0203-MC-055 Uniform trials to identify safe fungicides and biological agents effective against Fusarium Head Blight, ND.

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PROJECT ABSTRACT
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Uniform fungicide and biological agent treatment trials will be established in hard red spring wheat, spring barley, and durum wheat in North Dakota across four locations. The uniform trials will be part of a cooperative effort among multiple states in spring grain regions and in winter wheat regions of the United States. The establishment of a core set of uniform treatments across a number of states allows evaluation of products and methods for consistency in performance over a wide number of environments and across grain types affected by Fusarium head blight (FHB). Also, because FHB does not occur every year in every location, regardless of attempts to ensure infection through added inoculum or misting systems, having the trials across multiple environments increases the chance of favorable disease levels for evaluation across sites. In North Dakota, the uniform treatment trial will be established at Fargo in the southeast, at Carrington in the central region, at Minot in the northcentral region, and at Langdon in the northeast. These regions have variable weather patterns and different classes of small grains and varieties adapted to these areas. They also have had varied intensities of scab depending on year, but the disease has been severe in one or more locations each year, in recent years. In 2001, disease levels were particularly high at Minot, Carrington, and Langdon, and good evaluations were made of product efficacy on two classes of wheat and on barley at these locations. FHB was very damaging to durum wheat in ND in 2001 and additional information on fungicide performance will be critical.

Fungicides tested in the core treatments in 2002 will include a standard triazole treatment, a strobilurin treatment, several experimental compounds that showed very good results in 2001, plus one or more promising biological agents, and a combination of a biological agent and a fungicide. Results in locations with disease in 2001 indicated enhanced control with several of the experimental products, and one or more locations had good results with a biological agent. In 2002, further testing with experimental products that may soon be on the market should be done again across environments, to get additional information on their efficacy and performance consistency. This information is critical for getting registration. This proposal is relevant to the US wheat and Barley Scab Initiative because it addresses immediate concerns about control of the disease and evaluates the efficacy and economics of one important management tool. Data provided by these trials also is critical for registration requests and decisions about further development of biological agents.