PI: Ruth Dill-Macky **PI's E-mail:** ruthdm@umn.edu

Project ID: FY20-IM-002 **ARS Agreement #:** *59-0206-9-117*

Research Category: MGMT **Duration of Award:** 1 Year

Project Title: Minnesota Component of the FHB Integrated Management Coordinated Project

PROJECT 1 ABSTRACT

(1 Page Limit)

Demethylation inhibitor (DMI) fungicides have been proven to be the most effective for Fusarium head blight (FHB) and deoxynivalenol (DON) management. The repeated use of a single class of fungicides, such as DMI's, is however not a good fungicide resistance management strategy. This proposal is part of a coordinated effort to examine the efficacy of Miravas Ace®, one of a new class of fungicides called succinate dehydrogenase inhibitors. It is hoped that if this fungicide is effective in the control of FHB then it will provide an additional option for the chemical control of FHB and thus reduce the risk of fungicide resistance developing to the DMI fungicides that are presently so heavily relied upon.

The specific 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 (non-DMI) fungicide, Miravis Ace;
2) Compare the efficacy of Miravis Ace when applied at early 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.

In Minnesota we plan to follow the standard protocol as developed by the CP, with modifications as necessary to accomplish the work in Minnesota. We plan to establish the integrated management trial (IM) and the uniform fungicide trial (UFT) as outlined in the standard protocol for spring wheat, with the field experiments to be established at two Minnesota locations, Saint Paul and Crookston.

The results from the first two years of this work (FY18 & FY19) are promising and so we anticipate that the second cycle of this work will provide a robust data set that will support the dissemination of information on the best management practices to Minnesota growers. The analysis of the data across the entire coordinated project will inform best management practices and risk prediction models in multiple states.