

## **AGRONOMIC AND ENVIRONMENTAL ASSESSMENT OF COVER CROPS IN ILLINOIS**

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### **Abstract**

Crop production systems have been changing for thousands of years and new ideas and practices are being implemented every day. In recent years, the practice of cover cropping systems has come into the spot light, and though research has been in effect, the practice has been slow to take root for producers in Illinois. Benefits of cover crops primarily center around increases in soil organic matter, which can lead to higher soil productivity, but the long-term agronomic, environmental, and economic results have yet to be fully documented. For this project, we will replicate aerial application of the seed and 1) evaluate effects of various cover crop species on N scavenging and sequestering of nutrients in plant biomass, 2) measure changes in soil carbon, nitrogen, and phosphorus levels, and 3) gauge the yield of agronomic crops and the economic return potential. Plant species being evaluated include spring oats, annual ryegrass, cereal rye, crimson clover, hairy vetch, radish, and canola in a corn/soybean rotation. Cover crops will be evaluated in both spring tillage and no-till systems. Two Southern Illinois field locations, at the Agronomy Research Center in Carbondale, and the Dixon Springs Agricultural Research Center, are part of wider statewide, five year project to assess the agronomic and environmental impacts of cover crops across Illinois.

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