JOHN MUELLER – SOYBEAN RESEARCH PROFILE

Farmer Blog



John Mueller, Professor of Plant Pathology, Clemson University

Why did you decide to pursue a career that includes soybean research?
I grew up in the suburbs, but I had family that farmed. I enjoyed agriculture. When I was going to university, soybean cyst nematode was becoming a problem, and they wanted to know about it. I started asking questions about it at school, and I just kept asking.

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?
One effort that made a difference was working on soybean rust. Even though it never developed to the point we feared it might, the coordinated effort to understand the threat saved farmers money. Another significant effort was the 20 to 25 years I spent working with soybean breeders at Clemson to develop soybean varieties with southern root-knot nematode and soybean cyst nematode resistance for local use.

How has the soybean checkoff enhanced your ability to find answers to production problems for farmers?
In addition to paying for work, graduate students and summer help, it also provides confidence of having support year-to-year so we can run consistent, quality programs. It allows us to cover the basics and add some icing to our research. Without it, I don't know where we would be.

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

- *Start with good roots — and good roots don't have nematodes. Strong roots support faster growth and higher yields. They make plants more vigorous, even allowing crops to handle foliar disease better.*

- *Rotate crops, if possible. If farmers grow soybeans more than two years in a row, they will have challenges.*

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?

- *It would be great to find resistance to lance, sting, lesion and other migratory nematodes.*
- *Because we are seeing more root-knot nematodes pressure, we need research to learn if they are being selected to overcome current resistance genetics used in soybeans.*
- *We know some genes carry resistance to peanut root-knot nematode, so we need research to focus on incorporating it into current soybean varieties.*
- *We don't know if reniform nematode will spread, but we need to monitor it to see if a market develops for that type of resistance.*

SRIN articles:

Nematode Knowledge Leads to Successful Strategies

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