WISCONSIN'S COVER CROPS: A GROWER DRIVEN DATA SET

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Implementing cover crops is a key to many soil health systems, as it meets the criteria for several recognized soil health principles. Cover crops help to maximize soil cover to prevent erosion, reduce nutrient losses, and improve water infiltration through the establishment of living roots. This is particularly beneficial in the shoulder seasons when cash crops are not actively growing on the landscape to help maximize plant diversity in the landscape to improve nutrient cycling. The Wisconsin Department of Agriculture, Trade and Consumer Protection advocates for an additional soil health metric that cover crops can meet – the integration of livestock into the system. This underlines the value of many cover crop species as livestock forage, whether mechanically harvested or grazed by various species of ruminant livestock.

While cover crop forages can be a great opportunity for farmers to increase their harvested forage tons per acre, there are still questions regarding the forage quality and dry matter tons these forages can produce. This led a team of researchers and educators to develop the Wisconsin Cover Crop Data Network (WCCDN). The collaboration is part of the Soil Health Alliance for Research and Education and is a joint effort including U.S. Dairy Forage Research Center, Michael Fields Agricultural Institute, University of Wisconsin-Madison Division of Extension, and The Nature Conservancy in Wisconsin.

Now in its sixth year, the WCCDN has gathered a variety of metrics related to cover crops from farmers across Wisconsin. It leans on farmers to complete a comprehensive survey that outlines agronomic factors: cover crop planting dates, seeding rates, fertility programs, and tillage used to name a few; but also dives into the motivations for implementing cover crops into their systems. Beyond the survey, farmers receive a cover crop biomass sampling kit that includes a scale, 2' x 2' quadrat, and a clipper with the expectation to collect a cover crop sample that is representative of the field. Each fall and spring, farmers collect the sample and ship it to a certified lab where the cover crop is analyzed for biomass estimates and nutrient content. All farmers receive their data from the project along with an honorarium to cover their time and effort.

To facilitate the farmer-to-farmer learning process, a tool was developed that allows users to dig into the data relevant to their operations. You can sort a variety of scenarios like erosion control, weed suppression or grazing, and filter by soil type and county. Once you enter your parameters, a list of sites that meet those criteria will populate, allowing you to dig into the specific data for the site – things like number of years cover cropped, cost of seed, soil conditions at planting, forage quality reports, and more.

Where this project is a benefit to livestock and dairy producers lies in the forage analysis and yield provided. Outside of cereal rye and triticale, little research has been published regarding the nutrient content of cover crop forages. The diverse crop mixes that blend grasses, legumes, and brassicas have the potential to meet the needs of many livestock classes, and this project provides data that includes both the cover crop mix that was seeded along with the key nutrient analysis livestock producers need – including crude protein, NDF digestibility, milk per ton, and relative forage quality (RFQ). These metrics can help farmers determine what cover crop mixes might best fit both their soil health and livestock production goals.

The overall goal of this project is to better understand how farmers use cover crops in Wisconsin, what challenges they encounter, and the benefits realized from cover crop implementation in soil heath systems. Ideally, data gathered from the project will lead to the further development of tools and management recommendations that can drive increased cover crop utilization across the landscape.

While the Fall of 2025 enrollment process has wrapped up for the season, the project continues to look for new collaborators moving forward. Farmers at every level of cover crop implementation are welcome to join the effort, with the only expectation that you complete the survey and biomass sampling in the fall and spring. It becomes a win-win as farmers gain important data regarding their cover crop system and allows farmers and researchers from across Wisconsin and the Midwest to glean valuable information regarding the use of cover crops.

For more information and to use the interactive tool – check out the following resources:

- Building Knowledge About Wisconsin's Cover Crops: A farmer research project: https://cropsandsoils.extension.wisc.edu/building-knowledge-about-wisconsins-cover-crops-a-farmer-research-project/
- Video: ▶ Watch: Building knowledge about Wisconsin's cover crops through citizen science.
- Wisconsin Cover Crop Data Network: https://www.michaelfields.org/cover-crop-analyze

Reach out to Dan Marzu (dan.marzu@wisc.edu), University of Wisconsin–Madison Extension North Central Region Nutrient and Pest Management Outreach Specialist with your questions or comments regarding the program. Have you used this tool? Reach out to Mrill Ingram (mingram@michaelfields.org), Research Scientist at Michael Fields Agricultural Institute to share your thoughts!