

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

Project #: 4127-1605

Progress Report Year: 2 of 3

Title: Evaluation of Barley Varieties

Investigator: Ryan Higginbotham

Executive summary:

In 2017, 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 (9 tours in 2016), 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 2017 are as follows:

1. Barley VTP field tours were attended by 234 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 208 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 (23,815 page views).

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WGC project title: Evaluation of Barley Varieties
Project PI(s): Ryan Higginbotham
Project initiation date: July 1, 2016
Project year: 2 of 3

Objective	Deliverable	Progress	Timeline	Communication
1. Conduct barley variety trials in Eastern Washington	12 spring barley trials, 24 entries/trial	2017 trials complete (24 entries/trial) 2018 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 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.	2017 barley entries: 67% Public and 33% Private	Entries by Feb. 15	Solicit entries February 1. Maintain positive relationship with breeding programs to ensure future participation.
3. Trials and data available to other projects	Participation by other projects/programs	Data is used by breeders for variety release and promotional materials. Graduate students conducting fertility and nutritional studies on harvested barley grain.	Ongoing cooperation and collaboration that fit with timelines and other listed objectives	VTP data used for variety release. Graduate students will publish research results.
4. Extension programming	Grower Meetings	5 grower mtgs in 2017;	Whenever I'm invited	Grower Meetings: 5 in 2017
	Field Tours (with county Extension)	9 in 2017; 9 planned for 2018	June - July	*Field Tours: 9 in 2017 (listed below)
	Email List serve	2017 results delivered	October - November	Email list serve: data sent to 200+ members
	Website	up to date with 2017 data	fall/winter	23,815 pageviews of the VTP section of the small grains website
	Annual Report	Published in December 2017	December	Annual Report: 2017 Technical Report 17-3
	WSCIA Seed Buyers Guides	2017 published, 2018 in preparation	January--February	2017 Seed Buyers Guide published January 2017
	Wheat Life	2016 barley results in Feb. 2017 issue	February	Wheat Life: 1 article planned for 2018
	Variety Selection Tool (http://smallgrains.wsu.edu)	Selection tool updated with 2017 results. Initiating tool to track website traffic/users.	Post harvest/as data is processed	The variety selection tool has been highlighted/promoted at grower meetings and field tours.
* 2017 TOUR SCHEDULE--BARLEY				
	Location	Date	Attendance	
	Mayview	30-Jun	20	
	Dayton	29-Jun	31	
	Almira	22-Jun	80	
	Rearidan	23-Jun	15	
	Fairfield	21-Jun	21	
	St. John	14-Jul	10	
	Lamont	14-Jul	8	
	Farmington	13-Jul	11	
	Palouse	11-Jul	10	
			Total = 206	