

**Washington Grain Commission
Wheat and Barley Research Annual Progress Report**

Project #: 4127-1605

Progress Report Year: 3 of 3

Title: Evaluation of Barley Varieties

Investigator: Aaron Esser

Executive summary: In 2018, the Cereal Variety Testing Program (VTP) conducted 12 spring barley variety trials across eastern Washington. The total number of individual barley plots evaluated was 864. Entries in the trials included submissions from every major barley breeding program in the Pacific Northwest. Variety performance information is delivered to barley growers and other clientele through field tours (10 tours in 2018), grower meetings, the variety testing website, emails with preliminary results after harvest (over 200 recipients), the variety selection tool (located at smallgrains.wsu.edu), Wheat Life, seed buying guide, annual technical report, direct contact with clientele, and reports to the Washington Grain Commission. The variety trials are used by WSU breeders for variety release decisions, by pathologists to rate disease reactions, and for county Extension programming.

Impact: The economic impact of the WSU VTP is measured by providing information to growers and seed industry personnel that leads to variety selections that maximize profitability and minimize risk. Choosing an appropriate barley variety to plant is one of the easiest ways that a grower can increase production and decrease costs (through decreased inputs). Although current barley acreage in Washington is declining, it is important for the VTP to continue to evaluate the growing list of available barley varieties. It is also important for the program to evaluate new breeding lines for potential variety release. The trials provide a venue for growers to see what's available, and a platform to continue to promote barley production in Washington. Without the VTP, many growers in Washington would not have access to barley variety performance data in their areas of production. Growers who choose to plant barley will see an increased economic return by choosing high yielding barley varieties showcased in the WSU VTP.

Some of the most direct and measurable impacts that this project had in 2018 are as follows: 1. Barley VTP field tours were attended by 188 farmers/clientele. At those tours, I presented a few details about each entry in the trial. 2. As soon as harvest results were available, they were distributed via email to a listserv with 213 members and posted to the project website. 3. The variety testing section of the small grains website (<http://smallgrains.wsu.edu/variety/>) was the most visited section of the site (23,840 page views).

WGC project number: 4127-1605
WGC project title: Evaluation of Barley Varieties
Project PI(s): Aaron Esser
Project initiation date: July 1, 2016
Project year (X of 3-yr cycle): 3 of 3

Objective	Deliverable	Progress	Timeline	Communication
1. Conduct barley variety trials in eastern Washington	12 spring barley trials entries/trial 24	2018 trials completed (24 entries/trial) 2019 trials in planning	Trials are planted in the spring, data results are available to growers at the end of the harvest season. Field tours in summer.	Results from the variety trials are communicated via Extension programming and are detailed under Objective #4.
2. Public and private entries in trials	All widely grown, commercially available varieties included in trials.	2018 barley entries; 54% public, 46% private.	Entries by February 15.	Solicit entries February 1. Maintain positive relationship with breeding programs to ensure future participation.
3. Trials and data available to other projects	Participation other projects/programs.	Data is used by breeders for variety release and promotional materials.	Ongoing cooperation and collaboration that fit with timelines and other listed objectives.	VTP data used for variety release.
4 . Extension Outreach	Grower meetings	1 grower mtg in 2018	Whenever I'm invited	Grower meetings: 1 in 2018
	Field Tours (with County Extension)	10 in 2018 and 10 planned for 2019	June-July	*Field tours: 10 in 2018 (listed below)
	Email list serv	2018 results delivered	October	Email list serve: data sent to 213 members
	Website	up to date with 2018 data	fall winter	23,840 pagviews of the VTP section of the small grains website
	Annual Report	Published in December 2019	December	Annual Report: 2018 Technicl Report 18-3
	WSCIA Seed Buyers Guides	2018 published, 2019 in preparation	January-February	2018 Seed Buyers Guide published January 2018
	Wheat Life	2018 results in February 2019	January	Wheat Life: 1 article planned for 2019
	Variety Selection Tool (http://smallgrains.wsu.edu)	Selection tool needs to be updated with 2018 data	January-February	The variety selection tool has 6,593 page views in 2018
* 2018 Tour Schedule Barley				
Location	Date	Attendance		
Horse Heaven	6-Jun	24		
Walla Walla	20-Jun	5		
Dayton	22-Jun	31		
Moses Lake	25-Jun	35		
Reardan	26-Jun	10		
Mayview	27-Jun	25		
St John	28-Jun	25		
Lamont	28-Jun	8		
Farmington	6-Jul	15		
Palouse	6-Jul	10		
		Total = 188		

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