

**USDA-ARS/
U.S. Wheat and Barley Scab Initiative
FY14 Final Performance Report
July 15, 2015**

Cover Page

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Fiscal Year:	FY14
USDA-ARS Agreement ID:	NA
USDA-ARS Agreement Title:	Coordination of the Uniform Regional Scab Nursery for Spring Wheat Parents.
FY14 USDA-ARS Award Amount:	\$ 3,998

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	\$ 3,998
	FY14 Total ARS Award Amount	\$ 3,998

Principal Investigator

Date

* MGMT – FHB Management

FSTU – Food Safety, Toxicology, & Utilization of Mycotoxin-contaminated Grain

GDER – Gene Discovery & Engineering Resistance

PBG – Pathogen Biology & Genetics

EC-HQ – Executive Committee-Headquarters

BAR-CP – Barley Coordinated Project

DUR-CP – Durum Coordinated Project

HWW-CP – Hard Winter Wheat Coordinated Project

WES-CP – Western 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, 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 accomplishments and their impact (i.e. how are they 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 20th year in 2014, at locations in the U.S. 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 and publically released provides individual location data summaries, and data summaries and rankings across locations for the germplasm entered in the URSN.

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 U.S. and Canada.

Training of Next Generation Scientists

Instructions: Please answer the following questions as it pertains to the FY14 award period. The term “support” below includes any level of benefit to the student, ranging from full stipend plus tuition to the situation where the student’s stipend was paid from other funds, but who learned how to rate scab in a misted nursery paid for by the USWBSI, and anything in between.

- 1. Did any graduate students in your research program supported by funding from your USWBSI grant earn their MS degree during the FY14 award period?**

No

- 2. Did any graduate students in your research program supported by funding from your USWBSI grant earn their Ph.D. degree during the FY14 award period?**

No

- 3. Have any post docs who worked for you during the FY14 award period and were supported by funding from your USWBSI grant taken faculty positions with universities?**

No

- 4. Have any post docs who worked for you during the FY14 award period and were supported by funding from your USWBSI grant gone on to take positions with private ag-related companies or federal agencies?**

No

FY14 (approx. May 14 – May 15)

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USDA-ARS Agreement #: NA

Include below a list of all germplasm or cultivars released with full or partial support of the USWBSI during the FY14 award period. List the release notice or publication. Briefly describe the level of FHB resistance. *If not applicable because your grant did NOT include any VDHR-related projects, enter N/A below.*

N/A

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 FY14 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. 2015. Report of the 2014 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>).