

CARL BRADLEY – SOYBEAN RESEARCH PROFILE



Carl Bradley, plant pathology professor, University of Kentucky

Why did you decide to pursue a career that includes soybean research?

I grew up on a farm in southeastern Illinois and was always interested in science. I remember giving a presentation to my 4-H club about the different parts of a soybean seed before I was a teenager. I chose to work in plant pathology because it is a great interface between agriculture and science. A few soybean fields on our farm were some of the first in Illinois to get sudden death syndrome (SDS) in the 1980s. At that time, nobody had yet figured out exactly which pathogen caused the disease. Seeing the yield losses that it caused on our farm and knowing there was nothing we could do about it at that time was very frustrating. However, it did really spark my interest in plant pathology and the potential of doing research on soybeans. A supportive family and great teachers and mentors along the way also helped get me here.

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 laboratory was the first to identify strains of the frogeye leaf spot pathogen (*Cercospora sojina*) with resistance to fungicides in the quinone outside inhibitor class of fungicides (also known as strobilurins). Although identifying a new problem like this is never good news for farmers, it is important that we do identify these problems so we can begin working on management solutions as soon as possible. My lab continues to work in fungicide resistance and in researching ways to manage these diseases in light of fungicide resistance.*

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

Personally, the soybean checkoff has been critical for much of the success I have achieved professionally. My research as a graduate student at the University of Illinois (~20 years ago) was funded by the soybean checkoff. I am fortunate that my program at the University of

Kentucky has been supported by the soybean checkoff through the United Soybean Board, the Kentucky Soybean Board and the Southern Soybean Research Program. In my program, this support goes towards developing soybean disease management solutions for farmers and towards training graduate students, who are the next generation of soybean scientists.

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

It is important to not rely on a single way to manage diseases. Doing so can eventually result in that tool breaking down over time. Consider the diseases that have been problematic in your fields in the past and select varieties with high levels of resistance to those diseases. Use crop rotation to keep disease inoculum levels in check and make fungicide application decisions based on disease risk and scouting observations. Also, it is important to seek out non-biased sources of information, such as Extension, when making important management decisions.

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?

As soybean production practices change, the spectrum and intensity of disease challenges also change. Continued support of research projects that aim to gain a better understanding of soybean pathogens and aim to develop sustainable disease management solutions will be important in staying ahead of current and future disease threats.

SRIN Articles:

[Forecasting Soybean Disease Pressure](#)

[Evaluating the Effect of Nematode-Protectant Seed Treatments for Soybean Cyst Nematode Management](#)

[Evaluating ROI of Soybean Disease Management Practices](#)

[Foliar Fungicide Considerations for Soybean](#)

[Estimates of Soybean Yield Losses Due to Diseases in the United States](#)

[Management of soybean cyst nematode starts with soil sampling](#)



This website is funded by the soybean checkoff



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