

**USDA-ARS/  
U.S. Wheat and Barley Scab Initiative  
FY08 Final Performance Report (approx. May 08 – April 09)  
July 15, 2009**

**Cover Page**

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<b>Fiscal Year:</b>	2008
<b>USDA-ARS Agreement ID:</b>	59-0790-7-077
<b>USDA-ARS Agreement Title:</b>	Enhanced Tools for the Deployment of Fusarium Head Blight Prediction Models.
<b>FY08 USDA-ARS Award Amount:</b>	\$ 27,409

**USWBSI Individual Project(s)**

<b>USWBSI Research Category*</b>	<b>Project Title</b>	<b>ARS Adjusted Award Amount</b>
MGMT	Enhanced Deployment of Prediction Models for Fusarium Head Blight.	\$27,409
	<b>Total Award Amount</b>	<b>\$ 27,409</b>

June 3, 2009

\_\_\_\_\_  
Principal Investigator

\_\_\_\_\_  
Date

\* MGMT – FHB Management  
FSTU – Food Safety, Toxicology, & Utilization of Mycotoxin-contaminated Grain  
GDER – Gene Discovery & Engineering Resistance  
PBG – Pathogen Biology & Genetics  
BAR-CP – Barley Coordinated Project  
HWW-CP – Hard Winter Wheat Coordinated Project  
VDHR – Variety Development & Uniform Nurseries – Sub categories are below:  
    SPR – Spring Wheat Region  
    NWW – Northern Winter Wheat Region  
    SWW – Southern Sinter Wheat Region

**Project 1:** *Enhanced Deployment of Prediction Models for Fusarium Head Blight.*

**1. What major problem or issue is being resolved relevant to Fusarium head blight (scab) and how are you resolving it?**

The assessment of the risk of scab for the entire wheat planting region east of the Rockies for the growing season is being predicted based on the research of plant pathologist (Erick DeWolf and colleagues) and the known relationship to atmospheric conditions (Temperature and Moisture [both rainfall and dew point]).

The innovative component of this prediction system includes the use of several models (winter vs spring wheat, experimental, etc.), dense resolution gridded atmospheric data (5km horizontal resolution) and a host of agricultural weather networks used to bias correct the gridded data for a more accurate assessment of the risk.

The user interface includes a survey which gathers user feedback on the utility of the prediction system.

**2. List the most important accomplishment and its impact (i.e. how is it being used) to minimize the threat of Fusarium head blight or to reduce mycotoxins. Complete both sections (repeat sections for each major accomplishment):**

**Accomplishment:**

The primary accomplishment is a daily real-time assessment of fusarium head blight across the wheat growing regions of the nation beginning in early April and continuing into mid-August. Growers can make scientifically sound decisions based on the guidance provided.

**Impact:**

A better informed growing community that uses amelioration for scab in the most responsible way while increasing the productivity of their farms.

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FY08 Final Performance Report

**Include below a list of the publications, presentations, peer-reviewed articles, and non-peer reviewed articles written about your work that resulted from all of the projects included in the grant. Please reference each item using an accepted journal format. If you need more space, continue the list on the next page.**

The publication on this project is handled by the plant pathology component. (KSU)

**If your FY08 USDA-ARS Grant contained a VDHR-related project, include below a list all germplasm or cultivars released with full or partial support of the USWBSI. List the release notice or publication. Briefly describe the level of FHB resistance. If this is not applicable (i.e. no VDHR-related project) to your FY08 grant, please insert 'Not Applicable' below.**

Not Applicable