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Research Area: CBC

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Project Title: ND Uniform Fungicide Trials Across Multiple Sites and Grain Classes.

PROJECT 3 ABSTRACT

(1 Page Limit)

This project will be a continuation of a collaborative effort among four research/extension centers in North Dakota to evaluate experimental fungicides for effectiveness and consistency in performance against FHB in hard red spring wheat, durum wheat and/or barley. These fungicides or fungicide combinations will be compared to the current standard fungicide, Folicur. These 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 or product combinations for consistency in performance over a wide number of environments and across grain types affected by 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 again will be established at Fargo in the southeast, at Carrington in the central region, at Minot in the north central 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 in recent years. In 2004, disease levels were adequate at all locations for separation of treatments, but in previous years, one or more locations had low disease levels because of naturally occurring rainfall and temperatures.

Fungicides tested in the core treatment will include a standard triazole treatment, Folicur, and several experimental compounds that have showed very good results in recent years. Final treatments will be decided during the 2004 Scab Forum in Minneapolis, once all of the 2004 data has been collected. Products that may soon be on the market must be evaluated again across different environments, to get additional information on their efficacy and performance consistency. This information is critical for getting federal or special registrations. 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.