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Research Category: MGMT/IM-CP

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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, and winter wheat acreage also is increasing. 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 four crops in different 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. In 2007 and 2008, use of integrated strategies resulted in lowest disease and highest yields.

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. Stephen Neate, Professor and Plant Pathologist: spring barley, Fargo, ND in EC region; 3 strategies: rotation, variety, fungicide
3. Joel Ransom, Assistant Professor and Agronomist: winter wheat and 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.