

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

Project #: 4721

Progress Report Year: 2 of 3

Title: Quality of Varieties & Pre-release Lines: Genotype & Environment-“G&E” Study

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Executive summary: The 2019 harvest sample analysis is more than half done; the project is on-going with the most recent project covering the second of three years. As in previous years, all quality data were/will be analyzed using the *t*-Score statistic. The quality *t*-Scores for each soft white winter, club, soft white spring and club, hard red winter, hard red spring, and hard white winter and spring varieties are summarized using ‘Grain’, ‘Milling’, ‘End-Product’, and ‘Overall’ Scores. Varieties in each market class/sub-class are then ranked by the Overall Score. All varieties and advanced breeding lines with three or more years of data are included in the final listing.

Using these results and analyses, the WWQL works closely with the WGC to develop the, “*Preferred WHEAT VARIETIES for Washington based on end-use quality*” each year with annual updates. Completion of the variety rankings in February represents the first significant accomplishment each year. We coordinate variety classification with Oregon and Idaho cereal chemists.

Impact: This ‘G&E’ project provides value to growers in two significant ways: First, it documents and highlights the quality of varieties so that growers are aware of the importance of quality and will hopefully include quality in their seed-buying decisions. Data are objective “head-to-head” results on Private and Public varieties. Secondly, the data generated by the G&E study supports in a major way the analysis of new breeding lines and the WSU Variety Release process. This program is also “highly visible” such that good end-use quality is reinforced as a priority in both private and public breeding programs throughout the region.

Outputs and Outcomes:

Following are recent advanced lines and released varieties that were supported with complete end-use quality analyses:

4J71366C	Pritchett	winter club
KXB-01	--	--
WA8118	Sprinter	HRS
WA8124	Ryan	SWS
WA8143	Curiosity CL+	SWW
WA8155	Mela CL+	SWW
WA8158	--	HWW
WA8162	Seahawk	SWS
WA8165	Chet	HRS
WA8166	Alum	HRS
WA8169	Jasper	SWW
WA8177	--	SWW
WA8180	Sequoia	HRW
WA8184	Earl	HWW
WA8187	Resilience CL+	SWW
WA8189	--	SWS
WA8189	Tekoa	SWS
WA8193	Melba	spring club
WA8212	--	SWW
WA8232	--	SWW
WA8234	Purl	SWW
WA8235	--	SWW

Advanced winter lines under consideration 2019:

WA8271, WA8268, WA8275, WA8252, WA8290, WA8293

New entries for the 2019 *Preferred Wheat Varieties* pamphlet:

Purl	WSU	SWW
WB1376CLP	WB	SWW
SY Coho	AP/SY	HRS
SY Gunsight	AP/SY	HRS

Preferred Wheat Varieties 2019 following page

SOFT WHITE WINTER

Brundage96	UI	MD
UI Castle CL+	UI	MD
Bobtail	OSU	MD
Kaseberg	OSU	MD
Bruneau	UI	MD
Jasper	WSU	MD
UI Palouse CL+	UI	MD
UI WSU Huffman	UI/WSU	MD
Puma	WSU	MD
ARS-Seibu	ARS	D
Mary	OSU	D
ORCF101	OSU	D
SY Command	AP/SY	D
Skiles	OSU	D
LCS Shark	LCS	D
LCS Drive	LCS	D
WB 523	WB	D
SY Ovation	AP/SY	D
UI Sparrow	UI	D
UI Magic CL+	UI	D
Eltan	WSU	D
SY Dayton	AP/SY	D
WB-528	WB	D
Norwest Duet	OSU/LCS	D
Resilience CL+	WSU	D
Otto	WSU	D
Stephens	OSU	D
SY Assure	AP/SY	A
LCS Hulk	LCS	A
LCS Artdeco	LCS	A
WB1604	WB	A
Puri	WSU	A
ORCF103	OSU	A
Madsen	ARS	A
WB-1070CL	WB	A
Mela CL+	WSU	A
Curiosity CL+	WSU	A
Norwest Tandem	OSU/LCS	A
ORCF102	OSU	A
Rosalyn	OSU	A
WB1529	WB	A
WB-1066CL	WB	A
WB1376CLP	WB	LD
WB-456	WB	LD
Xerpha	WSU	LD
SY107	AP/SY	LD
SY Banks	AP/SY	LD
WB1783	WB	LD

SOFT WHITE SPRING

UI Stone	UI	MD
Tekoa	WSU	MD
Diva	WSU	MD
WB6341	WB	MD
Louise	WSU	MD
Alturas	UI	MD
SY Saltese	AP/SY	MD
Ryan	WSU	MD
Whit	WSU	MD
Seahawk	WSU	MD
Babe	WSU	MD
WB6121	WB	D
WB-1035CL+	WB	UCS

CLUB

ARS Castilla	ARS	MD
ARS Crescent	ARS	MD
Cara	ARS	MD
ARS Pritchett	ARS	D
Braethi	WSU	D

SPRING CLUB

Melba	WSU	MD
JD	WSU	MD

HARD WHITE WINTER*

UI Silver	UI	MD
Earl	WSU	A

HARD WHITE SPRING*

UI Platinum	UI	MD
WB Hartline	WB	D
Dayn	WSU	D

ABBREVIATIONS

WSU	Washington State University
OSU	Oregon State University
UI	University of Idaho
ARS	Agricultural Research Service
AP/SY	AgriPro/Syngenta
WB	WestBred/Monsanto
LCS	Limagrain Cereals Seeds

*Hard white wheats are scored for export quality requirements such as bread quality and potential noodle quality.

HARD RED WINTER

UI SRG	UI	MD
Whetstone	AP/SY	MD
WB4623CLP	WB	MD
AP503 CL	AP/SY	D
Norwest 553	OSU	D
LCS Evina	LCS	D
LCS Rocket	LCS	D
Farmum	WSU	D
Sequoia	WSU	D
LCS Jet	LCS	A
Keldin	WB	A
Esperia	Societa Produttori Sementi Spa	A
SY Touchstone	AP/SY	LD
Residence	Cebeco	UCS
Estica	Cebeco	UCS
Symphony	Tamio Tech	UCS

HARD RED SPRING

Hollis	WSU	MD
Alum	WSU	MD
SY605 CL	AP/SY	MD
SY Selway	AP/SY	MD
SY Coho	AP/SY	MD
SY Steelhead	AP/SY	MD
Glee	WSU	MD
Chet	WSU	MD
LCS Luna	LCS	MD
LCS Iron	LCS	D
WB9411	WB	D
WB9229	WB	D
Kelse	WSU	D
WB9668	WB	D
Jefferson	UI	D
Bulleeye	AP/SY	D
SY Gunsight	AP/SY	D
WB9518	WB	D
WB9879CLP	WB	A
Buck Pronto	LCS	A