LEONOR LEANDRO – SOYBEAN RESEARCH PROFILE

Farmer Blog



Leonor Leandro, professor, Department of Plant Pathology, Entomology and Microbiology, Iowa State University

Photo courtesy Iowa Soybean Research Center

Why did you decide to pursue a career that includes soybean research?
As a plant pathologist, I was interested in working with a plant that is significant in the Midwest and worldwide. I wanted to apply my knowledge to help farmers be more productive, and soybean research allows me to do that.

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?
Soybean sudden death syndrome, or SDS, is one of the most economically costly soilborne pathogens present in Midwestern soybean fields. My lab focuses on the biology and epidemiology of SDS and other fungal diseases of soybean, especially in the genus Fusarium. This research helps farmers more effectively manage SDS and soybean root rots to protect yield.

How has the soybean checkoff enhanced your ability to find answers to production problems for farmers?
Since I started working at Iowa State University in 2006, the soybean checkoff has provided my main financial support. The checkoff is absolutely essential to my work, and I have led research projects with support from state, regional and national soy checkoff organizations. Beyond funding, these organizations serve as the link between the university and growers. They have helped me stay in touch with grower needs so that my research addresses real challenges in the field.

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

you would offer farmers to improve their management practices?

- *Be well-informed about their fields, soil types and history so they understand their issues and potential issues. With this knowledge, farmers can avoid wasting money on unnecessary inputs.*
- *Follow extension and research recommendations to address those issues.*
- *For diseases like SDS, soybean variety selection for resistance makes a huge difference.*

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?
Current and future soybean research should focus on increasing the resilience of cropping systems, so they can better manage unpredictable conditions. As the climate shifts with changes in temperature, unpredictable moisture patterns and potentially higher CO_2 concentrations, we need to understand how diseases and other pests could respond to those conditions. We also need to better understand the soil microbiome and practices that impact the carbon cycle, like cover crops and biochar. Supporting soil health and diversifying cropping systems will improve resilience.

SRIN articles:

Nano-encapsulation of Essential Oils: A Unique Approach to Soybean Disease Control

Biochar as a Soil Amendment May Help Battle Soybean Seedling Diseases

Researchers Across the Country Collaborate for Soybean Seedling Disease Management

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