

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

Project #: 4127-1605

Progress Report Year: 1 of 3

Title: Evaluation of Barley Varieties

Investigator: Ryan Higginbotham

Executive summary:

In 2016, the Cereal Variety Testing Program (VTP) conducted 12 spring barley variety trials across Eastern Washington. The total number of individual barley plots evaluated was 1,080. 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 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 buyers 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 2016 are as follows:

1. Barley VTP field tours were attended by 261 farmers/clientele. At those tours, I highlighted each entry in the trial and presented a few details about each entry.
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 (7,053 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: 1 of 3

Objective	Deliverable	Progress	Timeline	Communication
1. Conduct barley variety trials in Eastern Washington	12 spring barley trials, 30 entries/trial	2016 trials complete (30 entries/trial)	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.
		2017 trials in planning		
		The Palouse location was new in 2016		
2. Public and private entries in trials	All widely grown, commercially available varieties included in trials.	2016 barley trial: 60% WSU, 30% Private, 10% Other Public	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. To this point, the grain itself is not used in any further testing outside the VTP. New avenues for collaboration need to be explored.	Ongoing cooperation and collaboration that fit with timelines and other listed objectives	VTP data used for variety release
4. Extension programming	Grower Meetings	3 grower mtgs in 2016;	Whenever I'm invited	Grower Meetings: 3 in 2016; accepting invites for 2017
	Field Tours (with county Extension)	10 in 2016; 10 planned for 2017	June 2017 - July 2017	*Field Tours: 10 in 2016 (listed below)
	Email List serve	2016 results delivered	Oct. 2016 - Nov. 2016	Email list serve: data sent to 200+ members
	Website	up to date with 2016 data	fall/winter	7,053 pageviews of the VTP section of the small grains website
	Annual Report	Published in December 2016	December	Annual Report: 2016 Technical Report 16-3
	WSCIA Seed Buyers Guides	2016 published, 2017 in preparation	January--February	2016 Seed Buyers Guide published January 2016
	Wheat Life	2015 barley results in Feb. 2016 issue	February	Wheat Life: 1 article planned for 2017
Variety Selection Tool (http://smallgrains.wsu.edu)	Selection tool updated with 2016 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.

*** 2016 TOUR SCHEDULE--BARLEY SITES**

Location	Date	Attendance
Fairfield	21-Jun	21
Almira	22-Jun	85
Reardan	23-Jun	20
Walla Walla	28-Jun	14
Dayton	29-Jun	33
Mayview	30-Jun	30
Palouse	11-Jul	14
Farmington	13-Jul	18
St. John	14-Jul	12
Lamont	14-Jul	14
		Total = 261