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 started working on soybean cyst nematode as an undergraduate student, so I have always worked on soybeans. I came to Clemson to research soybean cyst nematode, and with that I inherited work on other soybean diseases.

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 work on other species of nematodes in soybeans has helped soybean farmers in this region protect yield. I've done lots of root-knot nematode work in soybeans, studying nematicides and rotation, as well as breeding to release varieties with resistance to this nematode. I've worked on the race of peanut root-knot nematode that goes to soybean. And, I also helped release the first soybean varieties with tolerance to Columbia lance nematode.

How has the soybean checkoff enhanced your ability to find answers to production problems for farmers?
The soy checkoff is a godsend. South Carolina is a small state in terms of soybean production, even though it's our main crop. We have to piece together smaller grants to do research to help farmers. Many of the production challenges for soybeans are different, even from other regions of the south. Our farmers need local, specialized data that addresses their issues and different rotations. Thankfully, grower groups work together to fund important work, and the soy checkoff is a critical part of that.

Within your area of expertise, what are the top two or three general recommendations you would offer farmers to improve their management practices?
Rotation, rotation, rotation. Crop rotation addresses many problems, like weeds, diseases

and nematodes. If you want problems in a field, grow the same crop every year.

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?
While lots of work has been done on root-knot nematode and soybean cyst nematode, we have many other nematode problems, like lesion, lance and sting nematode species. We need to find genetic resistance to these nematodes, and there may be genetics that provide resistance across nematode species. Ongoing advances in genetics make this more feasible.

SRIN articles:

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SOYBEAN RESEARCH & INFORMATION NETWORK

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