CHAD LEE – SOYBEAN RESEARCH PROFILE

Farmer Blog

Chad Lee, Extension professor of grains agronomy and director of the Grain and Forage Center of Excellence, University of Kentucky, focused on corn, soybeans, wheat, barley and rye

Why did you decide to pursue a career that includes soybean research?
I did two internships in ag research as an undergraduate student. My boss had a Ph.D. and she said I needed one to have a career like hers. In graduate school, I was involved in several Extension workshops and meetings. I really liked doing research and trying to find unbiased answers to farmers' questions. Soybeans are an important crop to many farmers across America, but also a very important crop in our global food supply. I like working with a crop that has so much impact locally and potential impact beyond.

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?
We have conducted research trials on high yields in soybeans. The United Soybean Board funded that research across several states. We determined that very sound soybean management strategies focused on the fundamentals of yield are the most likely to produce high yields. Some of the other practices we tested were less likely to provide consistent yield increases. That research effort helped answer relevant questions at the time and helped us develop better research programs now. I am amazed at how many producers still reference that research.

How has the soybean checkoff enhanced your ability to find answers to production problems for farmers?
We would not be able to conduct soybean research without the soybean checkoff. Nearly all our soybean research is funded by the checkoff. Most of that comes from our state soybean board. I am impressed at how well our producers understand their production challenges, how well they communicate with my colleagues and me, and how well we work together on

questions relevant to growers. The national checkoff allows agronomists to coordinate research and Extension efforts across soybean-growing areas. National funding has helped each of us improve our soybean research programs locally and identify challenges and issues that span the U.S.

Within your area of expertise, what are the top two or three general recommendations you would offer farmers to improve their management practices?
These recommendations are in the context of increased input prices for 2022:

- *Make sure adequate potassium (K) is available for the crop. If soils tests are high for K, do not apply more. If soils tests are low, apply all that is needed. Do not skimp.*
- *Plant into as favorable of conditions as possible. There is a lot of interest in early planting dates, and we are studying that. One thing is clear: if we plant into stressful conditions that slow emergence, we have very little chance of maximizing yields.*
- *Keep weeds away from soybeans and use soil residual herbicides. Since some herbicide supplies are low, this is a great year to bring residual herbicides into the system. If weeds get away, then high yields are not going to happen. Use full rates.*

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?

- *Soybean planting date and flowering relative to summer solstice. There is a tremendous amount of interest in this topic yet yield data from farmers in our state suggest that early planting dates are less of a factor than weather during pod set and seed fill.*
- *Improving our understanding of the probability of yield increases. There are numerous products and practices all advertised to increase yields by "3 to 5 bushels." Those numbers are often in the range of variability in our trials and extremely difficult to confirm with replicated research. Our efforts across the country can help us better understand those probabilities and improve the knowledge for farmers to make decisions.*
- *Improving yield potential in double-crop soybeans. This is a regional issue, where we plant soybeans in June after wheat harvest. The soybeans often have a lower yield than full-season soybeans planted in May. The last decade of weather has been favorable for high double-crop yields and that allows us to be more aggressive with management.*

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