

INTEGRATED MANAGEMENT STRATEGIES FOR MAXIMIZING SOYBEAN PRODUCTION IN CONSERVATION TILLAGE SYSTEMS

PROJECT SUMMARY

To help more farmers feel confident implementing conservation tillage systems, this project intends to gain insights into the interactions across soil types, starter fertilizer, tillage systems and row spacings and how they affect soybean growth, nutrient uptake, and seed yield and quality. The results of this multi-year project will enable more farmers to optimize soybean production under conservation tillage systems while preserving water and soil resources.

QUESTIONS THIS PROJECT WILL ADDRESS

- ① How do conservation tillage practices affect soybean yield?
- ① What role can starter fertilizer play in offsetting potential yield drag?
- ① What are the interactions between different soil types, conservation tillage practices, row spacing and nutrient management?

WHY THIS RESEARCH IS IMPORTANT

- ⚠ Some farmers are hesitant to try conservation tillage because they're concerned it'll reduce yield. Often no-till soils can take longer to warm up and dry out, which can delay planting or cause soybean seed to sit in an unfavorable soil environment. Crop residue can also tie up nutrients that the soybean crop needs for stand establishment and growth. However, conservation tillage is beneficial to soil health and water quality.

HOW THIS RESEARCH BENEFITS THE FARMER

- 🎯 Farmers will have more quantitative data about how conservation tillage impacts soybean growth, yield and seed quality.
- 🎯 They'll also gain a better understanding of other management practices they could deploy, such as starter fertilizer, to offset any potential yield drag caused by conservation tillage.
- 🎯 By implementing conservation tillage across more of their acres, farmers will experience improvements to soil and water quality, while playing a leading role in sustainability efforts.

ABOUT THE LEAD RESEARCHER

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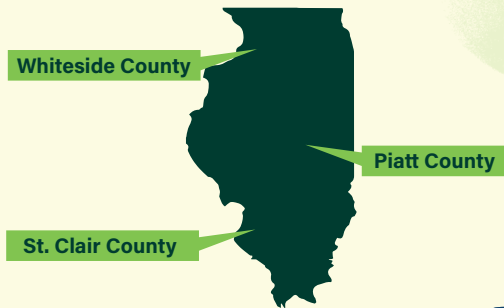
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Dr. Preza Fontes leads the Field Crops Extension & Research Program where he focuses research on enhancing the agronomic and environmental performance of field crops in Illinois. This involves evaluating and refining multiple management practices with the goal of increasing grain yield and nutrient use efficiency while reducing environmental outcomes like nitrate leaching and greenhouse gas emissions. When he's not in research plots or fields consulting with farmers, you might find Dr. Preza Fontes spending time with family outdoors. They enjoy a wide range of activities from playing soccer and grilling to hiking and camping.

RESEARCH TEAM

- **Dr. Amir Sadeghpour**, Associate Professor, Southern Illinois University
- **Kristin Greer**, Senior Research Specialist, UIUC

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See updates and learn more about this project, the research team and other projects at ILSoyAdvisor.com and [@ILSoyAdvisor](https://www.facebook.com/ILSoyAdvisor) on Facebook and X.

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The Illinois Soybean Association (ISA) checkoff and membership programs represent more than 43,000 soybean farmers in Illinois. The checkoff program funds market development, soybean production and government relations efforts, while the membership program, Illinois Soybean Growers (ISG) and the ISG Political Action Committee actively advocates for positive and impactful legislation for farmers at local, state and national levels. ISA upholds the interests of Illinois soybean farmers through promotion, advocacy, research and education with the vision of becoming a trusted partner of Illinois soybean farmers to ensure their profitability now and for future generations. For more information, visit the websites www.ilsoy.org and www.ilsoygrowers.com.