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Planting green provides weed suppression in Wisconsin

March 22, 2022



Planting green into cereal rye contributed to reduced weed density and biomass accumulation at the time of crop planting compared with management with no-till alone. This photo shows common ragweed sampled from cereal rye cover crop (left) and no-till

(right) plots. Photo by Nicholas Arneson.

Wisconsin climate is colder compared with most U.S. states that produce corn and soybean. This limits the amount of cereal rye cover crop biomass that can be accumulated in the spring and the likelihood of achieving cover crop benefits, especially weed suppression. To increase biomass accumulation, farmers are delaying cereal rye termination and planting green, but there has not yet been evidence that this is sufficient to achieve effective weed suppression in Wisconsin.

In research from southern Wisconsin, published in *Agroecosystems, Geosciences, & Environment*, weed density and biomass data were collected from corn and soybean fields with planting green and no-till soil management.

The results of the study provide evidence that planting green into cereal rye contributed to reduced weed density (31% reduction) and weed biomass accumulation (61% reduction) at the time of crop planting compared with no-till alone, despite the low amounts of cereal rye biomass observed ($<1500 \text{ kg ha}^{-1}$).

Planting green provides the potential to diversify early-season weed control in corn–soybean systems. However, the low amounts of cereal rye biomass accumulated may limit the weed suppressive effects from planting green in Wisconsin.

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Grint, K.R., Arneson, N.J., Oliveira, M.C., Smith, D.H., & Werle, R. (2022). Cereal rye cover crop terminated at crop planting reduces early-season weed density and biomass in Wisconsin corn–soybean production. *Agrosystems, Geosciences, & Environment*, 5(1), e20245. <https://doi.org/10.1002/agg2.20245>

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