FEBINA MATHEW – SOYBEAN RESEARCH PROFILE

Farmer Blog



Febina Mathew, associate professor and broadleaf/oilseeds crop pathologist, North Dakota State University

Why did you decide to pursue a career that includes soybean research?
Soybeans are an important crop worldwide, providing oil, meal and food. Like in any other crop, one of the key constraints to soybean productivity is disease, and farmers need help with disease management. Soybean disease management can be a challenge, and I enjoy taking up the challenge by identifying the right tools to help farmers solve problems.

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?
My program has worked on Diaporthe *diseases of soybeans for the last eight years. We developed diagnostic methods to identify the causal organisms as well as greenhouse inoculation methods to study pathogenicity of these organisms and to screen the soybean germplasm for resistance. To date, we have identified 12 species of* Diaporthe *that are associated with seed decay, several of which had not been previously reported on soybean in the United States. Also, we identified soybean varieties that have potential resistance to* Diaporthe caulivora *and* D. longicolla *that can be used by breeding programs to develop disease-resistant varieties for farmers.*

How has the soybean checkoff enhanced your ability to find answers to production problems for farmers?
Without the farmer support and funding from the checkoff programs, I would not be here as a plant pathologist. My graduate school education and training in the U.S. were supported through these checkoff programs, and I appreciate that they continue to support my research program and team. I am grateful to the farmers for their faith in me and my abilities to serve them, and also for their time and knowledge to teach me about soybean.

Within your area of expertise, what are the top two or three general recommendations you would offer farmers to improve their management practices?
Adopt IPM (a combination of genetic resistance, crop rotation, chemicals, etc.) for soybean disease management and greater return on investment. It is important to check with your state specialist on the latest recommendations for disease management as we are developing new tools and information.

Within your area of expertise, what do you consider to be critical soybean research needs that can impact the profitability of famers in the future?
There are several. Fungicide resistance is becoming an issue, and new chemicals/products possibly need to be labelled for soybean for pest management. Additionally, soybeans need improved genetics associated with disease or pest resistance.

SRIN articles:

Combatting Soybean Seedling Diseases from Inside and Out

Big Problems in Little Pathogens: Researchers Look to Reduce Soybean Stem Canker Impact

Studying the Connections Between Sudden Death Syndrome and SCN

Researchers Across the Country Collaborate for Soybean Seedling Disease Management

SOYBEAN RESEARCH & INFORMATION NETWORK

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