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**Project ID: FY16-IM-008**

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**Research Category: MGMT**

**Duration of Award: 1 Year**

**Project Title: Developing Integrated Management Strategies for FHB and DON in Small Grains.**

### **PROJECT 1 ABSTRACT**

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The combination of management tools is needed to effectively suppress FHB and DON. Previous studies on integrated management strategies have shown that growing a less susceptible variety and a well-timed triazole fungicide application at anthesis in wheat and at heading in barley is most effective in reducing FHB and DON. However, situations arise when timely early anthesis fungicide applications cannot be accomplished. This has resulted in questions about the feasibility and efficacy of post-anthesis applications and in some cases multiple fungicide application programs. Additionally, the availability of higher-yielding more scab resistant varieties has prompted several questions on the influence of fungicides on varietal performance.

Small grain research trials will be conducted at several locations across North Dakota. Hard red spring wheat trials will be established at three locations, durum at two locations, spring barley at four locations and hard red winter wheat at one location. Each location will use the treatments listed in the standard protocols and use at least two varieties that vary in FHB susceptibility. The research will provide valuable insight on the role genetic resistance and post-anthesis fungicide programs have on FHB index and DON accumulation. Data will be compiled for each small grain market class and subsequently used in a meta-analysis. The results will be used in assessing the feasibility of fungicide programs on new varieties that are available in the state.