

Soil health grows with collaboration



A rainfall simulator compares cropping systems, tillage systems, runoff and infiltration. It was purchased in 2017 with funds from the Renville County Economic Development Authority and local capacity grants from Renville, Redwood and McLeod soil and water conservation districts.

Courtesy Photo



Renville SWCD, Hawk Creek Watershed Project promote cover crops

Soil health initiatives are gaining ground in southwestern Minnesota via cover crops and their many environmental benefits.

Most importantly, cover crops hold topsoil and prevent erosion. They store nutrients such as nitrogen that might otherwise be lost from the soil profile. They help build and maintain organic matter, making water and nutrients available to crops.

Coupling reduced tillage with cover crops produces a result similar to that of a prairie ecosystem. Healthier soil structures and more

diverse soil microbes lead to increased water-holding capacity and more porous soil. The strain on drainage systems eases. Nutrient leaching and water runoff decreases.

Having more nutrients available to growing crops is a potential win for the environment and producers.

Cover crop cost-share

Together, the Renville Soil & Water Conservation District (SWCD) and the Hawk Creek Watershed Project (HCWP) have undertaken several initiatives to promote soil health through cover crops

and reduced tillage.

The increased emphasis started in 2015 when the SWCD and HCWP offered producers cost-share options through Renville County water plan implementation funds and a Minnesota Pollution Control Agency grant.

“We would love to see more wetland and perennial vegetation on the landscape, but that’s not the reality,” said Heidi Rauenhorst, HCWP project coordinator. “We live in predominantly ag land use. We’ve got to work with what we have, so cover crops are a way to bring some

environmental benefits to working lands.”

Promotional efforts are paying off. The number of cover-crop cost-share requests has increased 112 percent since 2015.

Renville SWCD staff members have incorporated cover-crop test plots into several field days, starting with three plots in 2015 and adding three more in 2016. The focus this year is comparing annual vs. winter cover crops.

Rainfall simulator

In 2017, a rainfall simulator was purchased using Renville County Economic Development Authority funds plus local capacity grants from Renville, Redwood and McLeod SWCDs. The simulator allows comparisons of cropping systems, management and tillage techniques, and runoff and infiltration through the soil profile.

“It is a great visual tool to show the effects of tillage and cover crops in a crop system,” said Holly Hatlewick, Renville SWCD manager.

At field days and other events, 629 producers have seen the simulator at work.

National Wildlife Federation

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– Holly Hatlewick,
Renville SWCD administrator

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HCWP a grant to educate producers and promote the use of cover crops.

In addition to field days, impromptu 30- to 60-minute “shop talks” are planned. The new approach will use texts, emails and social media to notify interested parties of small get-togethers to look at equipment, seeding results and other aspects of cover crops. The idea is to assemble small, producer-led groups; agency staff would help with coordination.

Iron chlorosis study

Renville SWCD is partnering with the Minnesota Soybean Growers Association and the Renville County chapter of Corn & Soybean Growers to study the benefits of cover crops on preventing iron chlorosis in soybeans.

Modeled after a University of Minnesota study, the three-year, \$45,000 field-scale study will involve four local producers and an independent crop consultant. Renville SWCD staff will provide technical assistance.

Collaboration among Renville SWCD, Renville County and the HCWP has been essential to the acceptance of crop rotations including cover crops.

At HCWP’s annual meeting this year, Jerry L. Hatfield, laboratory director at the U.S. Department of Agriculture’s National Laboratory for Agriculture and the Environment, said northern Iowa studies showed that 10 percent perennial vegetation appeared to be the tipping point for water quality in a watershed. With less than 10 percent cover, water quality dropped dramatically.

Based partly on that information, the Renville SWCD Board of Supervisors set a goal of 10 percent including perennial cover (hay or set-aside acres) and cover crops in Renville County.

“Our goal is to find a way to make soil health practices, like cover crops, a part of all farming operations,” Hatlewick said.

Based upon the past few years, it appears as if they are well on their way to reaching that goal.