PAUL ESKER – SOYBEAN RESEARCH PROFILE

Farmer Blog



Paul Esker, associate professor and field crops Extension plant pathologist, epidemiology and plant disease management of soybeans, corn, small grains and forages, Penn State University

Why did you decide to pursue a career that includes soybean research?
My first exposure to agricultural systems was a red clover breeding program at the University of Wisconsin-Madison. From there, I pursued graduate studies at Iowa State, where my primary cropping system was corn. I also had opportunities to work with soybeans and importance of the crop as part of the overall agronomic crop production system. As I finished my doctoral studies, the arrival of soybean rust into the U.S. opened up new avenues of research and Extension. I switched my efforts to soybeans, including spending time in Brazil. From that point forward, I worked extensively in soybeans, even while in Costa Rica from 2012 to 2017. While I was at the University of Costa Rica, we documented the first report of soybean rust in the country.

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?
Our team takes novel approaches to understand the impact of diseases on soybean production. We have modeled how different management tactics relate to soybean losses, focusing on seed treatments and foliar fungicides. We recently completed an extensive analysis of the effect of foliar fungicides on soybean yield with data originating from the North Central Soybean Research Program (NCSRP)-funded soybean benchmarking research. When combined with our current research on soybean seed treatments using the same database, we feel this will have a tremendous impact on soybean management recommendations.

How has the soybean checkoff enhanced your ability to find answers to production problems for farmers?

Without the checkoff, I would argue that conducting novel research that directly benefits farmers would be very challenging. We have been fortunate to receive funding from the United Soybean Board, NCSRP and Pennsylvania Soybean Board. These funds have advanced our knowledge of local, regional and national value, providing direct benefit to farmers and other stakeholders.

Within your area of expertise, what are the top two or three general recommendations you would offer farmers to improve their management practices?
Focus on soybean variety selection, crop rotation and planting date. Working in the northeast, we have seen the benefit of all three on soybean productivity, profitability and management.

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?
Farmers are being bombarded with data and the challenges with understanding what the data tell them. As researchers, we need to be at the forefront of this data-driven world, conducting computational analyses driven by agronomic and biological questions. While there is much data out there, it is still essential we have fundamental questions and hypotheses. This will drive the research to provide insight into improving farmer profitability and sustainability of practices.

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