BURT BLUHM – SOYBEAN RESEARCH PROFILE

Farmer Blog



Burt Bluhm, Professor of Plant Pathology, University of Arkansas System – Division of Agriculture

Why did you decide to pursue a career that includes soybean research?
I did my graduate research at Purdue on mycotoxins in corn. During my post-doctoral research, I started working with Cercospora*, which is not an important disease in corn in the south. However, it is a huge challenge in soybeans. At the University of Arkansas, I was mentored by a leader in the international soy pathogen community, and now I love working with the plant. I've learned the ins and outs of soybean pathology, and it is fascinating.*

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?
Research to develop a bioherbicide to control Palmer amaranth could have major impact for soybean production, because it is such a problem weed. I am also involved in research to engineer Cercospora *genes. These pathogens, which cause disease like* Cercospora *leaf blight and frogeye leaf spot, are developing resistance to the major known form of genetic resistance in soybeans. We aim to produce RNA that the fungus would take up, which would then shut off its own genes that cause that tolerance. That would allow the genetic material to maintain effectiveness.*

How has the soybean checkoff enhanced your ability to find answers to production problems for farmers?
I wouldn't be able to do the research I do without soy checkoff support. It provides early funding that can then be leveraged into additional grant funding for more in-depth research. The checkoff is instrumental for carrying out research, and it also helps substantially with networking with other researchers who have similar interests.

Within your area of expertise, what are the top two or three general recommendations

you would offer farmers to improve their management practices?
Farmers should listen carefully to extension recommendations for thoughtful application of fungicides because disease resistance is an issue that is on the rise. Following recommendations and best practices can help preserve fungicide chemistry.

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 lots of research to stay ahead of changing climate conditions. We need to learn how stress from extremes like heat and drought influences pests and diseases. Through enhanced genetics and research, we can tackle many challenges. A wholistic approach to genetics research, that draws on expertise from multiple disciplines, may be the best approach to develop soybeans to stay ahead of environmental conditions.

SRIN Articles:

Creating a Palmer Amaranth Bioherbicide from Fungal Pathogens

SOYBEAN RESEARCH & INFORMATION NETWORK

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