2Blades and Bayer Continue Partnership to Combat Soybean Rust, a Leading Threat to Global Soybean Production

This project builds on successful collaborations on soybean between 2Blades and Bayer that began in 2018.


An image of an infected soybean

EVANSTON, IL, UNITED STATES, February 27, 2025 /EINPresswire.com/ -- 2Blades and Bayer have announced a new partnership to tackle Soybean Rust, one of the most destructive diseases affecting global soybean production. Without frequent fungicide applications, Soybean Rust can cause up to 90% yield loss in just three weeks and is the leading cause of yield loss in the commercial growing regions of Brazil. The disease persists year-round with mitigation costs exceeding $2 Billion USD in Brazil alone.

“Soybean rust continues to be one of the most significant threats to soybean production globally,” said Ty Vaughn, Head of Plant Biotechnology for Bayer’s Crop Science division. “The successful work that we’ve accomplished with 2Blades will allow us to bring solutions to farms more quickly. With the extension of our partnership, we will now focus on providing them with even more options to broaden their toolbox which is critical to meet the global demand for soybeans that continues to increase.”

This partnership will utilize 2Blades’ proprietary NLRseek™ platform to identify novel resistance genes to develop long-lasting protection against Phakopsora pachyrhizi, the causal agent of Soybean Rust. Nucleotide-binding Leucine-rich Repeat (NLR) proteins are plant receptors that detect pathogen effector proteins and activate a strong immune response. Plants with multiple NLR receptors against a pathogen can have strong, long-lasting resistance to disease – protecting crops and reducing the need for crop chemicals.

“Soybean remains a vital crop due to its climate tolerance, high protein and oil content, and its

ability to improve soil nitrogen", said Dr. Kamil Witek, Group Leader at 2Blades. "By combining 2Blades' expertise in combatting pre-harvest crop losses with Bayer's leadership in soybean seed offerings, this program is positioned to deliver effective genetic resilience for soybean crops that will protect and strengthen soybean production worldwide."

Field trial showcasing soybean varieties with varying resistance and susceptibility to Soybean Rust

This project builds on successful collaborations on soybean between 2Blades and Bayer that began in 2018. Following an extension of the partnership in 2021, the original project achieved its goals in 2024, paving the way for Bayer to advance new targeted strategies for controlling and combating Soybean Rust within its own R&D pipeline.

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> *Ty Vaughn, Head of Plant Biotechnology, Bayer Crop Science*

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About 2Blades (2blades.org)
2Blades is a 501(c)(3) charitable organization that advances solutions to pre-harvest crop losses by merging cutting-edge scientific discovery with delivery in the field, contributing to a more resilient, sustainable, and productive global food supply. With a unique dual-market business model, 2Blades supports both commercial and smallholder farmers by bridging public and private sector resources to maximize the success and accessibility of agricultural innovations. In collaboration with leading research and implementation partners around the world, 2Blades has achieved effective resistance against some of the most devastating and intractable pathogens of soybean, potato, wheat, corn, and other crops. 2Blades is headquartered in Evanston, IL, with research labs in Norwich, UK and St. Paul, MN.

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Phakopsora pachyrhizi sporulating on a soy leaf
