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ARS Agreement #: *New*

Research Category: MGMT

Duration of Award: 1 Year

Project Title: Integrated Management of Wheat in Illinois.

PROJECT 1 ABSTRACT

(1 Page Limit)

Fusarium head blight continues to be an important disease impacting wheat production in Illinois. In 2018, Syngenta will release a new product with activity on Fusarium head blight (FHB) named Miravis ACE. *This product contains a DMI fungicide as well as a new succinate dehydrogenase inhibitor active ingredient (SDHI; FRAC Group 7).* Miravis ACE® appears to provide similar to slightly better FHB activity when compared to our currently recommended triazole fungicides (DMI; FRAC group 3), Prosaro® and Caramba® in local trials. These data are encouraging, as persistent use of DMI fungicides may lead to reduced efficacy and resistance development in the FHB fungal pathogen. It has been reported that Miravis Ace will be marketed as having a larger application window than Prosaro and Caramba, thereby allowing application at heading (Feekes Growth Stage (FGS) 10.3) through FGS 10.5.1 + 6 days. At current, there are only limited data supporting these claims, and it not known if this product is as efficacious for vomitoxin reduction as Prosaro or Caramba when applied at the heading growth stage. It is essential that we evaluate Miravis ACE across grain classes and resistance levels to determine the value of this new product to wheat growers in the United States.

The **overall project goal** is to assess Miravis Ace for FHB and DON suppression under Illinois Growing Conditions, as part of the IM-CP. The specific **objectives** are to 1) test the efficacy of Miravis Ace compared to the currently recommended fungicides Caramba and Prosaro, for FHB and DON suppression; 2) compare applications of Miravis Ace to commercial fungicide standards at Feekes Growth Stage (FGS) 10.3, 10.5.1, and 10.5.1+5 days in a moderately resistant and a susceptible wheat variety grown under Illinois production conditions. Plots of soft red winter wheat will be planted in Fall, 2017 and 2018 for the two years of the study, and the protocol proposed in the main MGMT CP will be followed. Disease incidence and severity, FDK, yield, test weight, and DON will be assessed for each plot. Data will be sent to PI P. Paul for inclusion in the larger, MGMT IM-CP dataset. These data will benefit growers in Illinois as they will provide a robust, unbiased assessment of this new product for managing FHB/DON.