



May 10, 2024

FOR IMMEDIATE RELEASE

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Grazing livestock on cropland pays off

By Stan Wise

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PIERRE, SD – The core idea behind the regenerative agriculture movement is a simple one: Mimic nature. What did farmland look like before it was farmed, and how can producers make their operations look more like that picture?

This concept lies at the foundation of all five principles of soil health: Keep the soil covered, minimize disturbance, keep a living root in the soil, increase biodiversity, and incorporate livestock.

The last principle, livestock incorporation, is an important one. The native prairies relied on large herds of bison to help cycle the nutrients of aboveground plant matter back into the soil, feeding the belowground biological communities that are so important to soil health.

Finding a way to mimic that natural process can be a challenge for many row crop farmers, especially if they don't own cattle. Fortunately, there are some economic incentives to encourage them to find a solution. Grazing livestock on cropland can increase a producer's overall profit while also improving their soil.

One way to achieve this is to plant a cover crop.

Managing for success

Renovo Seed Product Expert Justin Fruechte said the first step in cover crop success is to choose the right mix of seed. "Most people that are grazing cover crops are having success when they are using blends of species that work together and were developed for forage purposes," he said.

"Step two is that managing it like you would manage any other crop becomes important when you want forage production," Fruechte said. "We want to spray and kill off the weeds before we plant – no different than you would before you plant a field of corn. And we've got to have some fertilizer on board, too. We will see drastic differences in forage production for fields that are fertilized or not fertilized."

Fruechte said the final step for cover crop grazing success is well-timed and well-managed grazing.

“When we're managing for livestock gain or milk production, we're making sure that we're grazing the forage at its right maturity stage,” he said. “So we want to make sure that things aren't too mature and the protein content is still good.”

Moving the livestock often is also important, he said, so that the cover crops aren't overgrazed and have the potential for regrowth.

When well-managed, cover crops can offer a high-quality feed which can improve animal nutrition.

"The nutritional value of cover crops can be similar to high quality hay if cover crops are grazed in a timely fashion," Dakota Lakes Research Farm Consulting Scientist Cody Zilverberg said. "However, as cover crops mature, their crude protein and digestibility will decrease."

The payoff

There are different scenarios in which cover crops can be incorporated into an operation.

Full-season, or warm-season, cover crops are planted earlier in the year, and they can be a useful option in a prevented planting situation or when grain prices are lower.

The economic return on grazing a full season cover crop will vary with a number of factors, but Fruechte offered some numbers for an example budget. He said that a full season cover has a potential yield of 8 tons of green forage per acre. On a 160-acre field, that will support 223 cow-calf pairs of a total weight of 1,500 pounds per pair for 90 days. Assigning a grazing value of \$3.00 per pair per day, he said the full season cover crop has a value of \$376 per acre.

This scenario becomes even more profitable if the producer is grazing stockers, Fruechte said. If an 800-pound steer gains 2 pounds per day in the same field and each pound is valued at \$2.50, then each day a steer grazes is worth \$5.00.

In the current cash crop market, Fruechte said a full season cover crop can be the most valuable option for some producers. “If you're in the stocker game already, you can plant a full season cover crop, and your gross revenue is going to be higher than any other cash crop that you can produce,” he said.

While full season cover crops may not be feasible for some producers, there are still options for including a forage cover crop in the rotation.

In South Dakota, cover crops planted after corn harvest are unlikely to develop sufficient biomass for grazing before winter. However, producers have the option of including a small grain crop, such as wheat or oats, in their rotation and then planting the cover crop after the small grain harvest.

Fruechte said that a fall cover crop planted after small grain harvest has a potential yield of 2 tons per acre. A 160-acre field of such a crop can support 98 cow-calf pairs of 1,700 pounds per pair for 45 days. Assuming a \$3 per pair per day grazing value, that works out to \$82.68 per acre of additional value on top of the small grain revenue.

There are other benefits to the fall cover crop, Fruechte said.

“What we've seen in terms of benefits to the farmer in terms of his cows is increased body condition scores just because we're coming off of grass pasture that's decreasing in quality, and we're coming to a

cover crop that's fantastic in quality," he said. "And so people are able to hold calves on pairs later. So heavier calves at weaning is a benefit and just less stress late in the year to your perennial pastures."

Other opportunities

For producers who don't have livestock or are unable to grow a forage cover crop after their corn harvest, there are other opportunities to incorporate livestock onto their cropland.

Producer and South Dakota Soil Health Coalition Board Member Don Nickelson of Frederick, SD, grows corn, soybeans, oats, alfalfa, teff grass, and cover crops, and he has a cow-calf operation.

Nickelson also custom grazes some of his neighbors' cattle, and he lets them graze on corn residue after harvest in addition to his cover crops.

"I've taken on a couple of different neighbors' cattle just to get more numbers out there for me," he said. "So, then it makes it cheaper for them because they're not having to start feeding bales where they can graze my fields."

Nickelson charges between \$0.50 and \$0.75 per head per day to graze his neighbors' cattle on corn residue, and he charges \$1.75 per head per day to graze on cover crops.

Nickelson said a neighbor who owns a feedlot spends \$2.75 per head per day to feed his cattle in bunks, including labor costs and tractor time.

"So, each day someone can be grazing instead of feeding can potentially save themselves \$1 per head each day in feed costs as well as being a source revenue for someone else through custom grazing. It ends up being a win/win," Nickelson said. "If you are able to integrate your own cattle on your own land, the savings can be even better."

While grazing livestock on cropland can provide an extra revenue stream, the practice also provides important soil health benefits.

"My soil organic matter has improved," Nickelson said.

Zilverberg estimated that over the course of 6 months of grazing, a 500-pound calf returns 47 pounds of nitrogen, 4 pounds of phosphorous, and 1,000 pounds of organic matter to the soil. Grazing a cover crop offers producers a chance to reap the soil health benefits of the cover crop, see an economic return from the forage, and quickly cycle nutrients in the cover crop back into the soil.

Producers and landowners who wish to find available forage or livestock can use the free website www.sdgrazingexchange.com to find resources near them and form private grazing agreements.

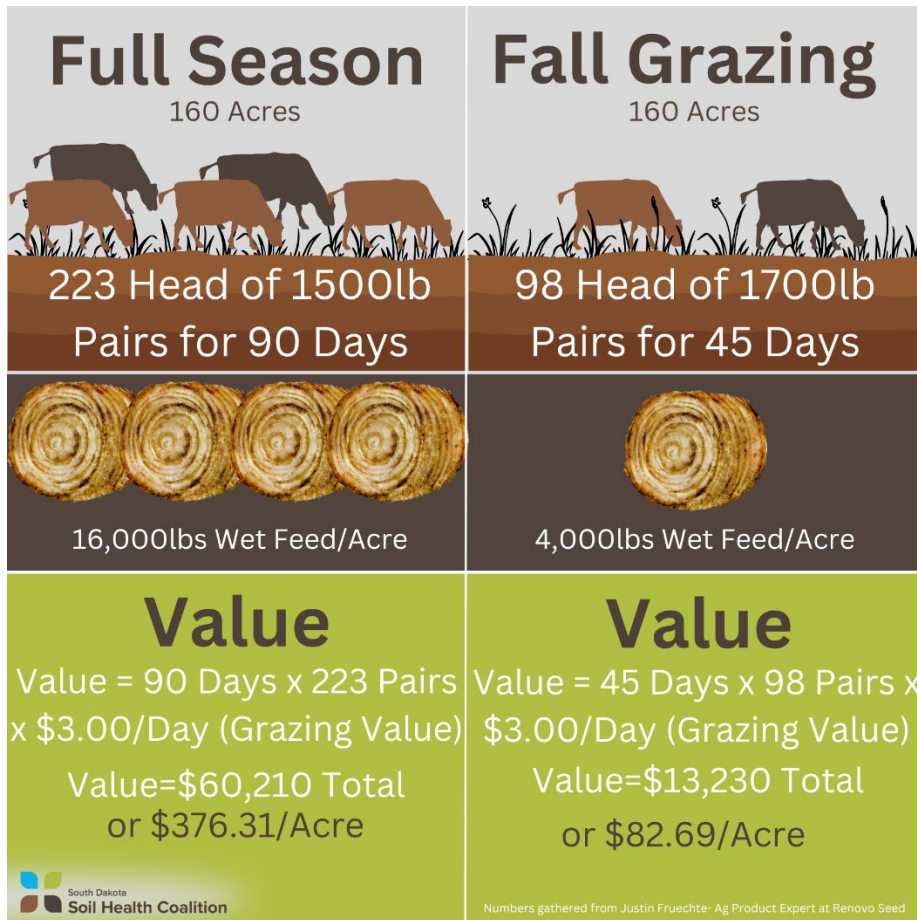
More information about the benefits of incorporating livestock onto cropland can be found at www.sdsoilhealthcoalition.org.



SD Soil Health Coalition photo

Grazing cattle on cover crops can be an excellent way to both make the cover crop pay for itself and reap the soil health benefits of incorporating livestock on cropland.

To download a high-resolution version of this photo, visit <https://bit.ly/4dvOkz1>



SD Soil Health Coalition graphic

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