USDA-ARS/
U.S. Wheat and Barley Scab Initiative
FY12 Final Performance Report
July 16, 2013

Cover Page

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Fiscal Year:	FY12
USDA-ARS Agreement ID:	59-0206-9-067
USDA-ARS Agreement Title:	Diagnostic Services for Vomitoxin (DON) in Wheat.
FY12 USDA-ARS Award Amount:	$ 102,126[*]

USWBSI Individual Project(s)

USWBSI Research Category[**]	Project Title	ARS Award Amount
FSTU-S	Diagnostic Services for Vomitoxin (DON) in Wheat.	$ 102,126
	Total ARS Award Amount	**$ 102,126**

7/8/2013

Principal Investigator Date

[*] Partial funding for this research is under ARS agreement # 59-0206-9-062

[**] 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
HWW-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 (17) in 5 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 2013 approximately 7,500 (7,465) wheat samples were analyzed. The 2012-2013 dry weather conditions resulted in many initial check DON samples testing negative, with no further testing requested. 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 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 chemist performed approximately 7,500 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.

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.

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

PI: Mostrom, Michelle
Project: Diagnostic Services for Vomitoxin (DON) in Wheat.

FY12 FPR – USWBSI ADDENDUM
DON Service Labs – Quality Control Data

Insert below Quality Control Data/Results from the FY12 Award Period (May 2012-May 2013):

	Front µECD Detector			Back µECD Detector		
Pool	Wheat	Barley	Corn	Wheat	Barley	Corn
Mean	1.0	2.7	4.7	0.9	2.8	4.6
Std Dev	0.1	0.3	0.5	0.2	0.4	0.5
CV	15.2%	12.8%	10.2%	17.4%	13.4%	11.3%