SOYBEAN RESEARCH PRINCIPAL INVESTIGATOR PROFILE – TAREK HEWEZI

Tarek Hewezi, Professor of Plant Molecular Biology, University of Tennessee

Why did you decide to pursue a career that includes soybean research?
When I came to Tennessee, I found that soybeans are the top crop grown in the state. It's a major cash crop both for Tennessee and the U.S. I want to work on issues that impact Tennessee farmers and beyond, so focusing on soybeans is a natural fit.

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 research finding new sources of genetic soybean cyst nematode resistance for soybeans has the potential to have the greatest impact on soybean production. SCN is a major pest almost everywhere soybeans are grown in the U.S., and current types of resistance are no longer as effective as they once were.

How has the soybean checkoff enhanced your ability to find answers to production problems for farmers?
My research wouldn't have happened without funding support from the Tennessee Soybean Promotion Board. For example, my innovative approach to finding hidden sources of SCN resistance was considered very risky, but the farmers on the board were willing to support this bold concept without any preliminary data. I am very grateful for Soy Checkoff support, and I believe my work can provide them with a real return on that investment.

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

- *Farmers should monitor their fields for signs of nematode pressure. Infected plants can often be identified with the naked eye. Uproot one or two plants from different areas and examine their root systems—visible cysts indicate nematode presence.*

Over time, farmers can assess whether their chosen soybean varieties are effectively suppressing nematode reproduction in the field.

- *To manage SCN more effectively, use soybean varieties with different sources of genetic resistance to reduce SCN virulence.*

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?

Research can lead to the development of next-generation soybeans with improved yield, growth and resistance to pests. Artificial intelligence can help identify the genetic traits that drive these improvements. While we currently understand and work with only a portion of the soybean genome, a significant number of genes remain unexplored. As we uncover the roles of these unknown genes, we can use that insight to further improve soybean traits.

SRIN articles:

[Uncovering Hidden Sources of Soybean Cyst Nematode Resistance](#)

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