

Cover crops provide bed and breakfast layover for migrating birds

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Mourning Dove nestling on soybean stubble field that had been planted with oats and annual rye grass along with re-seeded pennycress from the previous year. Cover crop was terminated on April 24. Photo taken on May 22, 2017, on a field west of Lexington, Illinois. Credit: Cassandra Wilcoxen

After harvesting a corn or soybean crop, farmers may plant a cover crop for a variety of reasons—to reduce soil erosion and nutrient runoff, increase organic matter in the soil, and improve water quality. Now there's another reason. University of Illinois research shows that migratory birds prefer to rest and refuel in fields with cover crops.

"Here in the Midwest, we're in one of the major flyway zones for migratory [birds](#), where there once was plenty of habitat for grassland birds to safely forage and rest during their migration. Now that agriculture is the dominant landscape, they're finding it harder to get the resources they need on the way to their [breeding grounds](#)," says Cassandra Wilcoxen, a graduate research assistant in the Department of Natural Resources and Environmental Sciences in the College of Agricultural, Consumer and Environmental Sciences at U of I.

"We think cover crops, such as cereal rye, likely

provide migrating birds with more vegetation and a safe area to escape from the elements and from predators," Wilcoxen says. "Cover crops also increase insect abundance, another food source for birds. The increased number of insects allows migrants to fuel up faster and move on to their breeding grounds.

"Grassland birds prefer large, open areas: the bigger, the better. Agricultural fields are huge, so the cover crops provide a large habitat where birds can rest, forage, and potentially even nest."

Fields with cover crops are not going to replace natural habitats, but in early spring there can be miles of fields with little vegetation. The advent of cover crops provides a potentially important habitat for birds returning to the Midwest from areas as far south as Argentina. The large green fields are likely a beacon for [migratory birds](#).

Over two planting seasons, Wilcoxen monitored birds in corn and soybean fields with and without cover crops. She observed 6,133 individual birds of 52 species, with 13 species accounting for 90 percent of all birds detected. The most common species were the red-winged blackbird, common grackle, and American robin.

"Fields with cover crops always had more birds, and corn fields with a [cover crop](#) were the overall winners," Wilcoxen says. She thinks corn plus a cover crop, especially cereal rye, was the favorite because there is more residue on the fields; the remaining corn stalks along with rye provide more cover for the birds.

What's the downside? Wilcoxen says it's all in the timing.

"The window of time to plant a cover crop in the fall is fairly short. Cover crops can be aerial seeded, drilled, or broadcast. But depending on how wet the fall is, there is only a short time when it can be

planted. Drilling is the best method because you know you're getting good seed-to-soil contact," she says.

Another timing issue emerges in the spring: when to kill the cover crop.

Wilcoxon says it's tricky. "Some [grassland birds](#) nest in the spring, so in order to give birds the time they need, farmers may need to hold off terminating their cover crop. Those are the sorts of recommendations that will require more research," she says. "It's true of any new farming practice. You have to play around with it to get it right."

"In our experience, most farmers using cover crops have learned about the practice from their neighbors, and we are hoping this continues and cover crop use continues to grow," Wilcoxon says.

Will what's best for migratory birds motivate farmers to plant cover crops and terminate them a bit later to allow birds to use them for habitat? Wilcoxon is hopeful. She says one of the aspects of her work that she enjoys most is bringing together the agricultural community and the wildlife community to work together for long-term environmental health.

"Production agriculture has taken a lot of habitat from wildlife, but we need it to provide food for us and the world. But how do we mesh the two? Where are the opportunities? No-till is a great example. It helps slow [soil erosion](#) and it helps birds. Now cover [crops](#) are another overlapping win-win opportunity to benefit both agriculture and wildlife."

More information: Cassandra A. Wilcoxon et al, Use of cover crop fields by migratory and resident birds, *Agriculture, Ecosystems & Environment* (2017). [DOI: 10.1016/j.agee.2017.09.039](https://doi.org/10.1016/j.agee.2017.09.039)

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