

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

Project #: 4150-1217

Progress Report Year: 3 of 3

Title: Evaluation of Barley Varieties

Investigator: Ryan Higginbotham

Executive summary:

In 2015, the Cereal Variety Testing Program (VTP) conducted 11 variety trials across Eastern Washington. The total number of individual barley plots evaluated was 1,188. 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 (8 tours in 2015), 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 2015 are as follows:

1. Barley VTP field tours were attended by 208 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 202 members.
3. The variety testing section of the small grains website (<http://smallgrains.wsu.edu/variety/>) was the most visited section of the site (4,388 page views).

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WGC project title: Evaluation of Barley Varieties
Project PI(s): Ryan Higginbotham
Project initiation date: July 1, 2013
Project year: 3 of 3

Objective	Deliverable	Progress	Timeline	Communication
1. Conduct barley variety trials in Eastern Washington	11 spring barley trials, 36 entries/trial	2015 trials complete (36 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.	Grower Meetings: 5 in 2015; accepting invites for 2016
		2016 trials in planning		Field tours: 9 in 2015; estimate 10 tours in 2016
		The Endicott location was new in 2015.		Email list serve: results sent after processing
				Annual Report: 2015 Technical Report 15-3
				WSCIA spring seed guide
				Wheat Life article
2. Public and private entries in trials	All widely grown, commercially available varieties included in trials.	2015 barley trial: 47% WSU, 39% Private, 14% 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	5 grower mtgs in 2015; 2 already planned in 2016	Whenever I'm invited	Grower Meetings: 5 in 2015; accepting invites for 2016
	Field Tours (with county Extension)	9 in 2015; 10 planned for 2016	May 2016 - July 2016	*Field Tours: 9 in 2015 (listed below)
	Email List serve	2015 results delivered	July 2015 - Sept. 2015	Email list serve: data sent to 200+ members
	Website	up to date with 2015 data	fall/winter	4,388 pageviews of the VTP section of the small grains website
	Annual Report	Published in December 2015	December	Annual Report: 2015 Technical Report 15-3
	WSCIA Seed Buyers Guides	in preparation	January--February	To be published in 2016
	Wheat Life	barley results in Feb. issue	February	Wheat Life: 1 article planned for 2016
	Variety Selection Tool (http://smallgrains.wsu.edu)	Selection tool updated with 2015 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.

*** 2015 PNW CROP TOUR SCHEDULE--BARLEY SITES**

<u>Location</u>	<u>Date</u>	<u>Attendance</u>
Fairfield	16-Jun	26
Walla Walla	23-Jun	22
Dayton	24-Jun	30
Almira	24-Jun	75
Reardan	25-Jun	20
Mayview	30-Jun	23
St. John	9-Jul	10
Lamont	9-Jul	10
Farmington	9-Jul	18
		Total = 234