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Research Category: **MGMT** **Duration of Award: 1 Year**

Project Title: Uniform Fungicide and Biological Control Trials for Management of FHB in South Dakota.

PROJECT 2 ABSTRACT

(1 Page Limit)

Fungicides are a major component of integrated Fusarium head blight (FHB) and deoxynevalenol (DON) management. Because new and promising products are constantly being added to the market, there is a need to continue determining the efficacies of fungicides and biocontrol agents in the management of FHB and DON in comparison to Prosaro® and Caramba®. This study will i) evaluate the effects of generic fungicides on FHB and DON in hard red winter and spring wheat in South Dakota, ii) evaluate biological control products on FHB and DON suppression, and iii) conduct an economic analysis of the integrated effects of fungicides and resistance on FHB and DON.

Fungicides (up to 10) and biological control agents (up to 3) will be evaluated in an irrigated, inoculated nursery at Brookings, SD and the second site (South Shore) will be left under natural infection. Fungicide and biological control treatments will be applied at anthesis (Feekes 10.51). The winter wheat cultivar Wesley (susceptible) will be planted. For spring wheat, the cultivars: Brick (moderately resistant) and WB Mayville (susceptible) will be planted. Data collected from the trials will include FHB incidence, head severity, and disease index within each plot, as well as *Fusarium*-damaged kernels (FDK), DON in grain, and common agronomic parameters (yield and test weight). Other foliar diseases found on the plants will also be assessed. Data collected will be analyzed to determine treatment effects and results will be communicated to all stakeholders in South Dakota using print and electronic media. All data collected will also be sent to the project coordinator to be combined with regional data.