

**USDA-ARS**  
**U.S. Wheat and Barley Scab Initiative**  
**FY19 Performance Report**  
**Due date: July 24, 2020**

**Cover Page**

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<b>Fiscal Year:</b>	2019
<b>USDA-ARS Agreement ID:</b>	N/A
<b>USDA-ARS Agreement Title:</b>	Curation of Data for USWBSI's Breeder Database
<b>FY19 USDA-ARS Award Amount:</b>	\$ 9,310

**USWBSI Individual Project(s)**

<b>USWBSI Research Category*</b>	<b>Project Title</b>	<b>ARS Award Amount</b>
EC-HQ	U.S. Wheat & Barley Scab Initiative's Networking & Facilitation Office and Website	\$ 9,310
	<b>FY19 Total ARS Award Amount</b>	<b>\$ 9,310</b>



30 Sept 2020

Principal Investigator

Date

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\* 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:** *U.S. Wheat & Barley Scab Initiative's Networking & Facilitation Office and Website*

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

Develop a web-based database containing public sector breeding data, facilitating collaboration and data-sharing across programs since FY10. This database is called The Triticeae Toolbox (T3)

<https://barley.triticeatoolbox.org>

<https://wheat.triticeatoolbox.org>

**2. What was accomplished under these goals or objectives? (For each major goal/objective, address items a-b) below.)**

a) What were the major activities?

We have continued to upload data from cooperative nurseries to the database.

b) What were the significant results?

Results are available to the public and specifically to other breeders. The data are in an environment that includes analysis tools.

c) List key outcomes or other achievements.

T3/Wheat Breedbase contains 20,639 accessions with phenotype data and 11,473 with genotype data. A total of 2,618 phenotype trials (containing 818,155 observations) and 38 genotype trials have been uploaded to T3/BreedBase.

T3/Barley Breedbase contains 30,274 accessions with phenotype data and 14,887 with genotype data. A total of 1,156 phenotype trials (containing 766,425 observations) and 22 genotype trials have been uploaded to T3/BreedBase.

**3. Was this research impacted by the COVID-19 pandemic (i.e. university shutdowns, reduced or lack of support personnel, etc.)? If yes, please explain how this research was impacted or is continuing to be impacted.**

The work is primarily computational and therefore has not been strongly affected by COVID.

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

The T3 curator, David Waring, gave a training on the use of the database at the Scab Forum in December 2019.

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

Main dissemination is through the web:

<https://barley.triticeaetoolbox.org>

<https://wheat.triticeaetoolbox.org>

For training, we also participate in a YouTube channel:

<https://www.youtube.com/channel/UC3jrvvzGKKEHzOriDBgnj0A>

## **Training of Next Generation Scientists**

**Instructions:** Please answer the following questions as it pertains to the FY19 award period (N/A). 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 FY19 award period?**

N/A

**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 FY19 award period?**

N/A

**If yes, how many?**

- 3. Have any post docs who worked for you during the FY19 award period and were supported by funding from your USWBSI grant taken faculty positions with universities?**

N/A

**If yes, how many?**

- 4. Have any post docs who worked for you during the FY19 award period and were supported by funding from your USWBSI grant gone on to take positions with private ag-related companies or federal agencies?**

N/A

**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 FY19 award period. All columns must be completed for each listed germplasm/cultivar. Use the key below the table for Grain Class abbreviations.

*NOTE: 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**

**Instructions:** Refer to the FY19-FPR\_Instructions for detailed more instructions for listing publications/presentations about your work that resulted from all of the projects included in the FY19 grant award. Only citations for publications published (submitted or accepted) or presentations presented during the **award period (N/A)** should be included. If you did not publish/submit or present anything, state ‘Nothing to Report’ directly above the Journal publications section.

**NOTE:** Directly below each citation, you **must** indicate the Status (i.e. published, submitted, etc.) and whether acknowledgement of Federal support was indicated in the publication/presentation. See example below for a poster presentation with an abstract:

De Wolf, E., D. Shah, P. Paul, L. Madden, S. Crawford, D. Hane, S. Canty, R. Dill-Macky, D. Van Sanford, K. Imhoff and D. Miller. 2019. “Impact of Prediction Tools for Fusarium Head Blight in the US, 2009-2019.” In: S. Canty, A. Hoffstetter, H. Campbell and R. Dill-Macky (Eds.), *Proceedings of the 2019 National Fusarium Head Blight Forum* (p. 12.), Milwaukee, WI; December 8-10. University of Kentucky, Lexington, KY.

Status: Abstract Published and Poster Presented

Acknowledgement of Federal Support: YES (Abstract and Poster)

Not applicable to this project.

### **Journal publications.**

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

### **Other publications, conference papers and presentations.**