

## Project Abstract

<b>Project Title:</b>	Advancing Integrated FHB and DON Management Strategies in Virginia	
<b>USWBSI Project ID:</b>	FY24-IM-002	
<b>Principal Investigator:</b>	Douglas Higgins	Virginia Polytechnic Institute and State University, Eastern Shore Agriculture Research and Extension Center

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### Project Summary

Virginia harvested approximately 10.2 million bushels of soft red winter wheat in 2022 worth an estimated \$8.2 M. This was the state's largest harvest since 2018. However, preliminary field surveys in 2023 revealed moderate to high Fusarium head blight (FHB) pressure despite the use of fungicides reinforcing the need to improve FHB management tactics. This project pre-proposal seeks to add Virginia to the coordinated integrated management and uniform fungicide trials while generating quantifiable data for economic benefit of FHB management strategies and communicating results through Extension outreach. The project's objectives are to:

1. Evaluate the integrated effects of fungicide treatment and genetic resistance on FHB and DON, with emphasis on new combination fungicides, Prosaro Pro and Sphaerex.
2. Compare the efficacy of Prosaro Pro and Sphaerex to that of Prosaro, Caramba, and Miravis Ace.
3. Generate data to further quantify the economic benefit of FHB and DON management programs.
4. Generate data to validate and advance the development of FHB risk prediction models.

An integrated management trial using the coordinated project protocol will evaluate fungicides performance in combination with two susceptible (Dyna-Gro 'Shirley' and Pioneer '26R46') and two moderately resistant winter wheat varieties (15VDH-FHB-MAS22-14 and 15VDH-FHB-MAS33-13) from the VT Small Grains Breeding program. In a separate field, a uniform fungicide trial using the coordinated project protocol will evaluate the efficacy of new fungicides on a susceptible winter wheat variety under Virginia growing conditions. Both field trials will be inoculated. Data will include FHB incidence and severity, yield, test weight, FDK, and DON levels. The data generated will be utilized to further quantify the economic benefit of FHB management strategies. Results from the research will be shared with Virginia growers through at least one field day, one winter conference, in-season alerts through the Virginia Ag Pest and Crop Advisory and through publications such as Plant Disease Management Reports. Virginia and Mid-Atlantic growers will utilize the results to make improvements to their FHB management strategies.

