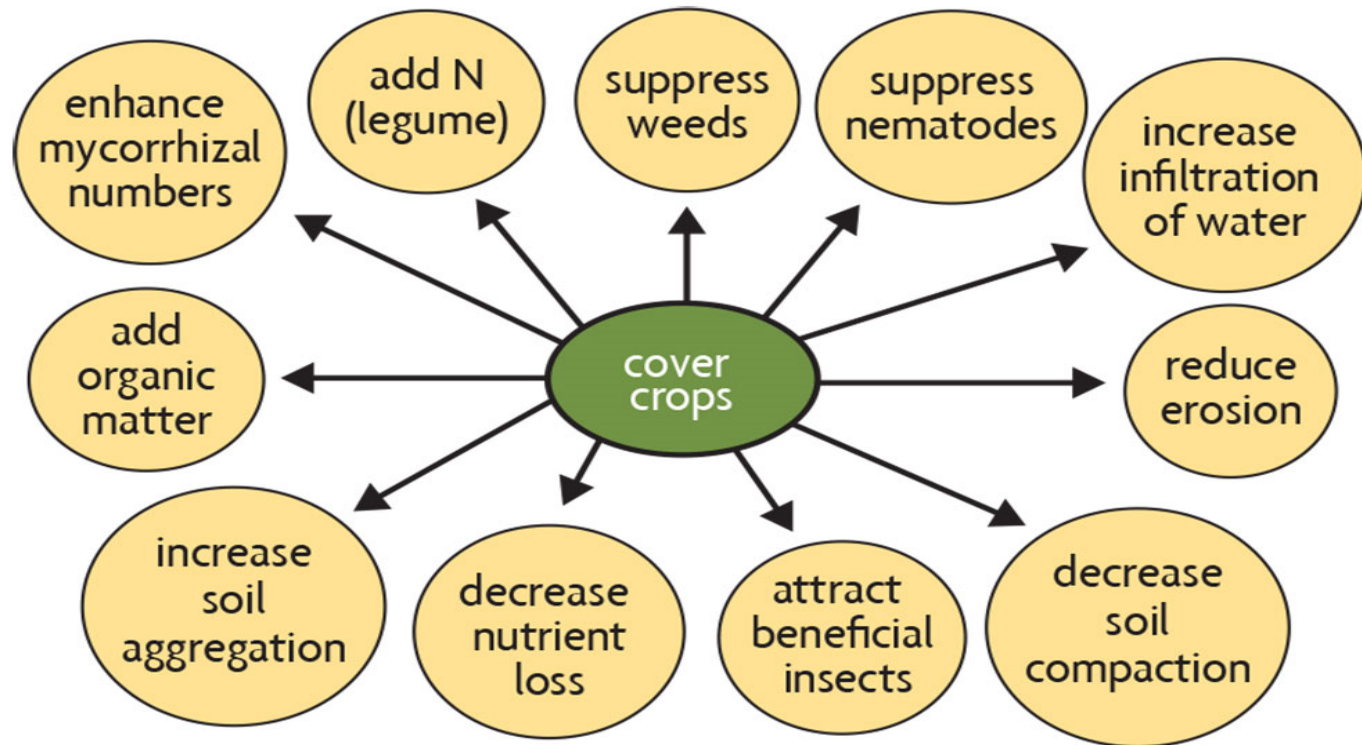


Big Hollow Watershed Newsletter

Further, the cover crop and crop residues from no-till practices provide additional water savings from reduced evaporative losses. Modeling research for central Iowa demonstrates an average of approximately six inches of water per year is lost by soil evaporation and that a cover crop reduced that loss by 9 percent and up to 18 percent in hotter years (2012 for example). Other research in central Iowa has found that soil water increased in cover crop research plots during the drought of 2012.



Conservation Partners:

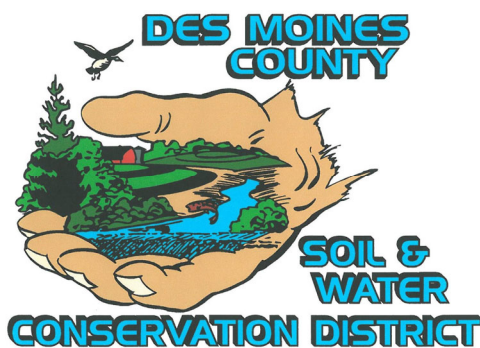


Natural Resources Conservation Service

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Equal Opportunity Employer



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BURLINGTON IA 52601
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News:

August 2024

The Des Moines County Soil and Water Conservation District has hired Tom Brockett as the new Watershed Coordinator. Tom, his wife Megan, and daughter Neva live in the Big Hollow Watershed. Tom was raised in Mediapolis and has been a member of the Mediapolis Fire department for 20 plus years. The family also owns and operates MT Farms, a direct to consumer livestock operation. When not at work Tom enjoys spending time with his family and can usually be found either camping or working on their farm. Tom is excited to work with all the landowners and farmers in the watershed to improve the water quality in the lake.



Other News:

- ◆ Construction is complete on two new ponds west of the campground to capture eroded soil and sediment before it enters the lake.
- ◆ The campground expansion is now open.
- ◆ Concrete work has been completed on the fish jetty, the kayak launch, and around the beach. This concrete will give access to people who had before been unable to use these areas.



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Answering Common Producer Questions on Cover Crop

Why cover crops? A cover crop is a plant grown to protect and enrich soil when the soil would otherwise be bare. Historically, cover crops were used by ancient Greek, Roman, and Chinese farmers thousands of years ago and, more recently, by colonial settlers on the Eastern seaboard of the United States. Decades of research on cover crop usage across the United States is available and a renewed interest has been given to cover crops' ability to reduce some of the environmental impacts of row crop agriculture, particularly in regards to erosion and nutrient loss prevention. In the Iowa Nutrient Reduction Strategy's survey of relevant research, it was estimated that cover crops could decrease the nutrient loads contributing to the Gulf of Mexico hypoxic zone by 31 percent for nitrogen and 29 percent for phosphorus. Cover crops are one of many conservation practices being evaluated by nine land grant universities as a mitigation and adaptation strategy for addressing future climate risks to the corn belt agricultural system. Cover crops can be incorporated into traditional corn soybean or corn-corn crop rotations without taking land out of production, however they still require careful management in order to be successful.



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Source: Iowa State University Extension and Outreach

How does a cover crop affect my bottom line? Not all environmental benefits of cover crops are included in economic analyses. The USDA's Sustainable Agriculture Research and Education (SARE) program conducted national surveys of cover crop users from 2012 to 2014. In these surveys, farmers describe many economic benefits of cover crops that are not always captured in production research trials such as reduced soil erosion and improved weed control. Some of the research on these topics has been compiled here to better estimate how these benefits might affect a producer's bottom line. Iowa State economists estimate that soil erosion costs producers who cash rent between \$2-11 per acre. For landowners, potential costs vary from \$10 representing a loss in cash rent to \$339 per acre for the decrease in land value over time. A commonly asked question from farmers is that of broader environmental costs related to soil erosion. One estimate of the cost to society due to soil loss comes in at \$4.93 per acre, which, over the entire harvested agricultural acreage of Iowa (in 2014: 24,655,000 acres), is almost \$122 million if the real costs of fertilizer lost to waterways were actualized.

WATER Farmers and scientists have detected improved soil water dynamics (i.e., increased water holding capacity, increased soil water storage) with the use of a cover crop. The National Soil Survey Center estimates the available water holding capacity for soil series in Iowa is approximately 15-25 percent of the soil by volume. With that range, for every 40 inches of soil - an average rooting depth for corn - there is between six and ten inches of available water. Further, Penn State University Extension estimated that a 200 bushel/acre corn crop requires 22 inches of water, or approximately one inch of water for every nine bushels. Assuming corn can be sold for \$4 per bushel and 1,000 acres of corn production, every additional inch of water could be worth \$36,000 in improved yields. NRCS further estimates that a 1 percent increase in organic matter improves available water holding capacity by 1.5 percent. For reference, a research site in central Iowa that cultivated corn silage and included a cereal rye crop added 0.5 percent organic matter over approximately ten years, compared a no cover crop control.