CHRIS LITTLE – SOYBEAN RESEARCH PROFILE

Farmer Blog



Chris Little, professor of plant pathology, Kansas State University

Why did you decide to pursue a career that includes soybean research?
I have been investigating diseases in row crops for more than 25 years. When I came to K-State in 2007, soybean was one of the commodities for which I had research responsibilities. Since then, I've taken a great interest in soybean charcoal rot, seedling diseases, seed diseases, and SDS.

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 lab focuses on soybean root diseases and management of such diseases remains very difficult. For us, discovery of resistance sources to root diseases — including charcoal rot, SDS, and seedling diseases — and various screening methods to find that resistance, is probably one of the most important contributions that we can make.

How has the soybean checkoff enhanced your ability to find answers to production problems for farmers?
Checkoff dollars are essential to running commodity-driven programs at our land grant institutions. With that said, soybean support has been very solid, reliable, and forward-thinking. This gives us some year-to-year reliability for the research program and allows us to address research projects that have both short-term and long-term targets.

Within your area of expertise, what are the top two or three general recommendations you would offer farmers to improve their management practices?
Many of the problematic root and seedling diseases that we work on don't have good sources of resistance, even in the commercial varieties that are available. So, cultural management is an important approach when growers have problematic fields.

Three recommendations I would make:

- *maintain an economically viable crop rotation strategy to keep soilborne pathogen levels under control*
- *keep fields clean and weed-free to reduce potential reservoirs and overwintering materials for pathogens*
- *test your field for SCN to know your race and population levels so that effective resistance can be deployed. If nematode pressure is reduced, then overall plant health and plant productivity will improve as a lot of soilborne pathogens can take advantage of parasitized roots.*

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?
Cover crops, disease suppressive soils, bio-controls, soil microbiomes, and soil health are the future of long-term sustainability and profitability in our agroecosystems. As we move into the future, these long-term project areas will be of great benefit and reward but will take a lot of effort to understand.

SRIN articles:

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Kansas Researcher Working to Reduce Soybean Root and Seedling Diseases

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