

# SOYBEAN RESEARCH PRINCIPAL INVESTIGATOR PROFILE – WES LOWE



Farmer Blog



Wes Lowe, Assistant Professor, Agricultural and Biological Engineering, Mississippi State University

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

*I worked in sales and marketing for several years before returning to college to complete my degree. I planned to return to industry, but when I earned my bachelor's degree, I was asked to go to grad school, where I fell into research. I became a research assistant at Mississippi State, where I could take classes and keep learning. I did that until I realized I met the requirements for a Ph.D. I earned that as a position opened up in the department. I sit in a really amazing place—and one that was not on my radar. I have learned that I really enjoy helping people solve real-world problems. Soybeans are the No. 1 crop in the state, and so solving problems in that crop allows me to impact a larger audience and help more people. I couldn't have chosen anything better.*

## **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?**

*The biggest impact I have had on the soybean industry came indirectly through my Ph.D. project, which was related to catfish production. I was tasked with developing an automated feeding system that would put a necessary vaccine in the catfish food as it went into the pond. It had to be a continuous-feed system that only applied the vaccine when the fish were eating. As a result of my design and the vaccine together, feed consumption and feed conversion ratio improved in catfish, increasing the value of catfish production \$2,000 per acre. That system helped maintain the need for soy-based feed ingredients for catfish production in Mississippi.*

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

*The soy checkoff gives me a vehicle to go do the research. We can't do anything without*

*funding. Through my network of farmers, I hear about the challenges they have. With these checkoff investments, I have the ability to answer questions and make the production system better.*

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

*Farmers are always looking at return on investment with technology adoption, but that may not be the right approach. Some advantages of technology don't come with dollar figures. They should also consider technology with a different perspective. Consider time savings, overall fit into their system, quality of life and more. They should also consider the link to mental health. In some cases, technology adoption can lessen stress in a high-stress environment. As automation comes, farmers need to think differently about what's important in life, which could be more than just ROI.*

**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 to understand what autonomy really means as we move toward remote or no-operator equipment. I think critical research needs to be done for transitional pieces as the industry changes. We need equipment and methods that can employ module technology to transition toward both more and less automation. I also think that equipment has gotten really big, and that research in a new direction, toward smaller, more compact equipment that works with swarm technology, will be valuable. I think teams of equipment will operate in a field together with automation, and research will uncover the possibilities.*

Photo courtesy David Ammon, Mississippi State University

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