

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

Cover Page

PI:	David Van Sanford
Institution:	University of Kentucky
Address:	Department of Plant Science 327 Plant Science Bldg. Lexington, KY 40546-0312
E-mail:	dvs@uky.edu
Phone:	859-338-2409
Fax:	859-257-7125
Fiscal Year:	FY14
USDA-ARS Agreement ID:	59-0206-1-082
USDA-ARS Agreement Title:	U.S. Wheat and Barley Scab Initiative's Networking and Facilitation Office and Website.
FY14 USDA-ARS Award Amount:	\$ 178,460

USWBSI Individual Project(s)

USWBSI Research Category*	Project Title	ARS Award Amount
EC-HQ	US Wheat & Barley Scab Initiative's Networking & Facilitation Office and Website.	\$ 178,460
	FY14 Total ARS Award Amount	\$ 178,460



Principal Investigator

7/7/15

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: *US Wheat & Barley Scab Initiative's Networking & Facilitation Office and Website.*

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

Scab affects the industries and people involved in virtually every stage of the production, processing, and distribution systems of five market classes of wheat and barley across the U.S. The Networking and Facilitation Office (NFO) has been in existence since 1999. The goal of the NFO is to minimize the barriers to the success of the U.S. Wheat & Barley Scab Initiative arising from the administrative burdens and communication challenges. In FY14, there were 81 researchers working in 26 institutions (including ARS and NASS) across 27 states (including Washington, DC). The NFO is addressing this problem by 1) helping scientists and all interested parties, who in the past may have problems communicating with each other, to learn from each other by facilitating communications and communication system development; 2) identifying and implementing an internet-based communication and collaboration mechanisms; and 3) acting as a center of accountability and a rapid clearing house of scab-related information. The NFO provides administrative support to the various committees, as well as being responsible for the organization of the Initiative's annual scientific conference. Finally, the NFO facilitates the annual resolution of a comprehensive national research plan and budget, and represents the Initiative's only 'fixed' asset.

This project is directly associated with the following two FY14 Projects:

Project Title – Project ID	Principal Investigator	ARS ID/Institution
U.S. Wheat & Barley Scab Initiative's Networking and Facilitation Office, and Website.- FY12-VA-004	Blechl, Ann	NA/USDA-ARS
U.S. Wheat & Barley Scab Initiative's Networking and Facilitation Office, and Website.- FY12-VA-004	Kells, James	59-0206-4-001/Michigan State University

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 (1):

One of the NFO's most important accomplishments was the successful facilitation of the development of the USWBSI's FY15 Research Plan and Budget, which was approved by USDA-ARS in March.

Impact:

One-hundred and twenty-five (125) research projects across five (5) research areas (FHB Management, Food Safety, Toxicology and Utilization of Mycotoxin-contaminated Grain,

Gene Discovery and Engineering Resistance, and Variety Development and Host Resistance (primarily organized around three regional FHB nurseries)), three commodity-based coordinated projects (Barley, Durum, and Hard Winter Wheat), and the USWBSI Headquarters (Office and Website), received funding in the amount of \$4,908,066 to continue the fight against FHB.

Table 1. Summary of Meetings, Conference Calls and Workshops/Planning meetings facilitated or supported by the Networking & Facilitation Office (NFO) during FY14.

Committee/Group	# of Meetings/ Conference Call (CC)	Description/Purpose of Meeting
Steering Committee (SC)	2 Meetings	12-09-14: Semi-Annual Meeting – Review FY15 Research Plan and Budget 04-08-15: Semi-Annual Meeting
Executive Committee (EC)	5 Meetings	Meetings: 05-15-14: EC met in Minneapolis since this was the off year when the SC did not hold its spring meeting. 12-06-14: EC met with review panels to discuss their recommendations; 12-07-14: EC discusses recommendations from review panels, etc. for FY14 Research Plan and Budget. 12-09-14: follow-up of Annual Forum and USWBSI’s recommendation for FY15 Research Plan and Budget. 04-07-15: Prep-meeting prior to the SC’s meeting on 4-8-15
	2 CC	09-03-14: Conference Call: Discuss the review of submitted pre-proposals for the USWBSI’s commissioned economic study. 01-27-15: Conference Call: Discuss preliminary results from the NASS Grower Survey with lead PI and Ag. Economist.
Review Panels (RP) for Year 2 Funding Requests	3 CC	Review Panels (5 total) – Discuss/finalize their FY15 Funding Requests/Recommendations: FSTU: 11/14/14 MGMT: 11/14/14 DUR-CP: 11/17/14
Research-based Planning Meetings	2 Planning Meetings	3-26-15: Durum Coordinated Project (DUR_CP Planning Meeting, Fargo, ND 4-7-15: Barley Coordinated Project Planning Meeting, St. Paul, MN
Miscellaneous	3 CC	These conference calls were requested by PIs collaborating on joint USWBSI projects.

Accomplishment (2):

In December of 2014, the NFO working with the Forum Organizing Committee facilitated the USWBSI's annual scientific Forum, which was held in St. Louis, Missouri. Approximately 200 scientists (including research associates, research technicians and graduate students), growers, and industry representatives from across the nation and around the world, as well as area leaders of the U.S. wheat and barley industry, attended the 2014 National FHB Forum. Research results and findings were presented to the forum participants in the form of invited talks (16), and poster (75) presentations accompanied by abstracts or papers published in the Forum proceedings. One morning was devoted to group discussions designed around the USWBSI's five research areas and three commodity-based coordinated projects.

Impact:

The annual Forum is the primary mechanism whereby USWBSI scientists and stakeholders come together to discuss both the progress being made, as well as problems that interfere, with the successful combat against this devastating disease.

Accomplishment (3):

The ongoing deployment of the FHB Alert System.

Impact:

The purpose of the alert system is to give growers and affiliated industry personnel better advanced notice of potential outbreaks and the risk of scab in their area, thus allowing for timely treatment of fields with fungicides. The FHB Alert system is linked to the FHB Forecasting Tool (<http://www.wheatscab.psu.edu/riskTool.html>). Commentary posted to the forecasting tool by state specialist is sent out to regional/national based list serves, posted on the USWBSI's blog site (<http://scabusa.org/blog>), and sent as text messages (SMS) to cell phones. Producers, crop consultants, grain processors and others can sign up for the alerts by going to the following web site address: http://scabusa.org/fhb_alerts. There are currently over 950 subscribers to the FHB Alert System.

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**

If yes, how many?

- 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**

If yes, how many?

- 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**

If yes, how many?

- 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**

If yes, how many?

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.

Forum Proceedings:

Canty, S., A. Clark, N. Turcott, and D. Van Sanford (Eds.). 2014. Proceedings from the 2014 National Fusarium Head Blight Forum, St. Louis, Missouri; December 7-9. East Lansing, MI/Lexington, KY: U.S. Wheat & Barley Scab Initiative.

Complete Proceedings are available in PDF format on the USWBSI's Website at:
<http://scabusa.org/fhb-forum#forum14>

Abstracts:

Hane, D., S. Canty, D. Van Sanford, O. Anderson and Yong Gu. 2014. "The New USWBSI Website." In: S. Canty, A. Clark, N. Turcott and D. Van Sanford (Eds.), *Proceedings of the 2014 National Fusarium Head Blight Forum*. East Lansing, MI/Lexington, KY: U.S. Wheat & Barley Scab Initiative. p. 107.

On-Line Articles:

Lilleboe, D. 2014, October. *DON: Keeping a Mycotoxin in Check Through Ongoing Research, Sound Sampling & Producer Awareness*. U.S. Wheat & Barley Scab Initiative. Website: http://scabusa.org/pdfs/USWBSI-Article_DON_10-10-14.pdf.

Lilleboe, D. 2014, September. *FHB in 2014: From Nonexistent to Severe*. U.S. Wheat & Barley Scab Initiative. Website: http://scabusa.org/pdfs/USWBSI-Article_2014FHB-Summary_9-25-14.pdf.

Lilleboe, D. 2014, April. *Assessment Tool & Alert System Help Growers Control Scab in Wheat & Barley Fields*. U.S. Wheat & Barley Scab Initiative. Website: http://scabusa.org/pdfs/USWBSI_Article_Forecasting-Alert_4-30-14.pdf.

All Web-based articles are available in PDF format on the USWBSI's Website (http://scabusa.org/publications#pubs_articles).

USWBSI Newsletters:

Lilleboe, D., S. Canty, and D. Van Sanford (Eds.). Winter 2015. Fusarium Focus. U.S. Wheat & Barley Scab Initiative. Volume 15, Issue 1.

Lilleboe, D., S. Canty, and D. Van Sanford (Eds.). Summer 2014. Fusarium Focus. U.S. Wheat & Barley Scab Initiative. Volume 14, Issue 2.

All Fusarium Focus Newsletters are available in PDF format on the USWBSI's Website
(<http://scabusa.org/news#newsletters>).

Press Releases:

10-10-14 News Release: DON: Keeping a Mycotoxin in Check through Ongoing Research, Sound Sampling & Producer Awareness.

4-1-14 News Release: Initiative Aids in Development of Barley Varieties with Improved Scab Resistance.

4-30-14 News Release: Assessment Tool & Alert System Help Growers Control Scab in Wheat & Barley Fields.

All Press Releases are available in PDF format on the USWBSI's Website
(http://scabusa.org/news#press_rel).