran Steinlage, Iowa farmer, has employed cover crops and relay cropping for over 10 years. Steinlage has a knack for building things and has built or modified equipment he uses to seed or interseed cover crops and apply composted dairy manure.

Dale Strickler, an agronomist with Green Cover Seed in Nebraska, will also speak, as well as South Dakota's own Nick Jorgensen, CEO of Jorgensen Land and Cattle, which uses soil health management practices to greatly increase profitability.

Through our online platform, participants will be able to pose questions for the presenters and interact with each other, and SDSHC members will be able to vote in the Board of Directors election – all from the comfort of their homes with no need to brave icy roads!

Registrants will be sent instructions on how to log in to the online platform and participate in the conference.

"While our greatest wish was to see all of you in-person at our annual conference, we hope you'll join us online for a fun and rewarding experience! Watch for updates throughout the next couple months!" SDSHC Coordinator Cindy Zenk said.



Jimmy Emmons



Loran Steinlage



Dale Strickler



Nick Jorgensen



Building a Tradition of Diversity and Soil Health

When David Neuharth started his Stanley County operation in the 1980s, he didn't have any family agriculture traditions to follow. So, he started new family traditions of diversity and soil health management.

Read the article on Page 4 to learn more.

Soil Health Practices Build Soil and the Bottom Line

By Lura Roti for South Dakota Soil Health Coalition

PIERRE, SD – In times like these, it's what cattle and crop producers don't spend that makes the biggest difference to their bottom line.

"Because prices are not very good right now, there isn't a lot of a farmer or rancher can do to get more in the market, so they are looking to cut expenses," Dacotah Bank Agricultural Banker Trevor Samson explained.

Nick Jorgensen agrees. Implementing soil health practices are how the Ideal, SD, cattle and crop producer and his dad, Bryan, cut input costs across their operation.

"We are doing things that if we were not doing them, we would not be able to stay in business long term," Jorgensen said. "In times like this, practices that save you money allow you to make a little money instead of burn through equity."

Practice by practice, Jorgensen explains how by focusing on soil health, the family saves \$100 per acre and \$350 per head annually.

- No-till practices save the farm \$50 per acre on fuel and equipment costs.
- Grazing cattle on all crop and cover crop acres cuts feed and manure management costs by more than \$2 per day.
- A hoof on every acre also increases soil organic matter by 0.75% per year.
- Increased organic matter cuts fertilizer costs by \$50 per acre with no yield loss.
- Diverse six-plus crop and cover crop rotations reduce weed pressure, cutting herbicide costs.

These aren't guestimates – Jorgensen is a numbers guy. Before returning to his family's farm in 2014, Jorgensen earned master's degrees in business administration and economics. In addition to saving hundreds of thousands in operational costs, Jorgensen explains the practices they implement on their family's more-than-a-century-old farm build the soil's organic matter, increase its water-holding capacity and create a landscape where wildlife thrive.

"At the same time we're cutting costs, we are making our ground better. And we're doing it on a large scale," Jorgensen said of the nearly 13,000 acres his family farms.

At 29, Jorgensen says he has never operated tillage equipment. Inspired by the native prairie system, his dad, Bryan, began implementing no-till and other soil health practices in the 1990s.

"If you ever get the opportunity to walk out into a field of full-season cover crops, it is beautiful. There are birds, bees, butterflies and no weeds – I wish I could show this to someone who is against commercial agriculture," Jorgensen said. "We are large commercial farmers who farm in a way that makes Mother Nature happy. You just go out there and you can feel it. As a logical guy, it's a silly thing to say, but it's the truth."

The father and son team share details of their soil health story in the *Merit or Myth* video series (<https://youtu.be/SPKSHXH2n2w>).

Farming and raising cattle in a way that builds soil health and works with nature is also a focus of Edmunds County farmer Dennis Hoyle. Raised by a conservation-minded dad, Hoyle says taking care of the soil has always been "front and center" on his farm. And yes, cutting costs also motivated his decision to no-till plant winter wheat in 1982.

"Money and moisture were my biggest drivers," said Hoyle, who has farmed exclusively no-till since 1986.

Although he has raised traditional crops, like corn and soybeans in



Edmunds County farmer Dennis Hoyle attributes any profits he sees today to what he doesn't spend thanks to the many soil health practices he implements. SDSHC photo.

the past, today Hoyle says his number one crop is organic matter. "Three-dollar corn has liberated me. I heard a market guru say that farmers can buy corn cheaper than they can raise it. So, I thought if this is the case, and if I am not going to make any money raising grain, I might as well do something beneficial for my land."

Today, a large percentage of his crop acres are planted to diverse mixes of full-season, high carbon cover crop, like sorghum, Sudan-grass and sunflowers that his grassfed cattle graze and wild pheasants thrive in. The added benefit? Research on Hoyle's farm shows when he plants a high-carbon cover crop and his cattle graze it, in one season, soil organic matter increases by one quarter of a percent.

"I have always been an outdoor person. I enjoy nature as it is. I don't think I need to drain a wetland. I have been blessed by the efforts of my ancestors that I am able to work the land. I want to make a living off the land. And while I am making a living off it, I want to improve it and share it with other creatures," Hoyle said of farm acres which are home to deer, wild pheasants and more than 51 other species of birds.

Now, he is quick to clarify that although he values wildlife, he would prefer coyotes did not thrive on his land.

Not held to conventional expectations as to what his farm should look like, Hoyle has built a business model that largely cuts out the middleman. So even in today's depressed markets, he is able to maintain a positive balance sheet.

"I attribute any profits I make to what I don't spend," Hoyle explained that because of his soil health practices and his focus on growing organic matter, he is not spending on seed and is able to reduce chemical costs. He harvests his crop acres with his cattle instead of equipment. "When I sell an animal, I get about as much for that animal as a grain farmer would get for a semi-load of corn. I didn't have to spend money on seed or to combine that grain or spend to dry that grain."

Continued on Next Page

Membership Minute: Kody Aesoph

Kody Aesoph runs a farm and ranch near Orient, SD. He has a cow/calf operation and runs yearlings on grass. The farming side of his operation consists of a wheat, corn, soybean, sunflower, pea, and forages rotation.

Aesoph started his soil health journey relatively recently. "My eyes were opened the spring of 2018 when a dust storm came through and turned day into night. I knew something was wrong," he said. Realizing that his topsoil could survive very few such events in addition to heavy rainfalls, wind and hail, Aesoph decided to research how to build some resiliency into his operation. He received help from Cindy Zenk of the South Dakota Soil Health Coalition and soil health pioneers Dan Forgey and Gabe Brown.

When he first started observing his soil health 2018, Aesoph noticed a lack of residue, making his soil vulnerable to erosion, and a lack of aggregates and pore spacing, affecting his infiltration and water holding capacity. Now he keeps every acre covered to protect his soil and tries to keep a living root in the ground as much as possible to improve his carbon content.

Aesoph said one of the more important habits he has formed in the last three years is the habit of observation. "Through observation – walking the fields, sticking a spade in the ground, and watching cattle interact with forages and each other – observation has allowed me to diagnose problems within soil health and stewardship that were slowly but surely taking money from our operation," he said.

He also noted that he has been very impressed by the effects of grazing cattle on his farm ground and using them to cycle nutrients quickly. "This has allowed us to have a growing root longer throughout the growing season, as well," he said. "The improvements I have seen from doing this have been very surprising."



This photo of cover crops in Kody Aesoph's operation was taken in September prior to grazing. It was planted green on July 9 into a mix of triticale, winter wheat, and hairy vetch. Photo courtesy of Kody Aesoph.

Bottom Line — Continued from page 2

Together with help from his adult children and their families, he directly markets a large percentage of his grassfed cattle through social media.

"I'm able to finish cattle without a feedlot. So, I don't need permits, and my neighbors aren't mad at me," he explained.

The family farm also includes a wild pheasant hunting camp. "Little pheasants have to have bugs and dew to survive. And when you have healthy soils, your beneficial insects outnumber the detrimental insects, so you don't have to use insecticide," Hoyle said. "Anything you do that helps wildlife also helps soil. Anything you do to help the soil, helps wildlife."

Learn more about Hoyle's soil health journey at <https://youtu.be/nCvzNuYOIDE>.

Soil health makes cents: Ask SDSHC about cost-share programs

Beyond cost savings and yield bumps, soil health practices benefit everyone through carbon sequestration, improved water quality, wildlife habitat and

more. Because of this, there are many cost-share programs available, explained Cindy Zenk, SD Soil Health Coalition (SDSHC) Coordinator.

"The list of cost-share programs available from a variety of partners for operators and landowners wanting to implement best management or soil health practices on their operation is long," Zenk said.

Planning ahead is essential to receiving cost-share dollars. Zenk said that in order to receive cost-share dollars, a goal and plan needs to be developed, and of course the paperwork needs to be filled out before the practice is implemented.

SDSHC is here to help. To help landowners determine the practice and cost-share program that will work best on their land, Zenk encourages those interested to reach out to the SDSHC or their local conservation office. "Our team is available to meet with landowners in person or remotely to discuss their goals on their operation and help them decide which cost-share program or programs will work best for them."

Upcoming Soil Health Events

November 18-19

2020 Sustainable Agriculture Summit
Online

December 8-9

Dakota Innovation Research and Technology Workshop
Online

December 10

Connecting Farm to Future: SD SWCS Conference and Annual Meeting
Online

December 15-16

Soil Management Summit
Online

January 6-7

2021 Soil Health Conference
Online

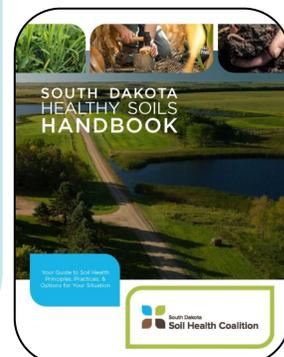
January 14

Soil Health Awareness Day

January 26

25th Annual No-till on the Plains Winter Conference
Online and Wichita, KS

Access Our Events Calendar [HERE](#).



Building a Tradition of Diversity and Soil Health

By Stan Wise

When David Neuharth started his 3Y3 Ranch in the 1980s near Hayes, SD, he noticed a trend among area producers.

"Everything in this country and in Stanley County around in the area was pretty much a 50-50 deal," David said. "Half summer fallow ... and the other half was winter wheat."

He chalked that up to tradition.

"When you looked around," he said, "everybody kind of did it that way because that's the way Dad did it."

David, however, didn't have any traditions to build on. He didn't come from a farming family. "I had the support of my family, but none of my family actually was out in the country and had anything to do with agriculture," he said. "I had to rely on good people like Dwayne and Ruth and Jason."

Those good people he mentioned are no-till pioneers Dwayne and Ruth Beck and U.S. Department of Agriculture Natural Resources Conservation Service Agronomist Jason Miller. With their help, the Neuharth family has built a new tradition of diversity and soil health management.

Speaking of the Becks, David said, "Dwayne's been a very good mentor to me. Him and Ruth have just been awesome to help us."

With an average rainfall between 16 to 18 inches, moisture is always a concern for the Neuharths. Dwayne Beck, longtime research manager at Dakota Lakes Research Farm, often told David that fallow land is simply a desert. So, with moisture management advice from the Becks, he decided to make the switch from a wheat-fallow rotation to no-till cropping practices.

"I went in to my banker one day, and I said, 'I want to switch to no-till,' and he kind of looked at me, and he said, 'Well, how do you plan on doing that?' And I said, 'Well, I'm gonna sell all my tillage equipment, trade it all in for a 750 no-till drill and a sprayer,'" David said. "We jumped in with both feet."

Of course, there was a learning curve to the new management practices, and the Neuharths had to learn how to manage the residue. David wasn't always convinced he'd made the right decision. "There was a number of days I'd be calling Dwayne, and I said, 'This isn't gonna work.' He said, 'Yes, it will. Yes, it will.'"

It worked.

"We've been able to utilize the small amounts of moisture that we do have in a timely basis with the no-till," David said. "It's really gone a long ways for the amount of crops and the yields."

David started the farm's tradition of soil health management, and as he transitioned it to his son and daughter-in-law, Levi and Crystal, who renamed the operation Prairie Paradise Farms, the farm has blossomed into a showcase for diversity. "Levi and Crystal and the kids keep continually taking it a step further," David said, "And that's the exciting part is to be able to pass it on and see these kids take a hold that way."

Paving the way for diversity

David's decision to start no-till farming paved the way for increased diversity on the farm, which is one of the core principles of soil health and a concept espoused by Dwayne Beck.

"What we did is looked at the native prairie as a model and then try to see how close we could come to doing what the native prairie did because that's been successful and would be successful if we left," Beck said. "So how do you mimic that? That's where the diversity thing comes in and then the livestock thing. There used to be ani-



Levi and Crystal Neuharth operate Prairie Paradise Farms near Hayes, SD, with their children Johnathan, Justin, and Kaydee. Image courtesy of SDSHC and USDA NRCS South Dakota.

mals here—big ones and small ones."

Translating that concept into a cropping system is the key to improving soil health while producing cash crops.

"This area, we don't really have the moisture to do corn and beans and corn and beans," South Dakota State University Extension Agronomy Field Specialist Ruth Beck said. "Those are long season crops. We've got to have some wheat in there and peas, which are a little shorter season, to be able to produce a crop with less moisture usage. But with no-till, it's really important to use that crop rotation because we're not getting rid of that residue, so we've got to move to other crops to help us control weeds and diseases and some of the other pests that come along."

"After we got diverse in the rotations, we started using cover crops, both full season and after wheat harvest," Levi Neuharth said. "We try to get the four different types—warm season grasses, cool season grasses, warm season broadleaf, cool season broadleaf—some time within the five to seven years on a field to help with the diversity, and sometimes, that comes in a full season cover crop mix to meet that requirement."

The Neuharths have also added several different types of livestock animals to their equation.

"We bought chickens, and then, from there, my youngest son had a milk allergy, and so we got dairy goats, and that got us into the dairy goats. And my wife likes rodeo, so we got horses," Levi said. "We had some cows for a little while of our own. It got really, really dry one year, and we had to sell them off. Since then, we have just rented out our pasture and done custom grazing of our pastures."

The Neuharths use rotational grazing of their pastures and cover crops to improve their soil health.

"We went from just having two to four pastures to having about 40 or 50 different paddocks, and so we will rotational graze those paddocks instead of season-long grazing them," Levi said. "We have slowly built up our holding capacity of cattle the longer we have been in the rotational grazing."

What are the benefits?

All the different crops and livestock in the Neuharth operation work together.

Continued on Next Page



SDSU Extension Agronomy Field Specialist Ruth Beck (left), pictured here with Crystal Neuharth, has helped the Neuharth family in their adoption of no-till and soil health practices. Image courtesy of SDSHC and USDA NRCS South Dakota.

“Some of the benefits in the diversity of the crops – I think they probably help with fighting our diseases and maybe our weed pressures. You don’t seem to see as much of a problem on a resistant weed because you’re being more diverse in your rotations,” Levi said. “It helps with that and the different insects. I also think that it helps with the use of moisture. Having the diversity, getting your rains at different times for different crops, you don’t have all your eggs in one basket.”

The different types of livestock work together to benefit the farm, as well. The cattle return nutrients to the soil through their manure and urine, and the Neuharths use their goats to help control weeds. “They’re more of a stripper grazer,” Levi said. “They will strip down the weeds and forbs first.”

“We have the goats that are grazing around water areas and they’re helping with thistle control without using chemical,” Crystal Neuharth said, “because when a goat eats a seed, it becomes sterile, and so it doesn’t reproduce after that.”

The family’s free-range chickens also serve a purpose. “The chickens can come behind, and they can get the grasshoppers under control or the ticks and spread the manure out,” Crystal said.

Recognition

The Neuharths have worked closely with NRCS Soil Conservationist April Boltjes, who helps them with their grazing plan and with their involvement in the Conservation Stewardship Program. She has been impressed by what she has seen at Prairie Paradise Farms.

“They’ve done a great job managing their grasslands,” Boltjes

said, “so I thought that with how they are so proactive on the whole soil health kick that they should be recognized for the great job that they’ve done managing the grasslands.”

Boltjes nominated Levi and Crystal for the South Dakota Society for Range Management Excellence in Range Management Award. The Neuharths were one of four winners in 2017, and they presented a poster about their operation at the Society for Range Management National Convention that year.

Levi stressed, however, that awards and recognition aren’t why he and his wife focus on conservation. “What’s most important to me is to try to better my land so that I have it here for my kids and for their kids,” he said. “Without the soil we don’t have much because the soil is what everything starts from.”

Taking advantage of resources

The Neuharths aren’t making their soil health journey alone. They have learned from and received help from many people over the years.

“We had quite a few different people that assisted us and we went to for answers,” Levi said. “The Becks are our number one mentors. My dad went to them first, and I’ve gone to them quite a few times. April Boltjes at NRCS has been of great help with our CSP and our rotational grazing of our pastures. Jason Miller has been a very good help with us for our fertilizer recommendations and for cover crop mixes.”

Producers who want to make positive improvements to their soil health can benefit from a community of people committed to conservation.

“I am on the Soil Health Coalition Board. All those are farmers, producers, that are on the board, and they are a great help in any questions that a person might have,” Levi said. “We’ve also had good support with our banker. He’s stuck with us, and he sees what we’re doing and thinks that we’re doing it the right way.”

Taking advantage of available resources is an important first step in adopting soil health management practices.

“Visit with your local office NRCS office. Work with the district conservationists there,” NRCS Agronomist Jason Miller said. “We’ll come out and work with you on your ground, take a resource inventory of the of your farm or ranch, and we’ll come up with a suite of practices that we think can improve your operation, both economically and environmentally. If they can’t do it on the local level, there’re specialists throughout the state that can help you.”

Levi cautions producers to be patient when switching from conventional farming to soil health practices.

“Don’t give up on it,” Levi said. “There’s plenty of support out there, and no question is a dumb question. There’s plenty of people to answer your questions, and so just don’t give up on it, and the earlier you can start on it the better.”



Johnson Farms Named Region VII National Environmental Stewardship Award Winner

Johnson Farms of Frankfort, SD, is the Region 7 award winner in the National Cattlemen’s Beef Association’s National Environmental Stewardship Program. The farm is operated by Alan and Mickie Johnson, along with their son Brian and his wife Jamie. The family focuses on improving soil health through holistic management decisions. Johnson Farms, along with six other regional finalists, will be considered for the 2021 National Environmental Stewardship Award at the national Cattle Industry Convention in February.



South Dakota

Soil Health Coalition

116 N Euclid Avenue
Pierre, SD 57501

Phone: 605-280-4190

Email: sdsoilhealth@gmail.com

Website: sdsoilhealthcoalition.org

Plan to donate on Giving Tuesday?

From field tours to the Soil Health School, from developing resource materials to making school visits, from on-farm research to sharing the knowledge of industry experts, the South Dakota Soil Health Coalition is working hard to spread the word about the benefits of soil health management.

If you think we're doing a good job and you're planning to donate on Giving Tuesday, you can help promote soil health. The Coalition is a 501c3 organization, and you can make tax deductible donations at www.sdsoilhealthcoalition.org/memberships-donations or mail them to 116 N. Euclid Ave., Pierre, SD 57501.

South Dakota Added to Cover Crop Decision Tool

The Midwest Cover Crop Council has added South Dakota and North Dakota to its Cover Crop Decision Tool.

To use the tool producers just need to input their state, county, cash crop planting and harvest date, field drainage conditions and goals for the cover crop, and the tool will give them a range of cover crop species to fit their needs.

Visit <http://mccc.msu.edu/covercroptool/> to use the tool.

Herbicide Residual Effects on Cover Crops After Wheat

Thinking of planting a cover crop after your wheat harvest but worried about what residual effects your herbicides will have on your cover crop? Then SDSU Extension has some study results just for you!

This study evaluated the residual effects of 21 different herbicides on various cover crop species under both low and high moisture conditions. The study results also include the label restrictions for the herbicides. Before you choose your cover crop mix to follow your wheat harvest, check out the results of this study at <https://extension.sdstate.edu/herbicide-residual-effects-cover-crops-after-wheat>.

Together
we give.

GIVING
TUESDAY

Dec 1, 2020

