

**USDA-ARS/  
U.S. Wheat and Barley Scab Initiative  
FY13 Final Performance Report  
July 15, 2014**

**Cover Page**

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<b>Fiscal Year:</b>	FY13
<b>USDA-ARS Agreement ID:</b>	59-0206-9-067
<b>USDA-ARS Agreement Title:</b>	Diagnostic Services for Vomitoxin (DON) in Wheat.
<b>FY13 USDA-ARS Award Amount:</b>	\$ 101,980

**USWBSI Individual Project(s)**

<b>USWBSI Research Category*</b>	<b>Project Title</b>	<b>ARS Award Amount</b>
FSTU-S	Diagnostic Services for Vomitoxin (DON) in Wheat.	\$ 101,980
	<b>FY13 Total ARS Award Amount</b>	<b>\$ 101,980</b>

\_\_\_\_\_  
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:** *Diagnostic Services for Vomitoxin (DON) in Wheat.*

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

This funding supported wheat analyses for *Fusarium graminearum* mycotoxins produced during scab infection in research projects by multiple USWBSI PIs (15) in 3 states. In particular, vomitoxin or deoxynivalenol (DON) and additional mycotoxins 15- and 3-acetyldeoxynivalenol plus nivalenol were analyzed by gas chromatography/electron capture detection. Approximately 11,000 samples were estimated for mycotoxin analysis and by May 2014 approximately 8,700 (8,658) wheat samples were analyzed. The results were sent electronically to the individual USWBSI PIs for their research. A technician was hired to assist in laboratory sample preparation and preparation of sample clean-up columns for mycotoxin extraction

**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 chemist performed approximately 8,700 analyses on wheat for *Fusarium graminearum* mycotoxins (in particular vomitoxin) for use by USWBSI PIs in their research projects.

**Impact:**

Mycotoxin data generated by this project is used by USWBSI PIs in their research projects focused on mitigation of scab in cereal grains

FY13 (approx. May 13 – May 14)  
PI: Mostrom, Michelle  
USDA-ARS Agreement #: 59-0206-9-067

FY13 Final Performance Report

**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 FY13 grant. Please reference each item using an accepted journal format. If you need more space, continue the list on the next page.**

NA – Analytical testing performed for research PIs receiving USWBSI funding.

**PI:** Mostrom, Michelle

**Project:** Diagnostic Services for Vomitoxin (DON) in Wheat.

**FY13 FPR – USWBSI ADDENDUM  
DON Service Labs – Quality Control Data**

**Insert below Quality Control Data/Results from the FY13 Award Period (approx. May 2013-May 2014):**

	Front $\mu$ ECD Detector			Back $\mu$ ECD Detector		
Pool	Wheat	Barley	Corn	Wheat	Barley	Corn
Mean	0.9	2.7	4.6	0.9	2.7	4.5
Std Dev	0.15	0.27	0.43	0.16	0.27	0.46
CV	15.81%	10.11%	9.36%	16.66%	10.10%	10.15%