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**Project Title: Uniform Trial on Integrated Management of FHB: Kentucky.**

### **PROJECT 1 ABSTRACT**

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Using foliar fungicides or disease resistance alone, have not provided acceptable FHB and DON control results in most wheat production situations. The best available fungicides currently only provide for FHB/DON suppression of about 40-50%. In addition, highly FHB-resistant wheat varieties are currently unavailable. Conceptually, integrated control would maximize the strengths of specific disease control methods, while minimizing their weaknesses. The result should be more complete FHB/DON control. Integrated pest management (IPM) methods have been around for many years in a variety of pest-crop systems. However, until recently, insufficient information existed for developing an integrated FHB/DON control program. Work funded by the USWBSI since 1998 has resulted in the identification of fungicides and moderately resistant wheat varieties which can be used to develop an integrated approach to FHB/DON control. Thus, a National Uniform Trial on Integrated Control of FHB has been initiated. The objectives of this trial are to 1) evaluate the benefits of combining host resistance (one susceptible and two resistant varieties) and fungicides (non-treated vs. Prosaro-treated) for FHB/DON management; 2) generate data aimed at increasing grower adoption of integrated FHB management strategies; and 3) generate data for use in refining USWBSI-funded FHB forecast models. Kentucky will participate in a multi-state, multi-year study to evaluate the benefits of combining host resistance and fungicides for FHB/DON management. As part of a Uniform Trial, Kentucky will conduct two tests, both located at the University of Kentucky Research and Education Center, Princeton, KY. One test will study variety x fungicide treatments in a no-till environment. A second study will be conducted in a conventionally-tilled seedbed. Both studies will be planted following previous crops of maize. The proposed study is intended to provide data for multi-state analyses of variety x fungicide treatments under two tillage regimes. The ultimate goal of the project is to decrease the overall risk of FHB epidemics in the U.S. through enhanced grower adoption of integrated FHB/DON management programs. Food safety will be enhanced through lower levels of DON in the food supply.