

**PI: Robert Brueggeman**

**PI's E-mail: Robert.Brueggeman@ndsu.edu**

**Project ID: FY10-BA-002**

**FY09 ARS Agreement #: 59-0790-8-071**

**Research Category: BAR-CP**

**Duration of Award: 1 Year**

**Project Title: Validation and Refinement of DON Models in Barley for the Northern Great Plains.**

### **PROJECT 1 ABSTRACT**

(1 Page Limit)

Producers in the upper Midwest need a prediction model for forecasting the risk of FHB in barley. An effective FHB risk advisory system is currently available for wheat but the model used to develop the system was based on environmental factors associated with disease occurrence levels in wheat. This advisory system may not be effective at predicting disease severity for barley because barley risk factors and duration of risk may differ from those of wheat. Additionally there is no model available for DON, the most important criteria used by the malting industry when deciding to purchase malting barley. The goal of this project is to investigate the effect of environmental conditions on FHB severity and the accumulation of DON in barley. This data will help to develop risk prediction models for barley to aid producers and crop advisors in making informed decisions on fungicide application across a range of susceptibility levels in barley cultivars. North Dakota collaborates on this project with several other scientists, with Dr. Jeff Stein of SDSU as the PI. We provide disease data, DON data, and weather parameters associated with this data, to Dr. Stein, for the development and validation of the model.