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**Research Area:** CBC

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**Project Title:** Uniform Trial to Evaluate Efficacy of Fungicides and Biologicals Against Scab.

## PROJECT 1 ABSTRACT

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In order to identify fungicides and biological products that are effective in minimizing damage from Fusarium head blight (FHB), uniform trials for FHB control have been established in spring wheat/barley regions and winter wheat regions of the United States. The establishment of a trial using a core set of treatments across a number of states allows evaluation of products and application methods for consistency of 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, having multiple sites for the uniform trial increases the chance of favorable results at some locations each year. During the first few years of the Uniform Fungicide Trial both fungicides and biological control agents were tested in the same trial. Because of the additional work that was necessary in increasing some of the biological control agents and the more sensitive application requirements of the biological agents, the decision was made not to include biological control agents in the 2003 trial. In 2004 and for 2005, fungicides and biologicals will be combined in one uniform trial.

The first years of the Uniform Fungicide Trial resulted in changes in products labeled for use by producers. The fungicide Quadris received federal registration during the summer of 1999, the triazole fungicide Folicur was granted special exemptions for use in some states and the triazole fungicide Tilt was granted state labels for use against FHB. Valuable efficacy data on experimental or new fungicides such as Stratego (combination product of Tilt and Flint) and the fungicide BAS 500 have been obtained. Over the years of the Uniform Fungicide Trial, results in locations with FHB indicated favorable control with many of the tested products. Changes in application technology, which have improved fungicide efficacy, have also been incorporated into the Uniform Fungicide Trial.

Missouri has cooperated in the Uniform Fungicide Trial for a number of years. The 2004 uniform evaluation of fungicides and biologicals was conducted at the Bradford Research Farm east of Columbia, MO. Conditions were quite favorable for scab and good results were obtained. For the 2004-2005 trial two winter wheat varieties were planted in the fall of 2004 so that applications of fungicides and biologicals can be made during the 2005 season.

This proposal is directly in line with the main priority of the Chemical and Biological Control Program: Priority 1: collaborative efforts (Uniform Tests) to evaluate advanced fungicide and BAC treatments for effective and consistent performance against FHB of wheat (all classes) and barley across multiple environments.

Priority 2: development and evaluation of BACs and formulations that were shown to have efficacy against FHB in preliminary tests. Collaborative, uniform