

ENHANCING THE PROFITABILITY OF WHEAT-SOYBEAN DOUBLE CROPPING

PROJECT SUMMARY

Double cropping soybeans after winter wheat is an attractive approach to enhancing profitability in Midwest crop rotations and improving soil health. To capitalize on this cropping system, this project will identify high-yielding winter wheat varieties that can be harvested earlier and enable earlier planting of double-crop soybeans to maximize soybean yield potential.

QUESTIONS THIS PROJECT WILL ADDRESS

- ① When do winter wheat varieties suited to Illinois break winter dormancy?
- ② When do they reach maturity, or 14% grain moisture, and are ready for harvest?
- ③ What are average yield expectations?

WHY THIS RESEARCH IS IMPORTANT

- ! Winter wheat continues to gain attention as a tool to break up the soybean-corn rotation cycle, improve soil health and add another profit stream.
- ! To maximize the profitability of a wheat-soybean double-crop system, it's important to find high-yielding winter wheat varieties that can be harvested earlier so that soybeans can be planted at a time that is more favorable for yield development.
- ! Currently data about winter wheat varieties don't sufficiently indicate timing of key developmental stages, such as winter dormancy release and the target 14% grain moisture.

HOW THIS RESEARCH BENEFITS THE FARMER

- ⌚ With more data about available and experimental winter wheat varieties, Illinois' farmers can make more informed decisions about which varieties to incorporate into a double-crop rotation.
- ⌚ Knowing when varieties break winter dormancy helps farmers choose varieties that would avoid damage from spring freezes.
- ⌚ Knowing when varieties reach the targeted 14% grain moisture to be able to harvest allows farmers to select and plant appropriate double-crop soybean maturity group varieties that can reach maturity before fall freezes.



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During her 14 years of applied plant breeding work, Dr. Rutkoski has developed and evaluated countless new wheat lines, spent time working at CIMMYT; the organization established by Dr. Norman Borlaug; and even taught Bill Gates how to cross-pollinate wheat. She is focused on developing winter wheat varieties with characteristics important for double-cropping profitability in Illinois and surrounding states, identifying plant breeding and phenotyping methods to accelerate gain in crop yield, and training the next generation of plant breeders. Not only does she find joy in her work, but she also relishes time spent with her husband and their five-year-old daughter.

RESEARCH TEAM

- Luis Gehrke, Research Specialist, UIUC
- Tadele Kamssa, Research Specialist, UIUC
- Sophia Arista, Master's Student, UIUC

TRIAL LOCATIONS



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