WILLIAM SCHAPAUGH – SOYBEAN RESEARCH PROFILE

Farmer Blog

William Schapaugh, Professor and Soybean Breeder, Department of Agronomy, Kansas State University

Why did you decide to pursue a career that includes soybean research?
Growing up I was surrounded by agriculture. Both my parents came from farm backgrounds and although my dad didn't farm, he worked in the seed business, which gave me early exposure to the seed industry. In high school, I worked for corn and sorghum breeders in Texas, who encouraged me to pursue a plant breeding career. As a sophomore at Iowa State University, I transferred to Agronomy, where I had the opportunity to work on research programs for various crops. One of the experiences included working for soybean breeder John Schillinger. That experience got me interested in soybeans and inspired me to purse graduate studies focusing on soybean breeding. When I completed my graduate studies, there was a high demand for plant breeders. I was fortunate to obtain a faculty position at KSU focusing on soybean breeding.

What research topic have you completed in the past, or are working on now, that could have or has had the most significant impact on soybean production?
One of our most meaningful contributions has been advancing the understanding of the genetic basis of stress tolerance in soybeans, particularly in response to drought and heat. Through long-term collaborations with organizations such as the Kansas Soybean Commission and the United Soybean Board, we have identified soybean germplasm traits associated with stress tolerance and pinpointed genes responsible for those traits. Specifically, we have focused on the slow wilting trait and explored heat tolerance in soybean germplasm. This research will help develop varieties that are more resilient to environmental stress, providing farmers with tools to maintain productivity under challenging growing conditions.

Another rewarding aspect of my career has been the opportunity to train and mentor plant

breeders, agronomists and others who have pursued careers in agriculture. Many of the students and postdoctoral fellows who have worked with us have gone on to make their own important agricultural contributions.

How has the soybean checkoff enhanced your ability to find answers to production problems for farmers?
The soybean checkoff is the primary driver of our research. While we've received funding from the USDA and private sources, the checkoff has provided consistent support that sustains our program. It allows us to maintain essential resources, including staff and winter nurseries, that ensure the continuity of our activities. Without the soybean checkoff, many of our advancements would not have been possible.

Within your area of expertise, what are the top two or three general recommendations you would offer farmers to improve their management practices?
Prioritize variety selection and diversify planting dates and maturities. Choosing high-performing soybean varieties with an appropriate range of maturities is critical to optimizing yield potential and managing risks. Pairing this with an appropriate range of staggered planting dates helps reduce the impact of environmental variability, pests, and pathogens. This strategy is particularly valuable in regions like Kansas, where conditions can differ significantly across fields and vary unpredictably from year to year.

Within your area of expertise, what do you consider to be critical soybean research needs that can impact the profitability of farmers in the future?
Improving tolerance to abiotic stress, enhancing genetic diversity and leveraging advanced breeding technologies will help address the challenges facing agriculture.

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SOYBEAN RESEARCH
& INFORMATION NETWORK

This website is funded by the soybean checkoff