



Fitting cover crops into grain rotations in Wisconsin

May 3, 2022



Aerial view of the long-term crop rotation study used for this research at the Arlington Agricultural Research Station in Wisconsin. Photo by John M. Gaska.

Cover crops are an important tool for protecting soil and water resources. Unfortunately, establishing them in corn–soybean rotations in the upper Midwest can be difficult due to cold, wet weather after harvest. A Wisconsin study looked at establishing cover crops both before and after harvest of corn and soybean as well as winter wheat.

For corn and soybean, oat and cereal rye were broadcast in early September when the cash crop starts to dry down and lets light into the canopy. Winter wheat offers some easier windows for cover crop establishment since it is harvested in late July in Wisconsin. Red clover and berseem were frost-seeded into wheat in mid-March.

Overall, the winter-hardy cover crop species (cereal rye and red clover) grew the best, especially when seeded before soybean harvest or frost-seeded into wheat, rather than drilled after harvest. Corn yield decreased slightly (5 to 8%) when it followed the most successful cover crops, but soybean or wheat yield were unaffected. This study confirmed some of the challenges of cover cropping in grain rotations in the upper Midwest and identified pre-harvest seeding as a good option for farmers to consider.

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Malone, L. C., Mourtzinis, S., Gaska, J. M., Lauer, J. G., Ruark, M. D., & Conley, S. P. (2022). Cover crops in a Wisconsin annual cropping system: Feasibility and yield effects. *Agronomy Journal*, 114, 1052–1067. <https://doi.org/10.1002/agj2.21029>

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