USDA-ARS/
U.S. Wheat and Barley Scab Initiative
FY15 Final Performance Report
Due date: July 15, 2016

Cover Page

Principle Investigator (PI):	Jamie Sherman
Institution:	Montana State University
E-mail:	jsherman@montana.edu
Phone:	406-994-2903
Fiscal Year:	2015
USDA-ARS Agreement ID:	59-0206-5-003
USDA-ARS Agreement Title:	Fusarium Head Blight Resistance for Montana Barley.
FY15 USDA-ARS Award Amount:	$ 14,577
Recipient Organization:	Montana State University Office of Sponsored Programs Montana State University PO Box 172470 Bozeman, MT 59717-2470
DUNS Number:	625447982
EIN:	816010045
Recipient Identifying Number or Account Number:	W5477
Project/Grant Reporting Period:	05/06/15-05/05/16
Reporting Period End Date:	05/05/16

USWBSI Individual Project(s)

USWBSI Research Category*	Project Title	ARS Award Amount
BAR-CP	Fusarium Head Blight Resistance for Montana Barley.	$ 14,577
	FY15 Total ARS Award Amount	**$ 14,577**

Jamie D Sherman

07/15/16

Principal Investigator Date

* MGMT – FHB Management
FST – Food Safety & Toxicology
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
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: *Fusarium Head Blight Resistance for Montana Barley.*

1. What are the major goals and objectives of the project?

Utilize known sources of resistance to improve Montana varieties.
Screen current Montana germplasm for level of resistance.

Develop new barley varieties with enhanced resistance to FHB and lower DON.

2. What was accomplished under these goals?

1) major activities
Major activities included crossing of resistance into Montana lines and screening Montana lines for resistance

2) specific objectives
About 2,000 lines were made crossing 14 resistant and 14 susceptible parents. Lines were inbred and are currently in the field as F4 headrows. Summer of 2016 lines will be selected for agronomics. Summer of 2017 lines will be screened for FHB resistance

100 Montana lines were screened for FHB resistance by Brueggeman in North Dakota where 44 were less susceptible than the 2 row resistant check Conlon and 5 had lower DON values. Lines are being retested this year in North Dakota and Idaho. Resistant lines will be utilized in further crosses or advanced for release.

3) significant results
No significant results as crossing is too early to know if we will have resistance. Also, resistance is being retested to ensure accuracy.

4) key outcomes or other achievements
No key outcomes yet

3. What opportunities for training and professional development has the project provided?

Sherman attended FHB workshop in St Louis Missouri.

4. How have the results been disseminated to communities of interest?

We have encouraged proper management to limit FHB in Montana at 7 field days. We do not have confirmed resistance to report to growers at this time.

Training of Next Generation Scientists

Instructions: Please answer the following questions as it pertains to the FY15 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 FY15 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 FY15 award period?**

   No

   If yes, how many?

3. **Have any post docs who worked for you during the FY15 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 FY15 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?

Release of Germplasm/Cultivars

Instructions: In the table below, list all germplasm and/or cultivars released with full or partial support through the USWBSI during the FY15 award period. All columns must be completed for each listed germplasm/cultivar. Use the key below the table for Grain Class abbreviations. *Leave blank if you have nothing to report or if your grant did NOT include any VDHR-related projects.*

Name of Germplasm/Cultivar	**Grain Class**	**FHB Resistance** (S, MS, MR, R, where R represents your most resistant check)	**FHB Rating** (0-9)	**Year Released**

Add rows if needed.

NOTE: List the associated release notice or publication under the appropriate sub-section in the 'Publications' section of the FPR.

Abbreviations for Grain Classes

Barley - BAR
Durum - DUR
Hard Red Winter - HRW
Hard White Winter - HWW
Hard Red Spring - HRS
Soft Red Winter - SRW
Soft White Winter - SWW

Publications, Conference Papers, and Presentations

Refer to the FY15-FPR_Instructions for listing publications/presentations about your work that resulted from all of the projects included in the FY15 grant. If you did not have any publications or presentations, state 'Nothing to Report' directly above the Journal publications section.

Nothing to Report

Journal publications.

Books or other non-periodical, one-time publications.

Other publications, conference papers and presentations.