

# INJURY POTENTIAL TO VERY EARLY-PLANTED SOYBEAN FROM VARIOUS SOIL-RESIDUAL HERBICIDES / ACTIVE INGREDIENTS

## PROJECT SUMMARY

While interest in planting soybeans earlier continues to increase, concerns around preemergence (PRE) herbicide injury to emerging seedlings continue to linger. Early planting often means cold, wet soil conditions that can delay seed germination and prolong plant emergence. These conditions can reduce the plant's ability to metabolize PRE herbicides and result in crop injury. This project will test several herbicides and classes of chemistry to better understand which are more prone to cause crop injury under early planting conditions.

## QUESTIONS THIS PROJECT WILL ADDRESS

- ① What are the crop injury risks associated with PRE herbicides in very early-planted soybeans?

## WHY THIS RESEARCH IS IMPORTANT

- ⚠ The lure of potential yield increases combined with changes and advances in seed treatments, varieties, equipment and climate are spurring more farmers into planting soybeans weeks earlier than historical average planting dates.
- ⚠ However, several variables can contribute to crop injury and sabotage the quest for higher yield. Cold, wet soil conditions often delay soybean seed germination and prolong seedling emergence. These conditions not only increase the length of exposure to PRE herbicides, but they also reduce the soybean plant's ability to metabolize the herbicide, both of which increase crop injury potential.

## HOW THIS RESEARCH BENEFITS THE FARMER

- 🎯 Farmers will have access to crop injury ratings for common PRE herbicides to better inform their weed management decisions when planting soybeans earlier than the norm.
- 🎯 Insights from this research will influence additional research with very early-planted soybeans, such as including a cover crop, soybean row spacing for optimal weed control, etc.

## ABOUT THE LEAD RESEARCHER

Published November 2023



### DR. AARON HAGER

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While his childhood dream was to dive for treasures hidden in ocean waters, Dr. Hager has been firmly planted on land searching for solutions to managing weeds while fending off resistance. He's been an integral part of the world-renowned weed science program at UIUC for 30 years. His extension program is keenly focused on addressing the evolving weed management challenges across Illinois farm fields, providing farmers with research-based solutions that are sustainable and economically viable. When he's not helping farmers, he enjoys woodworking, cloudless evenings on the deck, spoiling his granddaughter and summertime sunset drives along country roads.

## RESEARCH TEAM

- Logan Miller, Research Specialist, UIUC

## TRIAL LOCATIONS

- University of Illinois Crop Sciences Research and Education Center, Urbana



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