

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

**Cover Page**

<b>PI:</b>	Donald Hershman
<b>Institution:</b>	University of Kentucky
<b>Address:</b>	Department of Plant Pathology P.O. Box 469 1205 Hopkinsville St. Princeton, KY 42445
<b>E-mail:</b>	dhershma@uky.edu
<b>Phone:</b>	270-365-7541 ext 215
<b>Fax:</b>	270-365-2667
<b>Fiscal Year:</b>	2008
<b>USDA-ARS Agreement ID:</b>	59-0790-7-076
<b>USDA-ARS Agreement Title:</b>	Uniform Trial for Integrated Control in FHB: Kentucky.
<b>FY08 USDA-ARS Award Amount:</b>	\$ 7,164

**USWBSI Individual Project(s)**

<b>USWBSI Research Category*</b>	<b>Project Title</b>	<b>ARS Adjusted Award Amount</b>
MGMT	Uniform Trial on Integrated Management of FHB: Kentucky.	\$7,164
	<b>Total Award Amount</b>	<b>\$ 7,164</b>



June 15, 2009

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Principal Investigator

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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

(Form FPR08)

**Project 1:** *Uniform Trial on Integrated Management of FHB: Kentucky.*

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

Integrated use of resistant varieties and fungicides to manage FHB and DON. A multi-state Uniform Trial on Integrated Control of FHB was established in 2007, and Kentucky is part of that trial, which involves a uniform protocol being used by all cooperators.

**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:**

A uniform trial protocol, involving numerous states and wheat classes, was implemented in 2007. In 2008, Kentucky was part of this trial and hosted two studies, one in a conventionally-tilled field and one in a no-till field. Data were collected and sent to the Uniform Trial Coordinator, Dr. Pierce Paul, for inclusion in the trial summary report. This report was given during the 2008 USWBSI Forum and was included in the proceedings for the meeting. Results of studies have been incorporated into educational programs on the integrated use of resistance and fungicides to manage FHB/DON. Weather data associated with studies have been made available to FHB epidemiologists for use in fine-tuning FHB pre-flowering predictive models.

**Impact:**

Research-based educational programs have encouraged wheat producers to adopt integrated FHB management practices. Adoption of FHB-resistant varieties and fungicides resulted in a significant reduction in FHB and DON during a 2009 FHB epidemic in Kentucky. Harvest is barely underway at the writing of this report, so it is impossible to be more specific. Pre-flowering FHB predictive models accurately predicted a near regional FHB epidemic across most soft red winter wheat producing states, as well as, some hard red winter wheat producing areas.

**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.**

Hershman, D. E. 2009. Fusarium head blight and its management. TV tape, WBKO TV 6, Bowling Green KY, June 2, 2009.

Hershman, D. E. 2009. Integrated management of Fusarium head blight using fungicides and resistant varieties. 2009 AgriChem Wheat Field Day, Christian County, KY, June 2, 2009.

Hershman, D. E. 2009. Integrated management of Fusarium head blight using fungicides and resistant varieties. 2009 UK Wheat Science Field Day, Christian County, KY, May 19, 2009.

Hershman, D. E. 2009. Fungicidal control of Fusarium head blight (head scab) and deoxynivalenol (DON) in wheat. Kentucky Pest News, no 1192, April 21, 2009.

Hershman, D. E. 2009. Exploring the wheat fungicide tool box. 2009 UK Wheat Science Group Annual Wheat Meeting. Bowling Green, KY, Jan 13, 2009.

Paul, P. A., L. Madden, M. McMullen, D. Hershman, L. Sweets, S. Wegulo, S. Halley, L. Osborne, K. Ruden, and B. Padgett. 2008. Integrated management of FHB and DON in small grain: 2008 Uniform Trial. Pages 52-55 in: Proceedings of 2008 National Fusarium Head Blight Forum, Dec 2-4, 2008, Indianapolis, IN.

**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