

**Washington Grain Commission  
Wheat and Barley Research Annual Progress Reports and Final Reports**

**Project #:** 4150-1216

**Progress Report Year:**   2   of   3  

**Title:** Evaluation of Wheat Varieties

**Investigator(s):** Stephen Guy, Ryan Higginbotham

**Executive summary:**

In 2014, the Cereal Variety Testing Program (VTP) conducted 21 soft winter, 12 hard winter, 17 soft spring, and 17 hard spring wheat variety trials across Eastern Washington. The total number of individual wheat plots evaluated was 7,830. Entries in the trials included submissions from Washington State University, private breeding companies, and other public breeding programs. Variety performance information is delivered to wheat growers and other clientele through field tours (18 tours in 2014), grower meetings (6 in 2014), the variety testing website (over 12,000 unique visitors in 2014), emails with preliminary results after harvest (over 6,000 email contacts per year), the variety selection tool (located on [smallgrains.wsu.edu](http://smallgrains.wsu.edu)), *Wheat Life* articles, seed buyers guides, annual technical report, direct contact with clientele, and reports to the Washington Grain Commission. Grain from variety trials is used to generate information on end use quality, disease reactions, market class grading, and falling numbers.

**Impact:**

The economic value (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 wheat variety to plant is one of the easiest ways that a grower can increase production and decrease costs (through decreased inputs). In 2014, there were over 2.3 million acres of wheat planted in Washington. If growers use results produced by the VTP to select higher yielding, disease resistant wheat varieties to plant on their farms, one could assume a modest average yield increase of 1 bushel/acre, resulting in 2.3 million bushels of grain. Using an average market price of \$6.00/bushel, this would result in a gross increase of \$13.8 million to the Washington grain economy. An additional impact of the VTP comes through the evaluation of breeding lines, providing valuable information to aid breeders in variety release decisions, leading to new and improved wheat varieties available to growers in Washington. Seed dealers also use VTP data to make decisions about which varieties to make available to their patrons.

**WGC project number:** 4150-1216  
**WGC project title:** Evaluation of Wheat Varieties  
**Project PI(s):** Ryan Higginbotham  
**Project initiation date:** July 1, 2013  
**Project year:** 2 of 3

Objective	Deliverable	Progress	Timeline	Communication
1. Conduct wheat variety trials in Eastern Washington	a) 21 soft winter wheat trials; 48-60 entries/trial	a) 2015 trials planted; 2014 results finished	Trials are planted in the spring or fall, data results are available to growers shortly after harvest. Field tours throughout the summer.	Grower meetings: 6 in 2014, accepting invites for 2015
	b) 11 hard winter wheat trials; 30 entries/trial	b) 2015 trials planted; 2014 results finished		Field tours: 18 in 2014, estimate 21 tours in 2015
	c) 16 soft spring wheat trials; 24 entries/trial	c) 2015 trials in planning; 2014 results finished		Email list serve: results sent after harvest
	d) 16 hard spring wheat trials; 42 entries/trial	d) 2015 trials in planning; 2014 results finished		Annual Report: 2014 technical report 14-3
				WSCIA seed guides (spring & winter)
				Wheat Life articles
2. Public and private entries in trials	All widely grown, commercially available varieties included in trials.	2015 winter trials: 50% WSU, 32% Private, 18% Other Public: As of the fall of 2014, both Syngenta and Monsanto are active & willing participants in the VTP again. 2015 winter entries can be viewed on the variety testing website	Winter entries by Aug. 15th and spring entries by Feb. 15th	Solicit winter entries August 1 and spring entries February 1
		2014 spring trials: 52% WSU, 30% Private, 18% Other Public		
3. Trials and data available to other projects	Participation by other projects/programs	Cooperation with breeders, pathologists, quality lab, FGIS, seed dealers, WSCIA, Extension	Ongoing cooperation and collaboration that fit with timelines and other listed objectives	Quality results in G&E study and preferred variety pamphlet, falling number results presented by corresponding project, disease ratings presented in seed buyers guide, VTP data used for variety release and PVP applications
4. Extension programming	Grower Meetings	Due to new PI, few mtgs. planned for 2015	Oct. 2014 - Feb. 2015	Grower Meetings: 6 in 2014; accepting invites for 2015
	Field Tours (with county Extension)	20+ planned for 2015	May 2015 - July 2015	*Field Tours: 18 in 2014 (listed below)
	Email List serve	2014 results delivered	July 2015 - Sept. 2015	Email list serve: data sent to 160+ members
	Website	up to date with 2014 data & 2015 maps	summer & fall	Website: more than 12,000 unique IP users
	Annual Report	Published in December 2014	December	Annual Report: 2014 technical report 14-3
	WSCIA Seed Buyers Guides	in preparation	spring in Feb. winter in May	To be published in 2015
	Wheat Life	spring and winter articles will be prepared	spring in Jan. winter in April	Wheat Life: 3 articles planned for 2015
Variety Selection Tool ( <a href="http://smallgrains.wsu.edu">http://smallgrains.wsu.edu</a> )	Selection tool updated with 2014 results. The tool has been accessed by 200+ people.	Post harvest/as data is processed		The variety selection tool has been highlighted/promoted at grower meetings, field tours, and through a Wheat Life article.

**\* 2014 PNW CROP TOUR SCHEDULE--WHEAT**

Location	Date	Attendance	Crops
Horse Heaven	3-June	38	Winter & Spring Wheat
Ritzville	4-June	40	Winter Wheat
Western Whitman Co. - LaCrosse	5-June	36	Winter & Spring Wheat
Connell	5-June	40	Winter & Spring Wheat
Harrington	11-June	28	Winter Wheat
Lind Field Day	12-June	250	Winter & Spring Wheat
Fairfield	17-June	35	Winter & Spring Wheat
Moses Lake	18-June	48	Winter & Spring Wheat
Almira	18-June	110	Winter & Spring Wheat
Mayview	19-June	20	Winter & Spring Wheat
Anatone	19-June	12	Winter Wheat
Reardan	25-June	15	Winter & Spring Wheat
Walla Walla	25-June	20	Winter & Spring Wheat
Dayton	26-June	20	Winter & Spring Wheat
Bickelton	26-June	15	Spring Wheat
Farmington	16-July	38	Winter & Spring Wheat
St. John	16-July	18	Winter & Spring Wheat
Lamont	16-July	19	Winter & Spring Wheat