

PI: Marcia McMullen

PI's E-mail: marcia.mcmullen@ndsu.edu

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Research Category: MGMT

Duration of Award: 1 Year

Project Title: Integrated Management Studies for the Reduction of FHB and DON in Multiple Grain Classes, ND.

PROJECT 3 ABSTRACT

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Four investigators in ND will look at two to three management strategies for reducing FHB and DON on multiple grain classes. ND leads the nation in spring wheat production, spring barley production and durum production. FHB has severely impacted these crops in multiple years, including 1993, 1994, 1996, 1997, 2001 and 2005. In 2006-2008, isolated areas of the state have seen measureable and damaging FHB outbreaks. The four investigators will look at these three crops in unique environments across the state. Multiple locations help assure that the data will be gathered at one or more locations per year, especially in this study which is done under natural conditions without benefit of trying to enhance FHB. In 2007, for example, 8 location/grain class studies were included in this management study in ND, and 5 of the 8 location/grain class trials had adequate FHB for separation of treatments. Use of integrated strategies in 2007 -2009 resulted in lowest FHB levels and highest yields, regardless of FHB severity.

The four investigators, grain class; location of study, and strategies that will be studied\to study, and grain class(es) proposed are:

1. Marcia McMullen, Professor and Plant Pathologist: hard red spring wheat, Fargo, ND in EC region; 3 strategies: rotation, variety, fungicide
2. Robert Bruggeman (Pat Gross, Research Assistant, did work in 2009), Assistant Professor and Plant Pathologist: spring barley, Fargo, ND in EC region; 3 strategies: rotation, variety, fungicide
3. Joel Ransom, Professor and Agronomist: spring wheat, Lisbon, ND in SE region, Prosper, ND, EC region; 2 strategies: variety and fungicide strategies
4. Scott Halley, Research Associate and MS in Soil Science, PhD student in Plant Pathology: spring barley and durum wheat, Langdon, ND in NE region; 3 strategies with both barley and durum: rotation, variety, and fungicide.

This project meets Priority # 1 of the Management area of the USWBSI: Validate integrated management strategies for FHB and DON.