SOYBEAN RESEARCH PRINCIPAL INVESTIGATOR PROFILE – ALISON ROBERTSON

Farmer Blog

Alison Robertson, Professor and Extension Field Pathologist, Iowa State University

Why did you decide to pursue a career that includes soybean research?
I fell in love with plant pathology in college. At the same time, I realized how much I enjoy helping farmers. I attended college in South Africa and worked in Zimbabwe before coming to the U.S. to earn my doctorate degree. When I came to Iowa, I found myself in my element, surrounded by important crops and farmers looking for solutions to plant diseases. My soybean research supports a crop important to Iowa, the U.S. and beyond, and it helps farmers.

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?
Almost all of my research has been on water molds, or oomycetes, like Phytophthora and Pythium. As farmers shift to planting earlier, into cooler soils, water molds like Pythium are more likely to cause issues. My research on identifying specific species, their sensitivity to seed treatments and how temperature affects disease pressure and seed treatment efficacy helps farmers better protect soybean seeds at planting.

How has the soybean checkoff enhanced your ability to find answers to production problems for farmers?
The soy checkoff provides resources for students, allowing my team to address questions about specific diseases in soybeans. When we understand how pathogens interact with soybeans, we can come up with better management practices, and checkoff support gets us started.

Within your area of expertise, what are the top two or three general recommendations you would offer farmers to improve their management practices?

- *If planting early, into cool wet soils, use seed treatments to protect seeds from Pythium.*
- *Scout and know disease issues to help choose the right seed for each field, which includes choosing different sources of genetic disease resistance in seeds. Remember that disease is present in every field, but that doesn't mean crops in that field will get disease. Consider the disease triangle, which shows that the pathogen, host and environmental conditions all need to be present to cause disease. Planting resistant varieties is a way to manage controllable factors in the triangle to reduce the risk of disease.*

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?
We need a very good molecular understanding of disease and how a pathogen interacts with soybean so that we can learn to take advantage of RNAi technology. With that information, we will know what genes to silence to combat disease resistance.

SRIN Articles:

Under Pressure: Factors Allowing Phytophthora to Overcome Genetic Resistance in Soybeans

SOYBEAN RESEARCH & INFORMATION NETWORK

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