

**USDA-ARS/
U.S. Wheat and Barley Scab Initiative
FY11 Final Performance Report
July 13, 2012**

Cover Page

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Fiscal Year:	FY11
USDA-ARS Agreement ID:	NA
USDA-ARS Agreement Title:	Coordination of the Uniform Regional Scab Nursery for Spring Wheat Parents.
FY11 USDA-ARS Award Amount:	\$ 4,258

USWBSI Individual Project(s)

USWBSI Research Category*	Project Title	ARS Award Amount
VDHR-SPR	Coordination of the Uniform Regional Scab Nursery for Spring Wheat Parents.	\$ 4,258
	Total ARS Award Amount	\$ 4,258

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

DUR-CP – Durum Coordinated Project

HW-CP – Hard Winter Wheat Coordinated Project

VDHR – Variety Development & Uniform Nurseries – Sub categories are below:

 SPR – Spring Wheat Region

 NWW – Northern Soft Winter Wheat Region

 SWW – Southern Soft Red Winter Wheat Region

Project 1: *Coordination of the Uniform Regional Scab Nursery for Spring Wheat Parents.*

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

The significant environmental effect associated with FHB poses an obstacle for breeding programs seeking to develop more scab-resistant germplasm. Undertaking multisite evaluations across a range of environments is the only way to adequately assess scab resistance in germplasm, and the Uniform Regional Scab Nursery for Spring Wheat Parents (URSN) addresses this need. Interested parties from academia and private companies nominate germplasm for FHB resistance evaluation at field locations in Minnesota, North Dakota, South Dakota, and Canada that provide conditions to enhance FHB development. Location data are supplied to the coordinator, who oversees its collation and statistical analysis, and produces an annual report for the nursery program. An additional aspect of the URSN is to encourage open and free germplasm exchange, in order to foster cooperation among breeders in efforts to develop scab resistant germplasm.

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 URSN was grown for the 17th year in 2011, at locations in the U.S. and Canada . Entries were contributed by university, industry, and national wheat breeding programs. Scab resistance-related trait data from the locations were compiled and analyzed, and the annual report that was produced provides individual location data summaries, and data summaries and rankings across locations.

Impact:

This nursery program continues to function as an excellent source of data on wheat scab resistance from the field and as a vehicle for exchange of germplasm among spring wheat breeders in the Upper Midwest.

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.

GARVIN, D.F, AND BLANKENHEIM, Z. 2012. Report of the 2011 Uniform Regional Scab Nursery for Spring Wheat Parents. The report is made available at the USWBSI web site (<http://www.scabusa.org/>) and through the Graingenes web site (<http://wheat.pw.usda.gov>).