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**ARS Agreement #:** 59-0206-8-189

**Research Category:** MGMT

**Duration of Award:** 1 Year

**Project Title:** Managing Fusarium and DON for Soft Winter wheat in Michigan

## PROJECT 1 ABSTRACT

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This project will address the following goals in the USWBSI Action Plan: **1) Develop integrated management strategies for FHB and mycotoxins that are robust to conditions experienced in production fields and Goal # 2) Help develop and validate the next generation of management tools for FHB/DON control.**

The Objectives of this FHB Management Coordinated Project (MGMT\_CP) 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 a new fungicide, Miravis Ace®,
- 2) Compare the efficacy of Miravis Ace when applied at heading or at anthesis to that of standard anthesis application of Prosaro® or Caramba®,
- 3) Generate data to further quantify the economic benefit of FHB/DON management strategies;
- 4) Develop more robust “*best-management practices*” for FHB and DON; and
- 5) Generate data to validate and advance the development of FHB and DON risk prediction models.

Field experiments will be conducted to evaluate the efficacy of Miravis Ace. The experiments will include an integrated management trial (IM) on the MSU campus near East Lansing MI and on a commercial farm near Deckerville MI; and a uniform fungicide trial (UFT) on the MSU campus. The treatments will align with those proposed by the MGMT\_CP (Pierce Paul) using multiple varieties of soft white and soft red winter wheat varieties.

FHB, DON, FDK, foliar diseases severity, yield, and test weight data will be collected in all trials and submitted to Ohio State University for meta-analysis. Results from these trials will provide an evaluation of Miravis Ace' efficacy at different rates and application timings relative to the industry standards (Prosaro and Caramba); and will generate data for validation and refinement of the FHB risk assessment tool. The summary and conclusions from both the multi-state and Michigan trials will be shared with the Michigan growers and industry representatives using public meetings, research reports, Fusarium fact sheet and news articles.