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Project ID: FY20-IM-013 **ARS Agreement #:** *New*

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

Project Title: Evaluation of FHB Management Strategies in DE following the MGMT CP Standard Protocol

PROJECT 1 ABSTRACT

(1 Page Limit)

Winter wheat and malting barley are important crops to growers of Delaware. In recent years, environmental conditions have been highly conducive for the development of Fusarium Head Blight (FHB). Many growers utilize risk model forecasting and rely on the application of fungicides when FHB infection is high risk. The release of a new fungicide, Miravis Ace®, has drawn attention from growers and there is a need for local data on recommended application timing and product performance. This project seeks to follow the FHB Management Coordinated Project (MGMT_CP) to address the following objectives (1) Evaluate the integrated effects of fungicide treatment and genetic resistance on FHB and DON in wheat with emphasis on a new fungicide, Miravis Ace. (2) Compare the efficacy of Miravis Ace when applied at early heading, anthesis, or after anthesis to a standard anthesis application of Prosaro® or Caramba®. (3). Generate data to further quantify the economic benefit of FHB/DON management strategies. (4) Disseminate data to producers and stakeholders through extension outreach programming. Following the MGMT_CP, two winter wheat cultivars will be evaluated for six treatments in an inoculated, non-irrigated plot to evaluate fungicide performance on susceptible and moderately resistant varieties. Using a susceptible variety, a second inoculated and misted wheat field will be established to analyze efficacy of the new fungicide, Miravis Ace, and compare performance at different timings to previous fungicide standards. A uniform fungicide trail will be conducted in malting barley to analyze the efficacy of Miravis Ace at different timings. Data will be collected on FHB incidence and severity, flag leaf disease severity, yield, test weight, kernels damaged by FHB, and DON level. Generated data from 2020 and 2021 growing seasons will be presented at regional small grains meetings and grower training events. Updates on disease risk, efficacy of products, and optimal application will be shared through the University of Delaware's Weekly Crop Update, social media platforms, and publications like Plant Disease Management Reports. Data generated from this project will inform FHB management strategies and provide growers with valuable information to manage a perennial threat to winter wheat and malting barley production in the Mid-Atlantic.