Trade-offs in Cereal Rye Management Prior to Organic Soybean

Traditionally, organic agriculture has relied on soil tillage and cultivation for weed control. However, tillage is fuel and labor intensive and can lead to the destruction of soil structure. Alternatively, the use of cover crops can help to manage weeds and improve soil health.

In an article recently published in *Agronomy Journal*, researchers report on a field experiment that compared soil health, weed biomass, productivity, labor requirements, and profitability of three management strategies for a cereal rye cover crop prior to organic soybean.

The team found soil health improvements and labor savings when cereal rye was terminated with a roller-crimper prior to planting soybean compared with when no cover crop was planted. Profitability, on the other hand, was highest when cereal rye was harvested for forage prior to soybean planting.

These results show that growing cereal rye can improve soil health, reduce labor requirements, and enhance profitability, but no one management strategy provided all of these benefits. More research is needed to better understand how management can be improved to overcome trade-offs between strategies.


Cereal rye is rolled at the research site in Aurora, NY. Photo by Kiera Crowley.