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Project Title: Integrated Management of FHB in Spring and Winter Wheat in North Dakota.

PROJECT 1 ABSTRACT

Fusarium Head Blight (FHB) continues to be one of the most serious constraints to small grain production in North Dakota. Even with several effective control practices available to farmers, yield losses and losses in quality were high due to this pernicious disease in large areas of North Dakota in 2005. Furthermore, much of the winter wheat crop was unmarketable. With increased experience and use of fungicides in North Dakota the use of FHB tolerant genotypes has begun to decline and there has been less care in the selection of crop rotation. The objective of this project will be to quantify the value of a FHB control program that integrates tolerant cultivars, fungicides, crop management and crop rotation in spring and winter wheat in North Dakota. A series of experiments will be established in four locations in south eastern and north central ND where FHB is consistently most problematic for wheat production. The first set of experiments will look at the interaction of fungicide and host plant resistance on overall FHB control in spring and winter wheat and will answer the question: if fungicide is applied is there value in growing a FHB-tolerant cultivar? The second set of experiments will examine the effect of plant density on the effectiveness of fungicide in controlling FHB in spring wheat to determine if through crop management the effectiveness of a fungicide application can be improved. Finally, through extensive on-farm monitoring the effect of crop rotation on the development of FHB and its control using genetic resistance and/or fungicides will be quantified. This information will be used to educate growers on the importance of integrating the various FHB control strategies currently available to them.