Project Abstract

Project Title:	FHB Integrated Management: Minnesota Component of the Coordinated Project	
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This proposal is part of the larger FHB management coordinated project, established with the goal of examining the efficacy of two recently registered fungicides; Prosaro PRO® [Bayer CropScience] and Sphaerex® [BASF] being promoted for the control of FHB. It is hoped that these two new fungicides will provide additional and effective options for the control of FHB and/or on the reduction of *Fusarium*-associated mycotoxins in small grain cereals. The combination of active ingredients, and especially the inclusion of the succinase dehydrogenase inhibitor in Prosaro PRO, would suggest that these fungicides are at a reduced risk of developing fungicide resistance, given that single ingredient DMI fungicides are those that are most widely used for FHB control. Given that the cost of these new fungicides is anticipated to be higher than the current industry standards for FHB (Prosaro and Caramba) data from the proposed project should also provide valuable information for producers to judge the efficacy of these new products and determine a cost/benefit analysis of their use in their production system(s).

The specific objectives 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 the new combination fungicides, Prosaro PRO and Sphearex;
2) Compare the efficacy of Prosaro PRO and Sphaerex to that of the current industry standards; Prosaro®, Caramba® and Miravis Ace®;
3) Generate data to further quantify the economic benefit of FHB and DON management programs; and
4) Generate data to validate and advance the development of FHB risk prediction models.

In Minnesota we plan to establish the integrated management trial (IM) and the uniform fungicide trials (UFT) as outlined in the standard protocol for hard red spring wheat (HRSW), with the field experiments to be established at two locations, Saint Paul and Crookston.

Results from these experiments will allow us to determine whether Prosaro PRO and Sphaerex are as effective as Prosaro, Caramba, and Miravis Ace against FHB and DON. If so, this will provide producers with additional options for managing FHB. Summary results from these studies will be published as part of a collaborative/national publication on integrated management guidelines for FHB and DON.

We anticipate that the experimental work will provide a robust data set that will support the dissemination of information on the best management practices. Regionally, results will be delivered to growers, crop consultants, seed dealerships, county extension educators and others in extension programming. In addition, data from these trials will be used to advance the development and validations of the USWBSI's FHB risk assessment models.