Project Abstract

Project Title:	Evaluation of Integrated Management Programs and Fungicides for FHB & DON in Indiana	
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Fusarium Head Blight (FHB) levels on wheat vary each year in Indiana, but the disease is consistently present and of concern to growers. In favorable disease years high levels of FHB and DON can cause load rejections across Indiana. Cultivars with moderate resistance to FHB have not always provided desirable levels of disease control, and fungicides have become an important component in FHB and DON management plans. The overall goal of this project is to use an integrated approach that combines genetic resistance and fungicide application to achieve optimal FHB management. Continued testing of action thresholds for our climate is needed in order to provide informed fungicide spraying decisions. The proposed research would facilitate adoption of integrated FHB management to reduce losses from FHB.

The Objectives of this Proposal are to:

1) Evaluate the integrated effects of fungicide treatment and genetic resistance on FHB and DON in all major grain classes, 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.

This research will serve as a location in the cooperative multi-state studies comparing the effects of integrated management (IM) and uniform fungicide (UFT) trials for FHB and DON control in wheat. It will allow us to address some of the many questions being asked by stakeholders about the effectiveness, application timing, effectiveness towards other diseases, and yield and cost benefits of this new fungicide. Positive answers to these questions would revolutionize the way fungicides are recommended for FHB and DON management in Indiana.

The proposed research will be conducted at two Purdue research farms in West Lafayette, and Vincennes, Indiana. Wheat will be established each preceding fall for implementation of trials in the springs of 2021/2022 to accomplish goals of the proposed work.