

ADAPTIVE MANAGEMENT FOR MAXIMIZING SOYBEAN PRODUCTION FOLLOWING CEREAL RYE TERMINATION



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Dr. Armstrong is an expert in regenerative agricultural systems, cover crop technology and nutrient cycling. As head of the Soil Ecosystem and Nutrient Dynamics laboratory (SEND Lab), he leads research initiatives focused on the agronomic, environmental and economic impacts of current and emerging in-field nutrient and soil loss reduction practices within conventional and alternative cropping systems. A native of Louisiana, Dr. Armstrong is fiercely loyal to his Louisiana sports teams: Southern University, where he played running back; Louisiana State University; and the New Orleans Saints.

ADDITIONAL RESEARCHERS

- **Dr. Giovanni Preza-Fontes**, Assistant Professor and Field Crops Extension Agronomist, University of Illinois
- **Dr. Shaun Casteel**, Associate Professor of Agronomy, Purdue University

TRIAL LOCATIONS

- **Effingham County**, on-farm location
- **University of Illinois' South Farm**, Urbana

QUESTIONS THIS PROJECT WILL ADDRESS

- ❓ How does cereal rye influence soil N and S availability and uptake by soybean after termination?
- ❓ Does supplemental N and S impact soybean yield response?



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WHY ARE YOU DOING THIS RESEARCH

- ! Incorporating more cover crops is a key tool to meet Illinois' nutrient loss reduction goals. While the impact of cereal rye on corn production has been well studied, there is minimal research around managing soybeans after a cereal rye cover crop. In particular, little is known about how cereal rye affects soil N and S availability for soybean uptake after cereal rye termination. In addition, there are questions about soybean yield response to supplemental N and S fertilization.

GOALS OF THIS RESEARCH

- 🎯 Researchers will gain a better understanding of the situations that could impede soybean development and yield following cereal rye and develop adaptive management to mitigate N and S deficiencies. Thus, farmers will have access to management strategies to maintain or improve soybean yield and quality when coupled with cereal rye.

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