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**Project ID:** FY20-KL-010

**ARS Agreement #:** *New*

**Research Category:** MGMT

**Duration of Award:** 1 Year

**Project Title:** Assessing Cross Resistance and Baseline Sensitivity to SDHI Fungicides in *F. graminearum*

## PROJECT 1 ABSTRACT

(1 Page Limit)

Fungicides are commonly used as part of an integrated management plan to reduce Fusarium head blight caused predominantly by the fungus, *F. graminearum*. Research has demonstrated that the application of Prostaro<sup>®</sup>, Caramba<sup>®</sup>, and Proline<sup>®</sup> within 5 days of the start of flowering can provide approximately 52% reduction in visual symptoms of the disease and 45% reduction in vomitoxin. In 2019, Syngenta released Miravis<sup>®</sup> Ace, a premix fungicide that contains an active ingredient in the “second generation” succinate dehydrogenase fungicide class (adepidyn; SDHI, FRAC group 7) and a triazole, for use in suppressing FHB. This is the first fungicide containing an active ingredient other than a DMI labelled for use in suppressing FHB; however, additional second-generation SDHI active ingredients have been used for several years to suppress numerous fungal diseases in wheat and cropping systems such as corn and soybeans. Continuous selection pressure resulting from the consistent use of site-specific fungicide active ingredients may lead to rapid development of fungicide resistance in fungal populations. SDHI resistance has been observed in other pathosystems, including diseases in wheat and barley; however, no studies have examined populations of *F. graminearum*. Our **goal** is to generate baseline sensitivities for adepidyn and select second-generation fungicide active ingredients in *F. graminearum* populations across wheat and barley production regions in the US. This will be accomplished through **1)** obtaining historic vouchers of this fungus with no exposure to second generation SDHI's and **2)** assess current sensitivity profiles of *F. graminearum* to adepidyn by collecting Miravis Ace treated and untreated grain from the IM-CP coordinated project participants.