

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

Cover Page

Principle Investigator (PI):	Deven See
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Phone:	509-335-3630
Fiscal Year:	2015
USDA-ARS Agreement ID:	N/A
USDA-ARS Agreement Title:	Genotyping Breeding Lines for FHB Resistance.
FY15 USDA-ARS Award Amount:	\$ 45,000

USWBSI Individual Project(s)

USWBSI Research Category*	Project Title	ARS Award Amount
EC-HQ	Genotyping Breeding Lines for FHB Resistance.	\$ 45,000
	FY15 Total ARS Award Amount	\$ 45,000

Deven R. See
Principal Investigator



7-19-2016
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

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USDA-ARS Agreement #: N/A

Project 1: *Genotyping Breeding Lines for FHB Resistance.*

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

The overall goal of this project is to develop FHB resistant wheat cultivars. The specific objectives are: support breeding programs with molecular markers and bioinformatic expertise to identify informative markers for germplasm enhancement.

2. What was accomplished under these goals?

- 1) major activities: Genotyped 820 germplasm from the Southern Idaho breeding program
- 2) specific objectives: performed genotyping by sequencing (GBS) on 190 lines, each line was sequenced to a depth of 2 million reads. These lines were also genotyped with 10 known informative markers for FHB. Genotyped an additional 630 lines with 20 molecular markers
- 3) significant results: Jianli Chen was able to use the 190 lines in QTL mapping
- 4) key outcomes or other achievements: Jianli Chen presented a poster at the 2015 FHB meeting.

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

The project and specifically the GBS work has provided training opportunities in bioinformatics and in the development of computational pipelines to facilitate calling next – gen sequencing fragments.

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

Jianli Chen presented a poster at the 2015 FHB meeting.

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

- 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

- 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

- 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

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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
NA				

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

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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.