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Project Title: Fungicide timing efficacy in the management of FHB and DON of wheat in South Dakota

PROJECT 1 ABSTRACT

(1 Page Limit)

Fusarium head blight (FHB), caused by *Fusarium graminearum*, is one of the major production constraints for both hard red winter and spring wheat in South Dakota. The main management approaches for FHB and DON are using moderately resistant cultivars and fungicide application at anthesis. Although the recommended window for applying a fungicide for FHB is at anthesis, often this timing can be hampered by rainy weather or uneven flowering in the field. A new fungicide Miravis Ace® is being touted for its ability to control FHB and DON when applied at heading. Miravis Ace (Adepidyn; Pydiflumetofen) has a SDHI mode of action and if effective against FHB and DON at an early timing, it will be an alternative active ingredient to DMIs which are currently the only class effective against FHB and DON. It is important to determine the efficacy of this product in both susceptible and moderately resistant cultivars in comparison with traditional fungicides for FHB and DON management in order to avail growers with unbiased, research-based information. The two major objectives of this proposal are to determine: 1) The efficacy of Miravis Ace applied at heading for FHB and DON management compared to the standard timing (at flowering), 2) Efficacy of Miravis Ace fungicide treatment at flowering followed by standard fungicides 4-6 days after flowering for FHB and DON management in winter and spring wheat. The proposed research will help generate information that will help improve FHB and DON management through timely application of efficacious fungicides. This information will be disseminated to stakeholders through extension articles, newsletters, field days, and radio talk shows.