

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

**Cover Page**

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<b>Fiscal Year:</b>	FY14
<b>USDA-ARS Agreement ID:</b>	NA
<b>USDA-ARS Agreement Title:</b>	Maintain and Improve the U.S. Wheat & Barley Scab Initiative's Website.
<b>FY14 USDA-ARS Award Amount:</b>	\$ 44,000

**USWBSI Individual Project(s)**

<b>USWBSI Research Category*</b>	<b>Project Title</b>	<b>ARS Award Amount</b>
EC-HQ	US Wheat & Barley Scab Initiative's Networking & Facilitation Office and Website.	\$ 44,000
	<b>FY14 Total ARS Award Amount</b>	<b>\$ 44,000</b>

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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:** *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?**

Information sharing and access are key to the success of the Scab community. The U.S. Wheat & Barley Scab Initiative provides a publicly accessible server that hosts a comprehensive suite of services and applications to facilitate data access and dissemination. These applications and services are provided by server programs that are created by the project's webmaster and programmer. Several open source and commercial applications are also used and heavily customized to meet the goals of the U.S. Wheat & Barley Scab Initiative.

The driving factors during the development of applications and services is ease of use for all users, increasing data access, and providing faster distribution of the latest scab related information. Services available to the public that allow for this include features such as mass mailing lists, image libraries, discussion boards, blogs, and access to the USWBSI database, just to name a few. The centralized nature of these services also provides for easier public access and rapid feature development.

**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):** Hardware and networking infrastructure upgrades: The scabusa.org web and application server hardware and software was upgraded. A much faster server was purchased, configured, and put into service. A new firewall service was put in place. The server and its network connections were relocated to a newly renovated room. The uninterruptible power supplies (UPS) were also upgraded.

**Impact:** The new system has greatly increased processing and data access speeds that enable faster loading of webpages and applications. It also has more storage and a more secure operating system. All of this allows for a better user experience and easier maintenance/administration. Downtime will be further minimized with this upgrade due to faster components and more reliable hardware.

A suite of intrusion prevention services was put into place on the existing firewall hardware. These services will prevent the hardware from being compromised by malicious users. The redesign and relocation of the server room provides many improvements for the Scabusa server. These improvements include: 1) greater cooling capacity and improved temperature control; 2) network wiring upgraded to faster standard; and 3) better wiring for power; and 4) massively upgraded UPS capacity. All of these improvements increase system security, speed, reliability, and ease of maintenance.

**Accomplishment (2):** The scabsmart.org website was moved to the Drupal content management system (CMS).

**Impact:** This change makes adding and editing content much easier for the web program and NFO manager. It also provides a better user interface to the site and makes the site compatible for users with portable devices such as phones and tablets.

**Accomplishment (3):** As part of the general systems administration duties, improvements were made to spam email control, using captchas to prevent fraudulent registration, increased data input sanitizing, security incident prevention, small feature enhancements and additions to hosted applications.

**Impact:** These improvements were put in place to improve site usability and security, and to add new features for both the administrators and end users.

### **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? None**

**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? None**

**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 Article:**

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](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](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](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](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 Release:**

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](http://scabusa.org/news#press_rel)).