

WSU Extension Variety Testing Program

Cereal Variety Performance Trials 2016

DEPARTMENT OF CROP AND SOIL SCIENCES • TECHNICAL REPORT 16-3



WASHINGTON STATE
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EXTENSION

Photo by R. Higginbotham

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December 2016

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Jay Penner	Dayton	Columbia	Travis Schuh	Pasco	Grant
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Gil White	Lamont	Whitman			

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INTRODUCTION

The goal of the WSU Extension Cereal Variety Testing Program is to provide growers and the agribusiness industry with independent and objective information on the adaptation and performance of winter and spring wheat, spring barley and spring legume varieties across the different climatic regions and management practices in eastern Washington. A related goal is to provide WSU and USDA-ARS breeding programs a comprehensive testing and evaluation program for advanced breeding lines to assist in determinations for variety release recommendations to the Washington Agricultural Research Center. This report summarizes the 2016 WSU Extension Cereal Variety Testing trials.

When selecting varieties, it is important to review the yield and other variety performance data across as many trial sites with similar climatic and growing conditions as possible. In addition, evaluation of the yield results should rely most heavily on the long term yield averages, when available, since yield performance based on a single year for a given variety can be misleading. Variety testing results vary from year to year and site to site, just as commercial growing conditions vary across years and locations. Data tables included in this report provide current year, 2-year, 3-year and 5-year averages at each location (when available). Yield, test weight, and grain protein are also averaged across locations within each precipitation zone.

This report represents research in progress. Relative performance of varieties can change when tested under other environments and production practices. Evaluation of any variety included in these trials should not be construed as a recommendation or endorsement.

The WSU Cereal Variety Testing Program is conducted by independent objective processes to assure results provide the best unbiased comparisons of variety performance.

METHODS

Experimental Materials and Procedures

The data presented in this report were generated in cereal variety testing trials conducted in 2016. The total number of varieties and locations was:

soft white winter wheat: 80 entries at 22 locations;
hard winter wheat: 39 entries at 13 locations;
soft white spring wheat: 25 entries at 18 locations;
hard white spring wheat: 7 entries at 18 locations;
hard red spring wheat: 34 entries at 18 locations;
spring barley: 30 entries at 12 locations;

Tables 1-5 list all entries for the 2016 winter and spring cereal trials. An alpha lattice design with three replications was used for all cereal trials. For each crop, the seeding rate was a specific number of seeds planted per square foot. Planting rates were determined by weighing 1000 seeds (1000 kernel weight) of each cultivar (Tables 6-8). All cereal entries (except wireworm treatments) were treated with CruiserMaxx Vibrance 0.66 Cereal Custom Blend (3.55 oz/cwt). Entries were planted in small plots using one of six planter drill opener configurations based on the trial location (Tables 9 and 10). All trials were maintained under grower management conditions specific to each trial location. In 2016 most of the cereal experiments received application of fungicides to control development and spread of stripe rust. Fungicide management details, when applicable, are listed with the results of individual experiments.

Fertility levels for all crops were maintained under typical grower management practices at each location. Soil sampling was done at all locations. Soil test results were used to estimate the amount of nitrogen needed to attain a minimum grain protein of 11.5% for hard winter wheat and 14% for hard spring wheat. The calculation estimate used for hard winter wheat was 3.0 pounds of nitrogen X expected bushel yield. The calculation for hard spring wheat was 3.7 pounds of nitrogen X expected bushel yield. Unless otherwise noted, all additional fertilizer was spring applied as urea ammonium sulfate (40-0-0-6) using a broadcast surface application.

Weed management included spring applications of commercial herbicides and are noted in the results from each location. Clearfield[®] varieties were not treated with Beyond[®]. Variety plot tours were conducted at as many locations as possible to provide growers and agribusiness personnel opportunities to conduct in-field observations of all entries (Figure 1). Prior to each plot tour, experiments were trimmed to final harvest dimensions a by applying Roundup PowerMax herbicide with a hooded alley sprayer or by using rotary mowers to cut alleyways between ranges.

Seed samples of all winter wheat, spring wheat and spring barley were provided for stripe rust (*Puccinia striiformis*, West) screening conducted by Dr. X. Chen, Plant Pathologist, USDA/ARS. These evaluations were conducted at various locations under field conditions. Additional stripe rust screenings were conducted under greenhouse conditions. Stripe rust evaluations for all wheat entries can be found in Tables 39, 40, 59, 60, 85, and 109. Spring barley stripe rust levels were generally low and not uniform. Limited data for barley stripe rust reaction screening is presented in Table 125.

INFECTION TYPE (IT): A 0-9 scale that is more damaging at higher levels on the scale.

0 = no visible signs or symptoms

1 = necrotic and/or chlorotic flecks; no sporulation

2 = Necrotic and/or chlorotic blotches or stripes; no sporulation

3 = Necrotic and/or chlorotic blotches or stripes; trace sporulation

4 = Necrotic and/or chlorotic blotches or stripes; light sporulation

5 = Necrotic and/or chlorotic blotches or stripes; intermediate sporulation

6 = Necrotic and /or chlorotic blotches or stripes; moderate sporulation

7 = Necrotic and/or chlorotic blotches or stripes; abundant sporulation

8 = Chlorosis behind sporulating areas; abundant sporulation

9 = No necrosis or chlorosis; abundant sporulation

SEVERITY (%): Severity is a percentage of the plants of a variety that are being infected with stripe rust.

Heading date for each entry was recorded when 50% of the heads were out of the boot and reported as Julian date (days from January 1). Plant height measurements were collected by selecting an average plant in each plot and measuring to the top of the spike (not including awns).

Lodging is reported as a percentage of the plant spikes that were lodged prior to harvest.

All cereal entries were evaluated for grain yield, test weight and percent grain protein. Plot size for all trials ranges from 54 to 80 square feet (Tables 9 and 10). Entire plot was harvested with small plot combines and grain yield (grams/plot) was converted to per acre yield. Wheat yield is reported in the standard 60 pounds per bushel. Barley trial yield is reported in pounds per acre. Test weight is reported in pounds per bushel. Grain protein percentage is reported for both wheat and barley entries, determined using a near infrared transmittance (NIRT) protein analyzer on a 12% moisture basis.

After harvest experiment data were analyzed, summarized, and sent out via e-mail list serve. Winter wheat trials were processed first in an effort to aide growers in making fall planting decisions. Spring data were also distributed via the e-mail list serve and all spring data were completed by the end of October 2015. Data were also posted to the Variety Testing Program website (<http://smallgrains.wsu.edu/variety>). E-mail contacts can be added to the list serve by sending a request to rhigginbotham@wsu.edu.

Some of the experiments were planted, grown and maintained but were lost at different stages prior to harvest due to various circumstances beyond our control. Trials at several locations were harvested but data is not presented due to high variability and other factors. Following are experiments and locations for which data is not presented in the final report.

Dusty Soft White Winter trials – data not published due to severe lodging;

Ritzville Soft White Winter and Hard Winter trials – harvested, data not reported due to high variability and non-significant results;

St. Andrews Soft White Winter and Hard Winter Wheat trials – harvested, not reported due to high variability and non-significant results;

Bickleton Soft Spring and Hard Spring Wheat trials - harvested, not reported due to high variability and non-significant results;

Endicott Soft Spring, Hard Spring Wheat and Barley trials - harvested, not reported due to high variability and non-significant results;
Fairfield Barley trials - harvested, not reported due to high variability and non-significant results;
Lamont Spring Wheat and Barley – trials abandoned due to poor stand establishment;
Plaza Hard Spring Wheat trial - harvested, not reported due to high variability and non-significant results.

Statistical Analysis and Interpretation

For each measured trait, entry means (averages) are shown within the body of the data tables and the overall trial averages are displayed at the bottom of the tables. The least significant difference (LSD) and the coefficient of variation (CV) are also listed. The LSD is presented at the 5 percent error level and is an aid in comparing the performance of any two varieties. If the reported value of a variety differs from another variety by more than the LSD, then there is at least a 95% chance that the values of those varieties are actually different and not due to random chance or variation. If the measured values differ by less than the LSD value, the differences may be due to random error rather than actual differences between the varieties. Yield values are reported from highest to lowest within a table, and varieties that are within the LSD range of the highest yielding variety are shown in bolded type. This only shows the LSD range of the top yielding varieties and LSD comparisons can be done on any varieties of interest within a column. The coefficient of variation (CV) is given as a general measurement of the precision of each experiment. CV values are listed as a percent and assist in estimating how much plot-to-plot variation was present in the trial due to differences in soil variability, soil moisture, diseases, weeds, experimental technique, etc. For yield a CV of 1% to 15% is considered acceptable, while a CV greater than 15% indicates that considerable unaccounted variation was present. While there could still be useful information in trials with CVs of >15%, interpretation is needed. The higher the CV, the more difficult it is to detect differences between varieties.

Table 1:.....2016 Soft White Winter Wheat Entries

Name	Originator	Class	PI Number	Old Name
All Precipitation Zones				
ARS20060123-31C	USDA-ARS/WSU	WC ¹		
ARS-Crescent	USDA-ARS/WSU	WC	PI 665048	ARS970163-4C
Curiosity CL+	WSU	SWWI ²	PI 675007	WA 8143
IDN 07-28017B	Uofl	SWW ³		
Jasper	WSU	SWW	PI 678442	WA 8169
KXB-01	WSU	SWWI		
Legion	Syngenta	SWW	PI 658035	99X1009-23
LOR-913	Limagran/OSU	SWW		
LWW14-73163	Limagrain	SWW		
Madsen	USDA-ARS/WSU	SWW	PI 511673	WA 7163
Mary	OSU	SWW	PI 666373	OR2040726
Mela CL+	WSU	SWWI		WA 8155
Norwest Duet (LOR-092)	Limagran/OSU	SWW		LOR-092
Norwest Tandem (LOR-334)	Limagran/OSU	SWW		LOR-334
ORCF-102	OSU	SWWI	PI 641787	OR201007
Puma	WSU	SWW	PI 670038	WA 8134
SY 107	Syngenta	SWW	PI 664948	03PN107#3
UI Castle CL+	Uofl	SWWI	PI 675641	IDN 09-DH10
UI Magic CL+	Uofl	SWWI	PI 678629	IDN 09-DH11
UI Palouse CL+	Uofl	SWWI	PI 678630	IDN 3_5_10
UI Sparrow (IDO1108DH)	Uofl	SWW		JC1108
UI-WSU Huffman	Uofl	SWW	PI 678853	IDN-03-29902A
WB1376CLP	WestBred/Monsanto	SWWI	PI 674194	WB1376CLP
WB1529	WestBred/Monsanto	SWW	PI 671989	BZ6W07-436
WB1604	WestBred/Monsanto	SWW	PI 671990	BZ6W07-458
WB-Junction	WestBred/Monsanto	SWW	PI 664100	BZ6W02-616
Xerpha	WSU	SWW	PI 645605	WA 7973
<16" Zones Only				
ARS06135-9C	USDA-ARS/WSU	WC		
Bruehl	WSU	WC	PI 606764	WA 7833
Coda	USDA-ARS/WSU	WC	PI 594372	WA 7752
Eltan	WSU	SWW	PI 536994	WA 7431
LWW14-71032	Limagrain	SWW		
LWW14-73161	Limagrain	SWW		
Masami	WSU	SWW	PI 634715	WA 7916
ORCF-103	OSU	SWWI	PI 658153	ORI2042037
Otto	WSU	SWW	PI 667557	WA 8092
Otto-0W	WSU	SWW ⁴		
Otto-G2	WSU	SWW ⁵		
Pritchett (4J0713366C)	USDA-ARS/WSU	WC		4J0713366C
SY 04PN066-7	Syngenta	SWW		
SY 09PN005#25	Syngenta	SWW		
WA 8202	WSU	SWW		SSD760165-10-R
WA 8226	WSU	SWW		3J080408-0-6
WA 8227	WSU	SWW		XMSSD09183
WA 8243	WSU	SWW		
WA 8244	WSU	SWW		
WA 8251 (KXB-04)	WSU/KG	SWW		KXB-04
WB1843	WestBred/Monsanto	SWW	PI 672558	

Table 1. cont.2016 Soft White Winter Wheat Entries

Name	Originator	Class	PI Number	Old Name
>16" Zones Only				
AP700 CL	Syngenta	SWW	PI 654424	OSU POP-28-13
ARS06136-49C	USDA-ARS/WSU	WC		
ARS-Selbu	USDA-ARS/WSU	SWW	PI 667744	ARS970161-3L
Bobtail	OSU	SWW	PI 673133	OR0807P94
Cara	USDA-ARS/WSU	WC	PI 643435	ARS97-135-9
IDN 01-10704A	Uofl	SWW		
IDN 06-03303B	Uofl	SWW		
IDN 06-18102A	Uofl	SWW		
LCS Artdeco	Limagrain	SWW	PI 667102	NSA06-2153A
LOR-833	Limagrain/OSU	SWW		
OR2110526	OSU	SWW		
Rosalyn	OSU	SWW	PI 673132	OR2071071
Skiles	OSU	SWW	PI 658154	ORH010085
SY 09PN062#18	Syngenta	SWW		
SY Assure	Syngenta	SWW		04PN096-2
SY Ovation	Syngenta	SWW	PI 662047	
WA 8187	WSU	SWWI		
WA 8206	WSU	SWW		
WA 8232	WSU	SWW		SWW10127-1-DH-3-1
WA 8233	WSU	SWW		4J0705854-5
WA 8234	WSU	SWW		MAS08019-92-1-S-s
WA 8235	WSU	SWWI		MAS100075-DH-9-1
WA 8245	WSU	SWW		
WB 523	WestBred/Monsanto	SWW	PI 658149	
WB-528	WestBred/Monsanto	SWW	PI 643142	BZ 6W98-528
Xerpha-0W	WSU	SWW ⁴		
Xerpha-G2	WSU	SWW ⁵		
Irrigated only				
KWS 034	KWS Cereals	SWW		
KWS 040	KWS Cereals	SWW		
LWW14-71195	Limagrain	SWW		
OR2090473	OSU	SWW		
WB 456	WestBred/Monsanto	SWW	PI 658148	

¹ - Winter Club

² - Soft White Winter, Clearfield

³ - Soft White Winter

⁴ - No Wireworm control treatment

⁵ - Wireworm control treatment (Gaucho 2 oz.)

Table 2: 2016 Hard Winter Wheat Entries

Name	Originator	Class	PI Number	Old Name
All Precipitation Zones				
IDO1101	Uofl	HWW		JC1101
Keldin	WestBred/Monsanto	HRW	PI 669490	ACS 55017
LCS Colonia	Limagrain	HRW ¹	PI 673087	NIC 05-4711-B
LCS Jet	Limagrain	HRW		NSA10-7208
OR2120012R	OSU	HRW		
OR2120276H	OSU	HWW ²		
SY Clearstone CL2	Syngenta	HRW	PI 668090	MTCL 1077
SY Touchstone	Syngenta	HRW	PI 678623	04PN028B-3
WB-Arrowhead	WestBred/Monsanto	HRW	PI 664101	ML9W05-2501
Whetstone	Syngenta	HRW	PI 658009	W98-344
<16" Zones Only				
AP503 CL2	Syngenta	HRW	PI 654423	CL03040-5-2
Bauermeister	WSU	HRW	PI 634717	WA007939
Earl	WSU	HWW		LasWA8061-75
Farnum	WSU	HRW	PI 638535	WA007975
Finley	WSU	HRW	PI 586757	WA 7773
HE181/3	Limagrain	HRW		
Sequoia (WA 8180)	WSU	HRW		WA 8180; 5J061383
WA 8197	WSU	HRW		
WA 8207	WSU	HRW		4J070062-2
WA 8228	WSU	HRW		4J070110-11
WA 8229	WSU	HRW		3J080159-0-T4
WA 8246	WSU	HRW		
WA 8247	WSU	HRW		
WA 8250	WSU	HRW		
>16" Zones Only				
LCS Azimut	Limagrain	HRW		
Norwest 553	OSU	HRW	PI 655030	ORN00B553
NSA10-2196	Limagrain	HRW		
OR2110664	OSU	HWW		
Rimrock	WestBred/Monsanto	HRW	PI 664271	ACS 52025
WA 8231	WSU	HWW		LasWA8061-10
WA 8248	WSU	HRW		
WA 8249	WSU	HRW		
Irrigated only				
Esperia	Allstar Inc.	HRW		
LCS Aymeric	Limagrain	HRW		
LCS Evina	Limagrain	HRW		
Mandala	Tri-State Seed	HRW		
OR2110679	OSU	HWW		
Rebelde	Tri-State Seed	HRW		
WB 4059CLP	WestBred/Monsanto	HRW	PI 669491	BZ9WM07-1516

¹ - Hard Red Winter

² - Hard White Winter

Table 3: 2016 Soft White Spring Wheat Entries

Name	Originator	Class	PI Number	Old Name
14-SW-1030	Limagrain	SWS ¹		
14-SW-1059	Limagrain	SWS		
Babe	WSU	SWS	PI 656791	WA008039
Diva	WSU	SWS	PI 660663	WA008090
JD	WSU	SC ²	PI 656790	WA008047
LCS Silk (12-SW-068)	Limagrain	SWS		12-SW-068
Louise	WSU	SWS	PI 634865	WA007921
Melba	WSU	SC		
Ryan (WA 8214)	WSU	SWS		SW088051-2
Seahawk	WSU	SWS	PI 633036	WA 8162
SY Saltese (SY 04PN3024-2)	Syngenta	SWS		SY 04PN3024-2
Tekoa (WA 8189)	WSU	SWS		
UI-Stone	Uofl	SWS	PI 660550	IDO599
WA 8236 CL+	WSU	SCI ³		
WA 8253	WSU	SWS		
WA 8254	WSU	SWS		
WA 8255	WSU	SWS		
WA 8265 CL+	KG/WSU	SWSI ⁴		GSSC-1
WA 8266 CL+	KG/WSU	SWSI		GSSC-2
WB-1035CL+	WestBred/Monsanto	SWSI	PI 665495	
WB6121	WestBred/Monsanto	SWS	PI 671991	BZ608-121
WB6341	WestBred/Monsanto	SWS	PI 671992	BZ608-014
Whit	WSU	SWS	PI 653841	WA008008
YS-602	Yield Star Cereals	SWS		
Irrigated only				
12-SW-052	Limagrain	SWS		

¹ - Soft White Spring

² - Spring Club

³ - Spring Club, Clearfield

⁴ - Soft White Spring, Clearfield

Table 4. 2016 Hard Spring Wheat Entries

Name	Originator	Class	PI Number	Old Name
12SB0197	Limagrain	HRS ¹		
12SB0199	Limagrain	HRS		
12SB0224	Limagrain	HRS		
Alum	WSU	HRS		WA 8166
Bullseye	Syngenta	HRS	PI 658036	AP-81
Chet	WSU	HRS		WA 8165
Dayn	WSU	HWS ²	PI 666941	WA008123
Glee	WSU	HRS	PI 666940	H0500135, WA 8074
Hollis	WSU	HRS	PI 632857	WA007859
HRS 3504	Winfield	HRS		
HRS 3530	Winfield	HRS		
HRS 3616	Winfield	HRS		
IDO1203S-A	Uofl	HWS		
Kelse	WSU	HRS	PI 653842	WA007954
LCS Buck Pronto	Limagrain	HRS	PI 619397	T 1052
LCS Iron (11SB0096)	Limagrain	HRS		11SB0096
LCS Luna (10SB0087-B)	Limagrain	HRS		10SB0087-B
SY 04PN3051-9	Syngenta	HRS		
SY 06PN3015-08	Syngenta	HRS		
SY Coho (04W40292R)	Syngenta	HRS		04W40292R
SY Selway (04PN3001-2)	Syngenta	HRS		04PN3001-2
SY Steelhead	Syngenta	HRS	PI 667769	97S0621-05
SY605 CL	Syngenta	HRSI ³	PI 659810	03S0409-16
UI-Platinum	Uofl	HWS	PI 672533	IDO694C
WA 8240 CL+	WSU	HWSI ⁴		
WA 8241 CL+	WSU	HRSI		
WA 8258	WSU	HRS		
WA 8259	WSU	HRS		
WA 8260	WSU	HRS		
WA 8261	WSU	HRS		
WB9200	WestBred/Monsanto	HRS		
WB9229	WestBred/Monsanto	HRS	PI 666126	SJ907-229
WB9518	WestBred/Monsanto	HRS	PI 670037	BZ9080-485
WB9668	WestBred/Monsanto	HRS	PI 671994	BZ908-552
WB9879CLP	WestBred	HRSI	PI 666046	IMICHT79
YS-802-1	Yield Star Cereals	HRS		
Irrigated only				
SY Basalt	Syngenta	HRS	PI 672584	04W40240R
WA 8262	WSU	HWS		
WA 8263	WSU	HWS		
WA 8264	WSU	HWS		
Yurok	UC Davis	HRS	PI 675640	UC1745

¹ - Hard Red Spring

² - Hard White Spring

³ - Hard Red Spring, Clearfield

⁴ - Hard White Spring, Clearfield

Table 5. 2016 Spring Barley Entries

Name	Originator	Class	PI Number	Old Name
07MWA-202	WSU	S2I ^{1,2}		
07MWA-203	WSU	S2I		
07MWA-204	WSU	S2I		
10WA-105.C	WSU	S2 ¹		
10WA-106.18	WSU	S2		
10WA-106.20	WSU	S2		
10WA-117.17	WSU	S2M ³		
10WA-117.24	WSU	S2M		
11WA-105.11	WSU	S2		
11WA-107.43	WSU	S2M		
11WA-107.58	WSU	S2M		
12WA-120.14	WSU	S2M		
12WA-120.17	WSU	S2M		
2Ab08-X05M010-82	USDA-ARS Aberdeen	S2M		
2Ab09-X06F058HL-31	USDA-ARS Aberdeen	S2NWxBgF ^{4,5,6,7}		
Bob	WSU	S2	PI 629288	WA 8682-96
BZ 509-601	Highland Specialty Grains	S2		
CDC Copeland	GWM	S2M		SKTR0150
Champion	Westbred	S2	PI 654517	YU-501-385D
Claymore	Highland Specialty Grains	S2		BZ509-216
Havener	WSU	S2NWxF		09WA-265.5
LCS Genie	Limagrain	S2M		
LCS Odyssey	Limagrain	S2M		
LCS Vespa	Limagrain	S2	PI 673930	LCS LN09-0920, LN 0920
LCS Westminster	Limagrain	S2M		
Lenetah	Uofl	S2	PI 652440	01Ab11107
Lyon	WSU	S2	PI 673045	05WA-316.K
Muir	WSU	S2		07WA-601.6
Oreana	Highland Specialty Grains	S2		BZ509-448
X05013-T1	WSU	S2NBgF		

¹ - 2-row Feed

² - "I" - IMI tolerant

³ - "M" - Malting

⁴ - "N" - Hulless

⁵ - "Wx" - Waxy

⁶ - "Bg" - High BetaGlucan

⁷ - "F" - Food

Table 6: 2016 WSU Winter Wheat Variety Trial Seed Weight

Name	1000 KW (grams)	Seeds per Pound	Name	1000 KW (grams)	Seeds per Pound
Soft White Common					
AP700 CL	42.8	10,598	SY Assure	44.9	10,102
ARS-Selbu	42.7	10,623	SY Ovation	46.8	9,692
Bobtail	44.6	10,170	UI Castle CL+	32.3	14,043
Curiosity CL+	38.3	11,843	UI Magic CL+	36.6	12,393
Eltan	37.8	12,000	UI Palouse CL+	34.7	13,072
IDN 01-10704A	35.5	12,777	UI Sparrow (IDO1108DH)	35.7	12,706
IDN 06-03303B	34.4	13,186	UI-WSU Huffman	33.4	13,581
IDN 06-18102A	32.6	13,914	WA 8187	34.9	12,997
IDN 07-28017B	34.2	13,263	WA 8202	31.5	14,400
Jasper	38.0	11,937	WA 8206	37.4	12,128
KWS 034	37.0	12,259	WA 8226	37.5	12,096
KWS 040	41.2	11,010	WA 8227	37.5	12,096
KXB-01	40.0	11,340	WA 8232	33.9	13,380
LCS Artdeco	45.3	10,013	WA 8233	38.1	11,905
Legion	52.1	8,706	WA 8234	40.1	11,312
LOR-833	31.2	14,538	WA 8235	35.6	12,741
LOR-913	42.1	10,774	WA 8243	35.3	12,850
LWW14-71032	36.5	12,427	WA 8244	36.6	12,393
LWW14-71195	50.0	9,072	WA 8245	40.1	11,312
LWW14-73161	45.7	9,925	WA 8251 (KXB-04)	31.7	14,309
LWW14-73163	43.3	10,476	WB 456	48.4	9,372
Madsen	48.6	9,333	WB 523	45.1	10,057
Mary	47.1	9,630	WB1376CLP	41.8	10,851
Masami	34.7	13,072	WB1529	52.6	8,623
Mela CL+	38.2	11,874	WB1604	42.4	10,698
Norwest Duet	39.2	11,571	WB1843	50.4	9,000
Norwest Tandem	33.2	13,662	WB-528	46.4	9,776
OR2090473	30.2	15,020	WB-Junction	42.5	10,673
OR2110526	38.7	11,721	Xerpha	44.5	10,193
ORCF-102	47.5	9,549	Xerpha-0W	35.4	12,813
ORCF-103	45.8	9,904	Xerpha-G2	34.6	13,110
Otto	40.5	11,200			
Otto-0W	46.7	9,713	Soft White Club		
Otto-G2	48.2	9,411	ARS06135-9C	30.3	14,970
Puma	40.4	11,228	ARS06136-49C	30.2	15,020
Rosalyn	48.4	9,372	ARS20060123-31C	33.2	13,662
Skiles	46.6	9,734	ARS-Crescent	36.7	12,359
SY 04PN066-7	40.1	11,312	Bruehl	47.3	9,590
SY 09PN005#25	51.3	8,842	Cara	41.6	10,904
SY 09PN062#18	44.3	10,239	Coda	38.8	11,691
SY 107	45.4	9,991	Pritchett (4J0713366C)	34.7	13,072

Table 6 cont. 2016 WSU Winter Wheat Variety Trial Seed Weight

Name	1000 KW (grams)	Seeds per Pound	Name	1000 KW (grams)	Seeds per Pound
Hard Red Winter			Hard White Winter		
AP503 CL2	32.2	14,087	Earl	40.0	11,340
Bauermeister	38.2	11,874	IDO1101	37.1	12,226
Esperia	43.4	10,451	OR2110664	37.9	11,968
Farnum	18.9	24,000	OR2110679	34.0	13,341
Finley	44.5	10,193	OR2120276H	38.8	11,691
HE181/3	47.7	9,509	WA 8231	35.9	12,635
Keldin	51.3	8,842			
LCS Aymeric	37.8	12,000			
LCS Azimut	31.9	14,219			
LCS Colonia	38.1	11,905			
LCS Evina	39.3	11,542			
LCS Jet	44.1	10,286			
Mandala	42.5	10,673			
Norwest 553	39.2	11,571			
NSA10-2196	44.1	10,286			
OR2120012R	36.8	12,326			
Rebelde	35.6	12,741			
Rimrock	48.4	9,372			
Sequoia (WA 8180)	39.5	11,483			
SY Clearstone CL2	31.6	14,354			
SY Touchstone	32.8	13,829			
WA 8197	36.9	12,292			
WA 8207	37.7	12,032			
WA 8228	41.8	10,851			
WA 8229	39.8	11,397			
WA 8246	38.7	11,721			
WA 8247	39.0	11,631			
WA 8248	38.0	11,937			
WA 8249	34.3	13,224			
WA 8250	37.6	12,064			
WB 4059CLP	36.6	12,393			
WB-Arrowhead	42.7	10,623			
Whetstone	40.0	11,340			

Table 7: 2016 WSU Spring Wheat Variety Trial Seed Weight

Name	1000 KW (grams)	Seeds per Pound	Name	1000 KW (grams)	Seeds per Pound
Soft White Common			Hard Red Spring		
12-SW-052	30.1	15,070	12SB0197	33.7	13,460
14-SW-1030	32.9	13,787	12SB0199	35.3	12,850
14-SW-1059	32.9	13,787	12SB0224	33.6	13,500
Babe	41.6	10,904	Alum	36.2	12,530
Diva	53.2	8,526	Bullseye	39.1	11,601
LCS Silk (12-SW-068)	36.5	12,427	Chet	41.1	11,036
Louise	43.2	10,500	Glee	44.6	10,170
Ryan (WA 8214)	37.2	12,193	Hollis	52.9	8,575
Seahawk	42.9	10,573	HRS 3504	33.4	13,581
SY Saltese (SY 04PN3024-2)	53.2	8,526	HRS 3530	37.4	12,128
Tekoa (WA 8189)	37.0	12,259	HRS 3616	25.7	17,650
UI-Stone	34.5	13,148	Kelse	43.5	10,427
WA 8253	34.0	13,341	LCS Buck Pronto	34.6	13,110
WA 8254	34.5	13,148	LCS Iron (11SB0096)	36.8	12,326
WA 8255	32.4	14,000	LCS Luna (10SB0087-B)	36.2	12,530
WA 8265 CL+	33.4	13,581	SY 04PN3051-9	31.4	14,446
WA 8266 CL+	34.6	13,110	SY 06PN3015-08	32.6	13,914
WB-1035CL+	41.6	10,904	SY Basalt	32.2	14,087
WB6121	43.6	10,403	SY Coho (04W40292R)	41.6	10,904
WB6341	37.3	12,161	SY Selway (04PN3001-2)	34.9	12,997
Whit	45.6	9,947	SY Steelhead	33.7	13,460
YS-602	41.5	10,930	SY605 CL	32.3	14,043
Soft White Club			WA 8241 CL+	22.5	20,160
JD	42.8	10,598	WA 8258	35.7	12,706
Melba	38.2	11,874	WA 8259	26.7	16,988
WA 8236 CL+	28.9	15,695	WA 8260	28.2	16,085
Hard White Spring			WA 8261	27.7	16,375
Dayn	41.5	10,930	WB9200	33.8	13,420
IDO1203S-A	39.1	11,601	WB9229	39.2	11,571
UI-Platinum	44.4	10,216	WB9518	42.4	10,698
WA 8240 CL+	29.3	15,481	WB9668	38.7	11,721
WA 8262	29.6	15,324	WB9879CLP	33.7	13,460
WA 8263	29.0	15,641	YS-802-1	44.7	10,147
WA 8264	25.2	18,000	Yurok	44.0	10,309

Table 8. 2016 WSU Spring Barley Variety Trial Seed Weight

Name	1000 KW (grams)	Seeds per Pound	Name	1000 KW (grams)	Seeds per Pound
2-row Feed			2-row Malting		
07MWA-202	44.7	10,147	10WA-117.17	33.9	13,380
07MWA-203	44.8	10,125	10WA-117.24	39.9	11,368
07MWA-204	43.8	10,356	11WA-107.43	39.8	11,397
10WA-105.C	37.7	12,032	11WA-107.58	44.3	10,239
10WA-106.18	39.2	11,571	12WA-120.14	40.4	11,228
10WA-106.20	41.0	11,063	12WA-120.17	44.1	10,286
11WA-105.11	41.2	11,010	2Ab08-X05M010-82	40.4	11,228
Bob	47.7	9,509	CDC Copeland	49.3	9,201
BZ 509-601	46.2	9,818	LCS Genie	43.2	10,500
Champion	50.0	9,072	LCS Odyssey	61.0	7,436
Claymore	47.9	9,470	LCS Westminster	43.4	10,451
LCS Vespa	39.6	11,454			
Lenetah	49.0	9,257	2-row Hulless		
Lyon	48.3	9,391	2Ab09-X06F058HL-31	42.2	10,749
Muir	48.4	9,372	Havener	33.7	13,460
Oreana	45.0	10,080	X05013-T1	35.4	12,813

Table 9. Cultural Data for 2016 WSU Winter Wheat Variety Trial Locations.

Average Annual Rainfall (in)	Nursery Location	Previous Crop	Fertilizer		Planting				Harvest Area (ft. ²)	Harvest Date	Crop Year Pptn. (in.)	Soil pH (Sample Depth)		Location Data				
			Base	Hard Trial Additional	Date	Rate (lb/A)	Planter Type ¹	Row Space (in)				Elevation	Latitude	Longitude	1 ft	6 in		
< 12	Connell	Fallow	40N 10S 7Cl	---	14-Sep	50	NT-X	10	80	13-Jul	13.70	6.0	5.8	1266	N46 37.188	W118 43.578		
	Harrington	Fallow	80N	---	10-Sep	50	DF	15	72	28-Jul	12.43	5.3	4.7		N47 27.297	W118 21.410		
	Horse Heaven	Chem fallow	30N (preplant)	---	28-Oct	50	NT-H	12	72	27-Jul	8.01	7.7	6.6	1313	N46 07.945	W119 31.014		
	Lind	Fallow	50N 10S	50N	15-Sep	50	DF	15	72	19-Jul	10.64	6.0	--					
	Ritzville	Fallow	60N 7S	---	8-Sep	50	DF	15	96	21-Jul	8.75	5.7	5.5	1880	N47 08.254	W118 28.353		
	St. Andrews	Fallow	55N	40N	3-Sep	50	DF	15	72	3-Aug	10.66	6.1	5.7	2390	N47 38.493	W119 25.639		
12-16	Almira	Spring Wheat	60N 10P 10S	---	11-Sep	85	NT-H	12	54	11-Aug	15.45	5.8	5.1	2632	N47 53.217	W118 53.699		
	Anatone	Chem fallow	60N 10P 10S	---	15-Sep	85	NT-H	12	54	25-Jul	14.95	7.1	6.2	2961	N46 12.411	W117 04.914		
	Creston	Fallow	80N 10P 10S	---	11-Sep	85	DD	7.5	60	13-Aug	17.47	5.5	5.3	2518	N47 49.882	W118 32.056		
	Dusty	Fallow	80N 10Cl	---	14-Sep	85	Hoe	10.5	60	15-Aug	9.85	5.7	5.5	1527	N46 51.785	W117 42.162		
	Lamont	Chem fallow	70N 10S	22N	9-Sep	85	Hoe	10.5	60	2-Aug	15.82	5.1	4.9	1910	N47 07.999	W117 48.989		
	Reardan	Chem fallow	60N 10P 10S	56N	16-Sep	85	NT-H	12	54	17-Aug	18.50	5.0	4.7	2514	N47 40.124	W118 02.012		
>20	Dayton	Peas	120N 12P 12S 10C	70N	28-Sep	85	DD	7.5	60	22-Aug	18.48	5.0	4.9	2022	N46 23.609	W118 03.384		
	Mayview	Fallow	85N 15S	---	2-Oct	85	DD	7.5	60	15-Aug	21.94	5.2	4.5	2425	N46 36.425	W117 24.471		
	St. John	Fallow	85N 10S	---	25-Sep	85	DD	7.5	60	16-Aug	10.66	5.1	--	2186	N47 04.950	W117 31.117		
	Walla Walla	Peas	130N 30P 15S	20N	28-Sep	85	DD	7.5	60	15-Jul	17.97	4.9	5.5	1197	N46 06.415	W118 15.031		
Irrigated	Moses Lake Irrig	Potatoes	180N ³	30N	7-Oct	95	DD	7.5	60	4-Aug	---	5.7	5.1	1156	N47 00.615	W119 06.598		
	Pasco Irrig.	Potatoes	130N 30P 15S	---	7-Oct	95	DD	7.5	60	28-Jul	---	6.3	5.8	730	N46 17.551	W118 55.731		

¹ - DD = Deep Furrow; DD = Double Disc; H = Hoe openers; NT-H = No-till Hoe; NT-X=No-till Cross Slot

³ - 100 N broadcast in the spring + 80 N applied through Irrigation

50# = 12.5 Seeds/Ft²

85# = 21.5 Seeds/Ft²

95# = 23.75 Seeds/Ft²

Table 10. Cultural Data for the 2016 WSU Spring Wheat and Barley Variety Trial Locations.

Average Annual Rainfall (in)	Nursery Location	Previous Crop	Fertilizer		Planting				Harvest Area (ft. ²)	Precipitation		Harvest Date	Soil pH (Sample Depth)		Location Data		
			Base	Additional	Date	Rate (lb/A)	Planter Type ¹	Row Space (in)		Soil Moisture (in)	Rainfall (in)		1 ft	6 in	Elevation	Latitude	Longitude
<12	Bickleton	Chernfallow	40N 7P 7S	---	15-Apr	60	NT-X	10	80	7.53	1.51	2-Sep	6.5	5.6	N45 59.362	W120 11.938	
	Horse Heaven	Chernfallow	50N	---	10-Mar	60	NT-X	10	80	6.27	1.80	5-Aug	7.1	6.9	N46 07.816	W119 33.018	
	Lind	Fallow	50N 10S	---	8-Mar	60	DD	6	80	5.58	2.80	25-Jul	5.9	--	W47 00.338	W118 33.574	
12-16	Almira	Spring wheat	60N 10P 10S	15N	19-Apr	80	DD	7.5	80	10.31	3.80	16-Sep	6.4	5.8	N 47 51.941	W 118 53.660	
	Endicott	Winter Wheat	70N	---	6-Apr	80	DD	7.5	80	5.92	2.50	31-Aug	5.6	5.2	N46 54.146	W117 45.280	
	Reardan	Winter Wheat	80N 14P 14S	---	11-Apr	80	NT-X	10	80	11.03	3.40	1-Sep	5.7	5.0	N47 39.917	W118 01.994	
	Dayton	Winter Wheat	100N 10P 12S	25N	12-Apr	80	DD	7.5	80	9.30	4.20	24-Aug	5.5	5.8	N46 23.395	W118 03.465	
>20	Mayview	Winter Wheat	80N 15S	32N	22-Apr	80	DD	7.5	80	12.22	4.88	30-Aug	5.5	5.0	N46 36.430	W117 24.512	
	Plaza	Winter Wheat	80N 20P 15S	---	20-Apr	80	DD	6	80	10.21	4.00	18-Aug	6.0	--	N47 14.748	W117 15.117	
	St. John	Winter Wheat	70N 10S	---	18-Apr	80	DD	7.5	80	10.75	1.40	16-Aug	6.6	5.9	N47 04.839	W117 31.221	
	Walla Walla	Winter Wheat	100N 10P 10S	---	8-Apr	80	DD	7.5	80	15.68	4.60	23-Aug	7.2	6.7	N46 16.517	W118 11.654	
	Fairfield	Winter Wheat	90N 15S	70N	2-May	90	DD	7.5	80	13.24	3.50	14-Sep	5.5	5.5	N47 26.386	W117 07.885	
	Farmington	Winter Wheat	85N 20P 20S	60N	7-Apr	90	DD	7.5	80	13.78	4.10	14-Sep	6.2	5.9	N47 02.038	W117 03.431	
Irrigated	Palouse	Winter Wheat	80N 20P 20S	---	13-Apr	90	DD	7.5	80	14.11	4.10	29-Aug	5.3	5.3	N46 55.987	W117 13.146	
	Pullman, SW	Winter Wheat	200N 20P 20S	---	8-Apr	90	DD	6	80	8.97	3.60	13-Aug	5.8	--	N46 41.712	W117 08.532	
	Pullman, BLY	Winter Wheat	130N 20P 20S	---	25-Apr	90	DD	6	80	8.27	3.60	15-Aug	5.2	--	N46 41.798	W117 08.056	
	Moses Lake	Fallow	250N 20P 20S	---	16-Mar	100	DD	6	80	7.80	---	28-Jul	7.3	--	N46 47.345	W119 02.363	
Pasco	Potatoes	100N	---	18-Mar	100	DD	7.5	80	9.56	---	29-Jul	5.3	5.4	N46 41.240	W118 52.638		

1 - DD = double disc drill; NT-X = Cross Slot
60# = 15 Seeds/FT² (wheat)/18 Seeds/FT² (barley)
80# = 20 Seeds/FT² (wheat)/24 Seeds/FT² (barley)
90# = 22.5 Seeds/FT² (wheat)/27 Seeds/FT² (barley)
100# = 25 Seeds/FT² (wheat)/30 Seeds/FT² (barley)

Figure 1.

2016 WSU Variety Testing Program PNW Crop Tour Schedule

The 2016 crop tour season will soon be starting and provides opportunities to view field trials and interact with Washington State University personnel and others about cereal varieties and crop management practices. Cereal breeders, extension agronomists, plant pathologists, and other scientists will be presenting information at various events. The small grain variety and research tours, listed below, provide a guide for wheat, barley, and legume tours in Washington and nearby locations.

Please check with the contact listed prior to the tour to verify the time, location, agenda, and ensure a place at the table if food is served. Location maps for the WSU Cereal Variety trials are available online at <http://variety.wsu.edu>. Washington Grain Commission funds support the trials and the tours, and we look forward to seeing you in the fields.

– Ryan Higginbotham, WSU Cereal Variety Testing

<u>Date</u>	<u>Tour</u>	<u>Time</u>	<u>Contact</u>
25-May	Columbia Co. Conservation Tour	9:00 AM	Paul Carter, 509-382-4741
7-Jun	Horse Heaven	8:00 AM	Wayne Thompson, 509-240-5018
8-Jun	Ritzville	1:00 PM	Aaron Esser, 509-659-3210
8-Jun	WSU Weed Sci. - Pullman	1:00 PM	Drew Lyon, 509-335-2961
9-Jun	Western Whitman Co. - LaCrosse	9:30 AM	Steve Van Vleet, 509-397-6290
9-Jun	Connell	5:00 PM	Wayne Thompson, 509-240-5018
14-Jun	Pendleton Field Day	7:30 AM	Mary Corp, 541-278-4415
15-Jun	Moro Field Day	7:30 AM	Mary Corp, 541-278-4415
15-Jun	Harrington	4:00 PM	Diana Roberts, 509-477-2167
16-Jun	Lind Field Day	8:30 AM	Bill Schillinger, 509-235-1933
17-Jun	*Diagnostic Clinic - Spillman, Pullman	8:00 AM	Steve Van Vleet, 509-397-6290
17-Jun	St. Andrews	5:00 PM	Dale Whaley, 509-745-8531
21-Jun	Fairfield	7:00 AM	Diana Roberts, 509-477-2167
22-Jun	Moses Lake - irrigated	8:00 AM	Andy McGuire, 509-754-2011
22-Jun	Almira	3:00 PM	Diana Roberts, 509-477-2167
22-Jun	Cook Farm Field Day – Pullman	8:00 AM	Dave Huggins, 509-335-3379
23-Jun	Reardan	7:00 AM	Diana Roberts, 509-477-2167
23-Jun	Wilke Farm Tour	9:30 AM	Aaron Esser, 509-659-3210
28-Jun	Walla Walla (legumes)	10:00 AM	Wayne Thompson, 509-240-5018
28-Jun	Walla Walla (cereals)	3:30 PM	Wayne Thompson, 509-240-5018
29-Jun	Dayton (cereals & legumes)	8:00 AM	Paul Carter, 509-382-4741
29-Jun	Wheat College - Wilke Farm, Davenport	9:00 AM	Lori Williams, 509-659-0610
30-Jun	Mayview	9:00 AM	Mark Heitstuman, 509-243-2009
30-Jun	Anatone	3:30 PM	Mark Heitstuman, 509-243-2009
6-Jul	Univ. of Idaho/Limagrain—Moscow	8:30 AM	Don Thill, 208-885-6214
11-Jul	Palouse	9:00 AM	Steve Van Vleet, 509-397-6290
12-Jul	Bickleton	3:00 PM	Ryan Higginbotham, 509-335-1205
13-Jul	Farmington	8:00 AM	Steve Van Vleet, 509-397-6290
14-Jul	St. John	10:00 AM	Steve Van Vleet, 509-397-6290
14-Jul	Lamont	2:30 PM	Steve Van Vleet, 509-397-6290

*Limited number of registrants. Contact Steve Van Vleet, Whitman Co. Extension (509-397-6290)

<http://variety.wsu.edu>

<http://smallgrains.wsu.edu>



Persons with disabilities who require alternative means for communication or program information or reasonable accommodation need to contact the coordination person listed under Contact above at the telephone number listed at least two weeks prior to the event. Extension programs and employment are available to all without discrimination. Evidence of noncompliance may be reported through your local Extension office.

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Table 11. 2016 WSU Variety Testing Soft White Winter Wheat Zone Summary
Precipitation Zone = >20"

Variety Name <i>Club Italicized</i>	Colton	Fairfield	Farmington	Pullman	Average	Colton	Fairfield	Farmington	Pullman	Average	Colton	Fairfield	Farmington	Pullman	Average
	YIELD (BU/A)					TEST WT (LBS/BU)					PROTEIN (%)				
RELEASED VARIETIES															
Rosalyn	170	135	172	162	160	62.5	61.9	60.6	61.6	61.7	9.9	8.6	9.7	8.8	9.3
UI Sparrow (IDO1108DH)	158	131	146	155	148	61.4	60.9	59.9	60.6	60.7	9.7	8.8	10.3	9.3	9.5
<i>ARS-Crescent</i>	154	132	146	149	145	63.2	62.6	61.2	62.3	62.3	10.0	9.0	10.4	9.3	9.7
Legion	150	114	161	148	143	61.6	62.0	60.7	61.9	61.6	9.9	9.9	10.5	9.4	9.9
SY 107	151	119	151	150	143	63.7	62.8	61.2	63.3	62.8	9.9	9.5	10.4	9.4	9.8
UI Castle CL+	154	119	147	148	142	63.6	63.2	61.7	63.2	62.9	10.9	9.7	11.1	10.1	10.5
LCS Artdeco	146	114	155	151	141	62.5	60.8	60.6	62.4	61.6	10.0	10.1	10.1	9.3	9.9
ARS-Selbu	145	121	153	147	141	64.2	64.0	63.1	63.4	63.7	11.0	10.4	11.0	10.0	10.6
Norwest Duet (LOR-092)	141	120	158	145	141	63.3	62.4	61.8	62.8	62.6	10.7	10.5	10.8	9.6	10.4
Bobtail	153	110	150	146	140	62.6	61.9	60.8	61.7	61.8	10.9	9.3	10.6	10.0	10.2
Puma	133	116	159	147	139	63.0	61.5	61.7	62.6	62.2	10.4	9.9	10.8	9.7	10.2
Xerpha	144	118	153	139	138	63.2	62.7	61.6	62.5	62.5	10.6	9.6	10.9	8.9	10.0
Mary	149	108	142	150	137	63.6	62.8	61.6	63.0	62.8	10.3	10.1	11.1	9.5	10.3
SY Assure (04PN096-2)	151	105	150	140	137	63.8	63.1	61.6	63.4	63.0	10.7	10.6	11.4	10.2	10.7
WB-Junction	149	108	131	151	135	64.3	63.1	62.4	64.1	63.5	10.2	10.6	10.7	9.7	10.3
ORCF-102	138	114	149	138	134	62.9	63.8	61.1	62.3	62.5	10.6	10.5	10.7	9.6	10.3
WB 523	140	117	136	143	134	64.2	62.4	62.2	63.8	63.2	10.7	10.5	11.3	10.3	10.7
UI-WSU Huffman	137	109	149	142	134	62.8	62.8	61.5	62.2	62.3	10.9	10.5	10.9	9.9	10.5
SY Ovation	144	108	137	143	133	63.2	62.7	61.1	62.5	62.4	10.4	10.2	11.3	9.8	10.4
Madsen	141	113	141	137	133	62.8	62.4	61.4	62.3	62.2	11.1	9.7	11.1	10.3	10.5
WB-528	148	107	136	140	133	64.2	63.5	62.6	63.8	63.5	11.0	10.6	11.0	10.7	10.8
UI Palouse CL+	137	114	137	141	132	62.9	61.9	60.5	62.4	61.9	10.5	10.6	10.9	9.9	10.5
<i>Cara</i>	140	117	135	138	132	63.0	62.0	60.9	62.1	62.0	10.7	9.7	10.7	10.1	10.3
WB1604	152	107	136	134	132	63.7	63.1	62.0	63.7	63.1	10.7	11.0	11.2	10.0	10.7
AP700 CL	127	112	148	138	131	63.1	62.7	60.9	63.1	62.5	10.7	11.0	11.3	9.6	10.6
UI Magic CL+	148	100	142	134	131	63.7	63.3	61.9	63.5	63.1	10.9	10.8	11.4	9.7	10.7
Skiles	140	99	156	126	130	63.3	62.4	61.7	63.3	62.7	11.5	11.1	11.6	10.6	11.2
WB1529	139	102	122	128	123	64.3	63.5	62.3	64.5	63.7	11.3	10.9	13.0	10.3	11.4
Curiosity CL+	135	117	103	131	121	60.7	62.4	60.2	61.7	61.2	10.2	9.5	10.6	9.5	10.0
WB1376CLP	129	93	116	126	116	65.0	63.5	63.2	64.9	64.2	11.8	12.0	12.3	11.7	11.9
Mela CL+	120	119	92	117	112	61.4	62.8	60.7	60.7	61.4	10.1	9.6	10.7	10.0	10.1
EXPERIMENTAL LINES															
WA 8232	151	114	159	162	146	63.8	63.2	62.8	63.5	63.3	10.1	10.5	10.4	9.5	10.1
WA 8234	161	121	149	147	144	63.9	63.3	62.4	63.4	63.2	10.4	10.4	11.0	9.6	10.3
Xerpha-G2	151	126	160	140	144	63.1	62.5	61.6	62.2	62.3	10.5	10.6	11.0	9.4	10.4
LWW14-73163	158	117	154	143	143	64.4	63.1	62.8	64.3	63.6	10.1	10.5	10.9	9.6	10.3
KXB-01	150	116	156	149	143	62.7	62.2	61.0	62.3	62.1	10.8	10.7	11.5	10.2	10.8
IDN 01-10704A	151	112	152	155	142	63.0	62.1	60.9	62.5	62.1	10.1	9.8	10.4	9.7	10.0
IDN 06-18102A	155	111	157	147	142	62.3	61.4	60.0	61.8	61.4	10.0	10.0	10.4	9.4	10.0
Xerpha-0W	156	113	155	142	142	62.7	62.7	61.4	62.3	62.3	10.7	10.2	10.6	9.4	10.2
IDN 06-03303B	152	119	153	142	141	62.7	61.5	60.6	61.9	61.7	10.1	10.0	10.7	9.5	10.1

2016 WSU Variety Testing Soft White Winter Wheat Zone Summary
Precipitation Zone = >20"

Variety Name <i>Club Italicized</i>	Colton	Fairfield	Farmington	Pullman	Average	Colton	Fairfield	Farmington	Pullman	Average	Colton	Fairfield	Farmington	Pullman	Average
	YIELD (BU/A)					TEST WT (LBS/BU)					PROTEIN (%)				
WA 8245	151	124	151	139	141	62.1	61.3	59.6	61.2	61.1	10.2	10.0	10.3	9.6	10.0
WA 8235	153	118	140	140	138	63.2	63.0	61.7	62.7	62.6	10.9	10.5	10.8	10.0	10.6
09PN062#18	154	115	136	142	137	63.2	62.3	61.1	62.8	62.4	10.5	11.0	11.1	10.0	10.6
IDN 07-28017B	152	111	144	137	136	64.4	63.2	62.1	63.8	63.4	10.7	10.1	10.9	9.5	10.3
WA 8187	147	114	142	140	136	63.2	62.7	61.7	62.5	62.5	10.3	10.9	11.0	10.0	10.6
WA 8233	121	134	144	141	135	61.7	61.7	60.4	61.6	61.4	9.9	9.6	10.7	9.3	9.9
WA 8206	142	114	142	130	132	62.8	62.4	61.4	62.0	62.2	10.8	10.2	11.2	10.2	10.6
<i>ARS20060123-31C</i>	113	115	145	133	126	64.1	63.2	62.2	63.8	63.3	11.3	10.2	10.8	10.1	10.6
OR2110526	137	99	138	132	126	63.4	63.4	61.8	63.1	62.9	10.9	10.6	10.9	9.9	10.6
LOR-913	135	106	130	131	125	63.1	61.8	61.4	62.9	62.3	10.6	10.5	11.2	10.1	10.6
LOR-833	147	96	131	121	124	63.6	62.9	61.6	63.3	62.9	10.9	11.3	11.5	10.2	11.0
<i>ARS06136-49C</i>	106	109	144	130	122	63.1	62.5	61.4	62.6	62.4	11.2	10.7	11.2	9.9	10.7
C.V. %	6	7	6	4	6	1	1	1	1	1	3	6	3	4	4
LSD (0.05)	11	10	13	8	6	0.6	0.6	0.5	0.3	0.3	0.4	0.8	0.4	0.4	0.3
Average	144	114	144	141	136	63.2	62.6	61.4	62.7	62.5	10.6	10.2	10.9	9.8	10.4
Highest	170	135	172	162	160	65.0	64.0	63.2	64.9	64.2	11.8	12.0	13.0	11.7	11.9
Lowest	106	92	92	117	112	60.7	60.8	59.6	60.6	60.7	9.7	8.6	9.7	8.8	9.3

Table 12. 2016 WSU Variety Testing Soft White Winter Wheat Zone Summary
Precipitation Zone = 16-20"

Variety Name <i>Club Italicized</i>	Dayton	Mayview	St. John	Walla Walla	Average	Dayton	Mayview	St. John	Walla Walla	Average	Dayton	Mayview	St. John	Walla Walla	Average
	YIELD (BU/A)					TEST WT (LBS/BU)					PROTEIN (%)				
	RELEASED VARIETIES														
Rosalyn	126	125	166	141	139	60.6	62.0	61.4	60.2	61.1	10.0	8.6	9.8	10.4	9.7
LCS Artdeco	113	126	154	151	136	58.8	58.4	58.9	59.7	58.9	10.3	9.2	10.6	9.7	10.0
Skiles	106	123	152	134	129	61.3	62.1	62.0	61.0	61.6	11.8	10.4	11.6	11.9	11.4
SY Assure (04PN096-2)	115	123	132	126	124	61.7	61.3	61.1	61.1	61.3	11.5	10.6	11.2	11.0	11.1
SY Ovation	108	115	144	124	123	62.0	61.9	60.9	60.8	61.4	11.3	9.5	11.1	11.2	10.8
SY 107	111	108	137	132	122	60.5	61.7	61.3	60.8	61.1	10.9	9.3	10.0	10.7	10.2
Mary	118	109	130	131	122	61.2	59.2	59.5	60.7	60.2	11.1	9.3	11.0	11.3	10.7
WB-528	110	112	137	127	121	61.7	62.0	62.1	61.9	62.0	11.4	9.9	11.5	10.7	10.9
WB1604	106	116	152	110	121	61.4	60.8	61.7	60.9	61.2	11.0	9.5	11.4	10.9	10.7
UI Magic CL+	100	115	145	115	119	62.1	62.1	61.6	62.0	62.0	11.5	9.3	11.3	11.7	11.0
UI Sparrow (IDO1108DH)	109	104	134	124	118	60.4	60.3	60.6	59.7	60.3	10.8	9.7	10.7	10.7	10.5
WB-Junction	106	104	121	133	116	61.6	61.1	61.0	61.9	61.4	10.8	9.2	11.0	11.0	10.5
<i>ARS-Crescent</i>	101	111	128	123	116	59.6	60.5	60.2	60.4	60.2	11.6	9.2	10.5	11.2	10.6
Madsen	105	102	131	120	114	60.9	61.8	60.6	60.1	60.9	12.0	10.3	12.1	11.7	11.5
WB1529	115	98	121	122	114	62.7	60.5	62.0	61.5	61.7	10.9	9.7	11.0	10.7	10.6
ORCF-102	108	101	125	122	114	61.9	61.2	60.3	61.2	61.2	11.3	9.1	10.6	11.2	10.5
UI Palouse CL+	100	98	140	108	111	60.7	61.2	61.1	59.1	60.5	11.9	10.6	11.3	11.6	11.3
WB1376CLP	99	93	139	108	110	61.8	62.2	63.0	61.7	62.2	12.6	12.4	11.8	12.3	12.3
UI-WSU Huffman	104	87	132	108	108	61.4	61.5	61.4	60.1	61.1	11.2	10.1	10.4	11.6	10.8
UI Castle CL+	101	86	129	110	107	60.6	62.4	62.2	60.9	61.5	12.3	10.5	10.9	12.4	11.5
AP700 CL	98	-- ²	140	111	-- ³	60.7	60.8	60.8	59.2	60.4	11.4	9.4	11.0	11.7	10.9
ARS-Selbu	114	-- ²	148	126	-- ³	62.7	62.9	63.4	62.2	62.8	11.3	9.9	11.2	11.3	10.9
Bobtail	118	-- ²	167	127	-- ³	59.7	61.0	61.2	58.7	60.1	10.5	9.1	10.9	10.7	10.3
<i>Cara</i>	107	-- ¹	145	120	-- ³	59.9	-- ¹	61.8	59.3	-- ³	11.5	-- ¹	11.2	11.1	-- ³
Curiosity CL+	101	-- ²	105	115	-- ³	61.5	60.9	59.6	60.0	60.5	11.1	10.1	11.7	10.8	10.9
Legion	116	-- ²	118	131	-- ³	60.0	60.9	60.0	59.4	60.1	11.4	9.6	11.5	11.3	11.0
Mela CL+	98	-- ²	107	116	-- ³	61.5	61.3	61.1	60.2	61.0	11.0	9.5	10.6	11.2	10.6
Norwest Duet (LOR-092)	113	-- ²	145	133	-- ³	61.8	62.3	62.8	60.6	61.9	10.7	9.8	10.9	10.5	10.5
Puma	117	-- ²	117	129	-- ³	60.8	61.0	61.0	60.4	60.8	11.0	10.2	10.3	11.4	10.8
WB 523	108	-- ²	140	125	-- ³	61.8	62.1	62.3	61.1	61.8	11.0	10.3	10.4	11.4	10.8
Xerpha	122	-- ²	115	134	-- ³	62.4	61.7	59.3	60.3	61.0	10.8	8.7	11.1	10.9	10.4
EXPERIMENTAL LINES															
09PN062#18	112	126	134	128	125	61.0	61.9	61.1	60.4	61.1	10.8	10.4	10.4	11.1	10.7
IDN 07-28017B	106	119	156	116	124	62.1	62.8	62.4	61.5	62.2	10.9	9.3	11.2	11.1	10.6
LWW14-73163	108	114	152	123	124	62.3	62.8	62.9	61.5	62.4	11.3	9.6	11.0	11.2	10.8
WA 8245	113	109	147	124	123	60.2	60.5	61.0	59.4	60.3	11.4	9.9	10.9	10.9	10.8
WA 8234	111	103	145	132	123	61.7	62.2	62.0	61.5	61.8	11.3	9.9	10.7	10.9	10.7
WA 8235	105	120	149	114	122	60.9	62.3	61.9	60.4	61.4	12.1	9.7	11.6	11.6	11.3
WA 8232	108	110	143	126	122	62.2	63.5	62.3	62.3	62.6	11.1	9.7	10.4	10.4	10.4

2016 WSU Variety Testing Soft White Winter Wheat Zone Summary
Precipitation Zone = 16-20"

Variety Name <i>Club Italicized</i>	Dayton	Mayview	St. John	Walla Walla	Average	Dayton	Mayview	St. John	Walla Walla	Average	Dayton	Mayview	St. John	Walla Walla	Average
	YIELD (BU/A)					TEST WT (LBS/BU)					PROTEIN (%)				
IDN 06-03303B	105	120	141	116	120	59.7	61.3	60.1	58.7	60.0	11.2	9.5	10.3	11.2	10.5
LOR-833	106	113	145	113	119	60.4	61.4	61.5	59.9	60.8	11.1	9.7	10.8	11.3	10.7
IDN 06-18102A	104	117	142	111	119	60.3	60.5	60.1	59.1	60.0	11.5	9.3	11.5	10.8	10.8
WA 8187	108	109	136	120	118	61.9	61.9	61.5	60.7	61.5	11.5	10.2	10.7	11.7	11.0
Xerpha-0W	116	94	135	124	117	61.9	61.6	61.3	60.3	61.3	11.3	10.0	10.7	10.8	10.7
IDN 01-10704A	100	103	162	102	117	60.3	61.0	61.1	60.3	60.7	10.9	9.8	10.9	10.9	10.6
OR2110526	101	104	128	123	114	61.3	61.0	60.9	60.6	61.0	11.1	9.9	11.4	11.1	10.9
<i>ARS06136-49C</i>	104	-- ¹	120	122	-- ³	61.3	-- ¹	61.8	61.1	-- ³	11.4	-- ¹	10.9	11.2	-- ³
<i>ARS20060123-31C</i>	111	-- ¹	138	140	-- ³	61.7	-- ¹	62.6	61.5	-- ³	11.0	-- ¹	11.8	10.7	-- ³
KXB-01	114	-- ²	135	128	-- ³	61.2	61.4	60.8	60.7	61.0	11.5	10.4	11.1	11.0	11.0
LOR-913	110	-- ²	148	128	-- ³	60.6	59.5	59.9	60.0	60.0	10.8	9.5	11.1	10.8	10.6
WA 8206	103	-- ²	125	106	-- ³	61.6	61.7	61.0	60.1	61.1	11.7	10.1	11.7	11.8	11.3
WA 8233	103	-- ²	130	116	-- ³	60.6	60.6	61.4	60.2	60.7	10.8	9.7	10.9	10.8	10.5
Xerpha-G2	115	-- ²	125	126	-- ³	61.7	61.9	61.1	60.0	61.2	11.1	10.3	9.8	11.5	10.7
C.V. %	5	8	6	4	6	1	1	1	1	1	3	7	5	4	5
LSD (0.05)	7	11	12	7	6	0.8	0.7	0.8	0.5	0.4	0.4	0.9	0.8	0.5	0.4
Average	108	102	137	122	120	61.2	61.4	61.3	60.5	61.1	11.2	9.8	11.0	11.1	10.8
Highest	126	126	167	151	139	62.7	63.5	63.4	62.3	62.8	12.6	12.4	12.1	12.4	12.3
Lowest	98	53	105	102	107	58.8	58.4	58.9	58.7	58.9	10.0	8.6	9.8	9.7	9.7

¹ Severe deer damage, no data

² Entry shattered, data not included in summary.

³ No data from one or more locations

Table 13. 2016 WSU Variety Testing Soft White Winter Wheat Zone Summary
Precipitation Zone = 12-16"

Variety Name <i>Club Italicized</i>	Almira	Anatone	Creston	Lamont	Reardan*	Average	Almira	Anatone	Creston	Lamont	Reardan*	Average	Almira	Anatone	Creston	Lamont	Reardan*	Average
	YIELD (BU/A)						TEST WT (LBS/BU)						PROTEIN (%)					
RELEASED VARIETIES																		
Legion	114	104	121	120	115	115	61.7	60.3	60.2	60.3	61.8	60.9	8.9	7.2	10.8	8.8	11.0	9.4
Puma	106	94	113	114	111	108	62.1	60.6	60.9	60.9	61.7	61.2	10.3	7.5	9.0	10.3	11.8	9.8
Xerpha	105	95	112	106	119	107	62.7	61.7	62.5	60.9	62.5	62.1	9.9	7.3	9.4	9.3	11.8	9.6
<i>Bruehl</i>	113	88	116	110	109	107	60.7	59.2	60.3	60.5	60.7	60.3	9.4	7.0	9.1	10.0	11.4	9.4
SY 107	113	85	117	110	111	107	62.2	61.5	61.5	61.0	62.4	61.7	9.4	7.5	9.6	9.4	11.2	9.4
Mary	88	98	130	102	116	107	60.9	61.5	62.5	60.9	62.1	61.6	11.0	7.6	9.4	9.1	11.5	9.7
Norwest Duet (LOR-092)	109	85	127	109	103	107	63.4	62.3	62.7	62.6	62.0	62.6	9.6	7.3	9.4	10.3	12.0	9.8
UI Sparrow (IDO1108DH)	109	95	121	96	112	106	61.9	60.1	61.3	60.8	61.2	61.1	10.5	6.9	8.5	9.7	11.0	9.3
<i>ARS-Crescent</i>	106	87	113	104	117	105	62.4	61.2	61.7	60.5	62.6	61.7	9.4	7.5	9.7	9.9	11.1	9.5
UI Castle CL+	104	98	114	110	97	104	63.7	62.5	62.8	62.3	62.7	62.8	10.6	7.8	10.4	10.2	12.9	10.4
WB-Junction	97	96	114	114	101	104	61.7	60.4	61.3	62.6	62.7	61.8	11.1	7.1	9.0	9.9	11.5	9.7
<i>Pritchett (4J0713366C)</i>	94	94	115	115	102	104	61.5	60.5	60.6	60.3	61.6	60.9	11.0	7.7	8.9	11.2	11.5	10.1
WB1843	100	90	117	93	109	102	62.7	62.3	62.6	61.2	62.6	62.3	9.8	7.9	10.4	10.8	12.4	10.3
Otto	108	102	106	97	96	102	62.5	57.4	62.0	62.2	62.1	61.2	9.5	8.2	10.4	11.0	11.5	10.1
WB1604	95	100	108	112	92	101	62.3	60.1	62.2	62.4	62.3	61.9	10.3	7.2	10.3	9.4	11.5	9.8
Curiosity CL+	103	101	111	98	91	101	62.3	58.8	61.9	62.4	62.4	61.6	9.4	8.2	9.3	9.9	11.7	9.7
ORCF-102	102	85	113	101	99	100	62.4	61.3	62.6	61.0	62.2	61.9	9.8	7.6	10.0	10.8	11.8	10.0
Madsen	95	88	108	102	107	100	62.4	61.4	61.7	61.3	61.8	61.7	10.3	8.2	10.1	12.1	12.4	10.6
WB1529	105	81	114	103	93	99	62.9	62.0	62.8	62.4	62.9	62.6	10.9	7.6	10.6	9.8	11.8	10.1
UI-WSU Huffman	85	90	108	111	97	98	62.3	60.7	61.0	61.3	62.1	61.5	10.7	7.7	8.9	10.9	11.0	9.8
Eltan	103	90	110	90	96	98	62.3	60.0	61.7	61.8	62.3	61.6	9.2	7.3	9.0	9.7	11.4	9.3
Masami	97	89	113	93	92	97	62.1	61.2	61.1	60.6	61.5	61.3	9.6	7.2	9.7	9.7	10.8	9.4
ORCF-103	96	89	114	91	95	97	62.0	60.8	61.9	61.0	62.0	61.6	10.0	7.6	9.4	9.5	11.6	9.7
<i>Coda</i>	92	83	103	91	103	95	63.3	62.8	62.7	62.4	63.1	62.9	10.5	8.1	10.3	10.0	12.2	10.2
WB1376CLP	90	84	109	103	77	93	63.5	63.1	63.1	63.0	63.4	63.2	11.4	8.7	11.6	11.7	13.6	11.4
UI Magic CL+	83	90	99	97	92	92	62.3	60.8	62.3	62.1	63.1	62.1	11.6	8.2	9.9	10.7	12.0	10.5
Mela CL+	95	87	103	85	81	90	62.6	59.9	61.9	62.4	62.4	61.9	9.3	7.8	10.4	10.8	11.6	10.0
UI Palouse CL+	90	-- ¹	107	93	100	-- ²	62.2	-- ¹	62.0	61.6	61.9	-- ²	10.0	-- ¹	10.0	10.1	11.9	-- ²
EXPERIMENTAL LINES																		
LWW14-73161	129	103	132	116	113	118	62.5	60.6	61.0	61.3	61.9	61.5	9.7	7.1	9.2	10.1	11.3	9.5
LWW14-73163	118	94	122	111	116	112	63.2	62.6	63.1	62.6	63.2	63.0	9.2	8.0	10.0	10.6	11.5	9.9
04PN066-7	99	94	131	118	111	111	62.0	60.6	61.0	60.8	61.6	61.2	10.8	7.6	9.5	10.3	10.9	9.8
WA 8243	107	96	112	104	111	106	62.3	61.5	61.0	61.6	62.0	61.7	9.4	7.7	9.4	10.6	11.2	9.7
Otto-G2	104	94	116	108	107	106	61.8	58.3	61.4	62.3	61.9	61.1	9.9	8.6	9.4	10.6	11.4	10.0
09PN005#25	102	95	116	105	108	105	62.3	61.2	61.6	60.7	61.7	61.5	9.8	7.0	9.9	10.4	11.3	9.7
LWW14-71032	100	97	112	106	109	105	61.9	61.4	61.9	62.0	62.1	61.9	8.7	6.9	8.6	10.7	11.8	9.3
Otto-0W	104	94	118	97	107	104	62.5	57.6	61.6	62.2	61.9	61.2	10.0	8.3	10.2	10.2	11.5	10.1
KXB-01	94	88	117	109	109	103	62.3	61.9	62.2	61.6	62.2	62.0	10.9	7.7	8.6	9.8	12.3	9.9
WA 8227	100	94	113	104	97	102	62.6	61.6	61.9	62.6	62.2	62.2	10.3	7.8	10.5	9.9	10.8	9.9
WA 8244	104	91	110	92	103	100	63.3	62.8	62.1	62.0	63.0	62.6	9.1	7.7	11.4	10.5	11.5	10.0
LOR-913	68	95	120	105	94	96	60.0	60.1	60.1	60.7	61.3	60.4	11.0	8.4	10.4	10.3	11.4	10.3

2016 WSU Variety Testing Soft White Winter Wheat Zone Summary
Precipitation Zone = 12-16"

Variety Name <i>Club Italicized</i>	Almira	Anatone	Creston	Lamont	Reardan*	Average	Almira	Anatone	Creston	Lamont	Reardan*	Average	Almira	Anatone	Creston	Lamont	Reardan*	Average
	YIELD (BU/A)						TEST WT (LBS/BU)						PROTEIN (%)					
WA 8251 (KXB-04)	99	86	83	81	88	87	61.3	59.0	61.2	62.1	61.8	61.1	8.8	6.9	11.1	9.3	11.0	9.4
WA 8202	92	79	82	88	89	86	63.5	62.5	62.3	63.1	62.6	62.8	10.0	7.9	11.5	12.1	13.2	11.0
<i>ARS06135-9C</i>	86	-- ¹	-- ¹	-- ¹	96	-- ²	62.2	-- ¹	-- ¹	-- ¹	63.0	-- ²	9.7	-- ¹	-- ¹	-- ¹	12.3	-- ²
<i>ARS20060123-31C</i>	91	-- ¹	107	-- ¹	108	-- ²	62.3	-- ¹	62.7	-- ¹	63.3	-- ²	9.0	-- ¹	10.0	-- ¹	10.9	-- ²
IDN 07-28017B	106	-- ¹	-- ¹	95	100	-- ²	63.2	-- ¹	-- ¹	63.5	63.0	-- ²	9.8	-- ¹	-- ¹	10.3	11.5	-- ²
WA 8226	97	-- ¹	93	91	87	-- ²	62.3	-- ¹	61.6	61.3	62.3	-- ²	10.3	-- ¹	9.5	9.9	12.4	-- ²
C.V. %	9	9	8	9	7	8	1	1	1	1	0	1	12	6	10	9	2	8
LSD (0.05)	12	11	12	12	9	6	0.6	0.9	0.6	0.7	0.3	0.4	1.6	0.6	1.3	1.2	0.3	0.6
Average	100	92	112	101	102	102	62.3	60.9	61.8	61.7	62.3	61.8	10.0	7.6	9.8	10.3	11.7	9.9
Highest	129	104	132	120	119	118	63.7	63.1	63.2	63.5	63.4	63.2	11.6	8.7	11.6	12.1	13.6	11.4
Lowest	68	79	82	48	77	86	60.0	57.4	60.1	60.3	60.7	60.3	8.7	6.9	8.5	8.8	10.8	9.3

* Reardan was moved to the 12-16" zone in 2016

--¹ No data due to deer feeding

--² No data from one or more locations.

Table 14. 2016 WSU Variety Testing Soft White Winter Wheat Zone Summary
Precipitation Zone = <12"

Variety Name <i>Club Italicized</i>	Connell	Harrington	Horse Heaven	Lind	Average	Connell	Harrington	Horse Heaven	Lind	Average	Connell	Harrington	Horse Heaven	Lind	Average
	YIELD (BU/A)					TEST WT (LBS/BU)					PROTEIN (%)				
RELEASED VARIETIES															
SY 107	76	91	37	54	65	53.8	61.4	51.4	59.8	56.7	11.6	10.2	13.3	10.6	11.4
Xerpha	73	90	39	56	64	56.3	61.8	54.8	59.5	58.2	12.7	10.8	13.3	10.5	11.8
Puma	72	83	37	63	64	57.1	61.5	53.4	60.3	58.0	12.8	11.2	13.4	11.4	12.2
WB 1529	71	78	40	66	64	58.3	62.8	57.3	62.7	60.4	11.7	11.4	12.7	11.5	11.9
Legion	71	83	38	59	63	55.4	60.1	53.3	60.0	57.1	13.4	10.5	13.2	11.2	12.1
Norwest Duet (LOR-092)	72	78	39	60	62	56.3	62.4	54.6	59.9	58.3	12.9	11.2	13.0	11.8	12.2
<i>Bruehl</i>	62	81	35	67	61	53.7	61.2	54.3	59.6	57.3	13.5	10.4	13.9	10.7	12.1
UI Sparrow (IDO1108DH)	55	88	38	61	61	54.5	61.8	54.1	59.5	57.5	13.0	10.6	12.3	11.0	11.7
WB 1376CLP	71	79	35	57	60	59.0	62.5	56.8	61.8	60.1	13.6	12.4	13.8	13.1	13.3
Mary	76	77	39	50	60	57.6	61.0	53.3	59.7	57.7	14.0	10.9	13.5	11.3	12.4
ORCF-102	68	80	39	55	60	57.4	62.0	56.5	60.6	59.2	13.8	11.4	13.8	11.9	12.7
MelaCL+	63	77	39	58	59	56.9	62.9	56.6	60.9	59.4	12.2	11.1	12.8	10.6	11.7
Otto	59	79	37	62	59	56.0	62.4	55.4	60.6	58.5	14.9	11.4	13.6	11.7	12.9
Madsen	65	81	35	55	59	56.6	61.7	55.6	60.5	58.7	13.8	11.8	13.7	12.5	13.0
<i>Pritchett (4J0713366C)</i>	68	71	36	57	58	56.5	62.0	56.0	60.9	58.8	11.9	11.1	12.7	11.0	11.7
UI-WSU Huffman	66	81	36	49	58	57.8	61.6	54.7	60.1	58.5	12.3	10.6	12.5	11.8	11.8
WB-Junction	73	70	36	51	58	58.2	62.5	56.6	61.3	59.7	12.2	11.3	13.0	11.9	12.1
CuriosityCL+	63	71	39	58	57	56.4	62.9	56.3	60.7	59.2	12.2	11.2	12.4	10.5	11.6
<i>ARS-Crescent</i>	60	79	28	61	57	54.7	62.2	51.3	59.9	57.0	12.3	10.0	14.7	11.2	12.0
WB 1604	70	73	35	50	57	58.1	62.5	54.8	61.7	59.5	11.3	10.9	13.5	12.8	12.1
<i>Coda</i>	58	70	37	59	56	56.2	62.6	54.4	61.1	58.5	14.7	11.7	14.0	11.0	12.9
WB 1843	62	77	33	50	55	56.7	61.9	54.8	60.5	58.5	14.4	11.2	13.8	11.7	12.8
UI Palouse CL+	59	71	35	55	55	56.1	60.8	53.2	59.2	57.4	14.0	12.0	14.0	11.6	12.9
UI Magic CL+	67	69	35	47	55	58.5	62.3	55.4	61.6	59.5	12.3	12.0	13.0	12.1	12.3
Eltan	65	64	40	48	54	55.6	63.1	56.7	60.0	58.8	13.3	10.7	12.8	10.6	11.8
UI Castle CL+	64	68	32	51	54	55.2	63.2	54.0	61.4	58.4	13.3	11.7	13.4	12.1	12.6
ORCF-103	60	69	35	47	53	57.6	62.2	55.1	58.7	58.5	12.1	11.1	13.7	10.4	11.8
Masami	55	68	34	50	52	54.5	62.2	54.1	59.8	57.5	13.6	11.0	13.0	11.4	12.3
EXPERIMENTAL LINES															
04PN066-7	78	88	37	67	67	56.1	60.8	53.1	60.0	57.5	11.2	10.6	12.2	10.5	11.2
Otto-G2	67	89	42	63	65	55.9	62.3	56.9	60.5	59.0	13.4	11.3	13.0	11.5	12.3
LWW14-73163	71	86	37	65	65	57.6	62.3	54.8	61.7	59.1	13.0	11.4	13.3	11.8	12.4
Otto-0W	65	81	40	69	64	57.0	62.8	56.2	60.7	59.2	13.1	11.1	12.9	11.4	12.1
KXB-01	73	83	39	61	64	55.9	62.4	55.4	60.3	58.5	12.1	10.9	13.0	11.0	11.8
WA 8226	64	86	41	64	64	56.1	61.4	54.8	60.0	58.0	13.5	11.1	12.8	12.2	12.4
LWW14-73161	70	77	40	67	64	55.0	61.4	52.9	59.5	57.2	12.6	11.1	13.7	11.4	12.2
<i>ARS20060123-31C</i>	68	84	37	61	62	55.6	62.6	51.7	61.3	57.7	12.5	10.3	12.9	10.9	11.7
IDN 07-28017B	75	82	38	54	62	58.3	63.0	56.1	62.2	59.9	12.5	10.6	12.3	11.8	11.8
LWW14-71032	70	77	39	58	61	57.2	61.6	54.3	60.9	58.6	12.1	10.7	12.6	11.2	11.7
09PN005#25	67	84	36	57	61	55.9	61.2	53.0	59.4	57.5	12.4	11.0	13.1	12.0	12.1

2016 WSU Variety Testing Soft White Winter Wheat Zone Summary
Precipitation Zone = <12"

Variety Name <i>Club Italicized</i>	Connell	Harrington	Horse Heaven	Lind	Average	Connell	Harrington	Horse Heaven	Lind	Average	Connell	Harrington	Horse Heaven	Lind	Average
	YIELD (BU/A)					TEST WT (LBS/BU)					PROTEIN (%)				
LOR-913	77	68	37	59	60	57.4	60.8	54.5	60.3	58.2	12.7	11.4	13.1	12.4	12.4
WA 8244	71	79	35	53	59	58.2	62.4	56.5	61.9	59.7	12.8	10.7	13.0	11.4	12.0
WA 8243	61	77	34	61	58	53.3	63.1	54.9	60.1	57.9	13.5	11.3	12.2	10.8	11.9
WA 8227	58	78	33	63	58	56.1	62.8	54.4	61.0	58.5	13.7	10.9	12.9	11.3	12.2
WA 8202	61	74	32	58	56	58.1	62.9	55.5	61.4	59.5	13.1	11.9	13.7	12.5	12.8
<i>ARS06135-9C</i>	63	63	35	51	53	58.0	63.0	58.1	62.1	60.3	12.5	11.6	12.6	11.6	12.1
WA 8251 (KXB-04)	59	69	36	39	51	56.4	63.2	56.3	59.9	58.8	13.3	10.5	13.4	11.6	12.2
C.V. %	5	9	8	9	8	1	1	2	1	1	8	5	4	3	5
LSD (0.05)	4	10	4	7	4	0.9	0.5	1.1	0.6	0.6	1.3	0.8	0.5	0.4	0.5
Average	66	78	37	57	59	56.5	62.1	54.8	60.5	58.5	12.9	11.1	13.1	11.4	12.1
Highest	78	91	42	69	67	59.0	63.2	58.1	62.7	60.4	14.9	12.4	14.7	13.1	13.3
Lowest	55	63	28	39	51	53.3	60.1	51.3	58.7	56.7	11.2	10.0	12.2	10.4	11.2

Table 15. 2016 WSU Variety Testing Soft White Winter Wheat Zone Summary
Precipitation Zone = Irrigated

Variety Name <i>Club Italicized</i>	Moses Lake	Pasco	Average	Moses Lake	Pasco	Average	Moses Lake	Pasco	Average
	YIELD (BU/A)			TEST WT (LBS/BU)			PROTEIN (%)		
RELEASED VARIETIES									
<i>SY Ovation</i>	171	134	153	60.0	60.2	60.1	11.1	12.2	11.7
<i>AP700 CL</i>	160	144	152	59.4	59.1	59.3	10.7	13.0	11.9
<i>LCS Artdeco</i>	160	131	145	58.3	58.5	58.4	10.6	11.9	11.2
<i>WB 456</i>	148	138	143	61.6	61.8	61.7	12.0	13.2	12.6
<i>SY Assure (04PN096-2)</i>	162	121	141	60.5	61.2	60.9	11.7	12.6	12.2
<i>Bobtail</i>	143	132	138	58.6	58.6	58.6	11.2	12.7	12.0
<i>UI-WSU Huffman (IDN-03-29902A)</i>	152	123	137	59.8	59.3	59.6	11.1	12.6	11.9
<i>UI Magic CL+</i>	141	132	136	59.1	60.8	60.0	11.4	12.5	12.0
<i>Rosalyn</i>	151	122	136	59.4	59.2	59.3	10.6	12.3	11.5
<i>WB-Junction</i>	152	121	136	61.3	60.4	60.9	10.9	12.3	11.6
<i>Puma</i>	140	131	136	59.8	59.9	59.9	11.3	13.3	12.3
<i>WB 1604</i>	137	131	134	59.9	61.0	60.5	11.9	12.6	12.3
<i>Skiles</i>	142	126	134	59.7	60.3	60.0	12.5	13.4	13.0
<i>Norwest Duet (LOR-092)</i>	148	118	133	60.5	59.9	60.2	11.6	13.5	12.6
<i>UI Palouse CL+</i>	136	128	132	60.0	59.2	59.6	11.0	13.0	12.0
<i>WB 1376CLP</i>	139	119	129	61.9	61.3	61.6	12.3	13.6	13.0
<i>Legion</i>	131	124	127	59.5	59.2	59.4	11.4	12.3	11.9
<i>UI Castle CL+</i>	146	107	127	60.9	60.6	60.7	12.0	13.3	12.7
<i>ORCF-102</i>	129	112	120	59.2	59.9	59.5	11.0	12.9	12.0
<i>Mary</i>	130	110	120	59.3	58.3	58.8	10.8	12.5	11.7
<i>WB 1529</i>	124	113	118	61.0	61.1	61.0	12.4	13.2	12.8
<i>SY 107</i>	101	128	114	57.5	60.2	58.9	10.9	11.8	11.4
<i>UI Sparrow (IDO1108DH)</i>	118	102	110	57.3	58.6	57.9	11.3	12.4	11.9
<i>WB 1843</i>	107	108	108	58.4	60.4	59.4	11.7	13.3	12.5
<i>Xerpha</i>	78	96	87	54.5	58.6	56.5	12.4	12.5	12.5
EXPERIMENTAL LINES									
<i>IDN 07-28017B</i>	164	153	158	60.9	60.8	60.8	11.2	12.5	11.9
<i>LWW14-73163</i>	159	152	156	61.7	61.0	61.3	11.4	12.5	12.0
<i>LWW14-71195</i>	166	140	153	59.0	59.8	59.4	11.1	12.0	11.5
<i>LOR-833</i>	150	146	148	59.6	59.0	59.3	11.8	12.5	12.2
<i>OR2090473</i>	160	130	145	58.8	57.7	58.3	11.4	13.0	12.2
<i>OR2110526</i>	148	139	143	60.3	60.5	60.4	11.2	12.2	11.7
<i>WA 8206</i>	148	128	138	60.4	60.1	60.2	11.7	13.0	12.4
<i>IDN 06-03303B</i>	159	117	138	59.0	58.0	58.5	10.8	12.9	11.9
<i>IDN 06-18102A</i>	153	123	138	58.9	58.0	58.5	11.0	12.7	11.9
<i>WA 8232</i>	147	129	138	60.7	61.6	61.1	11.5	12.5	12.0
<i>WA 8187</i>	147	126	136	59.9	59.6	59.8	11.4	13.0	12.2
<i>09PN062#18</i>	154	112	133	59.9	60.0	60.0	11.2	12.3	11.7
<i>LOR-913</i>	135	128	131	58.8	59.5	59.1	11.7	12.2	12.0
<i>KWS 040</i>	138	113	125	60.9	60.9	60.9	11.2	12.5	11.9

2016 WSU Variety Testing Soft White Winter Wheat Zone Summary
Precipitation Zone = Irrigated

Variety Name <i>Club Italicized</i>	Moses Lake	Pasco	Average	Moses Lake	Pasco	Average	Moses Lake	Pasco	Average
	YIELD (BU/A)			TEST WT (LBS/BU)			PROTEIN (%)		
KWS 034	117	108	112	60.0	61.1	60.6	10.6	12.7	11.7
C.V. %	9	10	9	1	1	1	3	3	3
LSD (0.05)	17	14	14	0.8	0.6	0.7	0.5	0.4	0.4
Average	142	125	134	59.7	59.9	59.8	11.4	12.7	12.0
Highest	171	153	158	61.9	61.8	61.7	12.5	13.6	13.0
Lowest	78	96	87	54.5	57.7	56.5	10.6	11.8	11.2

Table 16. **WSU Variety Testing Soft White Winter Wheat Multi-Year Summary**

Precipitation Zone = >20"
(Colton, Fairfield, Farmington, Pullman)

Variety Name <i>Club Italicized</i>	2 Years 2015-2016, 7 loc/years			3 Years 2014-2016, 11 loc/years			5 Years 2012-2016, 19 loc/years		
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
Rosalyn	139	59.5	9.7	123	57.9	9.9	115	57.4	10.0
<i>ARS-Crescent</i>	135	60.5	10.0	123	59.7	10.2	118	59.4	9.9
Puma	131	60.4	10.2	119	59.9	10.2	115	59.8	10.2
Xerpha	129	60.5	10.2	122	60.1	10.1	116	60.0	10.1
ARS-Selbu	129	61.8	10.7	116	61.3	10.7	111	61.3	10.7
Legion	128	59.5	10.4	117	59.2	10.3			
WB-Junction	126	62.1	10.4	114	61.4	10.4			
Mary	126	60.7	10.4	117	60.1	10.5	113	60.2	10.3
Bobtail	124	58.6	10.5	117	57.4	10.4	113	57.5	10.2
SY 107	123	60.6	10.3	116	60.0	10.2			
LCS Artdeco	123	59.9	10.1	115	59.1	10.1	111	59.0	10.1
ORCF-102	122	60.8	10.8	113	60.5	10.8			
UI-WSU Huffman	121	60.1	10.7	113	59.7	10.5			
<i>Cara</i>	121	59.6	10.8	111	58.8	10.9	106	58.6	10.6
WB 523	120	61.4	10.8	112	61.1	10.8			
SY Ovation	119	60.4	10.7	110	60.1	10.5			
Madsen	119	60.2	11.0	109	59.7	11.1	107	59.5	10.8
Skiles	118	61.2	11.4	112	60.5	11.5	107	60.4	11.2
WB-528	118	61.8	11.0	110	61.4	11.0	105	61.2	10.9
AP700 CL	116	60.2	11.0	106	59.6	11.0			
Curiosity CL+	114	60.2	10.4						
WB1604	112	61.3	10.9						
WB1529	111	62.4	11.2						
Mela CL+	110	60.6	10.5						
EXPERIMENTAL LINES									
WA 8232	135	61.5	10.2						
WA 8234	130	61.1	10.4						
WA 8233	129	59.7	10.2						
IDN 01-10704A	128	59.8	10.5	118	59.3	10.4			
WA 8187	121	60.8	10.9	114	60.5	10.9			
WA 8206	121	61.3	10.8	114	61.3	10.8			
<i>ARS20060123-31C</i>	121	61.5	10.8						
WA 8235	119	60.3	11.3						
C.V. %	6	1	4	6	1	5	6	1	5
LSD (0.05)	4	0.3	0.3	3	0.3	0.3	3	0.2	0.2
Average	123	60.6	10.6	115	59.9	10.6	111	59.5	10.4
Highest	139	62.4	11.4	123	61.4	11.5	118	61.3	11.2
Lowest	110	58.6	9.7	106	57.4	9.9	105	57.4	9.9

Table 17. **WSU Variety Testing Soft White Winter Wheat Multi-Year Summary**

Precipitation Zone = 16-20"

(Dayton, Mayview, St. John, Walla Walla)

Variety Name <i>Club Italicized</i>	2 Years 2015-2016, 8 loc/years			3 Years 2014-2016, 12 loc/years			5 Years 2012-2016, 20 loc/years		
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
Rosalyn	113	58.1	10.6	102	58.0	10.6	111	57.9	10.2
LCS Artdeco	110	58.0	10.6	100	58.1	10.5	110	58.6	10.3
SY Ovation	107	59.6	11.4	100	59.9	11.1			
Skiles	107	59.5	11.8	100	59.7	11.8	107	60.1	11.4
Mary	107	58.9	11.3	101	59.3	11.2	107	59.7	10.9
Puma	107 ¹	58.7 ¹	11.1 ¹	100 ³	59.1 ³	11.2 ³	109 ⁵	59.6 ⁵	10.8 ⁵
WB-Junction	106	60.5	11.0	98	60.5	11.0			
Bobtail	106 ¹	56.5 ¹	11.4 ¹	95 ³	57.1 ³	11 ³	107 ⁵	57.7 ⁵	10.6 ⁵
<i>Cara</i>	106 ²	57.2 ²	11.9 ²	96 ⁴	57.5 ⁴	11.5 ⁴	105 ⁶	58.2 ⁶	11.0 ⁶
SY 107	105	58.9	11.0	99	58.9	10.8			
ARS-Selbu	105 ¹	59.7 ¹	12.0 ¹	98 ³	60.2 ³	11.8 ³	108 ⁵	60.9 ⁵	11.3 ⁵
Xerpha	105 ¹	58.3 ¹	11.6 ¹	100 ³	59.0 ³	11.3 ³	105 ⁵	59.3 ⁵	10.9 ⁵
WB-528	104	60.7	11.2	97	60.9	11.2	103	61.0	10.9
ORCF-102	102	59.9	11.4	97	60.1	11.4			
WB1604	101	59.5	11.5						
Legion	100 ¹	56.9 ¹	11.6 ¹	95 ³	57.7 ³	11.5 ³			
WB 523	100 ¹	60.1 ¹	11.5 ¹	92 ³	60.4 ³	11.5 ³			
<i>ARS-Crescent</i>	100	57.8	11.2	96	58.3	11.0	107	58.9	10.6
WB1529	98	61.1	11.2						
Madsen	97	58.9	12.1	92	59.3	11.9	100	59.7	11.6
AP700 CL	94 ¹	57.7 ¹	11.9 ¹	91 ³	58.3 ³	11.6 ³			
UI-WSU Huffman	92	58.7	11.2	91	59.1	11.1			
Mela CL+	90 ¹	59 ¹	11.4 ¹						
Curiosity CL+	86 ¹	58.1 ¹	11.8 ¹						
EXPERIMENTAL LINES									
<i>ARS20060123-31C</i>	111 ²	60.2 ²	11.4 ²						
WA 8234	108	60.1	11.1						
WA 8232	104	60.6	10.9						
WA 8235	100	58.7	12.2						
WA 8233	100 ¹	58.2 ¹	11.5 ¹						
WA 8187	99	59.7	11.8	93	60.1	11.6			
WA 8206	99 ¹	60.3 ¹	11.6 ¹	93 ³	60.9 ³	11.6 ³			
IDN 01-10704A	97	57.8	11.2	95	58.2	11.1			
C.V. %	7	2	6	7	1	6	7	1	6
LSD (0.05)	4	0.5	0.4	3	0.4	0.3	3	0.3	0.3
Average	103	59.3	11.3	97	59.3	11.2	106	59.4	10.8
Highest	113	61.1	12.2	102	60.9	11.9	111	61.0	11.6
Lowest	92	57.8	10.6	91	58.0	10.5	100	57.9	10.2

1, 2, 3, 4, 5, 6 - 7, 6, 11, 10, 19, 18 loc/yrs, respectively

Table 18. **WSU Variety Testing Soft White Winter Wheat Multi-Year Summary**

Precipitation Zone = 12-16"

(Almira, Anatone, Creston, Dusty, Lamont, Reardan*)

Variety Name <i>Club Italicized</i>	2 Years 2015-2016, 9 loc/years			3 Years 2014-2016, 14 loc/years			5 Years 2012-2016, 24 loc/years		
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
Puma	96	59.7	10.5	91	59.7	10.7	93	60.1	10.8
Norwest Duet (LOR-092)	95	60.3	10.4						
Xerpha	95	59.9	10.1	96	59.9	10.3	97	59.9	10.5
WB-Junction	93	60.8	10.5	90	60.7	10.6			
SY 107	92	59.9	10.3						
<i>Pritchett (4J0713366C)</i>	91	59.3	10.7	89	59.2	10.8			
<i>ARS-Crescent</i>	91	59.3	10.3	88	59.1	10.4	92	59.4	10.3
ORCF-102	90	60.7	10.9	87	60.5	11.1			
<i>Bruehl</i>	90	58.3	10.5	87	58.3	10.7	91	58.1	10.8
Masami	88	59.0	10.2	89	58.9	10.3	92	58.9	10.4
Otto	87	59.5	10.9	84	59.4	11.0	87	59.5	11.0
ORCF-103	86	59.9	10.4	84	59.7	10.6	86	59.6	10.7
Curiosity CL+	86	60.0	10.4	84	60.0	10.6	86	60.1	10.6
Eltan	86	60.0	10.4	85	59.8	10.5	87	59.9	10.4
WB1529	85	61.9	10.8						
Madsen	85	59.8	11.3	83	59.8	11.3	87	59.9	11.4
<i>Coda</i>	84	61.0	11.1	84	60.9	11.1	88	61.3	11.3
Mela CL+	80	60.3	10.7	81	60.1	10.8	84	60.2	10.6
EXPERIMENTAL LINES									
KXB-01	93	60.1	10.3						
Otto-0W	90	59.4	10.7						
WA 8227	90	60.0	10.6						
Otto-G2	89	59.4	10.8						
<i>ARS20060123-31C</i>	87 ¹	59.4 ¹	10.8 ¹						
WA 8226	85 ²	59.6 ²	11.1 ²						
<i>ARS06135-9C</i>	83 ¹	60.4 ¹	11.3 ¹						
WA 8202	79	61.4	11.3	80	61.1	11.3			
C.V. %	8	1	8	8	1	7	8	1	7
LSD (0.05)	4	0.3	0.5	3	0.2	0.3	2	0.2	0.3
Average	89	60.0	10.7	86	59.8	10.8	89	59.7	10.7
Highest	96	61.9	11.3	96	61.1	11.3	97	61.3	11.4
Lowest	79	58.3	10.1	80	58.3	10.3	84	58.1	10.3

* Reardan was moved to the 12-16" zone in 2016

^{1,2}- 6, 8 loc/yrs, respectively

Table 19. **WSU Variety Testing Soft White Winter Wheat Multi-Year Summary**
Precipitation Zone = <12"
(Connell, Harrington, Horse Heaven, Lind, Ritzville, St. Andrews)

Variety Name <i>Club Italicized</i>	2 Years 2014-2015, 7 loc/years			3 Years 2013-2015, 12 loc/years			5 Years 2011-2015, 23 loc/years		
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
Puma	52	58.9	13.1	44	59.5	12.5	48	59.8	11.9
Xerpha	51	58.6	12.8	46	59.2	11.9	53	59.7	11.3
SY 107	50	57.4	12.5						
Norwest Duet (LOR-092)	50	58.7	13.0						
Mela CL+	49	59.8	12.5	45	60.3	11.7	49	60.5	11.3
<i>Bruehl</i>	49	58.1	12.9	43	58.6	12.1	49	58.9	11.7
ORCF-102	48	59.3	13.5	41	59.6	12.7			
WB 1529	48	61.0	12.9						
Otto	48	58.8	13.7	45	59.7	12.6	51	59.9	11.9
Curiosity CL+	48	59.4	12.6	45	60.1	11.8	49	60.4	11.3
<i>Pritchett (4J0713366C)</i>	48	59.5	12.8	44	60.0	12.1			
<i>ARS-Crescent</i>	47	57.9	13.2	43	58.8	12.2	49	59.1	11.5
Madsen	47	58.6	13.7	40	59.1	13.0	45	59.6	12.4
WB-Junction	47	60.3	12.8	41	60.9	12.3			
Eltan	47	59.3	12.8	44	60.1	12.0	49	60.3	11.3
Masami	46	58.1	13.1	43	58.8	12.1	50	59.3	11.3
ORCF-103	45	58.8	12.8	41	59.6	12.2	47	59.8	11.6
<i>Coda</i>	44	59.1	13.7	39	60.2	12.8	47	60.6	12.3
EXPERIMENTAL LINES									
Otto-G2	54	59.2	13.0						
Otto-0W	52	59.5	13.1						
KXB-01	52	59.0	12.9						
<i>ARS20060123-31C</i>	51	58.4	12.6						
WA 8226	51	58.4	13.3						
WA 8202	47	60.0	13.5	44	60.3	12.6			
WA 8227	47	58.8	13.0						
<i>ARS06135-9C</i>	46	60.6	13.1						
C.V. %	8	1	5	8	2	5	10	1	6
LSD (0.05)	3	0.5	0.4	2	0.4	0.3	2	0.3	0.2
Average	49	59.1	13.0	43	59.7	12.3	49	59.8	11.7
Highest	54	61.0	13.7	46	60.9	13.0	53	60.6	12.4
Lowest	44	57.4	12.5	39	58.6	11.7	45	58.9	11.3

Table 20. 2016 WSU Variety Testing SW Winter Wheat Trial, Almira

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
Legion	114	61.7	8.9	41	143			
<i>Bruehl</i>	113	60.7	9.4	40	147	79	79	96
SY 107	113	62.2	9.4	38	145	80		
Norwest Duet (LOR-092)	109	63.4	9.6	44	145	83		
UI Sparrow (IDO1108DH)	109	61.9	10.5	40	150			
Otto	108	62.5	9.5	39	147	78	78	94
Puma	106	62.1	10.3	42	142	82	79	97
<i>ARS-Crescent</i>	106	62.4	9.4	39	147	76	72	92
Xerpha	105	62.7	9.9	38	145	83	85	101
WB 1529	105	62.9	10.9	36	143	76		
UI Castle CL+	104	63.7	10.6	38	142			
Curiosity CL+	103	62.3	9.4	40	146	78	78	94
Eltan	103	62.3	9.2	40	148	76	77	94
ORCF-102	102	62.4	9.8	41	143	76	72	
WB 1843	100	62.7	9.8	38	143			
Masami	97	62.1	9.6	38	148	74	76	93
WB-Junction	97	61.7	11.1	37	144	75	75	
ORCF-103	96	62.0	10.0	36	148	73	73	91
Madsen	95	62.4	10.3	40	144	70	69	87
Mela CL+	95	62.6	9.3	40	147	71	75	90
WB 1604	95	62.3	10.3	36	141			
<i>Pritchett (4J0713366C)</i>	94	61.5	11.0	38	146	71	73	
<i>Coda</i>	92	63.3	10.5	41	147	69	70	86
UI Palouse CL+	90	62.2	10.0	35	144			
WB 1376CLP	90	63.5	11.4	38	141			
Mary	88	60.9	11.0	35	143			
UI-WSU Huffman (IDN-03-29902A)	85	62.3	10.7	37	145			
UI Magic CL+	83	62.3	11.6	35	142			
EXPERIMENTAL LINES								
LWW14-73161	129	62.5	9.7	41	142			
LWW14-73163	118	63.2	9.2	38	145			
WA 8243	107	62.3	9.4	39	147			
IDN 07-28017B	106	63.2	9.8	37	142			
Otto-0W	104	62.5	10.0	38	148	78		
Otto-G2	104	61.8	9.9	38	149	78		
WA 8244	104	63.3	9.1	39	144			
09PN005#25	102	62.3	9.8	38	143			
LWW14-71032	100	61.9	8.7	41	142			
WA 8227	100	62.6	10.3	39	149	76		
04PN066-7	99	62.0	10.8	37	145			
WA 8251 (KXB-04)	99	61.3	8.8	46	148			
WA 8226	97	62.3	10.3	40	147	75		
KXB-01	94	62.3	10.9	38	146	74		
WA 8202	92	63.5	10.0	43	144	71	69	

2016 WSU Variety Testing SW Winter Wheat Trial, Almira

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
<i>ARS20060123-31C</i>	91	62.3	9.0	40	143	68		
<i>ARS06135-9C</i>	86	62.2	9.7	39	144	65		
LOR-913	68	60.0	11.0	36	144			
C.V. %	9	1	12	4	0	9	9	8
LSD (0.05)	12	0.6	1.6	2	1	8	7	5
Average	100	62.3	10.0	39	145	75	75	93
Highest	129	63.7	11.6	46	150	83	85	101
Lowest	68	60.0	8.7	35	141	65	69	86

Agronomic Information

Planting Date: 9/11/2015
 Harvest Date: 8/11/2016
 Seeding Rate (lbs/acre): 85
 Previous Crop: Spring Wheat
 Spring soil test:
 N (lb/ac) 4-ft sample 214
 P (ppm-bicarb) 2-ft sample 56
 S (lb/ac) 2-ft sample 38
 pH (top 6 inches) 5.12
 Herbicide:
 Huskie, PowerFlex HL, Tilt on 4/27.

Trial Notes:

1. The Almira nursery was located about 12 miles north of Almira, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. This nursery was seeded with a no-till drill with hoe openers. Fertilizer applied at planting was: 60#N, 10#P, 10#S.
3. The single application of fungicide kept stripe rust in check and only low levels of rust were observed on susceptible varieties.
4. Despite the relatively low C.V., there was a fair amount of variation in this trial.

Cooperator: D. McKay

Table 21. 2016 WSU Variety Testing SW Winter Wheat Trial, Anatone

Variety Name <i>Club Italicized</i>	2016				2 Year*	3 Year**	5 Year***
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES							
Legion	104	60.3	7.2	139			
Otto	102	57.4	8.2	146	91	79	84
CuriosityCL+	101	58.8	8.2	144	92	79	90
WB 1604	100	60.1	7.2	138			
Mary	98	61.5	7.6	139			
UI Castle CL+	98	62.5	7.8	141			
WB-Junction	96	60.4	7.1	137	94	82	89
Xerpha	95	61.7	7.3	143	95	81	95
UI Sparrow (IDO1108DH)	95	60.1	6.9	143	94	80	
Puma	94	60.6	7.5	140	95	80	87
Pritchett (4J0713366C)	94	60.5	7.7	143	92		
Eltan	90	60.0	7.3	144	88	78	87
UI Magic CL+	90	60.8	8.2	138			
UI-WSU Huffman (IDN-03-29902A)	90	60.7	7.7	142			
WB 1843	90	62.3	7.9	142			
Masami	89	61.2	7.2	144	92	80	86
ORCF-103	89	60.8	7.6	144	90	79	84
<i>Bruehl</i>	88	59.2	7.0	144	88	75	85
Madsen	88	61.4	8.2	142	87	75	86
<i>ARS-Crescent</i>	87	61.2	7.5	143	87	76	84
MelaCL+	87	59.9	7.8	145	87	76	
ORCF-102	85	61.3	7.6	140	88		
Norwest Duet (LOR-092)	85	62.3	7.3	142			
SY 107	85	61.5	7.5	141			
WB 1376CLP	84	63.1	8.7	138			
<i>Coda</i>	83	62.8	8.1	144	87	74	83
WB 1529	81	62.0	7.6	139			
UI Palouse CL+ *	--	--	--	--			
EXPERIMENTAL LINES							
LWW14-73161	103	60.6	7.1	139			
LWW14-71032	97	61.4	6.9	139			
WA 8243	96	61.5	7.7	143			
09PN005#25	95	61.2	7.0	140			
LOR-913	95	60.1	8.4	138			
04PN066-7	94	60.6	7.6	139			
WA 8227	94	61.6	7.8	148			
Otto-0W	94	57.6	8.3	144			
LWW14-73163	94	62.6	8.0	140			
Otto-G2	94	58.3	8.6	145			
WA 8244	91	62.8	7.7	141			
KXB-01	88	61.9	7.7	143			
WA 8251 (KXB-04)	86	59.0	6.9	146			
WA 8202	79	62.5	7.9	140	84		
IDN 07-28017B *	--	--	--	--			

2016 WSU Variety Testing SW Winter Wheat Trial, Anatone

Variety Name <i>Club Italicized</i>	2016				2 Year*	3 Year**	5 Year***
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
<i>ARS06135-9C</i> *	--	--	--	--			
<i>ARS20060123-31C</i> *	--	--	--	--			
WA 8226 *	--	--	--	--			
C.V. %	9	1	6	1	8	8	7
LSD (0.05)	11	0.9	0.6	1	8	6	5
Average	92	60.9	7.6	142	90	78	89
Highest	104	63.1	8.7	148	95	82	101
Lowest	79	57.4	6.9	137	84	72	83

Agronomic Information

Planting Date:	9/15/2015
Harvest Date:	7/25/2016
Seeding Rate (lbs/acre):	85
Previous Crop:	Fallow
Spring soil test:	
N (lb/ac) 2-ft sample	206
P (ppm-bicarb) 2-ft sample	34
S (lb/ac) 2-ft sample	37
pH (top 6 inches)	6.20
Herbicide:	
Osprey, Olympus, MCPA, Propiconazole, Priaxor applied by cooperator in early April. A second fungicide application was applied mid-May.	

Trial Notes:

- 1.** The Anatone nursery was located about 5 miles north of Anatone, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
- 2.** The ground was hard last fall, so our cooperator worked it for us prior to planting, to ensure that we could get our no-till hoe drill in the ground. Fertilizer was applied at planting and stand establishment was very good.
- 3.** Stripe rust was not an issue at this location.
- 4.** * = Severe deer feeding on these awnless entries prevented collection of yield data.
- 5.** There was a fair amount of variation in this trial, but it still produced useful results.

Cooperator: B. Ausman

* 2-Year average from 2016 & 2014

** 3-Year average from 2016, 2014, 2013

*** 5-Year average from 2016, 2014, 2013, 2012, 2011

Table 22. 2016 WSU Variety Testing SW Winter Wheat Trial, Colton

Variety Name <i>Club Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES									
Rosalyn	170	62.5	9.9	44	137	7	135	123	117
UI Sparrow (IDO1108DH)	158	61.4	9.7	46	139	13			
UI Castle CL+	154	63.6	10.9	45	140	0			
<i>ARS-Crescent</i>	154	63.2	10.0	47	143	12	136	127	124
Bobtail	153	62.6	10.9	44	135	0	131	122	121
WB 1604	152	63.7	10.7	44	140	0	118		
SY Assure (04PN096-2)	151	63.8	10.7	45	138	0			
SY 107	151	63.7	9.9	45	136	20	126	121	
Legion	150	61.6	9.9	48	135	40	127	120	
Mary	149	63.6	10.3	44	133	0	123	116	114
WB-Junction	149	64.3	10.2	45	135	12	123	116	
UI Magic CL+	148	63.7	10.9	41	131	0			
WB 528	148	64.2	11.0	46	141	10	119	114	110
LCS Artdeco	146	62.5	10.0	42	138	0	123	120	118
ARS-Selbu	145	64.2	11.0	47	139	0	128	118	117
SY Ovation	144	63.2	10.4	45	137	0	123	118	
Xerpha	144	63.2	10.6	46	138	0	129	123	123
Norwest Duet (LOR-092)	141	63.3	10.7	51	132	0			
Madsen	141	62.8	11.1	47	140	0	119	113	113
WB 523	140	64.2	10.7	45	135	5	121	113	
Skiles	140	63.3	11.5	44	131	0	122	118	114
<i>Cara</i>	140	63.0	10.7	45	138	2	124	113	112
WB 1529	139	64.3	11.3	43	135	10	118		
ORCF-102	138	62.9	10.6	47	135	0	121	114	
UI-WSU Huffman (IDN-03-29902A)	137	62.8	10.9	46	138	2	122	116	
UI Palouse CL+	137	62.9	10.5	43	136	0			
Curiosity CL+	135	60.7	10.2	47	140	45	120		
Puma	133	63.0	10.4	51	137	7	123	119	120
WB 1376CLP	129	65.0	11.8	45	132	0			
AP700 CL	127	63.1	10.7	45	132	0	108	105	
Mela CL+	120	61.4	10.1	45	141	52	117		
EXPERIMENTAL LINES									
WA 8234	161	63.9	10.4	47	136	3	128		
LWW14-73163	158	64.4	10.1	43	135	0			
Xerpha-0W	156	62.7	10.7	48	139	0			
IDN 06-18102A	155	62.3	10.0	44	136	0			
09PN062#18	154	63.2	10.5	45	139	0			
WA 8235	153	63.2	10.9	41	138	0	121		
IDN 07-28017B	152	64.4	10.7	44	130	0			
IDN 06-03303B	152	62.7	10.1	44	134	0			
Xerpha-G2	151	63.1	10.5	45	139	0			
IDN 01-10704A	151	63.0	10.1	47	136	0	130	122	
WA 8232	151	63.8	10.1	47	137	7	129		
WA 8245	151	62.1	10.2	45	140	0			

2016 WSU Variety Testing SW Winter Wheat Trial, Colton

Variety Name <i>Club Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
KXB-01	150	62.7	10.8	46	141	0			
LOR-833	147	63.6	10.9	40	137	0			
WA 8187	147	63.2	10.3	42	137	0	122	117	
WA 8206	142	62.8	10.8	45	139	0	120	117	
OR2110526	137	63.4	10.9	46	140	7			
LOR-913	135	63.1	10.6	43	134	0			
WA 8233	121	61.7	9.9	46	139	23	119		
<i>ARS20060123-31C</i>	113	64.1	11.3	49	136	27	115		
<i>ARS06136-49C</i>	106	63.1	11.2	48	138	33			
C.V. %	6	1	3	4	2	--	5	6	6
LSD (0.05)	11	0.6	0.4	2	3	19	8	6	5
Average	144	63.2	10.6	45	137	6	123	118	117
Highest	170	65.0	11.8	51	143	52	136	127	124
Lowest	106	60.7	9.7	40	130	0	108	105	110

Agronomic Information

Planting Date:	9/29/2015
Harvest Date:	8/8/2016
Seeding Rate (lbs/acre):	95
Previous Crop:	Chickpeas
Spring soil test:	
N (lb/ac) 4-ft sample	157
P (ppm-bicarb) 2-ft sample	51
S (lb/ac) 2-ft sample	37
pH (top 6 inches)	5.04

Trial Notes:

1. The Colton nursery was located about 1/2 mile south of Colton, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. Stripe rust was not a factor at this location.
3. This trial looked good all year and produced very uniform results with excellent test weights.

Cooperator: A. Schultheis

Herbicide:

Zidua on 10/4; Supremacy, Propiconazole, Evito on 4/8; Propi-Star, Evito on 5/24; TebuStar, Dimethoate on 6/15.

Table 23. 2016 WSU Variety Testing SW Winter Wheat Trial, Connell

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
SY 107	76	53.8	11.6	34	126	49		
Mary	76	57.6	14.0	33	125			
Xerpha	73	56.3	12.7	38	128	48	43	42
WB-Junction	73	58.2	12.2	36	122	49	43	
Puma	72	57.1	12.8	37	126	48	42	40
Norwest Duet (LOR-092)	72	56.3	12.9	38	127	48		
Legion	71	55.4	13.4	36	125			
WB 1376CLP	71	59.0	13.6	37	124			
WB 1529	71	58.3	11.7	34	125	46		
WB 1604	70	58.1	11.3	37	120			
<i>Pritchett (4J0713366C)</i>	68	56.5	11.9	33	129	47	41	
ORCF-102	68	57.4	13.8	38	126	44	39	
UI Magic CL+	67	58.5	12.3	33	123			
UI-WSU Huffman (IDN-03-29902A)	66	57.8	12.3	34	127			
Madsen	65	56.6	13.8	35	127	43	38	36
Eltan	65	55.6	13.3	37	130	45	42	38
UI Castle CL+	64	55.2	13.3	36	127			
MelaCL+	63	56.9	12.2	39	130	44	39	37
CuriosityCL+	63	56.4	12.2	36	130	45	42	40
<i>Bruehl</i>	62	53.7	13.5	35	129	42	38	34
WB 1843	62	56.7	14.4	34	127			
ORCF-103	60	57.6	12.1	34	129	43	35	34
<i>ARS-Crescent</i>	60	54.7	12.3	33	129	41	37	35
Otto	59	56.0	14.9	33	131	41	38	37
UI Palouse CL+	59	56.1	14.0	32	124			
<i>Coda</i>	58	56.2	14.7	32	130	38	33	34
UI Sparrow (IDO1108DH)	55	54.5	13.0	37	129			
Masami	55	54.5	13.6	32	130	39	37	37
EXPERIMENTAL LINES								
04PN066-7	78	56.1	11.2	36	124			
LOR-913	77	57.4	12.7	34	123			
IDN 07-28017B	75	58.3	12.5	36	122			
KXB-01	73	55.9	12.1	37	128	49		
LWW14-73163	71	57.6	13.0	34	126			
WA 8244	71	58.2	12.8	35	127			
LWW14-73161	70	55.0	12.6	36	126			
LWW14-71032	70	57.2	12.1	39	126			
<i>ARS20060123-31C</i>	68	55.6	12.5	36	127	45		
09PN005#25	67	55.9	12.4	35	126			
Otto-G2	67	55.9	13.4	36	130	46		
Otto-0W	65	57.0	13.1	36	129	45		
WA 8226	64	56.1	13.5	37	129	41		
<i>ARS06135-9C</i>	63	58.0	12.5	31	129	42		
WA 8202	61	58.1	13.1	38	127	42	38	

2016 WSU Variety Testing SW Winter Wheat Trial, Connell

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
WA 8243	61	53.3	13.5	33	129			
WA 8251 (KXB-04)	59	56.4	13.3	38	132			
WA 8227	58	56.1	13.7	35	134	40		
C.V. %	5	1	8	5	1	6	6	8
LSD (0.05)	4	0.9	1.3	2	1	3	3	3
Average	66	56.5	12.9	35	127	44	39	37
Highest	78	59.0	14.9	39	134	49	43	42
Lowest	55	53.3	11.2	31	120	38	33	34

Agronomic Information

Planting Date: 9/14/2015
 Harvest Date: 7/13/2016
 Seeding Rate (lbs/acre): 50
 Spring soil test:
 N (lb/ac) 4-ft sample 166
 P (ppm-bicarb) 2-ft sample 49
 S (lb/ac) 2-ft sample 30
 pH (top six inches) 5.79
 Herbicide:
 Huskie, PowerFlex, Tilt, M-90 applied on 3/30. Cooperator applied a second application of fungicide by airplane.

Trial Notes:

1. Grain yield averaged 66 bushels/acre, well above the five-year average. The Connell nursery was located about 8 miles east of Connell, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. August rains provided great seeding conditions at this location. Emergence and stand establishment were excellent. Due to the fungicide applications, stripe rust was not a factor at this location.

Cooperator: D. Bauermeister

Table 24. 2016 WSU Variety Testing SW Winter Wheat Trial, Creston

Variety Name <i>Club Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES									
Mary	130	62.5	9.4	43	142	0			
Norwest Duet (LOR-092)	127	62.7	9.4	49	145	0	101		
Legion	121	60.2	10.8	45	145	0			
UI Sparrow (IDO1108DH)	121	61.3	8.5	43	144	0			
WB 1843	117	62.6	10.4	42	144	0			
SY 107	117	61.5	9.6	38	146	7	93		
<i>Bruehl</i>	116	60.3	9.1	43	147	0	89	81	90
<i>Pritchett (4J0713366C)</i>	115	60.6	8.9	43	144	0	93	82	
WB-Junction	114	61.3	9.0	43	141	0	94	82	
ORCF-103	114	61.9	9.4	39	146	0	92	81	88
UI Castle CL+	114	62.8	10.4	43	146	0			
WB 1529	114	62.8	10.6	41	142	0	89		
Puma	113	60.9	9.0	44	141	0	94	80	86
Masami	113	61.1	9.7	43	148	0	91	85	90
<i>ARS-Crescent</i>	113	61.7	9.7	43	146	0	86	77	85
ORCF-102	113	62.6	10.0	43	144	0	92	81	
Xerpha	112	62.5	9.4	43	146	0	94	87	92
Curiosity CL+	111	61.9	9.3	42	146	5	84	75	81
Eltan	110	61.7	9.0	44	144	0	91	82	89
WB 1376CLP	109	63.1	11.6	43	141	0			
WB 1604	108	62.2	10.3	40	142	0			
UI-WSU Huffman (IDN-03-29902A)	108	61.0	8.9	42	143	0			
Madsen	108	61.7	10.1	43	143	0	84	75	81
UI Palouse CL+	107	62.0	10.0	39	144	0			
Otto	106	62.0	10.4	42	146	0	84	74	81
<i>Coda</i>	103	62.7	10.3	45	146	38	86	77	82
Mela CL+	103	61.9	10.4	45	146	37	86	78	86
UI Magic CL+	99	62.3	9.9	37	143	0			
EXPERIMENTAL LINES									
LWW14-73161	132	61.0	9.2	44	143	0			
04PN066-7	131	61.0	9.5	41	142	0			
LWW14-73163	122	63.1	10.0	39	144	0			
LOR-913	120	60.1	10.4	41	142	0			
Otto-0W	118	61.6	10.2	43	147	18	94		
KXB-01	117	62.2	8.6	41	145	0	98		
Otto-G2	116	61.4	9.4	42	147	13	91		
09PN005#25	116	61.6	9.9	40	144	0			
WA 8227	113	61.9	10.5	43	150	0	91		
LWW14-71032	112	61.9	8.6	46	143	0			
WA 8243	112	61.0	9.4	43	147	0			
WA 8244	110	62.1	11.4	40	142	0			
<i>ARS20060123-31C</i>	107	62.7	10.0	43	143	13	89		
WA 8226	93	61.6	9.5	49	143	2	83		
WA 8251 (KXB-04)	83	61.2	11.1	50	145	23			

2016 WSU Variety Testing SW Winter Wheat Trial, Creston

Variety Name <i>Club Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
WA 8202	82	62.3	11.5	45	144	35	73	67	
<i>ARS06135-9C *</i>									
IDN 07-28017B *									
C.V. %	8	1	10	6	--	--	7	7	7
LSD (0.05)	12	0.6	1.3	3	--	14	8	6	5
Average	112	61.8	9.8	43	144	4	90	79	86
Highest	132	63.2	11.6	50	150	38	101	87	92
Lowest	82	60.1	8.5	37	141	0	73	67	81

Agronomic Information

Planting Date:	9/11/2015
Harvest Date:	8/12/2016
Seeding Rate (lbs/acre):	85
Previous Crop:	Fallow
Spring soil test:	
N (lb/ac) 4-ft sample	216
P (ppm-bicarb) 2-ft sample	52
S (lb/ac) 2-ft sample	37
pH (top 6 inches)	5.26

Herbicide:
Huskie, PowerFlex HL, Tilt at herbicide timing.

Trial Notes:

1. The Creston nursery was located about 5 miles north of Creston, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. This trial looked great all year. Only one fungicide application was made and low levels of rust were observed on susceptible varieties.
3. * = Severe damage from deer feeding, data not presented.

Cooperator: J. Krause

Table 25. 2016 WSU Variety Testing SW Winter Wheat Trial, Dayton

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
Rosalyn	126	60.6	10.0	38	141	106	90	107
Xerpha	122	62.4	10.8	40	145	105	90	106
Bobtail	118	59.7	10.5	37	140	96	80	102
Mary	118	61.2	11.1	36	139	104	89	109
Puma	117	60.8	11.0	42	142	102	86	106
Legion	116	60.0	11.4	39	144	96	81	
WB1529	115	62.7	10.9	35	139	98		
SY Assure (04PN096-2)	115	61.7	11.5	34	138			
ARS-Selbu	114	62.7	11.3	37	145	101	88	107
Norwest Duet (LOR-092)	113	61.8	10.7	41	141			
LCS Artdeco	113	58.8	10.3	33	138	101	83	108
SY 107	111	60.5	10.9	35	144	92	79	
WB-528	110	61.7	11.4	38	140	96	82	104
UI Sparrow (IDO1108DH)	109	60.4	10.8	40	146			
WB 523	108	61.8	11.0	36	141	92	77	
ORCF-102	108	61.9	11.3	39	142	91	77	
SY Ovation	108	62.0	11.3	36	144	95	83	
<i>Cara</i>	107	59.9	11.5	36	146	97	80	102
Skiles	106	61.3	11.8	34	140	92	79	99
WB-Junction	106	61.6	10.8	36	139	99	81	
WB1604	106	61.4	11.0	35	139	88		
Madsen	105	60.9	12.0	37	145	89	76	96
UI-WSU Huffman	104	61.4	11.2	38	145	88	75	
Curiosity CL+	101	61.5	11.1	38	147	84		
UI Castle CL+	101	60.6	12.3	39	145			
<i>ARS-Crescent</i>	101	59.6	11.6	36	147	88	75	98
UI Magic CL+	100	62.1	11.5	33	142			
UI Palouse CL+	100	60.7	11.9	35	145			
WB1376CLP	99	61.8	12.6	36	140			
Mela CL+	98	61.5	11.0	38	146	86		
AP700 CL	98	60.7	11.4	36	142	84	76	
EXPERIMENTAL LINES								
Xerpha-0W	116	61.9	11.3	38	146			
Xerpha-G2	115	61.7	11.1	38	144			
KXB-01	114	61.2	11.5	40	146			
WA 8245	113	60.2	11.4	36	145			
09PN062#18	112	61.0	10.8	35	144			
WA 8234	111	61.7	11.3	37	143	95		
<i>ARS20060123-31C</i>	111	61.7	11.0	38	145	96		
LOR-913	110	60.6	10.8	34	141			
LWW14-73163	108	62.3	11.3	36	144			
WA 8187	108	61.9	11.5	35	144	89	75	
WA 8232	108	62.2	11.1	36	144	95		
IDN 07-28017B	106	62.1	10.9	34	139			

2016 WSU Variety Testing SW Winter Wheat Trial, Dayton

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
LOR-833	106	60.4	11.1	33	139			
IDN 06-03303B	105	59.7	11.2	34	145			
WA 8235	105	60.9	12.1	35	145	87		
<i>ARS06136-49C</i>	104	61.3	11.4	39	146			
IDN 06-18102A	104	60.3	11.5	34	145			
WA 8233	103	60.6	10.8	38	146	93		
WA 8206	103	61.6	11.7	37	145	93	79	
OR2110526	101	61.3	11.1	35	137			
IDN 01-10704A	100	60.3	10.9	37	144	82	71	
C.V. %	5	1	3	4	1	6	7	7
LSD (0.05)	7	0.8	0.4	2	2	7	6	5
Average	108	61.2	11.2	37	143	94	81	104
Highest	126	62.7	12.6	42	147	106	90	109
Lowest	98	58.8	10.0	33	137	82	71	96

Agronomic Information

Planting Date:	9/28/2015
Harvest Date:	8/23/2016
Seeding Rate (lbs/acre):	85
Previous Crop:	Chickpeas
Spring soil test:	
N (lb/ac) 4-ft sample	161
P (ppm-bicarb) 2-ft sample	51
S (lb/ac) 2-ft sample	38
pH (top 6 inches)	4.85

Trial Notes:

- 1.** The Dayton nursery was located about 6 miles northwest of Dayton, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
- 2.** Two fungicide applications kept stripe rust under control.
- 3.** No additional nitrogen was applied to the soft trial. Yield may have been limited due to low fertility.

Cooperator: J. Penner

Herbicide:

Herbicide and fungicide were applied by the cooperator. A second application of fungicide was also applied by the cooperator.

Table 26. 2016 WSU Variety Testing SW Winter Wheat Trial, Fairfield

Variety Name <i>Club Italicized</i>	2016					2 Year*	3 Year**	5 Year***
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
Rosalyn	135	61.9	8.6	39	150	115	101	
<i>ARS-Crescent</i>	132	62.6	9.0	38	154	121	114	102
UI Sparrow (IDO1108DH)	131	60.9	8.8	41	153	117	109	
ARS-Selbu	121	64.0	10.4	39	151	110	97	86
Norwest Duet (LOR-092)	120	62.4	10.5	45	150			
Mela CL+	119	62.8	9.6	41	154			
UI Castle CL+	119	63.2	9.7	39	151			
SY 107	119	62.8	9.5	37	149	111		
Xerpha	118	62.7	9.6	39	153	114	96	89
Curiosity CL+	117	62.4	9.5	41	152			
WB 523	117	62.4	10.5	39	149	105	90	
<i>Cara</i>	117	62.0	9.7	37	154	106	94	88
Puma	116	61.5	9.9	43	149	104	96	85
UI Palouse CL+	114	61.9	10.6	37	151			
ORCF-102	114	63.8	10.5	39	149	104		
Legion	114	62.0	9.9	41	149	106	94	
LCS Artdeco	114	60.8	10.1	37	147	103	95	83
Madsen	113	62.4	9.7	37	151	104	97	91
AP700 CL	112	62.7	11.0	39	148	98	91	
Bobtail	110	61.9	9.3	38	152	110	97	
UI-WSU Huffman (IDN-03-29902A)	109	62.8	10.5	36	153	103	94	
SY Ovation	108	62.7	10.2	38	151	103	93	
Mary	108	62.8	10.1	38	147	106	104	91
WB-Junction	108	63.1	10.6	37	147	103	91	
WB1604	107	63.1	11.0	38	149			
WB-528	107	63.5	10.6	40	147	100	89	81
SY Assure (04PN096-2)	105	63.1	10.6	35	148			
WB1529	102	63.5	10.9	37	148			
UI Magic CL+	100	63.3	10.8	36	148			
Skiles	99	62.4	11.1	36	149	101	94	87
WB1376CLP	93	63.5	12.0	38	149			
EXPERIMENTAL LINES								
WA 8233	134	61.7	9.6	41	154			
Xerpha-G2	126	62.5	10.6	39	154			
WA 8245	124	61.3	10.0	37	152			
WA 8234	121	63.3	10.4	41	148			
IDN 06-03303B	119	61.5	10.0	39	149			
WA 8235	118	63.0	10.5	36	151			
LWW14-73163	117	63.1	10.5	37	149			
KXB-01	116	62.2	10.7	39	152			
09PN062#18	115	62.3	11.0	37	151			
<i>ARS20060123-31C</i>	115	63.2	10.2	40	150			
WA 8206	114	62.4	10.2	38	150	107		
WA 8187	114	62.7	10.9	37	151	107		

2016 WSU Variety Testing SW Winter Wheat Trial, Fairfield

Variety Name <i>Club Italicized</i>	2016					2 Year*	3 Year**	5 Year***
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
WA 8232	114	63.2	10.5	41	150			
Xerpha-0W	113	62.7	10.2	38	154			
IDN 01-10704A	112	62.1	9.8	40	152	103		
IDN 06-18102A	111	61.4	10.0	37	149			
IDN 07-28017B	111	63.2	10.1	37	149			
<i>ARS06136-49C</i>	109	62.5	10.7	40	152			
LOR-913	106	61.8	10.5	36	148			
OR2110526	99	63.4	10.6	36	147			
LOR-833	96	62.9	11.3	35	148			
C.V. %	7	1	6	4	1	6	7	7
LSD (0.05)	10	0.6	0.8	2	2	7	7	5
Average	114	62.6	10.2	38	150	107	97	88
Highest	135	64.0	12.0	45	154	121	114	102
Lowest	92	60.8	8.6	35	147	98	89	81

Agronomic Information

Planting Date:	10/6/2015
Harvest Date:	8/18/2016
Seeding Rate (lbs/acre):	95
Previous Crop:	Lentils
Spring soil test:	
N (lb/ac) 4-ft sample	248
P (ppm-bicarb) 2-ft sample	253
S (lb/ac) 2-ft sample	53
pH (top 6 inches)	5.92
Herbicide:	
Huskie, Tilt applied on 4/21.	

Trial Notes:

1. The Fairfield nursery was located about 5 miles east of Fairfield, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. This location was planted with our no-till drill with hoe openers. Fertilizer applied at planting was: 90#N, 15#P, 15#S.
3. Only one application of fungicide was applied and stripe rust was not a factor.

Cooperator: D. Degon

* = 2-year data from 2016 & 2014

** = 3-year data from 2016, 2014, 2013

*** = 5-year data from 2016, 2014, 2013, 2012, 2011

Table 27. 2016 WSU Variety Testing SW Winter Wheat Trial, Farmington

Variety Name <i>Club Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES									
Rosalyn	172	60.6	9.7	42	148	0	133	116	116
Legion	161	60.7	10.5	44	146	0	122	110	
Puma	159	61.7	10.8	50	146	3	134	116	117
Norwest Duet (LOR-092)	158	61.8	10.8	50	148	0			
Skiles	156	61.7	11.6	39	148	0	117	108	108
LCS Artdeco	155	60.6	10.1	39	145	0	115	107	112
Xerpha	153	61.6	10.9	43	151	0	124	114	114
ARS-Selbu	153	63.1	11.0	41	149	0	123	108	110
SY 107	151	61.2	10.4	41	146	2	110	104	
SY Assure (04PN096-2)	150	61.6	11.4	39	145	0			
Bobtail	150	60.8	10.6	40	150	0	110	103	107
UI-WSU Huffman	149	61.5	10.9	41	152	0	111	102	
ORCF-102	149	61.1	10.7	45	148	0	114	104	
AP700 CL	148	60.9	11.3	44	146	0	112	102	
UI Castle CL+	147	61.7	11.1	41	149	0			
<i>ARS-Crescent</i>	146	61.2	10.4	43	152	0	122	109	110
UI Sparrow (IDO1108DH)	146	59.9	10.3	45	150	0			
UI Magic CL+	142	61.9	11.4	40	146	2			
Mary	142	61.6	11.1	42	146	0	121	112	115
Madsen	141	61.4	11.1	41	149	0	109	96	102
UI Palouse CL+	137	60.5	10.9	40	149	0			
SY Ovation	137	61.1	11.3	41	150	0	110	99	
WB1604	136	62.0	11.2	41	146	0	98		
WB 523	136	62.2	11.3	41	146	0	112	103	
WB-528	136	62.6	11.0	42	145	0	110	100	102
<i>Cara</i>	135	60.9	10.7	41	152	0	108	102	102
WB-Junction	131	62.4	10.7	40	145	13	119	105	
WB1529	122	62.3	13.0	40	145	0	99		
WB1376CLP	116	63.2	12.3	43	146	0			
Curiosity CL+	103	60.2	10.6	42	149	67	101		
Mela CL+	92	60.7	10.7	44	153	72	89		
EXPERIMENTAL LINES									
Xerpha-G2	160	61.6	11.0	43	152	0			
WA 8232	159	62.8	10.4	45	147	7	133		
IDN 06-18102A	157	60.0	10.4	40	147	0			
KXB-01	156	61.0	11.5	43	149	3			
Xerpha-0W	155	61.4	10.6	43	152	0			
LWW14-73163	154	62.8	10.9	40	147	0			
IDN 06-03303B	153	60.6	10.7	42	147	0			
IDN 01-10704A	152	60.9	10.4	44	150	0	119	108	
WA 8245	151	59.6	10.3	42	151	0			
WA 8234	149	62.4	11.0	42	146	0	123		
<i>ARS20060123-31C</i>	145	62.2	10.8	44	149	0	116		
WA 8233	144	60.4	10.7	45	152	18	124		

2016 WSU Variety Testing SW Winter Wheat Trial, Farmington

Variety Name <i>Club Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
<i>ARS06136-49C</i>	144	61.4	11.2	47	149	7			
IDN 07-28017B	144	62.1	10.9	42	147	0			
WA 8206	142	61.4	11.2	44	148	0	116	106	
WA 8187	142	61.7	11.0	41	149	0	114	105	
WA 8235	140	61.7	10.8	38	149	0	104		
OR2110526	138	61.8	10.9	39	145	0			
09PN062#18	136	61.1	11.1	40	148	0			
LOR-833	131	61.6	11.5	39	145	0			
LOR-913	130	61.4	11.2	39	145	0			
C.V. %	6	1	3	4	1	--	7	7	6
LSD (0.05)	13	0.5	0.4	2	3	9	10	7	5
Average	144	61.4	10.9	42	148	4	115	106	110
Highest	172	63.2	13.0	50	153	72	134	116	117
Lowest	92	59.6	9.7	38	145	0	89	96	102

Agronomic Information

Planting Date:	10/6/2015
Harvest Date:	8/22/2016
Seeding Rate (lbs/acre):	95
Previous Crop:	Chickpeas
Spring soil test:	
N (lb/ac) 4-ft sample	151
(ppm-bicarb) 2-ft sample	182
S (lb/ac) 2-ft sample	41
pH (top 6 inches)	5.3

Herbicide:

Herbicide and fungicide were applied by cooperator at herbicide timing. A second fungicide application was applied in late-May.

Trial Notes:

1. The Farmington nursery was located about 4 miles south of Farmington, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. This location was planted using our no-till drill with hoe openers. Fertilizer applied at planting was 120#N, 20#P, 20#S.
3. Two applications of fungicide kept stripe rust under control.
4. There was a heavy infestation of Italian rye in the first rep of the trial. The rye was controlled by hand, and likely caused some yield reductions.

Cooperator: B. Nelson

Table 28. 2016 WSU Variety Testing SW Winter Wheat Trial, Harrington

Variety Name <i>Club Italicized</i>	2016				2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES							
SY 107	91	61.4	10.2	35	--	--	--
Xerpha	90	61.8	10.8	36	--	--	--
UI Sparrow (IDO1108DH)	88	61.8	10.6	37	--	--	--
Legion	83	60.1	10.5	41	--	--	--
Puma	83	61.5	11.2	41	--	--	--
Madsen	81	61.7	11.8	36	--	--	--
UI-WSU Huffman (IDN-03-29902A)	81	61.6	10.6	36	--	--	--
<i>Bruehl</i>	81	61.2	10.4	37	--	--	--
ORCF-102	80	62.0	11.4	39	--	--	--
<i>ARS-Crescent</i>	79	62.2	10.0	38	--	--	--
Otto	79	62.4	11.4	38	--	--	--
WB 1376CLP	79	62.5	12.4	37	--	--	--
WB 1529	78	62.8	11.4	36	--	--	--
Norwest Duet (LOR-092)	78	62.4	11.2	40	--	--	--
Mela CL+	77	62.9	11.1	38	--	--	--
Mary	77	61.0	10.9	35	--	--	--
WB 1843	77	61.9	11.2	37	--	--	--
WB 1604	73	62.5	10.9	36	--	--	--
<i>Pritchett (4J0713366C)</i>	71	62.0	11.1	35	--	--	--
UI Palouse CL+	71	60.8	12.0	34	--	--	--
Curiosity CL+	71	62.9	11.2	36	--	--	--
<i>Coda</i>	70	62.6	11.7	39	--	--	--
WB-Junction	70	62.5	11.3	35	--	--	--
UI Magic CL+	69	62.3	12.0	32	--	--	--
ORCF-103	69	62.2	11.1	32	--	--	--
UI Castle CL+	68	63.2	11.7	36	--	--	--
Masami	68	62.2	11.0	34	--	--	--
Eltan	64	63.1	10.7	35	--	--	--
EXPERIMENTAL LINES							
Otto-G2	89	62.3	11.3	37	--	--	--
04PN066-7	88	60.8	10.6	36	--	--	--
WA 8226	86	61.4	11.1	39	--	--	--
LWW14-73163	86	62.3	11.4	35	--	--	--
<i>ARS20060123-31C</i>	84	62.6	10.3	40	--	--	--
09PN005#25	84	61.2	11.0	37	--	--	--
KXB-01	83	62.4	10.9	37	--	--	--
IDN 07-28017B	82	63.0	10.6	37	--	--	--
Otto-0W	81	62.8	11.1	36	--	--	--
WA 8244	79	62.4	10.7	36	--	--	--
WA 8227	78	62.8	10.9	39	--	--	--
LWW14-71032	77	61.6	10.7	38	--	--	--
LWW14-73161	77	61.4	11.1	36	--	--	--
WA 8243	77	63.1	11.3	39	--	--	--
WA 8202	74	62.9	11.9	40	--	--	--

2016 WSU Variety Testing SW Winter Wheat Trial, Harrington

Variety Name <i>Club Italicized</i>	2016				2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
WA 8251 (KXB-04)	69	63.2	10.5	43	--	--	--
LOR-913	68	60.8	11.4	36	--	--	--
<i>ARS06135-9C</i>	63	63.0	11.6	34	--	--	--
C.V. %	9	1	5	5	--	--	--
LSD (0.05)	10	0.5	0.8	2	--	--	--
Average	78	62.1	11.1	37	--	--	--
Highest	91	63.2	12.4	43	--	--	--
Lowest	63	60.1	10.0	32	--	--	--

Agronomic Information

Planting Date: 9/10/2015
 Harvest Date: 8/1/2016
 Seeding Rate (lbs/acre): 50
 Previous Crop: Fallow
 Spring soil test:
 N (lb/ac) 4-ft sample 242
 P (ppm-bicarb) 2-ft sample 32
 S (lb/ac) 2-ft sample 36
 pH (top 6 inches) 4.68
 Herbicide:
 Outrider was applied in October, Powerflex
 in March. Fungicide was applied by grower in May.

Trial Notes:

1. The Harrington nursery was located about 5 miles southwest of Harrington, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. August rains provided plentiful moisture for seeding, and emergence was not issue.
3. Stripe rust was observed early in the season, but a fungicide application kept it under control
4. This location had an average amount of variation, but still produced useful results. There are no long-term averages because the 2015 trial was not reported.

Cooperator: M. Kramer

Table 29. 2016 WSU Variety Testing SW Winter Wheat Trial, Horse Heaven

Variety Name <i>Club Italicized</i>	2016				2 Year*	3 Year**	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES							
WB 1529	40	57.3	12.7	25			--
Eltan	40	56.7	12.8	26	33	35	--
Mary	39	53.3	13.5	26			--
Mela CL+	39	56.6	12.8	28	34	37	--
ORCF-102	39	56.5	13.8	26	33		--
Xerpha	39	54.8	13.3	27	33	36	--
Curiosity CL+	39	56.3	12.4	29	34	36	--
Norwest Duet (LOR-092)	39	54.6	13.0	29			--
UI Sparrow (IDO1108DH)	38	54.1	12.3	28	33	36	--
Legion	38	53.3	13.2	29			--
Puma	37	53.4	13.4	27	32	35	--
<i>Coda</i>	37	54.4	14.0	24	33	36	--
Otto	37	55.4	13.6	27	32	35	--
SY 107	37	51.4	13.3	24			--
UI-WSU Huffman (IDN-03-29902A)	36	54.7	12.5	26			--
WB-Junction	36	56.6	13.0	25	29	31	--
<i>Pritchett (4J0713366C)</i>	36	56.0	12.7	23	31		--
UI Magic CL+	35	55.4	13.0	26			--
UI Palouse CL+	35	53.2	14.0	26			--
WB 1376CLP	35	56.8	13.8	25			--
Madsen	35	55.6	13.7	25	29	32	--
<i>Bruehl</i>	35	54.3	13.9	26	31	33	--
WB 1604	35	54.8	13.5	27			--
ORCF-103	35	55.1	13.7	25	32	35	--
Masami	34	54.1	13.0	27	29	34	--
WB 1843	33	54.8	13.8	25			--
UI Castle CL+	32	54.0	13.4	27			--
<i>ARS-Crescent</i>	28	51.3	14.7	23	27	31	--
EXPERIMENTAL LINES							
Otto-G2	42	56.9	13.0	28			--
WA 8226	41	54.8	12.8	29			--
Otto-0W	40	56.2	12.9	28			--
LWW14-73161	40	52.9	13.7	27			--
LWW14-71032	39	54.3	12.6	26			--
KXB-01	39	55.4	13.0	28			--
IDN 07-28017B	38	56.1	12.3	24			--
LWW14-73163	37	54.8	13.3	26			--
ARS20060123-31C	37	51.7	12.9	24			--
<i>04PN066-7</i>	37	53.1	12.2	25			--
LOR-913	37	54.5	13.1	26			--
09PN005#25	36	53.0	13.1	27			--
WA 8251 (KXB-04)	36	56.3	13.4	29			--
<i>ARS06135-9C</i>	35	58.1	12.6	23			--
WA 8244	35	56.5	13.0	28			--

2016 WSU Variety Testing SW Winter Wheat Trial, Horse Heaven

Variety Name <i>Club Italicized</i>	2016				2 Year*	3 Year**	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
WA 8243	34	54.9	12.2	26			--
WA 8227	33	54.4	12.9	29			--
WA 8202	32	55.5	13.7	26	30		--
C.V. %	8	2	4	5	8	8	--
LSD (0.05)	4	1.1	0.5	2	3	3	--
Average	37	54.8	13.1	26	32	34	--
Highest	42	58.1	14.7	29	34	37	--
Lowest	28	51.3	12.2	23	27	31	--

Agronomic Information

Planting Date:	10/28/2015
Harvest Date:	7/27/2016
Seeding Rate (lbs/acre):	50
Previous Crop:	Fallow
Spring soil test:	
N (lb/ac) 4-ft sample	212
P (ppm-bicarb) 2-ft sample	47
S (lb/ac) 2-ft sample	24
pH (top 6 inches)	6.59
Herbicide:	
Huskie, Powerflex, Tilt applied on 4/20	

Trial Notes:

- 1.** The Horse Heaven nursery was located about 12 miles SE of Prosser, WA. All yield and test weight values within the 5% LSD of the highest value are shown in bold.
- 2.** Stand establishment was good and the trial looked good throughout most of the growing season.
- 3.** Despite the higher than average yields, test weights were low and protein was high.

Cooperator: M. Schmitt

* 2-Year average from 2016 & 2014

** 3-Year average from 2016, 2014, 2013

Table 30. 2016 WSU Variety Testing SW Winter Wheat Trial, Lamont

Variety Name <i>Club Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES									
Legion	120	60.3	8.8	47	139	0			
<i>Pritchett (4J0713366C)</i>	115	60.3	11.2	45	146	13	98	92	
WB-Junction	114	62.6	9.9	43	136	0	105	95	
Puma	114	60.9	10.3	50	138	7	101	92	94
WB 1604	112	62.4	9.4	45	136	0			
UI-WSU Huffman (IDN-03-29902A)	111	61.3	10.9	44	142	0			
UI Castle CL+	110	62.3	10.2	43	143	0			
<i>Bruehl</i>	110	60.5	10.0	44	148	0	92	87	93
SY 107	110	61.0	9.4	42	141	0	98		
Norwest Duet (LOR-092)	109	62.6	10.3	49	143	17	103		
Xerpha	106	60.9	9.3	44	144	0	98	98	101
<i>ARS-Crescent</i>	104	60.5	9.9	43	147	0	98	95	97
WB 1529	103	62.4	9.8	42	139	0	89		
WB 1376CLP	103	63.0	11.7	43	139	0			
Mary	102	60.9	9.1	40	138	0			
Madsen	102	61.3	12.1	44	142	0	89	81	86
ORCF-102	101	61.0	10.8	46	140	0	98	89	
Curiosity CL+	98	62.4	9.9	46	147	0	86	84	83
Otto	97	62.2	11.0	43	149	0	86	83	86
UI Magic CL+	97	62.1	10.7	38	138	0			
UI Sparrow (IDO1108DH)	96	60.8	9.7	45	147	0			
Masami	93	60.6	9.7	42	147	0	89	91	94
UI Palouse CL+	93	61.6	10.1	38	140	0			
WB 1843	93	61.2	10.8	42	142	0			
<i>Coda</i>	91	62.4	10.0	46	147	17	85	83	91
ORCF-103	91	61.0	9.5	40	145	0	86	82	85
Eltan	90	61.8	9.7	42	148	8	78	80	82
Mela CL+	85	62.4	10.8	41	148	30	73	74	76
EXPERIMENTAL LINES									
04PN066-7	118	60.8	10.3	44	139	8			
LWW14-73161	116	61.3	10.1	45	140	12			
LWW14-73163	111	62.6	10.6	40	140	0			
KXB-01	109	61.6	9.8	43	142	0	103		
Otto-G2	108	62.3	10.6	44	149	8	82		
LWW14-71032	106	62.0	10.7	48	139	8			
09PN005#25	105	60.7	10.4	43	142	0			
LOR-913	105	60.7	10.3	40	137	0			
WA 8227	104	62.6	9.9	46	149	0	97		
WA 8243	104	61.6	10.6	46	148	0			
Otto-0W	97	62.2	10.2	44	149	0	86		
IDN 07-28017B	95	63.5	10.3	40	138	0			
WA 8244	92	62.0	10.5	42	144	25			
WA 8226	91	61.3	9.9	44	142	0	91		
WA 8202	88	63.1	12.1	46	144	0	82	83	

2016 WSU Variety Testing SW Winter Wheat Trial, Lamont

Variety Name <i>Club Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
WA 8251 (KXB-04)	81	62.1	9.3	52	148	0			
<i>ARS06135-9C *</i>									
<i>ARS20060123-31C *</i>									
C.V. %	9	1	9	4	1	--	9	8	9
LSD (0.05)	12	0.7	1.2	3	2	14	10	7	6
Average	101	61.7	10.3	44	143	3	91	87	89
Highest	120	63.5	12.1	52	149	30	105	98	101
Lowest	48	60.3	8.8	38	136	0	73	74	76

Agronomic Information

Planting Date:	9/9/2015
Harvest Date:	8/2/2016
Seeding Rate (lbs/acre):	85
Previous Crop:	Fallow
Spring soil test:	
N (lb/ac) 4-ft sample	194
P (ppm-bicarb) 2-ft sample	39
S (lb/ac) 2-ft sample	32
pH (top 6 inches)	4.86
Herbicide:	
Huskie, PowerFlex and Tilt applied on 3/31.	

Trial Notes:

1. The Lamont nursery was located about 5 miles southwest of Lamont, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. This trial received only one fungicide application and moderate levels of stripe rust were observed on some of the more susceptible lines late in the growing season.
3. * = Data not presented due to deer feeding on these two awnless club

Cooperator: G. White

Table 31. 2016 WSU Variety Testing SW Winter Wheat Trial, Lind

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
<i>Bruehl</i>	67	59.6	10.7	36	141	52	42	45
WB 1529	66	62.7	11.5	30	136	47		
Puma	63	60.3	11.4	37	133	53	43	42
Otto	62	60.6	11.7	34	142	51	44	46
<i>ARS-Crescent</i>	61	59.9	11.2	33	142	52	44	47
UI Sparrow (IDO1108DH)	61	59.5	11.0	36	140			
Norwest Duet (LOR-092)	60	59.9	11.8	36	138	49		
Legion	59	60.0	11.2	35	134			
<i>Coda</i>	59	61.1	11.0	34	142	47	39	43
MelaCL+	58	60.9	10.6	34	141	52	45	43
CuriosityCL+	58	60.7	10.5	34	141	50	43	43
WB 1376CLP	57	61.8	13.1	36	132			
<i>Pritchett (4J0713366C)</i>	57	60.9	11.0	31	141	48	42	
Xerpha	56	59.5	10.5	33	140	48	42	47
UI Palouse CL+	55	59.2	11.6	30	132			
Madsen	55	60.5	12.5	34	136	47	37	40
ORCF-102	55	60.6	11.9	34	134	47	37	
SY 107	54	59.8	10.6	31	137	42		
UI Castle CL+	51	61.4	12.1	34	141			
WB-Junction	51	61.3	11.9	33	134	45	38	
Mary	50	59.7	11.3	31	137			
WB 1604	50	61.7	12.8	31	133			
WB 1843	50	60.5	11.7	32	133			
Masami	50	59.8	11.4	33	142	50	43	46
UI-WSU Huffman (IDN-03-29902A)	49	60.1	11.8	29	140			
Eltan	48	60.0	10.6	33	141	46	41	43
UI Magic CL+	47	61.6	12.1	29	136			
ORCF-103	47	58.7	10.4	32	140	43	38	42
EXPERIMENTAL LINES								
Otto-0W	69	60.7	11.4	35	142	57		
LWW14-73161	67	59.5	11.4	34	135			
04PN066-7	67	60.0	10.5	30	136			
LWW14-73163	65	61.7	11.8	31	134			
WA 8226	64	60.0	12.2	34	140	52		
Otto-G2	63	60.5	11.5	35	142	56		
WA 8227	63	61.0	11.3	37	144	52		
<i>ARS20060123-31C</i>	61	61.3	10.9	32	139	52		
KXB-01	61	60.3	11.0	35	140	51		
WA 8243	61	60.1	10.8	36	140			
LOR-913	59	60.3	12.4	31	132			
LWW14-71032	58	60.9	11.2	35	132			
WA 8202	58	61.4	12.5	33	138	51	44	
09PN005#25	57	59.4	12.0	33	135			
IDN 07-28017B	54	62.2	11.8	29	135			

2016 WSU Variety Testing SW Winter Wheat Trial, Lind

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
WA 8244	53	61.9	11.4	32	136			
<i>ARS06135-9C</i>	51	62.1	11.6	31	141	49		
WA 8251 (KXB-04)	39	59.9	11.6	37	143			
C.V. %	9	1	3	4	1	8	8	9
LSD (0.05)	7	0.6	0.4	2	2	5	3	3
Average	57	60.5	11.4	33	138	50	41	44
Highest	69	62.7	13.1	37	144	57	45	47
Lowest	39	58.7	10.4	29	132	42	37	40

Agronomic Information

Planting Date:	9/15/2015
Harvest Date:	7/19/2016
Seeding Rate (lbs/acre):	50
Previous Crop:	Fallow
Spring soil test:	
N (lb/ac) 4-ft sample	124
P (ppm-bicarb) 2-ft sample	18
S (lb/ac) 2-ft sample	14

Herbicide:
2,4-D herbicide was applied by cooperators on 3/31.

Trial Notes:

1. The lind nursery was located on the WSU Lind Dryland Experiment Station. All yield, test weight, and protein values within the 5% LSD range are shown in bold.
2. No fungicide was applied and rust was observed on the more susceptible varieties.
3. Note the later seeding date. Our first Lind trial crusted over and was abandoned. This trial was planted after the rains.

Cooperator: WSU Lind Dryland Experiment Station

Table 32. 2016 WSU Variety Testing SW Winter Wheat Trial, Mayview

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
LCS Artdeco	126	58.4	9.2	38	0	97	81	91
Rosalyn	125	62.0	8.6	42	0	107	87	93
SY Assure (04PN096-2)	123	61.3	10.6	40	0			
Skiles	123	62.1	10.4	40	0	109	88	94
WB1604	116	60.8	9.5	41	0	100		
Bobtail ¹	116	61.0	9.1	41	0			
SY Ovation	115	61.9	9.5	42	0	106	84	
UI Magic CL+	115	62.1	9.3	40	0			
WB-528	112	62.0	9.9	43	17	100	81	90
<i>ARS-Crescent</i>	111	60.5	9.2	41	0	95	77	90
Mary	109	59.2	9.3	41	0	104	84	94
SY 107	108	61.7	9.3	42	10	103	84	
UI Sparrow (IDO1108DH)	104	60.3	9.7	43	0			
WB-Junction	104	61.1	9.2	39	0	106	85	
Madsen	102	61.8	10.3	43	0	92	76	86
ORCF-102	101	61.2	9.1	45	0	102	85	
WB 523 ¹	99	62.1	10.3	43	0			
UI Palouse CL+	98	61.2	10.6	41	10			
WB1529	98	60.5	9.7	39	0	89		
WB1376CLP	93	62.2	12.4	43	3			
Legion ¹	93	60.9	9.6	44	0			
ARS-Selbu ¹	91	62.9	9.9	43	0			
Xerpha ¹	90	61.7	8.7	44	0			
AP700 CL ¹	88	60.8	9.4	41	0			
UI-WSU Huffman (IDN-03-29902A)	87	61.5	10.1	42	0	82	69	
UI Castle CL+	86	62.4	10.5	42	0			
Puma ¹	74	61.0	10.2	47	7			
Curiosity CL+ ¹	67	60.9	10.1	43	7			
Mela CL+ ¹	66	61.3	9.5	42	0			
Norwest Duet (LOR-092) ¹	53	62.3	9.8	48	0			
<i>Cara *</i>								
EXPERIMENTAL LINES								
09PN062#18	126	61.9	10.4	40	0			
IDN 06-03303B	120	61.3	9.5	41	0			
WA 8235	120	62.3	9.7	40	0	101		
IDN 07-28017B	119	62.8	9.3	41	0			
IDN 06-18102A	117	60.5	9.3	41	0			
LWW14-73163	114	62.8	9.6	39	0			
LOR-833	113	61.4	9.7	38	0			
WA 8232	110	63.5	9.7	45	0	102		
WA 8187	109	61.9	10.2	42	0	101	81	

2016 WSU Variety Testing SW Winter Wheat Trial, Mayview

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
WA 8245	109	60.5	9.9	42	0			
OR2110526	104	61.0	9.9	39	0			
KXB-01 ¹	104	61.4	10.4	43	0			
IDN 01-10704A	103	61.0	9.8	45	0	86	72	
WA 8234	103	62.2	9.9	42	0	102		
WA 8206 ¹	101	61.7	10.1	42	0			
Xerpha-0W	94	61.6	10.0	43	0			
LOR-913 ¹	91	59.5	9.5	40	0			
Xerpha-G2 ¹	85	61.9	10.3	43	0			
WA 8233 ¹	58	60.6	9.7	44	0			
<i>ARS06136-49C *</i>								
<i>ARS20060123-31C *</i>								
C.V. %	8	1	7	4	--	8	8	7
LSD (0.05)	11	0.7	0.9	2	8	10	7	5
Average	102	61.4	9.8	42	1	99	81	91
Highest	126	63.5	12.4	48	17	109	88	94
Lowest	53	58.4	8.6	38	0	82	69	86

Agronomic Information

Planting Date:	10/2/2015
Harvest Date:	8/15/2016
Seeding Rate (lbs/acre):	85
Previous Crop:	Fallow
Spring soil test:	
N (lb/ac) 4-ft sample	210
P (ppm-bicarb) 2-ft sample	40
S (lb/ac) 2-ft sample	31
pH (top 6 inches)	4.47
Herbicide:	
Broadleaf herbicide and fungicide applied by cooperator.	

Trial Notes:

1. The Mayview nursery was located about 3.5 miles south of Lower Granite Dam. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. Only one application of fungicide was applied. A few "hot spots" developed in the trial on susceptible varieties, but rust was not wide-spread.
3. High winds that accompanied the storm on August 2nd, caused shattering in many of the taller entries (noted by ¹), some more severe than others. Yields are presented here for comparison purposes and to show the potential damage associated with shattering. To prevent bias, these entries will be excluded from long-term averages and summaries.
4. * = deer damage, data not shown

Cooperator: R. & R. Koller

Table 33. 2016 WSU Variety Testing SW Winter Wheat Trial, Moses Lake

Variety Name <i>Club Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES									
SY Ovation	171	60.0	11.1	38	131	52	147	156	
SY Assure (04PN096-2)	162	60.5	11.7	35	126	45			
AP700 CL	160	59.4	10.7	45	130	23	138	148	
LCS Artdeco	160	58.3	10.6	38	127	55	153	149	140
UI-WSU Huffman (IDN-03-29902A)	152	59.8	11.1	41	132	37	131	140	
WB-Junction	152	61.3	10.9	40	127	83	140	148	
Rosalyn	151	59.4	10.6	39	131	65	137	133	132
WB 456	148	61.6	12.0	38	127	0	140	148	
Norwest Duet (LOR-092)	148	60.5	11.6	46	132	62			
UI Castle CL+	146	60.9	12.0	40	132	75			
Bobtail	143	58.6	11.2	37	131	55	134	139	136
Skiles	142	59.7	12.5	38	132	45	131	140	132
UI Magic CL+	141	59.1	11.4	36	129	23			
Puma	140	59.8	11.3	45	130	37	122	141	136
WB 1376CLP	139	61.9	12.3	41	130	23			
WB 1604	137	59.9	11.9	39	128	48	133		
UI Palouse CL+	136	60.0	11.0	37	131	3			
Legion	131	59.5	11.4	43	131	77	116	126	
Mary	130	59.3	10.8	38	129	3	130	139	138
ORCF-102	129	59.2	11.0	40	132	67	127	136	
WB 1529	124	61.0	12.4	38	129	78	127		
UI Sparrow (IDO1108DH)	118	57.3	11.3	44	134	93			
WB 1843	107	58.4	11.7	42	132	0			
SY 107	101	57.5	10.9	39	132	82	96	116	
Xerpha	78	54.5	12.4	41	134	52	96	120	119
EXPERIMENTAL LINES									
LWW14-71195	166	59.0	11.1	37	129	47			
IDN 07-28017B	164	60.9	11.2	39	129	18			
OR2090473	160	58.8	11.4	39	130	30	146	147	
IDN 06-03303B	159	59.0	10.8	38	132	0			
LWW14-73163	159	61.7	11.4	38	131	33			
09PN062#18	154	59.9	11.2	40	131	85			
IDN 06-18102A	153	58.9	11.0	40	130	48			
LOR-833	150	59.6	11.8	36	127	0			
WA 8206	148	60.4	11.7	41	133	10	138	146	
OR2110526	148	60.3	11.2	40	126	55			
WA 8187	147	59.9	11.4	38	134	2	132	140	
WA 8232	147	60.7	11.5	42	131	83	138		
KWS 040	138	60.9	11.2	41	126	67			
LOR-913	135	58.8	11.7	39	128	58			
KWS 034	117	60.0	10.6	41	130	40			
C.V. %	9	1	3	4	1	--	10	9	9
LSD (0.05)	17	0.8	0.5	2	1	31	15	12	8
Average	142	59.7	11.4	40	130	44	131	140	133

2016 WSU Variety Testing SW Winter Wheat Trial, Moses Lake

Variety Name <i>Club Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
Highest	171	61.9	12.5	46	134	93	153	156	140
Lowest	78	54.5	10.6	35	126	0	96	116	119

Agronomic Information

Planting Date:	10/7/2015
Harvest Date:	8/4/2016
Seeding Rate (lbs/acre):	95
Previous Crop:	Potatoes
Spring soil test:	
N (lb/ac) 4-ft sample	237
P (ppm-bicarb) 2-ft sample	27
S (lb/ac) 2-ft sample	44
pH (top 6 inches)	5.09

Herbicide:

Huskie & Tilt were applied at herbicide timing.

Trial Notes:

1. The Moses Lake irrigated nursery was located about 10 miles southeast of Moses Lake, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. An extra 100# N was applied to the soft trial in the spring, after the soil sample was taken.
3. This trial received only one fungicide application. Stripe rust levels were very high and limited the yield of susceptible varieties. Lodging also impacted many of the entries.
4. The irrigated trials contain a unique set of entries, some of which are not found in the rainfed trials.

Cooperator: G. Burkholder

Table 34. 2016 WSU Variety Testing SW Winter Wheat Trial, Pasco

Variety Name <i>Club Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES									
AP700 CL	144	59.1	13.0	41	126	25	--	--	--
WB 456	138	61.8	13.2	40	124	55	--	--	--
SY Ovation	134	60.2	12.2	41	126	55	--	--	--
Bobtail	132	58.6	12.7	39	128	55	--	--	--
UI Magic CL+	132	60.8	12.5	37	126	25	--	--	--
Puma	131	59.9	13.3	44	125	83	--	--	--
WB 1604	131	61.0	12.6	40	124	75	--	--	--
LCS Artdeco	131	58.5	11.9	38	119	57	--	--	--
SY 107	128	60.2	11.8	39	126	60	--	--	--
UI Palouse CL+	128	59.2	13.0	39	130	35	--	--	--
Skiles	126	60.3	13.4	41	127	58	--	--	--
Legion	124	59.2	12.3	40	127	88	--	--	--
UI-WSU Huffman (IDN-03-29902A)	123	59.3	12.6	41	130	57	--	--	--
Rosalyn	122	59.2	12.3	42	128	80	--	--	--
SY Assure (04PN096-2)	121	61.2	12.6	35	120	62	--	--	--
WB-Junction	121	60.4	12.3	41	122	88	--	--	--
WB 1376CLP	119	61.3	13.6	41	126	52	--	--	--
Norwest Duet (LOR-092)	118	59.9	13.5	45	128	52	--	--	--
WB 1529	113	61.1	13.2	38	126	68	--	--	--
ORCF-102	112	59.9	12.9	43	126	63	--	--	--
Mary	110	58.3	12.5	39	125	55	--	--	--
WB 1843	108	60.4	13.3	41	127	60	--	--	--
UI Castle CL+	107	60.6	13.3	40	129	83	--	--	--
UI Sparrow (IDO1108DH)	102	58.6	12.4	46	133	80	--	--	--
Xerpha	96	58.6	12.5	41	131	93	--	--	--
EXPERIMENTAL LINES									
IDN 07-28017B	153	60.8	12.5	39	125	33	--	--	--
LWW14-73163	152	61.0	12.5	41	127	52	--	--	--
LOR-833	146	59.0	12.5	35	123	30	--	--	--
LWW14-71195	140	59.8	12.0	41	122	42	--	--	--
OR2110526	139	60.5	12.2	38	121	77	--	--	--
OR2090473	130	57.7	13.0	40	126	65	--	--	--
WA 8232	129	61.6	12.5	41	126	67	--	--	--
WA 8206	128	60.1	13.0	42	130	60	--	--	--
LOR-913	128	59.5	12.2	40	124	68	--	--	--
WA 8187	126	59.6	13.0	40	128	52	--	--	--
IDN 06-18102A	123	58.0	12.7	41	128	82	--	--	--
IDN 06-03303B	117	58.0	12.9	42	129	33	--	--	--
KWS 040	113	60.9	12.5	42	119	62	--	--	--
09PN062#18	112	60.0	12.3	38	126	82	--	--	--
KWS 034	108	61.1	12.7	41	125	63	--	--	--
C.V. %	10	1	3	4	1	33	--	--	--
LSD (0.05)	14	0.6	0.4	2	1	22	--	--	--
Average	125	59.9	12.7	40	126	61	--	--	--

2016 WSU Variety Testing SW Winter Wheat Trial, Pasco

Variety Name <i>Club Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
Highest	153	61.8	13.6	46	133	93	--	--	--
Lowest	96	57.7	11.8	35	119	25	--	--	--

Agronomic Information

Planting Date:	10/7/2015
Harvest Date:	7/28/2016
Seeding Rate (lbs/acre):	95
Previous Crop:	Potatoes
Spring soil test:	
N (lb/ac) 4-ft sample	498
P (ppm-bicarb) 2-ft sample	21
S (lb/ac) 2-ft sample	138
pH (top 6 inches)	5.77

Trial Notes:

- 1.** This is a new location for 2016. The irrigated Pasco trial was located about 7 miles NE of Pasco, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
- 2.** Despite the two fungicide applications, stripe rust still developed and likely caused some yield loss on susceptible varieties.
- 3.** Excess nitrogen caused significant lodging across the trial. Even shorter entries lodged as a result of the neighboring plot pushing on it.
- 4.** The irrigated trials contain a unique set of entries, some of which are not found in the rainfed trials.

Herbicide:

Broadleaf herbicide and fungicide were applied by the cooperator. A second fungicide application was also applied by the grower

Cooperator: J Rogers

Table 35. 2016 WSU Variety Testing SW Winter Wheat Trial, Pullman

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
Rosalyn	162	61.6	8.8	42	0	149	134	131
UI Sparrow (IDO1108DH)	155	60.6	9.3	48	0			
LCS Artdeco	151	62.4	9.3	40	0	135	128	126
WB-Junction	151	64.1	9.7	43	0	145	128	
SY 107	150	63.3	9.4	45	0	136	127	
Mary	150	63.0	9.5	42	0	143	131	127
<i>ARS-Crescent</i>	149	62.3	9.3	45	0	150	132	132
UI Castle CL+	148	63.2	10.1	44	0			
Legion	148	61.9	9.4	47	0	141	127	
ARS-Selbu	147	63.4	10.0	45	0	139	126	126
Puma	147	62.6	9.7	49	0	144	130	130
Bobtail	146	61.7	10.0	43	0	139	130	131
Norwest Duet (LOR-092)	145	62.8	9.6	50	0			
SY Ovation	143	62.5	9.8	45	0	130	118	
WB 523	143	63.8	10.3	44	0	129	123	
UI-WSU Huffman (IDN-03-29902A)	142	62.2	9.9	44	0	137	128	
UI Palouse CL+	141	62.4	9.9	43	0			
SY Assure (04PN096-2)	140	63.4	10.2	41	0			
WB 528	140	63.8	10.7	45	0	130	122	122
Xerpha	139	62.5	8.9	44	0	141	134	132
AP700 CL	138	63.1	9.6	46	0	128	118	
<i>Cara</i>	138	62.1	10.1	45	0	135	121	119
ORCF-102	138	62.3	9.6	46	0	135	126	
Madsen	137	62.3	10.3	42	0	132	121	122
UI Magic CL+	134	63.5	9.7	40	0			
WB 1604	134	63.7	10.0	42	0	122		
Curiosity CL+	131	61.7	9.5	46	0	120		
WB 1529	128	64.5	10.3	43	0	122		
Skiles	126	63.3	10.6	43	0	124	117	117
WB 1376CLP	126	64.9	11.7	44	0			
Mela CL+	117	60.7	10.0	46	52	119		
EXPERIMENTAL LINES								
WA 8232	162	63.5	9.5	46	0	153		
IDN 01-10704A	155	62.5	9.7	47	0	145	132	
KXB-01	149	62.3	10.2	46	0			
WA 8234	147	63.4	9.6	46	0	145		
IDN 06-18102A	147	61.8	9.4	41	0			
LWW14-73163	143	64.3	9.6	42	0			
IDN 06-03303B	142	61.9	9.5	43	0			
Xerpha-0W	142	62.3	9.4	44	0			
09PN062#18	142	62.8	10.0	43	0			
WA 8233	141	61.6	9.3	47	8	142		
WA 8235	140	62.7	10.0	40	0	131		
WA 8187	140	62.5	10.0	42	0	132	125	

2016 WSU Variety Testing SW Winter Wheat Trial, Pullman

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
Xerpha-G2	140	62.2	9.4	42	0			
WA 8245	139	61.2	9.6	44	0			
IDN 07-28017B	137	63.8	9.5	43	0			
<i>ARS20060123-31C</i>	133	63.8	10.1	49	0	136		
OR2110526	132	63.1	9.9	44	0			
LOR-913	131	62.9	10.1	41	0			
<i>ARS06136-49C</i>	130	62.6	9.9	50	0			
WA 8206	130	62.0	10.2	42	0	132	123	
LOR-833	121	63.3	10.2	40	0			
C.V. %	4	1	4	4	--	5	5	5
LSD (0.05)	8	0.3	0.4	2	7	8	6	5
Average	141	62.7	9.8	44	1	136	126	126
Highest	162	64.9	11.7	50	52	153	134	132
Lowest	117	60.6	8.8	40	0	119	117	117

Agronomic Information

Planting Date:	9/25/2015
Harvest Date:	8/8/2016
Seeding Rate (lbs/acre):	95
Previous Crop:	Chickpeas
Spring soil test:	
N (lb/ac) 4-ft sample	303
P (ppm-bicarb) 2-ft sample	45
S (lb/ac) 2-ft sample	43
pH (top 6 inches)	4.95

Herbicide:

Zidua on 10/1; Express, Everest 2.0, Tilt, Peak, and Brox M on 3/29.

Trial Notes:

1. The Pullman nursery was located about 3 miles southeast of Pullman, WA. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
2. Only one application of fungicide was applied. Low levels of stripe rust were observed on susceptible varieties late in the growing season.

Cooperator: R. Druffel

Table 36. 2016 WSU Variety Testing SW Winter Wheat Trial, Reardan

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
Xerpha	119	62.5	11.8	40	0	94	90	96
<i>ARS-Crescent</i>	117	62.6	11.1	38	0	96	93	97
Mary	116	62.1	11.5	36	0	90	85	90
Legion	115	61.8	11.0	40	0	91	86	
UI Sparrow (IDO1108DH)	112	61.2	11.0	37	0			
SY 107	111	62.4	11.2	37	0	92	87	
Puma	111	61.7	11.8	42	0	91	83	91
WB1843	109	62.6	12.4	37	0			
<i>Bruehl</i>	109	60.7	11.4	38	0	87	81	91
Madsen	107	61.8	12.4	36	0	81	76	83
<i>Coda</i>	103	63.1	12.2	40	2	86	79	85
Norwest Duet (LOR-092)	103	62.0	12.0	41	0			
<i>Pritchett (4J0713366C)</i>	102	61.6	11.5	38	0	83		
WB-Junction	101	62.7	11.5	36	0	83	81	
UI Palouse CL+	100	61.9	11.9	36	0			
ORCF-102	99	62.2	11.8	39	0	84	76	
UI-WSU Huffman (IDN-03-29902A)	97	62.1	11.0	36	0	78	77	
UI Castle CL+	97	62.7	12.9	36	0			
Otto	96	62.1	11.5	40	0	81	80	
Eltan	96	62.3	11.4	37	0	85	84	90
ORCF-103	95	62.0	11.6	35	0	80	77	84
WB1529	93	62.9	11.8	36	0	77		
WB1604	92	62.3	11.5	34	0	78		
UI Magic CL+	92	63.1	12.0	34	0			
Masami	92	61.5	10.8	35	0	80	78	85
Curiosity CL+	91	62.4	11.7	38	0	74		
Mela CL+	81	62.4	11.6	39	0	70		
WB1376CLP	77	63.4	13.6	36	0			
EXPERIMENTAL LINES								
LWW14-73163	116	63.2	11.5	36	0			
LWW14-73161	113	61.9	11.3	39	0			
WA 8243	111	62.0	11.2	39	0			
04PN066-7	111	61.6	10.9	37	0			
KXB-01	109	62.2	12.3	39	0			
LWW14-71032	109	62.1	11.8	39	0			
09PN005#25	108	61.7	11.3	38	0			
<i>ARS20060123-31C</i>	108	63.3	10.9	38	0	87		
Otto-G2	107	61.9	11.4	39	0			
Otto-0W	107	61.9	11.5	38	0			
WA 8244	103	63.0	11.5	37	0			
IDN 07-28017B	100	63.0	11.5	36	0			
WA 8227	97	62.2	10.8	40	0			
<i>ARS06135-9C</i>	96	63.0	12.3	39	0			
LOR-913	94	61.3	11.4	36	0			

2016 WSU Variety Testing SW Winter Wheat Trial, Reardan

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
WA 8202	89	62.6	13.2	44	8			
WA 8251 (KXB-04)	88	61.8	11.0	44	0			
WA 8226	87	62.3	12.4	38	0			
C.V. %	7	0	2	5	--	6	6	7
LSD (0.05)	9	0.3	0.3	2	2	6	5	4
Average	102	62.3	11.7	38	0	84	82	89
Highest	119	63.4	13.6	44	8	96	93	97
Lowest	77	60.7	10.8	34	0	70	76	83

Agronomic Information

Planting Date:	9/16/2015
Harvest Date:	8/17/2016
Seeding Rate (lbs/acre):	85
Previous Crop:	Fallow
Spring soil test:	
N (lb/ac) 4-ft sample	184
P (ppm-bicarb) 2-ft sample	27
S (lb/ac) 2-ft sample	42
pH (top 6 inches)	4.69

Trial Notes:

1. The Reardan nursery was located about 7 miles west of Reardan, WA. All yield and test weight values within the 5 % LSD range of the highest value are shown in bold.
2. This location was planted with our no-till hoe drill. Stand establishment was a little uneven, and some plot-to-plot variation existed.

Cooperator: H. Johnson

Herbicide:

Huskie, PowerFlex, Tilt applied on 4/25. Second application of fungicide applied by the cooperator later on.

Table 37. 2016 WSU Variety Testing SW Winter Wheat Trial, St. John

Variety Name <i>Club Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES									
Bobtail	167	61.2	10.9	46	142	40	132	123	130
Rosalyn	166	61.4	9.8	45	141	0	132	117	126
LCS Artdeco	154	58.9	10.6	41	136	0	127	113	121
WB1604	152	61.7	11.4	47	137	3	126		
Skiles	152	62.0	11.6	46	142	0	126	117	123
ARS-Selbu	148	63.4	11.2	48	144	2	120	115	123
Norwest Duet (LOR-092)	145	62.8	10.9	52	142	27			
UI Magic CL+	145	61.6	11.3	44	139	7			
<i>Cara</i>	145	61.8	11.2	48	146	12	121	114	118
SY Ovation	144	60.9	11.1	45	140	7	120	112	
AP700 CL	140	60.8	11.0	48	139	3	115	108	
WB 523	140	62.3	10.4	48	139	0	118	107	
UI Palouse CL+	140	61.1	11.3	45	141	0			
WB1376CLP	139	63.0	11.8	44	139	0			
SY 107	137	61.3	10.0	45	141	10	118	115	
WB-528	137	62.1	11.5	49	138	13	118	109	108
UI Sparrow (IDO1108DH)	134	60.6	10.7	50	147	20			
SY Assure (04PN096-2)	132	61.1	11.2	45	136	8			
UI-WSU Huffman (IDN-03-29902A)	132	61.4	10.4	47	143	5	108	106	
Madsen	131	60.6	12.1	48	144	25	112	104	110
Mary	130	59.5	11.0	46	138	0	115	110	110
UI Castle CL+	129	62.2	10.9	46	144	0			
<i>ARS-Crescent</i>	128	60.2	10.5	49	147	32	115	114	120
ORCF-102	125	60.3	10.6	50	141	5	117	110	
WB-Junction	121	61.0	11.0	46	136	37	113	109	
WB1529	121	62.0	11.0	46	139	27	105		
Legion	118	60.0	11.5	50	143	67	110	106	
Puma	117	61.0	10.3	52	139	25	113	112	118
Xerpha	115	59.3	11.1	51	144	8	104	106	101
Mela CL+	107	61.1	10.6	47	148	28	96		
Curiosity CL+	105	59.6	11.7	48	147	55	94		
EXPERIMENTAL LINES									
IDN 01-10704A	162	61.1	10.9	51	141	0	130	121	
IDN 07-28017B	156	62.4	11.2	43	138	3			
LWW14-73163	152	62.9	11.0	47	141	2			
WA 8235	149	61.9	11.6	42	147	7	120		
LOR-913	148	59.9	11.1	43	139	5			
WA 8245	147	61.0	10.9	48	144	0			
WA 8234	145	62.0	10.7	48	139	3	126		
LOR-833	145	61.5	10.8	41	137	0			
WA 8232	143	62.3	10.4	47	142	45	117		
IDN 06-18102A	142	60.1	11.5	48	142	28			
IDN 06-03303B	141	60.1	10.3	45	142	0			
ARS20060123-31C	138	62.6	11.8	51	143	35	122		

2016 WSU Variety Testing SW Winter Wheat Trial, St. John

Variety Name <i>Club Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
WA 8187	136	61.5	10.7	46	142	7	111	103	
Xerpha-0W	135	61.3	10.7	48	146	3			
KXB-01	135	60.8	11.1	46	146	30			
09PN062#18	134	61.1	10.4	42	140	30			
WA 8233	130	61.4	10.9	51	147	22	112		
OR2110526	128	60.9	11.4	44	136	10			
WA 8206	125	61.0	11.7	47	144	17	114	107	
Xerpha-G2	125	61.1	9.8	48	144	3			
ARS06136-49C	120	61.8	10.9	53	145	15			
C.V. %	6	1	5	4	1	142	7	6	8
LSD (0.05)	12	0.8	0.8	3	1	27	10	7	7
Average	137	61.3	11.0	47	142	14	116	111	117
Highest	167	63.4	12.1	53	148	67	132	123	130
Lowest	105	58.9	9.8	41	136	0	94	103	101

Agronomic Information

Planting Date:	9/25/2015
Harvest Date:	8/16/2016
Seeding Rate (lbs/acre):	85
Previous Crop:	Fallow
Spring soil test:	
N (lb/ac) 4-ft sample	167
P (ppm-bicarb) 2-ft sample	20
S (lb/ac) 2-ft sample	44
pH (top 6 inches)	5.85

Herbicide:

Huskie, PowerFlex HL, Tilt applied on 4/21.

Trial Notes:

1. The St. John nursery was located about 4 miles east of St. John, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. This trial only received one application of fungicide. Stripe rust was present at low-moderate levels on susceptible varieties.
3. Yields were very high, despite the relatively low nitrogen indicated by the soil sample.

Cooperator: M. Mills

Table 38. 2016 WSU Variety Testing SW Winter Wheat Trial, Walla Walla

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
LCS Artdeco	151	59.7	9.7	34	133	114	124	121
Rosalyn	141	60.2	10.4	38	135	109	114	116
Skiles	134	61.0	11.9	37	131	100	117	112
Xerpha	134	60.3	10.9	41	138	111	128	121
WB-Junction	133	61.9	11.0	39	133	108	115	
Norwest Duet (LOR-092)	133	60.6	10.5	43	132			
SY 107	132	60.8	10.7	38	136	107	116	
Mary	131	60.7	11.3	37	133	105	119	115
Legion	131	59.4	11.3	43	135	104	120	
Puma	129	60.4	11.4	43	137	109	123	120
Bobtail	127	58.7	10.7	38	132	103	101	108
WB 528	127	61.9	10.7	37	132	102	117	109
ARS-Selbu	126	62.2	11.3	39	139	102	115	117
SY Assure (04PN096-2)	126	61.1	11.0	37	132			
WB 523	125	61.1	11.4	41	135	102	114	
SY Ovation	124	60.8	11.2	38	137	107	123	
UI Sparrow (IDO1108DH)	124	59.7	10.7	45	139			
<i>ARS-Crescent</i>	123	60.4	11.2	40	140	101	118	119
WB 1529	122	61.5	10.7	37	133	100		
ORCF-102	122	61.2	11.2	43	135	100	116	
<i>Cara</i>	120	59.3	11.1	41	138	99	115	113
Madsen	120	60.1	11.7	39	137	96	111	109
MelaCL+	116	60.2	11.2	43	139	93		
CuriosityCL+	115	60.0	10.8	42	140	93		
UI Magic CL+	115	62.0	11.7	35	131			
AP700 CL	111	59.2	11.7	38	134	88	107	
UI Castle CL+	110	60.9	12.4	42	137			
WB 1604	110	60.9	10.9	39	132	91		
WB 1376CLP	108	61.7	12.3	41	132			
UI Palouse CL+	108	59.1	11.6	36	136			
UI-WSU Huffman (IDN-03-29902A)	108	60.1	11.6	39	138	91	113	
EXPERIMENTAL LINES								
<i>ARS20060123-31C</i>	140	61.5	10.7	45	136	115		
WA 8234	132	61.5	10.9	40	134	109		
09PN062#18	128	60.4	11.1	39	137			
KXB-01	128	60.7	11.0	42	138			
LOR-913	128	60.0	10.8	39	131			
Xerpha-G2	126	60.0	11.5	40	139			
WA 8232	126	62.3	10.4	40	137	102		
WA 8245	124	59.4	10.9	39	140			
Xerpha-0W	124	60.3	10.8	38	139			
LWW14-73163	123	61.5	11.2	40	135			
OR2110526	123	60.6	11.1	37	131			
<i>ARS06136-49C</i>	122	61.1	11.2	45	138			

2016 WSU Variety Testing SW Winter Wheat Trial, Walla Walla

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
WA 8187	120	60.7	11.7	40	137	95	113	
IDN 06-03303B	116	58.7	11.2	35	134			
WA 8233	116	60.2	10.8	42	139	100		
IDN 07-28017B	116	61.5	11.1	34	130			
WA 8235	114	60.4	11.6	37	138	92		
LOR-833	113	59.9	11.3	37	131			
IDN 06-18102A	111	59.1	10.8	37	136			
WA 8206	106	60.1	11.8	39	136	95	111	
IDN 01-10704A	102	60.3	10.9	40	136	88	114	
C.V. %	4	1	4	5	1	5	8	7
LSD (0.05)	7	0.5	0.5	3	2	6	8	6
Average	122	60.5	11.1	39	135	101	116	115
Highest	151	62.3	12.4	45	140	115	128	121
Lowest	102	58.7	9.7	34	130	88	101	108

Agronomic Information

Planting Date:	9/25/2015
Harvest Date:	7/15/2016
Seeding Rate (lbs/acre):	85
Previous Crop:	Peas
Spring soil test:	
N (lb/ac) 4-ft sample	235
P (ppm-bicarb) 2-ft sample	39
S (lb/ac) 2-ft sample	33
pH (top 6 inches)	5.51
Herbicide:	
Huskie, PowerFlex, M-90 applied on 4/1/16. Tilt applied on 4/4/16.	

Trial Notes:

1. The Walla Walla nursery was located about 3 miles northeast of Walla Walla, WA. This was a new location for 2016, and closer to Walla Walla than our previous winter wheat trials. All yield, and test weight values within the 5% LSD range of the highest value are shown in bold.
2. This trial received only one application of fungicide and low levels of rust were observed on some of the more susceptible lines late in the growing season.
3. Dry seeding conditions led to uneven spring stands, but stands evened out and this turned into a very nice trial.

Cooperator: P. McConnell

Table 39.

STRIPE RUST INFECTION TYPE (IT^a) AND SEVERITY (%) ON CULTIVARS AND LINES IN THE WINTER WHEAT VARIETY TRIAL NURSERY (EXP02) (COORDINATED BY RYAN HIGGINBOTHAM) AT SPILLMAN FARM (LOC 01), PLANT PATH FARM (LOC 03) AND PCFS FARM (LOC 04) NEAR PULLMAN; MT VERNON (LOC 05); WALLA WALLA (LOC 06); AND LIND (LOC 07), WA WHEN RECORDED AT THE INDICATED DATES AND STAGES OF PLANT GROWTH UNDER NATURAL INFECTION IN 2016

Variety	Class	Spillman Farm (Pullman)	Plant Path Farm (Pullman)	Palouse Conservati on Farm (Pullman)	Mt. Vernon		Walla Walla		Lind		Summary ^c	Overall rating ^d	Possible HTAP resistance ^e
		LOC 01	LOC 03	LOC 04	LOC 05		LOC 06		LOC 07				
		6/4	6/2	6/2	4/19	5/18	4/8	5/4	5/5	5/26			
		L. flower. IT %	Flower. IT %	L. flower. IT %	St. elong. IT %	H.-flower. IT %	St. elong. IT %	Heading IT %	Head. IT %	L. flower. IT %			
Norwest Duet (LOR-092)	SWW	2.2	2.1	2.5	2.10	2.5	2.2	2.5	2.5	2.5	R	1	High
Norwest Tandem (LOR-913)	SWW	2.1	2.1	2.2	2.10	2.5	2.2	0.0	0.0	2.1	R	1	High
LWW14-73163	SWW	2.2	2.5	2.2	2.10	2.10	2.2	0.0	0.0	2.1	R	2	High
WB 1376CLP	SWW	2.5	2.5	2.5	2.10	3.10	0.0	2.2	2.2	2.5	R	2	Moderate
WB 1529	SWW	3.10	5.10	8.30	4.20	3.10	5.5	5.25	5.25	8.10	MR	4	High
WB 1604	SWW	2.1	2.1	2.1	2.10	3.10	0.0	0.0	0.0	2.1	R	2	Moderate
WB-Junction	SWW	3.10	2.2	2.5	5.70	7.80	8.10	8.20	8.20	2.2	S	8	Moderate
LOR-334	SWW	3.5	2.2	5.10	3.10	3.20	2.2	3.15	3.15	5.5	R	2	Moderate
Mary	SWW	5.30	2.5	5.30	3.20	4.50	0.0	5.40	5.40	2.2	MR-MS	5	Low
ORCF-102	SWWI	8.20	2.2	8.30	4.20	4.50	0.0	8.40	8.40	5.5	MS	6	Moderate
Legion	SWW	2.1	2.5	2.1	2.20	3.30	2.2	0.0	0.0	2.2	MR	3	Moderate
SY 107	SWW	5.20	2.1	5.20	3.20	4.50	8.20	5.40	5.40	2.1	MR-MS	5	Low
IDN 07-28017B	SWW	2.1	2.1	2.1	2.10	3.10	0.0	0.0	0.0	8.10	MR-MS	5	Moderate
UI Sparrow (IDO1108DH)	SWW	2.5	2.1	2.10	3.30	2.10	0.0	2.10	2.10	2.2	R	2	High
UI Castle CL+	SWWI	2.5	2.1	5.5	5.60	5.60	0.0	0.8,0.20	0.8,0.20	2.1	MR-MS	5	Moderate
PS279	CHECK	8.100	8.80	8.100	8.80	8.90	8.15	8.95	8.95	8.90	S	9	No
UI Magic CL+	SWWI	5.20	2.5	5.20	2.20	5.60	0.0	3.15	3.15	8.1	MR-MS	5	Low
UI Palouse CL+	SWWI	5.15	2.2	5.20	4.30	4.40	0.0	3.10	3.10	2.1	MR	4	Moderate
UI-WSU Huffman	SWW	2.5	2.1	2.5	4.30	4.40	0.0	5.10	5.10	2.1	MR	4	Low
ARS-Crescent	WC	3.15	2.5	3.10	3.40	3.10	8.5	3.20	3.20	3.10	R	3	Moderate
Madsen	SWW	2.1	2.2	5.2	2.30	4.20	2.2	0.5,0.10	0.5,0.10	2.1	MR	3	High
CuriosityCL+	SWWI	5.20	5.10	5.20	3.30	4.20	0.0	7.20	7.20	5.5	MR-MS	5	Unknown
KXB-01	SWWI	8.30	3.10	8.30	6.70	3.10	2.2	7.20	7.20	5.15	MS	6	No
MelaCL+	SWWI	8.15	2.5	5.20	3.40	4.20	2.2	7.20	7.20	8.10	MR-MS	5	Low
Puma	SWW	5.10	2.2	5.20	3.20	5.30	3.2	3.15	3.15	2.1	MR	4	High
Xerpha	SWW	8.100	5.20	8.90	4.30	5.60	8.10	8.60	8.60	5.10	S	9	Low
LWW14-71032	SWW	2.1	2.5	3.5	2.20	3.20	8.5	0.0	0.0	2.2	R	2	High
LWW14-73161	SWW	5.10	2.5	2.20	2.20	2.30	2.5	2.10	2.10	2.5	MR	3	Moderate
WB 1843	SWW	8.50	2.5	5.20	4.30	4.40	3.5	8.60	8.60	5.10	MS	7	Low
ORCF-103	SWWI	8.8	3.10	5.30	4.40	5.30	8.5	5.30	5.30	5.30	MR	4	Low
04PN066-7	SWW	2.2	2.1	2.2	3.40	3.20	3.2	2.10	2.10	5.20	MR	3	High
09PN005#25	SWW	2.5	2.5	2.2	4.50	3.20	0.0	0.0	0.0	2.5	R	2	Moderate
Pritchett (4J0713366C)	WC	5.10	2.1	3.10	2.30	3.10	0.0	3.10	3.10	2.1	MR	3	Moderate
ARS06135-9C	WC	2.20	3.5	2.20	2.30	3.10	5.2	3.20	3.20	3.10	MR	3	Moderate
PS279	CHECK	8.100	8.8	8.100	8.80	8.90	8.10	8.90	8.90	8.80	S	9	No
ARS20060123-31C	WC	2.5	2.2	2.5	2.10	2.10	2.2	2.2	2.2	2.1	R	2	Moderate
Coda	WC	5.20	2.1	3.20	3.30	5.30	2.2	2-3.15	2-3.15	5.5	MR	4	High
Bruehl	WC	2.10	2.1	2.10	2.20	2.20	2.2	2.2	2.2	2.1	R	2	Unknown
Eltan	SWW	8.70	5.10	5.50	4.30	3.20	0.0	5.30	5.30	8.30	S	8	Low
WA 8251 (KXB-04)	SWW	8.100	8.30	8.90	7.80	3.30	8.10	7.60	7.60	8.50	S	9	No
Masami	SWW	5.10	2.10	5.20	3.30	3.40	2.2	2.5.10	2.5.10	2.1	MR	3	Moderate
Otto	SWW	2.5	2.1	2.10	2.30	3.20	2.2	2.5	2.5	2.1	R	2	High
WA 8202	SWW	3.10	2.5	5.15	4.40	4.20	5.5	2.10	2.10	2.2	MR	3	Moderate
WA 8226	SWW	2.5	2.1	3.10	2.10	2.10	0.0	2.5	2.5	2.1	R	2	High
WA 8227	SWW	2.1	2.1	2.10	2.10	2.10	0.0	0.0	0.0	2.1	R	2	Moderate
WA 8243	SWW	5.20	2.2	5.20	3.30	3.20	0.0	5.30	5.30	8.10	MR-MS	5	Moderate
WA 8244	SWW	3.10	5.10	5.25	3.40	3.30	0.0	3.20	3.20	5.15	MR	4	Moderate
LCS-Artdeco	SWW	3.10	3.10	5.10	4.30	3.30	5.2	3.25	3.25	8.20	MR-MS	5	Moderate
WB 523	SWW	2.5	3.5	3.10	2.30	2.20	0.0	3.15	2.15	2.5	R	2	High
WB 528	SWW	5.5	2.2	3.5	3.30	5.60	8.5	0.8,0.15	0.8,0.15	2.5	MR-MS	5	Low
Bobtail	SWW	2.2	2.1	2.5	2.10	2.5	0.0	2.5	2.5	8.10	MR-MS	5	Moderate
LOR-833	SWW	2.2	2.2	2.1	2.20	2.10	2.2	2.2	2.2	2.2	R	2	High
Rosalyn	SWW	2.5	2.2	2.10	2.20	3.30	8.5	2.2	2.2	2.5	MR	3	High
OR2110526	SWW	3.5	2.10	2.5	4.30	3.50	8.5	3.10	3.10	2.2	MR	4	High
PS279	CHECK	8.100	8.80	8.100	8.80	8.90	8.10	8.95	8.95	8.90	S	9	No
Skiles	SWW	2.5	2.5	2.5	2.10	2.20	0.0	2.2	2.2	2.1	R	2	High
04PN096-2	SWW	3.5	3.5	3.5	2.5	2.5	0.0	3.5	3.5	2.1	R	1	High
09PN062#18	SWW	2.2	2.1	3.5	3.20	2.10	0.0	3.15	3.15	2.2	R	2	High
AP700 CL	SWW	2.5	2.1	3.5	2.20	3.10	3.2	2.2	2.2	2.1	R	2	High

Variety	Class	Spillman Farm (Pullman)	Plant Path Farm (Pullman)	Palouse Conservati on Farm (Pullman)	Mt. Vernon		Walla Walla		Lind		Summary ^c	Overall rating ^d	Possible HTAP resistance ^e
		LOC 01	LOC 03	LOC 04	LOC 05		LOC 06		LOC 07				
		6/4	6/2	6/2	4/19	5/18	4/8	5/4	5/5	5/26			
		L. flower.	Flower.	L. flower.	St. elong.	H.-flower.	St. elong.	Heading	Head.	L. flower.			
IT %	IT %	IT %	IT %	IT %	IT %	IT %	IT %	IT %	IT %				
SY Ovation	SWW	3 5	2 5	3 20	3 20	3 20	0 0	3 15	3 15	3 5	R	2	High
IDN 01-10704A	SWW	2 2	2 1	3 5	3 30	3 20	0 0	2 2	2 2	2 1	R	2	High
IDN 06-03303B	SWW	3 5	2 1	5 5	3 30	4 40	0 0	2 2	2 2	8 1	MR	4	Moderate
IDN 06-18102A	SWW	5 5	2 1	5 10	5 50	4 40	3 2	2 5	2 5	8 2	MR	4	Low
ARS06136-49C	WC	2 5	2 2	5 10	2 30	4 20	0 0	2 2	2 2	5 20	MR	4	Low
ARS-Selbu	SWW	2 5	2 1	2 10	2 20	2 20	0 0	2 2	2 2	2 5	R	2	Moderate
Cara	WC	2 1	2 1	2 1	2 2	2 5	0 0	0 0	0 0	2 1	R	1	Unknown
WA 8187	SWWI	2 1	2 5	2 1	3 30	3 20	0 0	0 0	0 0	2 1	R	2	Unknown
WA 8206	SWW	2 1	2 1	3 2	3 20	3 20	0 0	0 0	0 0	2 2	R	2	High
WA 8232	SWW	2 2	2 8 10	2 5	2 10	2 10	5 5	0 0	0 0	2 2	R	2	High
WA 8233	SWW	2 5	2 2	5 10	2 20	3 10	0 0	2 10	2 10	2 5	MR	3	Moderate
WA 8234	SWW	2 1	2 1	2 2	5 40	6 40	0 0	0 0	0 0	2 1	MR	4	Moderate
WA 8235	SWWI	2 1	2 5	2 1	2 20	6 50	0 0	0 0	0 0	2 1	MR-MS	5	High
WA 8245	SWW	2 5	2 1	3 10	2 20	4 20	5 2	2 10	2 10	2 1	MR	4	Moderate
KWS 034	SWW	8 80	5 10	5 90	5 60	7 70	5 5	7 30	7 30	5 20	S	8	Moderate
PS279	CHECK	8 100	8 80	8 100	8 80	8 90	8 15	8 95	8 95	8 90	S	9	No
KWS 040	SWW	8 30	5 15	5 20	4 40	3 10	5 2	8 30	8 30	5 20	MS	6	Moderate
LWW14-71195	SWW	2 1	2 2	2 2	2 5	2 10	5 5	0 0	0 0	2 2	R	2	High
WB 456	SWW	2 5	2 2	2 2	5 60	7 60	0 0	2 8 2 30	2 8 2 30	2 2	MS	7	Moderate
OR2090473	SWW	2 5	2 1	2 10	2 10	2 10	2 2	2 10	2 10	2 2	R	2	High
PS279	CHECK	8 100	8 80	8 100	8 80	8 90	8 20	8 95	8 95	8 90	S	9	

^a Infection Type (IT) was recorded based on the 0-9 scale with ITs 8 and 9 combined as 8 (the most susceptible reaction) in field data. Generally IT 0-3 are considered resistant, 4-6 intermediate, and 7-9 susceptible. Heterogenous reactions of an entry were indicated by two or more ITs separated by "," for most plants with the first IT and few plants with the second IT or connected with "-" for entries containing plants with continuous ITs.

^b Entries with a high IT in the first note, but a low IT in the second note at Mt. Vernon may indicate that they have high-temperature, adult-plant (HTAP) resistance.

^c R = resistant, MR = moderately resistant, MS = moderately susceptible, and S =susceptible.

^d 1 = most resistant and 9 most susceptible.

Note: The summary and ratings are based on the highest IT and % severity to discourage use of race-specific resistance.

^e The high-temperature adult-plant (HTAP) resistance data were based on greenhouse tests (see data in the "Greenhouse Tests" worksheet. Unknown = Whether the entry has HTAP resistance or not couldn't be determined as it was resistant to all tested races in the seedling stage. TBT = to be tested. Entries with the combination of Yr5 and/or Yr15 may not have HTAP resistance but their resistance should be highly effective as no races virulent to either of the genes are found in the US.

Table 40.

STRIPE RUST INFECTION TYPE (IT) ON SEEDLINGS AND ADULT-PLANTS OF CULTIVARS AND LINES IN THE WINTER EXTENSION DISEASE NURSERY (EXP 02) COORDINATED BY RYAN HIGGINBOTHAM TESTED WITH SELECTED *Puccinia striiformis* f. sp. *tritici* (PST) RACES UNDER CONTROLLED GREENHOUSE CONDITIONS AT LOW TEMPERATURES (DIURNAL TEMPERATURES GRADUALLY CHANGING FROM 4 TO 20oC FOR THE SEEDLING TESTS AND AT HIGH TEMPERATURES (DIURNAL TEMPERATURES GRADUALLY CHANGING FROM 10 TO 30oC) FOR THE ADULT-PLANT TESTS

Variety	Class	Infection types produced by PST races*																Possible HTAP*** resistance		
		Seedling test (4-20° C)**					Adult plant tests (10-30° C)**													
		PSTv-4 13-268	PSTv-14 12-116	PSTv-37 12-114	PSTv-40 09-78	PSTv-51 11-366	PSTv-14(12-116-NG)			PSTv-37(12-114-NG)			PSTv-40 (09-78)			PSTv-4(13-268)			PSTv-51(11-366)	
					REP1	REP2	REP3	REP1	REP2	REP3	REP1	REP2	REP3	REP1	REP2	REP1	REP2	REP1	REP2	
Norwest Duet (LOR-092)	SWWW	8	8	8	8	8	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					High
Norwest Tandem (LOR-913)	SWWW	6	8	8	5	5	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					High
LWW14-73163	SWWW	7	2,3	2	2	2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	-	-	2,2,2	2,2,2	2,2,2			High
WB 1376CLP	SWWW	8	8	8	8	8	2,2,5	2,2,2	2,2,2	5,5,5	5,5,5	5,5,5	5,5,5	3,3,5	3,3,5					Moderate
WB 1529	SWWW	8	8	8	8	8	2,2,2	3,3,3	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					High
WB 1604	SWWW	8	8	8	8	8	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	5,5,5	3,3,5	5,5,5					Moderate
WB-Junction	SWWW	8	2	8	8	2	2,2,2	2,2,2	2,2,2	3,5,5	5,5,5	5,5,5	2,2,3	2,2,2	3,3,3					Moderate
LOR-334	SWWW	8	8	8	8	8	2,2,2	2,2,3	2,2,2	2,2,2	2,2,2	2,2,2	3,3,4	2,4,5	2,2,2					Moderate
Mary	SWWW	8	8	8	8	8	5,5,5	5,5,5	5,5,5	5,5,5	5,5,5	5,5,5	3,3,5	2,2,3	2,2,3					Low
ORCF-102	SWWW	8	8	8	8	8	5,5,5	2,3,3	3,3,3	3,3,5	3,3,5	3,3,5	2,2,5	2,2,2	2,2,4	2,2,2				Moderate
Legion	SWWW	8	8	8	8	8	3,3,3	3,3,3	3,3,5	3,5,5	2,2,2	2,2,3	2,2,2	2,2,2	2,2,2					Moderate
SY 107	SWWW	8	8	8	8	8	3,3,3	3,3,3	3,3,5	4,5,5	5,5,5	3,5	3,3,5	2,3,3	2,2,3					Low
IDN 07-28017B	SWWW	8	8	8	5	5	2,2,2	2,2,3	2,3,5	2,3,3	3,3,5	2,2,3	2,2,2	2,2,2	2,2,2					Moderate
UI Sparrow (IDO1108DH)	SWWW	2	2	2	8	2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,3,3	2,2,2	2,2,3					High
UI Castle CL+	SWWW	8	8	2	2	8	3,3,3	4,4,4	3,3,3	2,2,2	2,2,2	2,2,2	2,2,2	-	-	5,5,5	5,5,5			Moderate
PS279	CHECK	8	8	8	8	8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8					No
UI Magic CL+	SWWW	8	8	8	8	8	2,2,2	2,2,2	2,2,3	5,5,5	5,5,5	3,3,5	6,6,6	5,5,5	5,5,6					Low
UI Palouse CL+	SWWW	8	8	8	8	8	3,3,3	3,3,3	3,3,3	3,5,5	5,5,5	3,5,5	3,3,3	2,2,3	2,3,3					Moderate
UI-WSU Huffman	SWWW	8	5	8	8	2	2,2,2	2,2,2	2,2,3	5,5,6	5,5,5	5,6,6	5,5,5	2,3,3	2,3,3					Low
ARS-Crescent	WC	2	8	8	8	2	5,5,5	5,5,5	5,5,5	2,3,3	3,3,3	2,3,3	3,4,4	3,3,3	2,3,4					Moderate
Madsen	SWWW	8	2	2	2	8	2,2,2	2,2,2	2,2,2	2,2,2	-	-	2,2,2	-	-	2,2,2	2,2,2	2,2,2	2,2,2	High
CuriosityCL+	SWWW	2	2	2	2	2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					Unknown
KXB-01	SWWW	8	8	8	8	8	5,5,5	5,5,5	5,5,5	5,8,8	8,8,8	2,5,8	2,2,2	2,2,2	2,2,2					No
MelaCL+	SWWW	5	8	8	8	8	3,3,3	3,3,3	3,3,3	5,5,5	5,5,5	5,5,5	3,3,3	3,3,3	3,3,3					Low
Puma	SWWW	8	2	2	2	8	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	-	-	2,2,2	2,3,3	2,2,3			High
Xerpha	SWWW	8	8	8	8	8	5,5,5	5,5,5	5,5,5	5,5,5	5,5,5	5,5,5	3,3,5	3,3,5	3,3,3					Low
LWW14-71032	SWWW	8	8	8	5	8	2,2,2	2,3,3	2,2,2	2,2,3	2,3,5	2,2,3	2,2,2	2,2,2	2,2,2					High
LWW14-73161	SWWW	8	2	2	2	2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	5,5,5				Moderate
WB 1843****	SWWW	8	8	8	8	8	2,2,5	2,2,5	5,5,6	5,5,5	5,5,5	5,5,5	3,3,5	3,5,5	3,3,3					Low
ORCF-103	SWWW	8	8	8	8	8	5,5,5	5,5,5	5,5,5	5,5,5	5,5,5	5,5,5	3,3,3	2,3,4	3,3,4					Low
04PN066-7	SWWW	5	8	8	5	2	2,2,2	2,2,3	2,2,5	2,2,2	2,3,3	2,2,2	2,2,2	2,2,2	2,2,2					High
09PN005#25	SWWW	8	8	5	2	5	2,2,2	2,2,2	2,2,2	3,4,4	2,2,2	2,2,2	-	-	2,2,2	2,2,2	2,2,2			Moderate
4J0713366C	WC	2	8	8	8	2	5,5,5	3,3,5	3,3,3	2,3,3	2,2,3	2,2,3	2,2,3	2,2,2	2,2,2					Moderate
Pritchett (ARS06135-9C)	WC	2	8	8	8	2	2,3,3	2,3,3	2,2,2	2,2,3	3,3,3	2,2,2	3,3,3	2,3,3	2,2,3					Moderate
PS279	CHECK	8	8	8	8	8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8					No
ARS20060123-31C	WC	8	8	5	2	2	5,5,5	3,3,8	5,5,5	2,2,2	2,2,2	2,2,2	-	-	2,2,2	2,2,2	2,2,2			Moderate
Coda	WC	2	2	2	8	2	2,2,2	2,2,3	2,2,2	2,2,2	2,2,2	2,2,2	2,2,3	3,3,3	2,2,2					High
Bruehl	WC	2	2	2	2	2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					Unknown
Eltan	SWWW	8	8	8	8	8	5,5,5	5,5,5	5,5,5	5,5,5	5,5,5	5,5,5	5,5,5	5,5,5	5,5,5					Low
WA 8251 (KXB-04)	SWWW	8	8	8	8	8	8,8,8	8,8,8	8,8,8	5,5,5	8,8,8	8,8,8	3,3,3	3,3,3	5,5,5					No
Masami	SWWW	8	8	8	8	8	5,5,5	5,5,5	2,5,5	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,3,3					Moderate
Otto	SWWW	2	8	2	2	2	2,3,3	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					High
WA 8202	SWWW	8	8	8	8	8	3,3,3	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	3,3,5	2,3,5	2,3,3					Moderate
WA 8226	SWWW	8	8	5	5	8	2,3,3	2,2,3	2,2,3	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					High
WA 8227	SWWW	8	8	5	2	8	2,3,3	3,3,3	2,2,3	2,2,2	2,3,3	2,2,2	2,2,2	2,2,2	2,2,2					Moderate
WA 8243	SWWW	8	8	8	8	8	5,5,5	5,5,5	3,5,5	3,3,3	3,3,3	2,2,3	3,3,3	3,3,3	2,3,3					Moderate
WA 8244	SWWW	8	8	8	8	8	3,3,3	2,3,4	2,2,2	2,2,2	2,3,3	2,2,2	2,3,4	2,2,2	2,3,3					Moderate
LCS-Artdeco	SWWW	8	8	8	8	5	3,3,3	3,3,3	2,2,3	2,2,2	2,3,3	2,2,2	2,2,2	2,2,2	2,2,2					Moderate
WB 523	SWWW	8	8	8	8	8	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,4	2,2,2	2,2,2	2,2,2					High
WB 528	SWWW	8	8	8	8	8	2,2,5	2,2,3	2,5,6	5,5,5	5,5,5	5,5,5	2,5,5	3,5,5	5,5,5					Low
Bobtail	SWWW	8	2	2	2	2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	-	-	2,2,2	2,3,3	2,2,3			Moderate
LOR-833	SWWW	8	8	8	8	8	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					High
Rosalyn	SWWW	2	8	2	2	8	2,2,2	3,3,4	2,2,2	2,2,3	2,2,2	2,2,2	2,2,2	-	-			2,2,3	2,2,2	High
OR2110526	SWWW	8	8	8	8	8	2,2,2	2,2,2	2,2,2	2,2,2	3,3,3	2,2,2	2,2,2	2,2,2	2,2,2					High
PS279	CHECK	8	8	8	8	8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8					No
Skiles	SWWW	8	8	8	8	8	2,2,2	2,2,2	2,2,2	2,2,3	2,2,2	2,2,2	2,2,2	2,2,3	2,2,2					High
04PN096-2	SWWW	8	8	8	8	8	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					High
09PN062#18	SWWW	8	8	8	8	8	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	3,3,3	2,2,2				High
AP700 CL	SWWW	8	8	8	8	8	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					High

Variety	Class	Infection types produced by PST races*																Possible HTAP*** resistance			
		Seedling test (4-20° C)**					Adult plant tests (10-30° C)**														
		PSTv-4 13-268	PSTv-14 12-116	PSTv-37 12-114	PSTv-40 09-78	PSTv-51 11-366	PSTv-14(12-116-NG)			PSTv-37(12-114-NG)			PSTv-40 (09-78)			PSTv-4(13-268)			PSTv-51(11-366)		
REP1	REP2	REP3	REP1	REP2	REP3	REP1	REP2	REP3	REP1	REP2	REP3	REP1	REP2	REP3	REP1	REP2	REP1	REP2			
SY Ovation	SWW	8	8	8	8	8	2,2,2	2,2,2	2,2,2	2,2,2	2,3,3	2,2,2	2,2,2	2,2,2	2,2,2						High
IDN 01-10704A	SWW	8	8	8	2	7	2,2,2	2,2,2	2,2,3	2,2,2	2,2,2	2,2,2	-	-	2,2,2	2,2,2	2,2,2				High
IDN 06-03303B	SWW	8	8	8	2	7	2,2,2	3,3,3	2,3,3	2,2,5	5,5,5	5,5,5	-	-	2,2,3	2,2,3	2,2,3				Moderate
IDN 06-18102A	SWW	8	8	8	8	8	3,3,4	3,3,5	2,5,5	5,5,5	5,5,5	5,5,5	5,5,5	5,5,5	5,5,5						Low
ARS06136-49C	WC	8	8	8	8	2	6,6,6	3,5,6	6,6,6	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,3,3					Low
ARS-Selbu	SWW	8	8	2	8	2	3,3,3	3,4,4	2,3,3	2,2,2	2,2,2	2,2,3	2,2,2	2,2,2	2,2,2						Moderate
Cara	WC	2	2	2	2	2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					Unknown
WA 8187	SWW	2	2	2	2	2	2,2,2	2,2,2	2,2,3	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					Unknown
WA 8206	SWW	8	8	8	8	8	2,2,2	2,2,2	2,2,2	2,2,3	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2				High
WA 8232	SWW	8	8	5	8	8	2,2,3	2,3,3	2,2,2	3,3,3	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					High
WA 8233	SWW	8	8	8	8	8	5,5,5	5,5,5	2,5,5	2,2,2	2,2,3	2,2,3	2,2,2	2,2,2	2,2,2	3,3,4					Moderate
WA 8234	SWW	8	8	8	8	8	3,3,3	3,3,3	3,3,3	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					Moderate
WA 8235	SWW	5	5	2	2	2	2,2,5	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	-	-	2,2,2	2,2,2	2,2,2				High
WA 8245	SWW	8	8	8	8	8	3,3,3	3,3,5	2,3,3	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					Moderate
KWS 034	SWW	8	8	8	8	8	2,2,2	2,2,2	3,3,3	3,3,3	4,4,5	3,3,4	3,3,3	2,2,2	3,3,4						Moderate
PS279	CHECK	8	8	8	8	8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	No
KWS 040	SWW	8	8	8	8	8	2,2,2	2,2,3	2,2,2	3,3,5	3,3,3	2,2,2	2,2,2	2,3,3	2,2,2	2,2,2					Moderate
LWW14-71195	SWW	8	8	8	8	2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					High
WB 456	SWW	8	8	8	8	8	2,2,3	2,2,2	3,5,5	2,2,5	2,3,5	2,2,5	2,2,5	2,2,5	2,2,3	3,3,5					Moderate
OR2090473	SWW	8	8	8	2	8	2,2,2	2,2,2	2,2,3	2,2,2	2,2,3	2,2,2	-	-	2,2,2	2,3,3	2,2,3				High
PS279	CHECK	8	8	8	8	8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	No

* Infection Type (IT) was recorded based on the 0-9 scale. Generally IT 0-3 are considered resistant, 4-6 intermediate, and 7-9 susceptible. Heterogenous reactions of an entry were indicated by two or more ITs separated by "," for most plants with the first IT and few plants with the second IT or connected with "-" for entries containing plants with continuous ITs. Entries with a high IT in the seedling test, but a low IT in the adult-plant test may indicate that they have high-temperature, adult-plant (HTAP) resistance. PSTv-4 is virulent to Yr1, Yr6, Yr9, Yr17, Yr27, YrSP, and YrTye; PSTv-14 is virulent to Yr1, Yr6, Yr7, Yr8, Yr9, Yr17, Yr27, Yr43, Yr44, YrTr1, YrExp2, and YrTye; PSTv-37 is virulent to Yr6, Yr7, Yr8, Yr9, Yr17, Yr27, Yr43, Yr44, YrTr1, and YrExp2; PSTv-40 is virulent to Yr6, Yr7, Yr8, Yr9, Yr10, Yr24, Yr27, Yr32, Yr43, Yr44, YrTr1, and YrExp2; and PSTv-51 is virulent to resistance genes Yr1, Yr6, Yr7, Yr8, Yr9, Yr10, Yr17, Yr24, Yr27, Yr32, Yr43, Yr44, YrSP, YrTr1, YrExp2, and YrTye. None of the predominant races (PSTv-4, PSTv-14, PSTv-37, and PSTv-40) or most virulent race (PSTv-51) is virulent to Yr5 and Yr15 in the differential set.

** For the seedling tests, about 5 to 10 plants were used. Inoculation was done at the 2-leaf stage and incubated in the dew chamber at 10C for about 24 h in dark. The inoculated plants were then grown in a greenhouse growth chamber at a diurnal temperature cycle gradually changing from 4 C at 2:00 am to 20 C at 2:00 pm with a 16 h photoperiod in the day time. Infection type was recorded for the line about 20 days after inoculation. For the adult-plant tests, One-leaf seedlings were started to vernalized at 2-4 C for about 6 weeks and vernalized seedlings were transplanted into a big pots. 3 plants were used in each race test. Inoculation was done at the boot to heading stages and incubated in the dew chamber at 10C for about 24 h in dark. The inoculated plants were then grown in a greenhouse growth chamber at a diurnal temperature cycle gradually changing from 10 C at 2:00 am to 30 C at 2:00 pm with a 16 h photoperiod in the day time. Infection type was recorded for each individual plant using the flag leaf about 20 days after inoculation.

*** Unknown = Whether the entry has HTAP resistance or not could not be determined as it was resistant to all tested races in the seedling stage.

**** As the seeds were treated with fungicide, the seedling testing may not be reliable.

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Table 41. 2016 WSU Variety Testing Hard Winter Wheat Zone Summary
Precipitation Zone = >16"

Variety Name <i>Hard White Italicized</i>	Dayton	Pullman	Walla Walla	Average	Dayton	Pullman	Walla Walla	Average	Dayton	Pullman	Walla Walla	Average
	YIELD (BU/A)				TEST WT (LBS/BU)				PROTEIN (%)			
RELEASED VARIETIES												
LCS Jet	114	142	138	131	62.2	63.7	58.2	61.4	11.9	10.6	12.3	11.6
Keldin	124	134	135	131	62.3	65.0	57.0	61.4	11.8	10.1	12.2	11.4
Norwest 553	118	127	133	126	63.1	64.0	58.2	61.8	12.1	11.0	12.3	11.8
Rimrock	111	133	133	126	62.0	64.0	57.0	61.0	11.5	10.2	12.1	11.3
LCS Colonia	115	132	130	126	60.4	62.5	53.0	58.6	11.6	10.7	12.2	11.5
LCS Azimut	115	129	132	125	58.6	61.4	52.9	57.6	11.3	10.2	12.3	11.2
WB-Arrowhead	111	132	123	122	62.5	64.3	56.6	61.2	12.1	10.9	12.5	11.8
SY Touchstone	106	125	111	114	62.4	64.7	59.1	62.1	12.1	11.8	12.6	12.2
Whetstone	102	118	118	112	62.7	64.4	58.9	62.0	12.1	10.6	12.9	11.9
SY Clearstone CL2	93	102	111	102	61.9	63.0	57.8	60.9	12.6	10.9	13.1	12.2
EXPERIMENTAL LINES												
NSA10-2196	108	145	147	133	61.7	62.6	57.4	60.6	11.4	9.8	12.1	11.1
OR2120276H	111	139	135	128	62.6	64.5	60.6	62.6	11.7	10.8	11.7	11.4
WA 8248	117	125	127	123	62.7	65.2	60.3	62.7	13.0	11.6	13.0	12.5
OR2110664	103	137	126	122	61.9	64.4	58.7	61.7	12.1	10.6	11.8	11.5
OR2120012R	106	130	128	121	61.2	64.0	58.1	61.1	12.2	10.6	12.9	11.9
WA 8249	102	123	117	114	62.0	63.8	58.5	61.4	12.8	11.9	13.9	12.9
WA 8231	109	118	105	111	60.9	62.5	58.6	60.7	11.6	10.7	11.9	11.4
IDO1101	111	111	106	109	63.5	64.0	58.4	62.0	11.9	10.8	12.4	11.7
C.V. %	7	5	4	5	1	0	2	1	3	3	2	3
LSD (0.05)	11	9	6	6	0.8	0.4	1.9	0.8	0.3	0.4	0.4	0.3
Average	110	128	125	121	61.9	63.8	57.7	61.1	12.0	10.8	12.4	11.7
Highest	124	145	147	133	63.5	65.2	60.6	62.7	13.0	11.9	13.9	12.9
Lowest	93	102	105	102	58.6	61.4	52.9	57.6	11.3	9.8	11.7	11.1

Table 42. 2016 WSU Variety Testing Hard Winter Wheat Zone Summary
Precipitation Zone = 12-16"

Variety Name <i>Hard White Italicized</i>	Almira	Lamont	Reardan*	Average	Almira	Lamont	Reardan*	Average	Almira	Lamont	Reardan*	Average
	YIELD (BU/A)				TEST WT (LBS/BU)				PROTEIN (%)			
RELEASED VARIETIES												
LCS Jet (NSA10-7208)	98	111	96	102	62.3	62.1	62.3	62.2	10.5	9.9	12.4	10.9
Keldin	96	99	93	96	62.9	62.8	63.2	63.0	11.0	9.4	12.3	10.9
WB-Arrowhead	83	98	98	93	63.1	62.8	62.6	62.8	12.5	10.4	12.4	11.8
LCS Colonia	92	95	92	93	61.8	60.5	61.2	61.2	9.9	10.4	12.3	10.9
<i>Earl (WA 8184)</i>	95	96	86	93	62.4	61.8	62.3	62.2	11.1	9.7	12.1	11.0
SY Touchstone (04PN028B-3)	83	96	83	87	63.4	63.2	63.4	63.3	11.9	10.4	12.7	11.7
AP503 CL2	80	88	86	85	64.3	64.4	64.0	64.2	11.5	10.8	12.8	11.7
Bauermeister	87	77	81	82	63.1	62.0	62.7	62.6	9.8	9.5	11.8	10.4
SY Clearstone CL2	86	81	75	81	62.6	61.9	61.6	62.0	11.9	10.1	13.7	11.9
Farnum	85	81	76	81	62.0	62.0	61.2	61.8	11.1	11.4	12.6	11.7
Whetstone	77	91	73	80	63.5	62.4	62.9	62.9	11.7	10.2	13.0	11.6
Sequoia (WA 8180)	85	69	77	77	63.3	63.2	62.1	62.9	10.1	9.5	12.1	10.5
Finley	82	70	77	76	64.3	64.2	62.7	63.7	10.6	10.6	13.3	11.5
EXPERIMENTAL LINES												
WA 8207	113	107	97	106	63.0	63.0	62.2	62.7	10.4	9.4	12.0	10.6
<i>OR2120276H</i>	90	114	81	95	63.4	62.8	63.3	63.2	11.2	9.9	12.2	11.1
HE181/3	98	99	87	94	62.4	61.2	61.7	61.8	12.1	9.7	11.9	11.2
WA 8246	98	90	87	92	61.7	61.0	60.4	61.0	10.8	9.6	12.4	10.9
OR2120012R	83	104	85	91	62.6	62.1	62.5	62.4	11.1	10.4	12.7	11.4
WA 8247	79	99	83	87	62.3	61.3	61.6	61.7	11.5	10.1	12.4	11.3
WA 8250	92	89	80	87	63.3	63.2	62.7	63.1	11.4	10.3	11.9	11.2
<i>IDO1101</i>	82	95	69	82	63.4	63.5	63.5	63.5	11.0	9.6	12.7	11.1
WA 8228	83	82	75	80	64.3	64.4	63.4	64.0	11.3	10.9	13.1	11.8
WA 8197	90	73	69	77	62.8	62.3	62.3	62.5	9.9	9.4	12.2	10.5
WA 8229	76	74	69	73	63.8	63.7	63.0	63.5	11.1	10.6	13.3	11.7
C.V. %	8	8	7	8	0	1	0	0	8	6	3	6
LSD (0.05)	10	10	8	6	0.4	0.4	0.4	0.3	1.3	0.9	0.4	0.6
Average	88	91	82	87	63.0	62.6	62.4	62.7	11.1	10.1	12.5	11.2
Highest	113	114	98	106	64.3	64.4	64.0	64.2	12.5	11.4	13.7	11.9
Lowest	76	69	69	73	61.7	60.5	60.4	61.0	9.8	9.4	11.8	10.4

* Reardan was moved to the 12-16" zone in 2016.

Table 43. 2016 WSU Variety Testing Hard Winter Wheat Zone Summary
Precipitation Zone = <12"

Variety Name <i>Hard White Italicized</i>	Connell	Horse Heaven	Lind	Average	Connell	Horse Heaven	Lind	Average	Connell	Horse Heaven	Lind	Average
	YIELD (BU/A)				TEST WT (LBS/BU)				PROTEIN (%)			
RELEASED VARIETIES												
<i>LCS Jet (NSA10-7208)</i>	78	38	56	57	59.0	56.8	61.4	59.0	13.1	12.9	12.8	13.0
<i>Keldin</i>	72	47	53	57	59.4	60.7	61.9	60.7	13.3	12.2	12.1	12.5
<i>LCS Colonia</i>	70	40	62	57	52.2	54.5	58.3	55.0	13.1	12.2	11.3	12.2
<i>WB-Arrowhead</i>	64	39	57	54	59.7	59.9	61.5	60.4	12.5	12.7	13.1	12.8
<i>Earl (WA 8184)</i>	73	37	51	53	58.3	58.3	61.1	59.3	13.6	12.8	12.5	13.0
<i>SY Clearstone CL2</i>	62	41	51	51	57.4	59.1	61.2	59.2	14.4	13.6	12.5	13.5
<i>Whetstone</i>	63	37	50	50	57.8	59.5	62.1	59.8	13.4	12.9	13.4	13.2
<i>SY Touchstone (04PN028B-3)</i>	66	37	43	49	59.0	59.5	61.8	60.1	12.8	13.3	13.7	13.3
<i>Sequoia (WA 8180)</i>	53	40	52	48	55.8	59.4	61.8	59.0	13.9	12.4	12.0	12.8
<i>Finley</i>	55	33	49	46	58.5	60.7	62.6	60.6	12.8	12.7	13.1	12.9
<i>Bauermeister</i>	53	38	45	45	55.8	58.3	61.2	58.4	13.5	12.4	11.6	12.5
<i>Farnum</i>	48	34	42	41	56.0	57.7	59.3	57.7	13.9	13.5	13.6	13.7
<i>AP503 CL2</i>	58	-- ¹	41	-- ²	62.2	-- ¹	62.5	-- ²	12.4	-- ¹	13.7	-- ²
EXPERIMENTAL LINES												
<i>OR2120276H</i>	72	39	58	56	59.2	58.3	62.1	59.9	11.5	13.2	12.6	12.5
<i>HE181/3</i>	65	42	59	55	55.0	55.3	57.9	56.1	14.3	12.8	12.7	13.3
<i>WA 8247</i>	67	42	56	55	56.4	57.7	58.8	57.6	13.1	12.0	11.9	12.3
<i>WA 8207</i>	57	43	56	52	56.0	58.5	61.2	58.6	14.3	12.8	11.9	13.0
<i>OR2120012R</i>	71	37	47	52	57.0	57.7	61.2	58.6	13.8	13.4	13.1	13.4
<i>WA 8246</i>	54	35	58	49	51.1	54.2	58.6	54.7	15.5	13.8	12.4	13.9
<i>WA 8228</i>	52	35	53	46	57.8	59.8	61.0	59.5	13.7	13.3	12.6	13.2
<i>IDO1101</i>	61	29	46	45	59.8	61.4	62.4	61.2	12.1	12.1	12.6	12.3
<i>WA 8197</i>	50	34	51	45	55.4	57.3	62.2	58.3	13.6	12.8	12.0	12.8
<i>WA 8229</i>	51	35	49	45	58.7	60.2	61.8	60.3	14.0	12.9	13.1	13.3
<i>WA 8250</i>	50	27	53	43	57.2	58.2	60.5	58.6	12.4	12.8	11.7	12.3
C.V. %	6	10	9	8	1	1	1	1	6	3	4	5
LSD (0.05)	5	4	7	4	1.0	0.7	1.1	0.7	1.1	0.5	0.7	0.6
Average	61	37	52	50	57.3	58.6	61.0	58.8	13.4	12.9	12.6	12.9
Highest	78	47	62	57	62.2	61.4	62.6	61.2	15.5	13.8	13.7	13.9
Lowest	48	21	41	41	51.1	54.2	57.9	54.7	11.5	12.0	11.3	12.2

¹ Severe rodent damage, no data

² No data from one or more locations

Table 44. 2016 WSU Variety Testing Hard Winter Wheat Zone Summary
Precipitation Zone = Irrigated

Variety Name <i>Hard White Italicized</i>	Moses Lake	Pasco	Average	Moses Lake	Pasco	Average	Moses Lake	Pasco	Average
	YIELD (BU/A)			TEST WT (LBS/BU)			PROTEIN (%)		
RELEASED VARIETIES									
LCS Jet (NSA10-7208)	184	142	163	61.6	61.4	61.5	11.7	13.5	12.6
LCS Aymeric	146	147	147	57.9	58.1	58.0	11.0	12.4	11.7
LCS Azimut	154	138	146	58.7	57.7	58.2	11.9	12.8	12.4
Mandala	149	142	145	62.6	61.8	62.2	12.3	14.3	13.3
LCS Colonia	142	148	145	57.9	58.2	58.1	11.9	13.2	12.6
SY Touchstone (04PN028B-3)	143	146	144	61.7	61.5	61.6	12.5	13.5	13.0
LCS Evina	154	135	144	62.0	60.6	61.3	13.2	15.0	14.1
Rebaldi	134	143	139	62.0	62.1	62.1	14.0	14.3	14.1
WB-Arrowhead	148	127	137	62.1	61.0	61.6	11.6	12.9	12.2
Norwest 553	150	122	136	61.5	60.9	61.2	12.4	13.4	12.9
Keldin	126	111	118	61.8	61.0	61.4	11.4	13.5	12.4
Whetstone	116	110	113	61.4	61.1	61.2	12.6	14.2	13.4
Esperia	117	88	102	59.2	59.3	59.2	12.4	13.1	12.8
WB 4059CLP	99	86	93	60.8	60.6	60.7	11.9	13.6	12.7
Rimrock	82	83	82	57.1	59.1	58.1	11.0	12.5	11.8
EXPERIMENTAL LINES									
<i>OR2110664</i>	156	138	147	61.1	60.7	60.9	12.1	13.2	12.7
NSA10-2196	154	131	142	59.4	57.7	58.6	12.0	12.8	12.4
OR2110679	147	138	142	60.5	60.1	60.3	12.2	13.2	12.7
OR2120012R	145	134	140	60.9	60.8	60.9	12.6	13.7	13.2
<i>OR2120276H</i>	146	132	139	61.7	61.9	61.8	11.7	13.4	12.5
HE181/3	146	125	135	61.0	59.3	60.2	11.4	12.9	12.2
WA 8248	146	121	134	62.8	60.7	61.8	12.4	14.6	13.5
WA 8249	128	117	122	62.0	61.3	61.6	13.1	14.4	13.7
<i>IDO1101</i>	118	93	106	60.0	61.4	60.7	12.1	13.9	13.0
C.V. %	7	12	10	1	1	1	3	3	3
LSD (0.05)	14	16	15	0.9	0.6	0.7	0.5	0.5	0.5
Average	139	125	132	60.8	60.3	60.6	12.1	13.5	12.8
Highest	184	148	163	62.8	62.1	62.2	14.0	15.0	14.1
Lowest	82	82	82	57.1	57.7	58.0	11.0	12.4	11.7

Table 45. WSU Variety Testing Hard Winter Wheat Multi-Year Summary

Precipitation Zone = >16"

(Dayton, Pullman, Walla Walla)

Variety Name <i>Hard White Italicized</i>	2 Years 2015-2016, 6 loc/years			3 Years 2014-2016, 9 loc/years			5 Years 2012-2016, 15 loc/years		
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
Keldin	121	61.3	11.7	114	61.2	12.1			
LCS Jet	117	60.2	12.0	113	60.2	12.2			
WB-Arrowhead	113	60.9	12.0	108	61.0	12.1			
Rimrock	110	60.6	11.6	104	60.7	11.9			
LCS Azimut	106	55.2	12.0	101	55.6	12.1	106	56.2	12.0
Whetstone	105	60.7	12.3	101	60.7	12.6			
LCS Colonia	104	56.7	12.3	104	57.0	12.3			
Norwest 553	102	61.1	12.4	101	61.3	12.7	110	61.4	12.6
EXPERIMENTAL LINES									
NSA10-2196	111	59.3	11.5						
<i>IDO1101</i>	107	62.1	11.7	103	62.0	11.9			
<i>WA 8231</i>	102	60.1	11.6						
C.V. %	8	1	4	8	1	4	9	2	5
LSD (0.05)	6	0.6	0.3	5	0.4	0.3	4	0.4	0.3
Average	109	59.8	11.9	105	60.0	12.2	108	58.8	12.3
Highest	121	62.1	12.4	114	62.0	12.7	110	61.4	12.6
Lowest	102	55.2	11.5	101	55.6	11.9	106	56.2	12.0

Table 46. WSU Variety Testing Hard Winter Wheat Multi-Year Summary

Precipitation Zone = 12-16"

(Almira, Lamont, Reardan*)

Variety Name <i>Hard White</i>	2 Years 2015-2016, 5 loc/years			3 Years 2014-2016, 7 loc/years			5 Years 2012-2016, 11 loc/years		
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
Keldin	89	62.4	11.6	85	61.9	11.9			
LCS Jet (NSA10-7208)	87	60.8	11.8	84	60.3	11.9			
WB-Arrowhead	85	62.2	12.0	82	61.6	12.1			
LCS Colonia	83	58.6	11.7	76	58.1	11.9			
SY Clearstone CL2	78	61.2	12.3						
AP503 CL2	76	63.4	12.4	74	62.9	12.4			
Whetstone	75	62.1	11.9	71	61.6	12.0			
Bauermeister	74	61.2	11.1	72	60.4	11.5	81	60.0	11.5
Farnum	72	60.0	12.1	71	59.4	12.5	76	59.2	12.5
Sequoia (WA 8180)	72	61.6	11.3	71	61.0	11.5			
Finley	71	63.0	11.9	73	62.5	12.1	77	62.3	12.2
EXPERIMENTAL LINES									
WA 8207	92	60.8	11.3	85	60.2	11.7			
IDO1101	79	63.2	11.3	79	62.4	11.5			
WA 8228	75	62.5	12.2						
WA 8197	67	60.6	11.4	67	60.2	11.7			
WA 8229	66	62.3	12.3						
C.V. %	9	1	6	8	1	5	10	1	5
LSD (0.10)	5	0.4	0.5	4	0.3	0.4	4	0.3	0.3
Average	78	61.6	11.8	76	61.0	11.9	78	60.5	12.1
Highest	92	63.4	12.4	85	62.9	12.5	81	62.3	12.5
Lowest	66	58.6	11.1	67	58.1	11.5	76	59.2	11.5

* Reardan was moved to the 12-16" zone in 2016.

Table 47. **WSU Variety Testing Hard Winter Wheat Multi-Year Summary**

Precipitation Zone = <12"

(Connell, Horse Heaven, Lind, Ritzville, St. Andrews)

Variety Name <i>Hard White Italicized</i>	2 Years 2015-2016, 5 loc/years			3 Years 2014-2016, 9 loc/years			5 Years 2012-2016, 18 loc/years		
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
LCS Colonia	45	55.1	13.2	37	57.2	12.7			
LCS Jet (NSA10-7208)	45	58.5	13.8	38	59.8	13.1			
Keldin	45	60.7	13.8	40	62.0	13.1			
SY Clearstone CL2	43	59.4	14.3						
WB-Arrowhead	41	61.0	13.8	40	62.4	13.0			
Sequoia (WA 8180)	40	59.3	13.6	36	61.2	12.8			
Whetstone	40	60.4	14.1	37	61.6	13.3			
Bauermeister	39	58.2	13.4	35	60.1	12.6	42	60.4	12.2
Finley	38	61.3	13.6	36	62.7	12.9	39	62.4	12.8
Farnum	36	57.3	14.5	35	58.9	13.5	41	59.2	13.0
AP503 CL2	36 ¹	62.4 ¹	14.3 ¹	35 ²	63.8 ²	13.4 ²			
EXPERIMENTAL LINES									
WA 8207	43	58.3	14.0	38	59.8	13.0			
WA 8228	40	60.1	14.1						
WA 8197	38	58.3	13.8	35	60.5	12.9			
WA 8229	37	60.3	14.2						
IDO1101	35	61.9	13.3	35	63.0	12.6			
C.V. %	8	1	4	9	1	4	11	1	5
LSD (0.05)	3	0.5	0.4	2	0.4	0.3	2	0.3	0.2
Average	40	59.3	13.8	37	60.8	12.9	41	60.7	12.7
Highest	45	62.4	14.5	40	63.8	13.5	42	62.4	13.0
Lowest	33	55.1	13.2	33	57.2	12.6	39	59.2	12.2

^{1,2} - 4, 8 loc/yrs, respectively

Table 48. 2016 WSU Variety Testing Hard Winter Wheat Trial, Almira

Variety Name <i>Hard White Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES									
LCS Jet (NSA10-7208)	98	62.3	10.5	35	142	0	72	74	
Keldin	96	62.9	11.0	40	141	2	78	75	
<i>Earl (WA 8184)</i>	95	62.4	11.1	39	141	12			
LCS Colonia	92	61.8	9.9	34	144	0	69	66	
Bauermeister	87	63.1	9.8	40	147	7	68	67	87
SY Clearstone CL2	86	62.6	11.9	43	142	5	72		
Farnum	85	62.0	11.1	46	147	53	67	65	78
Sequoia (WA 8180)	85	63.3	10.1	46	143	30	66	66	
SY Touchstone (04PN028B-3)	83	63.4	11.9	36	143	0			
WB-Arrowhead	83	63.1	12.5	42	141	2	66	64	
Finley	82	64.3	10.6	47	141	73	67	67	76
AP503 CL2	80	64.3	11.5	38	141	10	62	65	
Whetstone	77	63.5	11.7	37	141	3	62	59	
EXPERIMENTAL LINES									
WA 8207	113	63.0	10.4	42	148	0	84	76	
WA 8246	98	61.7	10.8	39	146	10			
HE181/3	98	62.4	12.1	41	143	0			
WA 8250	92	63.3	11.4	36	142	3			
WA 8197	90	62.8	9.9	45	145	52	68	67	
<i>OR2120276H</i>	90	63.4	11.2	37	142	0			
OR2120012R	83	62.6	11.1	35	142	0			
WA 8228	83	64.3	11.3	45	146	23	68		
<i>IDO1101</i>	82	63.4	11.0	35	141	3	70	73	
WA 8247	79	62.3	11.5	38	145	7			
WA 8229	76	63.8	11.1	48	141	57	58		
C.V. %	8	0	8	5	0	--	9	9	10
LSD (0.05)	10	0.4	1.3	2	1	19	7	6	5
Average	88	63.0	11.1	40	143	15	69	68	80
Highest	113	64.3	12.5	48	148	73	84	76	87
Lowest	76	61.7	9.8	34	141	0	58	59	76

Agronomic Information

Planting Date: 9/11/2015
 Harvest Date: 8/11/2016
 Seeding Rate (lbs/acre): 85
 Previous Crop: Spring Wheat
 Spring soil test:
 N (lb/ac) 4-ft sample 214
 P (ppm-bicarb) 2-ft sample 56
 S (lb/ac) 4-ft sample 38
 pH (top 6 inches) 5.12

Herbicide:
 Huskie, PowerFlex HL, Tilt on 4/27.

Trial Notes:

1. The Almira nursery was located about 12 miles north of Almira, WA. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
2. This nursery was seeded with a no-till drill with hoe openers. Fertilizer applied at planting was: 60#N, 10#P, 10#S.
3. The single application of fungicide kept stripe rust in check and only low levels of rust were observed on susceptible varieties.
4. Despite the relatively low C.V., there was a fair amount of variation in this trial.

Cooperator: D. McKay

Table 49. 2016 WSU Variety Testing Hard Winter Wheat Trial, Connell

Variety Name <i>Hard White Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES									
LCS Jet (NSA10-7208)	78	59.0	13.1	34	122	0	52	44	
<i>Earl (WA 8184)</i>	73	58.3	13.6	38	121	0			
Keldin	72	59.4	13.3	36	123	0	50	44	
LCS Colonia	70	52.2	13.1	34	129	0	46	38	
SY Touchstone (04PN028B-3)	66	59.0	12.8	32	125	0			
WB-Arrowhead	64	59.7	12.5	40	121	0	44	39	
Whetstone	63	57.8	13.4	35	122	0	44	38	
SY Clearstone CL2	62	57.4	14.4	40	125	0	45		
AP503 CL2	58	62.2	12.4	36	120	0	40	34	
Finley	55	58.5	12.8	44	126	0	38	36	31
Bauermeister	53	55.8	13.5	36	128	0	39	34	33
Sequoia (WA 8180)	53	55.8	13.9	39	129	0	38	34	
Farnum	48	56.0	13.9	37	132	3	35	33	34
EXPERIMENTAL LINES									
<i>OR2120276H</i>	72	59.2	11.5	37	123	0			
OR2120012R	71	57.0	13.8	36	122	0			
WA 8247	67	56.4	13.1	39	127	0			
HE181/3	65	55.0	14.3	38	127	0			
<i>IDO1101</i>	61	59.8	12.1	34	123	0	41	37	
WA 8207	57	56.0	14.3	38	130	0	40	34	
WA 8246	54	51.1	15.5	33	129	5			
WA 8228	52	57.8	13.7	40	130	0	37		
WA 8229	51	58.7	14.0	41	124	2	36		
WA 8197	50	55.4	13.6	39	131	18	35	33	
WA 8250	50	57.2	12.4	34	125	0			
C.V. %	6	1	6	5	1	--	6	7	8
LSD (0.05)	5	1.0	1.1	3	1	6	3	3	2
Average	61	57.3	13.4	37	126	1	41	37	33
Highest	78	62.2	15.5	44	132	18	52	44	34
Lowest	48	51.1	11.5	32	120	0	35	33	31

Agronomic Information

Planting Date: 9/14/2015
 Harvest Date: 7/13/2016
 Seeding Rate (lbs/acre): 50
 Spring soil test:
 N (lb/ac) 4-ft sample 166
 P (ppm-Bray) 2-ft sample 49
 S (lb/ac) 4-ft sample 30

Herbicide:
 Huskie, PowerFlex, Tilt, M-90 applied on 3/30.
 Cooperator applied a second application of fungicide by airplane.

Trial Notes:

1. Grain yield averaged 61 bushels/acre, well above the five-year average. The Connell nursery was located about 8 miles east of Connell, WA. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.

2. August rains provided great seeding conditions. Emergence and stand establishment were excellent. Due to the fungicide applications, stripe rust was not a factor at this location.

Cooperator: D. Bauermeister

Table 50. 2016 WSU Variety Testing Hard Winter Wheat Trial, Dayton

Variety Name <i>Hard White Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
Keldin	124	62.3	11.8	38	139	108	86	
Norwest 553	118	63.1	12.1	34	139	92	78	103
LCS Colonia	115	60.4	11.6	37	145	93	82	
LCS Azimut	115	58.6	11.3	31	137	95	78	96
LCS Jet	114	62.2	11.9	36	137	105	88	
Rimrock	111	62.0	11.5	38	139	98	81	
WB-Arrowhead	111	62.5	12.1	40	138	100	82	
SY Touchstone	106	62.4	12.1	36	141			
Whetstone	102	62.7	12.1	37	140	93	73	
SY Clearstone CL2	93	61.9	12.6	43	141			
EXPERIMENTAL LINES								
WA 8248	117	62.7	13.0	37	139			
OR2120276H	111	62.6	11.7	37	138			
IDO1101	111	63.5	11.9	33	139	100	85	
WA 8231	109	60.9	11.6	37	145	99		
NSA10-2196	108	61.7	11.4	34	137	95		
OR2120012R	106	61.2	12.2	39	139			
OR2110664	103	61.9	12.1	37	142			
WA 8249	102	62.0	12.8	37	138			
C.V. %	7	1	3	3	1	8	8	9
LSD (0.05)	11	0.8	0.3	1	1	9	7	6
Average	110	61.9	12.0	37	140	98	82	99
Highest	124	63.5	13.0	43	145	108	88	103
Lowest	93	58.6	11.3	31	137	92	73	96

Agronomic Information

Planting Date: 9/28/2015
 Harvest Date: 8/23/2016
 Seeding Rate (lbs/acre): 85
 Previous Crop: Chickpeas
 Spring soil test:
 N (lb/ac) 4-ft sample 161
 P (ppm-bicarb) 2-ft sample 51
 S (lb/ac) 2-ft sample 38
 pH (top 6 inches) 4.85

Trial Notes:

1. The Dayton nursery was located about 6 miles northwest of Dayton, WA. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
2. Two fungicide applications kept stripe rust under control.
3. An extra 70#N was applied to the hard trial in the spring.

Cooperator: J. Penner

Herbicide:
 Herbicide and fungicide were applied by the cooperator. A second application of fungicide was also applied by the cooperator.

Table 51. 2016 WSU Variety Testing Hard Winter Wheat Trial, Horse Heaven

Variety Name <i>Hard White Italicized</i>	2016				2 Year*	3 Year**	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES							
Keldin	47	60.7	12.2	28	36	39	--
SY Clearstone CL2	41	59.1	13.6	28			--
LCS Colonia	40	54.5	12.2	28	32	37	--
Sequoia (WA 8180)	40	59.4	12.4	31	33	38	--
WB-Arrowhead	39	59.9	12.7	27	34	37	--
Bauermeister	38	58.3	12.4	28	31	36	--
LCS Jet (NSA10-7208)	38	56.8	12.9	23	31		--
Whetstone	37	59.5	12.9	28	31	33	--
SY Touchstone (04PN028B-3)	37	59.5	13.3	24			--
Earl (WA 8184)	37	58.3	12.8	25	29		--
Farnum	34	57.7	13.5	30	30	35	--
Finley	33	60.7	12.7	30	30	32	--
AP503 CL2 *							--
EXPERIMENTAL LINES							
WA 8207	43	58.5	12.8	31	32		--
HE181/3	42	55.3	12.8	29			--
WA 8247	42	57.7	12.0	28			--
OR2120276H	39	58.3	13.2	25			--
OR2120012R	37	57.7	13.4	26			--
WA 8246	35	54.2	13.8	25			--
WA 8228	35	59.8	13.3	28			--
WA 8229	35	60.2	12.9	29			--
WA 8197	34	57.3	12.8	29	29		--
IDO1101	29	61.4	12.1	24	29	33	--
WA 8250	27	58.2	12.8	23			--
C.V. %	10	1	3	5	9	10	
LSD (0.05)	4	0.7	0.5	2	3	3	--
Average	37	58.6	12.9	27	30	35	--
Highest	47	61.4	13.8	31	36	39	--
Lowest	21	54.2	12.0	23	21	26	--

Agronomic Information

Planting Date: 10/28/2015
 Harvest Date: 7/27/2016
 Seeding Rate (lbs/acre): 50
 Previous Crop: Fallow
 Spring soil test:
 N (lb/ac) 4-ft sample 212
 P (ppm-bicarb) 2-ft sample 47
 S (lb/ac) 4-ft sample 24
 pH (top 6 inches) 6.59
 Herbicide:
 Huskie, Powerflex, Tilt applied on 4/20.

Trial Notes:

1. The Horse Heaven nursery was located about 12 miles SE of Prosser, WA. All yield, test weight, and protein values within the 5% LSD of the highest value are shown in bold.
2. Stand establishment was good and the trial looked good throughout most of the growing season.
3. Despite the higher than average yields, test weights were a little below average.
4. * = Data not presented due to heavy rodent feeding on standing grain.

Cooperator: M. Schmitt

* 2-Year average from 2016 & 2014

** 3-Year average from 2016, 2014, 2013

Table 52. 2016 WSU Variety Testing Hard Winter Wheat Trial, Lamont

Variety Name <i>Hard White Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES									
LCS Jet (NSA10-7208)	111	62.1	9.9	39	137	0	99	90	
Keldin	99	62.8	9.4	43	137	0	99	91	
WB-Arrowhead	98	62.8	10.4	45	138	0	97	95	
<i>Earl (WA 8184)</i>	96	61.8	9.7	43	137	0			
SY Touchstone (04PN028B-3)	96	63.2	10.4	36	141	0			
LCS Colonia	95	60.5	10.4	40	145	0	94	82	
Whetstone	91	62.4	10.2	43	138	15	87	83	
AP503 CL2	88	64.4	10.8	40	137	0	84	79	
SY Clearstone CL2	81	61.9	10.1	47	139	0	84		
Farnum	81	62.0	11.4	51	151	58	75	75	75
Bauermeister	77	62.0	9.5	50	146	23	77	74	75
Finley	70	64.2	10.6	55	136	77	73	77	78
Sequoia (WA 8180)	69	63.2	9.5	50	146	68	76	73	
EXPERIMENTAL LINES									
<i>OR2120276H</i>	114	62.8	9.9	42	139	0			
WA 8207	107	63.0	9.4	47	147	0	99	91	
OR2120012R	104	62.1	10.4	43	137	0			
WA 8247	99	61.3	10.1	49	140	17			
HE181/3	99	61.2	9.7	45	142	0			
<i>IDO1101</i>	95	63.5	9.6	39	140	13	94	88	
WA 8246	90	61.0	9.6	45	147	25			
WA 8250	89	63.2	10.3	40	141	0			
WA 8228	82	64.4	10.9	53	144	42	82		
WA 8229	74	63.7	10.6	53	138	58	73		
WA 8197	73	62.3	9.4	55	146	50	64	66	
C.V. %	8	1	6	4	1	--	9	8	10
LSD (0.05)	10	0.4	0.9	2	2	23	9	7	6
Average	91	62.6	10.1	46	141	19	85	82	76
Highest	114	64.4	11.4	55	151	77	99	95	78
Lowest	69	60.5	9.4	36	136	0	64	66	75

Agronomic Information

Planting Date: 9/9/2015
 Harvest Date: 8/2/2016
 Seeding Rate (lbs/acre): 85
 Previous Crop: Fallow
 Spring soil test:
 N (lb/ac) 4-ft sample 194
 P (ppm-bicarb) 2-ft sample 39
 S (lb/ac) 2-ft sample 32
 pH (top 6 inches) 4.86

Herbicide:
 Huskie, PowerFlex and Tilt applied on 3/31.

Trial Notes:

1. The Lamont nursery was located about 5 miles southwest of Lamont, WA. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
2. This trial received only one fungicide application and moderate levels of stripe rust were observed on some of the more susceptible lines late in the growing season.
3. An additional 22# of N was added to the hard trial in the spring. Despite the additional nitrogen, proteins were still low.

Cooperator: G. White

Table 53. 2016 WSU Variety Testing Hard Winter Wheat Trial, Lind

Variety Name <i>Hard White Italicized</i>	2016					2 Year*	3 Year**	5 Year***
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
LCS Colonia	62	58.3	11.3	32	139	39	40	
WB-Arrowhead	57	61.5	13.1	34	134	42	44	
LCS Jet (NSA10-7208)	56	61.4	12.8	28	135	38		
Keldin	53	61.9	12.1	33	134	38	39	
Sequoia (WA 8180)	52	61.8	12.0	39	137	37	38	
Earl (WA 8184)	51	61.1	12.5	34	134	32		
SY Clearstone CL2	51	61.2	12.5	35	134			
Whetstone	50	62.1	13.4	31	134	39	39	
Finley	49	62.6	13.1	40	134	37	38	40
Bauermeister	45	61.2	11.6	36	139	34	38	41
SY Touchstone (04PN028B-3)	43	61.8	13.7	28	134			
Farnum	42	59.3	13.6	39	142	36	38	42
AP503 CL2	41	62.5	13.7	30	134	33	34	
EXPERIMENTAL LINES								
HE181/3	59	57.9	12.7	37	136			
WA 8246	58	58.6	12.4	35	139			
OR2120276H	58	62.1	12.6	32	134			
WA 8247	56	58.8	11.9	35	138			
WA 8207	56	61.2	11.9	38	141	44		
WA 8250	53	60.5	11.7	30	135			
WA 8228	53	61.0	12.6	41	139			
WA 8197	51	62.2	12.0	40	136	38		
WA 8229	49	61.8	13.1	39	134			
OR2120012R	47	61.2	13.1	31	134			
IDO1101	46	62.4	12.6	28	134	36	39	
C.V. %	9	1	4	4	1	10	9	10
LSD (0.05)	7	1.1	0.7	2	1	5	4	3
Average	52	61.0	12.6	35	136	37	39	41
Highest	62	62.6	13.7	41	142	44	44	42
Lowest	41	57.9	11.3	28	134	32	34	40

Agronomic Information

Planting Date: 9/15/2015
 Harvest Date: 7/19/2016
 Seeding Rate (lbs/acre): 50
 Previous Crop: Fallow
 Spring soil test:
 N (lb/ac) 4-ft sample 124
 P (ppm-bicarb) 1-ft sample 18
 S (lb/ac) 2-ft sample 14
 Herbicide:
 2,4-D herbicide was applied by
 cooperator on 3/31.

Trial Notes:

1. The lind nursery was located on the WSU Lind Dryland Experiment Station. All yield, test weight, and protein values within the 5% LSD range are shown in bold.
2. No fungicide was applied and rust was observed on the more susceptible varieties. An additional 50#N was applied in the spring.
3. Note the later seeding date. Our first Lind trial crusted over and was abandoned. This trial was planted after the rains.

Cooperator: WSU Lind Dryland Experiment Station

* 2-Year average from 2016 & 2014

** 3-Year average from 2016, 2014, 2013

*** 5-Year average from 2016, 2014, 2013, 2012, 2011

Table 54. 2016 WSU Variety Testing Hard Winter Wheat Trial, Moses Lake

Variety Name <i>Hard White Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES									
LCS Jet (NSA10-7208)	184	61.6	11.7	37	129	0	166	165	
LCS Azimut	154	58.7	11.9	35	127	17	133	139	131
LCS Evina	154	62.0	13.2	44	134	25	142	147	
Norwest 553	150	61.5	12.4	36	130	0	136	128	128
Mandala	149	62.6	12.3	44	132	0			
WB-Arrowhead	148	62.1	11.6	42	130	62	135	149	
LCS Aymeric	146	57.9	11.0	38	130	52			
SY Touchstone (04PN028B-3)	143	61.7	12.5	37	130	17			
LCS Colonia	142	57.9	11.9	40	133	0	128	132	
Rebaldi	134	62.0	14.0	36	128	0			
Keldin	126	61.8	11.4	41	129	58	122	142	
Esperia	117	59.2	12.4	38	126	83			
Whetstone	116	61.4	12.6	42	127	75	120	135	
WB 4059CLP	99	60.8	11.9	38	125	67			
Rimrock	82	57.1	11.0	42	129	72	90	122	
EXPERIMENTAL LINES									
OR2110664	156	61.1	12.1	42	130	0			
NSA10-2196	154	59.4	12.0	36	127	58	146		
OR2110679	147	60.5	12.2	41	131	0			
WA 8248	146	62.8	12.4	41	127	52			
HE181/3	146	61.0	11.4	45	133	27			
OR2120276H	146	61.7	11.7	41	129	52			
OR2120012R	145	60.9	12.6	39	127	42			
WA 8249	128	62.0	13.1	40	128	77			
IDO1101	118	60.0	12.1	39	130	88	116	132	
C.V. %	7	1	3	5	1	--	8	8	8
LSD (0.05)	14	0.9	0.5	3	1	30	12	11	8
Average	139	60.8	12.1	40	129	38	130	139	130
Highest	184	62.8	14.0	45	134	88	166	165	131
Lowest	82	57.1	11.0	35	125	0	90	122	128

Agronomic Information

Planting Date: 10/7/2015
 Harvest Date: 8/4/2016
 Seeding Rate (lbs/acre): 95
 Previous Crop: Potatoes
 Spring soil test:
 N (lb/ac) 4-ft sample 237
 P (ppm-bicarb) 2-ft sample 27
 S (lb/ac) 2-ft sample 44
 pH (top 6 inches) 5.09

Herbicide:

Huskie & Tilt were applied at herbicide timing.

Trial Notes:

1. The Moses Lake irrigated nursery was located about 10 miles southeast of Moses Lake, WA. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
2. An extra 130# N was applied to the hard trial in the spring, after the soil sample was taken.
3. This trial received only one fungicide application. Stripe rust levels were very high and limited the yield of susceptible varieties.
4. The irrigated trials contain a unique set of entries, some of which are not found in the rainfed trials.

Cooperator: G. Burkholder

Table 55. 2016 WSU Variety Testing Hard Winter Wheat Trial, Pasco

Variety Name <i>Hard White Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES									
LCS Colonia	148	58.2	13.2	41	127	35	--	--	--
LCS Aymeric	147	58.1	12.4	39	125	93	--	--	--
SY Touchstone (04PN028B-3)	146	61.5	13.5	39	125	60	--	--	--
Rebaldi	143	62.1	14.3	37	121	47	--	--	--
LCS Jet (NSA10-7208)	142	61.4	13.5	38	123	23	--	--	--
Mandala	142	61.8	14.3	47	128	8	--	--	--
LCS Azimut	138	57.7	12.8	36	121	67	--	--	--
LCS Evina	135	60.6	15.0	44	127	43	--	--	--
WB-Arrowhead	127	61.0	12.9	44	122	75	--	--	--
Norwest 553	122	60.9	13.4	36	125	62	--	--	--
Keldin	111	61.0	13.5	39	124	81	--	--	--
Whetstone	110	61.1	14.2	40	122	88	--	--	--
Esperia	88	59.3	13.1	35	119	88	--	--	--
WB 4059CLP	86	60.6	13.6	40	118	85	--	--	--
Rimrock	83	59.1	12.5	37	121	88	--	--	--
EXPERIMENTAL LINES									
OR2110664	138	60.7	13.2	42	125	30	--	--	--
OR2110679	138	60.1	13.2	42	123	80	--	--	--
OR2120012R	134	60.8	13.7	38	121	63	--	--	--
OR2120276H	132	61.9	13.4	42	125	77	--	--	--
NSA10-2196	131	57.7	12.8	35	121	93	--	--	--
HE181/3	125	59.3	12.9	43	128	62	--	--	--
WA 8248	121	60.7	14.6	39	121	80	--	--	--
WA 8249	117	61.3	14.4	39	123	78	--	--	--
IDO1101	93	61.4	13.9	38	125	50	--	--	--
C.V. %	12	1	3	5	1	35	--	--	--
LSD (0.05)	16	0.6	0.5	2	1	24	--	--	--
Average	125	60.3	13.5	40	123	65	--	--	--
Highest	148	62.1	15.0	47	128	93	--	--	--
Lowest	82	57.7	12.4	35	118	8	--	--	--

Agronomic Information

Planting Date:	10/7/2015
Harvest Date:	7/28/2016
Seeding Rate (lbs/acre):	95
Previous Crop:	Potatoes
Spring soil test:	
N (lb/ac) 4-ft sample	498
P (ppm-bicarb) 2-ft sample	21
S (lb/ac) 2-ft sample	138
pH (top 6 inches)	5.77

Trial Notes:

1. This is a new location for 2016. The irrigated Pasco trial was located about 7 miles NE of Pasco, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. Despite the two fungicide applications, stripe rust still developed and likely caused some yield loss on susceptible varieties.
3. Excess nitrogen caused significant lodging across the trial. Even shorter entries lodged as a result of the neighboring plot pushing on it.
4. The irrigated trials contain a unique set of entries, some of which are not found in the rainfed trials.

Herbicide:

Cooperator: J Rogers

Broadleaf herbicide and fungicide were applied by the cooperator. A second fungicide application was also applied by the grower.

Table 56. 2016 WSU Variety Testing Hard Winter Wheat Trial, Pullman

Variety Name <i>Hard White Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
LCS Jet (NSA10-7208)	142	63.7	10.6	42	0	144	138	
Keldin	134	65.0	10.1	45	0	144	134	
Rimrock	133	64.0	10.2	47	13	126	121	
LCS Colonia	132	62.5	10.7	42	0	124	122	
WB-Arrowhead	132	64.3	10.9	49	0	140	130	
LCS Azimut	129	61.4	10.2	38	0	128	121	123
Norwest 553	127	64.0	11.0	39	0	118	116	121
SY Touchstone (04PN028B-3)	125	64.7	11.8	40	0			
Whetstone	118	64.4	10.6	45	0	128	120	
SY Clearstone CL2	102	63.0	10.9	50	13			
EXPERIMENTAL LINES								
NSA10-2196	145	62.6	9.8	40	0	134		
OR2120276H	139	64.5	10.8	46	0			
OR2110664	137	64.4	10.6	45	0			
OR2120012R	130	64.0	10.6	45	0			
WA 8248	125	65.2	11.6	44	0			
WA 8249	123	63.8	11.9	45	0			
WA 8231	118	62.5	10.7	45	27	115		
IDO1101	111	64.0	10.8	40	0	126	121	
C.V. %	5	0	3	3	--	9	8	9
LSD (0.05)	9	0.4	0.4	2	13	13	10	8
Average	128	63.8	10.8	44	3	130	125	122
Highest	145	65.2	11.9	50	27	144	138	123
Lowest	102	61.4	9.8	38	0	115	116	121

Agronomic Information

Planting Date:	9/25/2015
Harvest Date:	8/8/2016
Seeding Rate (lbs/acre):	95
Previous Crop:	Chickpeas
Spring soil test:	
N (lb/ac) 4-ft sample	303
P (ppm-bicarb) 2-ft sample	45
S (lb/ac) 2-ft sample	43
pH (top 6 inches)	4.95

Herbicide:

Zidua on 10/1; Express, Everest 2.0, Tilt, Peak, and Brox M on 3/29.

Trial Notes:

1. The Pullman nursery was located about 3 miles southeast of Pullman, WA. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.

2. Only one application of fungicide was applied. Low levels of stripe rust were observed on susceptible varieties late in the growing season.

Cooperator: R. Druffel

Table 57. 2016 WSU Variety Testing Hard Winter Wheat Trial, Reardan

Variety Name <i>Hard White Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
WB-Arrowhead	98	62.6	12.4	40	0	87	84	
LCS Jet (NSA10-7208)	96	62.3	12.4	34	0	82	77	
Keldin	93	63.2	12.3	37	0	85	83	
LCS Colonia	92	61.2	12.3	36	0	77	75	
<i>Earl (WA 8184)</i>	86	62.3	12.1	38	1	77	70	
AP503 CL2	86	64.0	12.8	38	0			
SY Touchstone (04PN028B-3)	83	63.4	12.7	33	0			
Bauermeister	81	62.7	11.8	43	0	75	73	80
Finley	77	62.7	13.3	49	50	75	69	69
Sequoia (WA 8180)	77	62.1	12.1	45	10			
Farnum	76	61.2	12.6	43	5	70	68	71
SY Clearstone CL2	75	61.6	13.7	42	0			
Whetstone	73	62.9	13.0	37	0	71	69	
EXPERIMENTAL LINES								
WA 8207	97	62.2	12.0	42	0			
WA 8246	87	60.4	12.4	40	13			
HE181/3	87	61.7	11.9	42	0			
OR2120012R	85	62.5	12.7	35	0			
WA 8247	83	61.6	12.4	43	0			
<i>OR2120276H</i>	81	63.3	12.2	34	0			
WA 8250	80	62.7	11.9	34	0			
WA 8228	75	63.4	13.1	47	3			
WA 8197	69	62.3	12.2	43	0			
<i>IDO1101</i>	69	63.5	12.7	32	0	75	75	
WA 8229	69	63.0	13.3	47	7			
C.V. %	7	0	3	3	155	7	8	8
LSD (0.05)	8	0.4	0.4	2	8	6	6	5
Average	82	62.4	12.5	40	4	82	77	75
Highest	98	64.0	13.7	49	50	93	88	81
Lowest	69	60.4	11.8	32	0	74	71	71

Agronomic Information

Planting Date:	9/16/2015
Harvest Date:	8/17/2016
Seeding Rate (lbs/acre):	85
Previous Crop:	Fallow
Spring soil test:	
N (lb/ac) 4-ft sample	184
P (ppm-bicarb) 2-ft sample	27
S (lb/ac) 2-ft sample	42
pH (top 6 inches)	4.69

Trial Notes:

1. The Reardan nursery was located about 7 miles west of Reardan, WA. All yield, test weight, and protein values within the 5 % LSD range of the highest value are shown in bold.
2. This location was planted with our no-till hoe drill. Stand establishment was a little uneven, and some plot-to-plot variation existed.
3. An additional 56# N was applied to the hard trial in the spring.

Cooperator: H. Johnson

Herbicide:

Huskie, PowerFlex, Tilt applied on 4/25. Second application of fungicide applied by cooperator later on.

Table 58. 2016 WSU Variety Testing Hard Winter Wheat Trial, Walla Walla

Variety Name <i>Hard White Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
LCS Jet (NSA10-7208)	138	58.2	12.3	36	128	102	113	
Keldin	135	57.0	12.2	43	131	112	121	
Norwest 553	133	58.2	12.3	35	132	96	109	106
Rimrock	133	57.0	12.1	40	130	105	110	
LCS Azimut	132	52.9	12.3	30	128	94	103	100
LCS Colonia	130	53.0	12.2	39	138	95	109	
WB-Arrowhead	123	56.6	12.5	43	127	99	114	
Whetstone	118	58.9	12.9	39	130	96	111	
SY Touchstone (04PN028B-3)	111	59.1	12.6	35	133			
SY Clearstone CL2	111	57.8	13.1	45	133			
EXPERIMENTAL LINES								
NSA10-2196	147	57.4	12.1	36	128	105		
OR2120276H	135	60.6	11.7	39	130			
OR2120012R	128	58.1	12.9	42	130			
WA 8248	127	60.3	13.0	38	128			
OR2110664	126	58.7	11.8	37	134			
WA 8249	117	58.5	13.9	39	128			
IDO1101	106	58.4	12.4	36	128	95	104	
WA 8231	105	58.6	11.9	41	137	91		
C.V. %	4	2	2	4	1	5	7	8
LSD (0.05)	6	1.9	0.4	2	1	6	7	6
Average	125	57.7	12.4	38	131	99	110	103
Highest	147	60.6	13.9	45	138	112	121	106
Lowest	105	52.9	11.7	30	127	91	103	100

Agronomic Information

Planting Date: 9/28/2015
 Harvest Date: 7/15/2016
 Seeding Rate (lbs/acre): 85
 Spring soil test:
 N (lb/ac) 4-ft sample 235
 P (ppm-Bray) 2-ft sample 39
 S (lb/ac) 4-ft sample 33
 pH (top 6 inches) 5.51
 Herbicide:
 Huskie, PowerFlex, M-90 applied on 4/1/16. Tilt applied on 4/4/16.

Trial Notes:

1. The Walla Walla nursery was located about 3 miles northeast of Walla Walla, WA. This was a new location for 2016, and closer to Walla Walla than our previous winter wheat trials. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold. An additional 20#N was applied in the spring.
2. This trial received only one application of fungicide and low levels of rust were observed on some of the more susceptible lines late in the growing season.
3. Dry seeding conditions led to uneven spring stands, but stands evened out and this turned into a very nice trial.

Cooperator: P. McConnell

Table 59.

STRIPE RUST INFECTION TYPE (IT^a) AND SEVERITY (%) ON CULTIVARS AND LINES IN THE WINTER WHEAT VARIETY TRIAL NURSERY (EXP02) (COORDINATED BY RYAN HIGGINBOTHAM) AT SPILLMAN FARM (LOC 01), PLANT PATH FARM (LOC 03) AND PCFS FARM (LOC 04) NEAR PULLMAN; MT VERNON (LOC 05); WALLA WALLA (LOC 06); AND LIND (LOC 07), WA WHEN RECORDED AT THE INDICATED DATES AND STAGES OF PLANT GROWTH UNDER NATURAL INFECTION IN 2016

Variety	Class	Spillman Farm (Pullman)	Plant Path Farm (Pullman)	Palouse Conservati on Farm (Pullman)	Mt. Vernon		Walla Walla		Lind		Summary ^c	Overall rating ^d	Possible HTAP resistance ^e
		LOC 01	LOC 03	LOC 04	LOC 05		LOC 06		LOC 07				
		6/4	6/2	6/2	4/19	5/18	4/8	5/4	5/5	5/26			
		L. flower. IT %	Flower. IT %	L. flower. IT %	St. elong. IT %	H.-flower. IT %	St. elong. IT %	Heading IT %	Head. IT %	L. flower. IT %			
LCS Colonia	HRW	2 1	2 1	2 2	2 5	3 5	0 0	0 0	0 0	2 1	R	1	Unknown
LCS Jet	HRW	2 2	2 2	2 5	3 10	5 20	0 0	0,8 0,30	0,8 0,30	5,8 5	MR	3	Moderate
Keldin	HRW	5 10	5 10	5 30	3 10	4 20	5 2	7 40	7 40	5 10	MS	6	High
WB-Arrowhead	HRW	2 2	2 5	2 5	3 30	4 50	0 0	2 2	2 2	2 2	MR-MS	5	High
OR2120012R	HRW	2 5	3 10	5 10	3 30	6 60	8 2	0,8 0,15	0,8 0,15	2 2	MR-MS	5	No
OR2120276H	HWW	2 5	2 5	3 10	2 20	3 10	2 2	0,8 0,10	0,8 0,10	2 2	R	2	Moderate
04PN028B-3	HRW	2 2	2 2	2 20	2 10	2 10	2 2	0 0	0 0	2 1	R	2	Moderate
SY Clearstone CL2	HRW	2 10	3 20	3 30	2 20	2 30	8 5	3-5 30	3-5 30	5 10	MR	4	High
Whetstone	HRW	3 0	2 5	3 10	2 30	3 20	5 2	2-3 10	2-3 10	8 5	MR	3	Moderate
IDO1101	HWW	5 20	3 10	5 20	3 30	4 30	8 1	3 20	3 20	3 5	MR	4	Moderate
HE181/3	HRW	2 10	2 5	3 20	2 20	3 10	0 0	3 15	3 15	2 2	R	2	High
AP503 CL2	HRW	5 15	5 10	5 15	4 30	3 30	8 5	7 15	7 15	8 5	MR-MS	5	Moderate
Bauermeister	HRW	8 50	5 20	8 30	6 50	4 30	2 2	8 30	8 30	8 5	MS	7	No
Earl	HWW	2 2	2 2	2 5	2 20	3 10	3 2	0,8 0,5	0,8 0,5	2 2	R	2	High
Farnum	HRW	2 1	2 1	2 2	2 10	2 5	0 0	2 2	2 2	2 1	R	1	High
Finley	HRW	2 5	2 10	3 10	4 30	5 40	8 5	2 10	2 10	2 2	MR	4	Moderate
Sequoia (WA 8180)	HRW	2 5	2 5	2 10	5 60	5 30	0 0	2 2	2 2	2 5	MR	4	Moderate
WA 8197	HRW	2 2	2 2	2 5	2 10	2 5	8 5	2 5	2 5	2 2	R	1	No
WA 8207	HRW	2 1	2 1	2 1	2 5	2 5	0 0	0 0	0 0	2 1	R	2	Moderate
WA 8228	HRW	2 5	2 10	2 10	2 10	2 5	0 0	0 0	0 0	2 2	R	2	Unknown
PS279	CHECK	8 100	8 80	8 100	8 80	8 90	8 15	8 90	8 90	8 80	S	9	No
WA 8229	HRW	2 2	2 5	2 5	2 20	3 5	0 0	2 2	2 2	2 2	R	1	High
WA 8246	HRW	2 2	2 2	2 5	2 10	2 5	0 0	2 2	2 2	2 1	R	1	High
WA 8247	HRW	5 15	3 5	3 20	2 30	2 5	8 10	2,8 2,30	3,8 2,30	2 1	MR	3	Moderate
WA 8250	HRW	2 2	2 2	2 1	2 10	2 5	0 0	2 5	2 5	2 2	R	1	Moderate
LCS-Azimut	HRW	2 2	2 2	2 1	2 10	3 20	0 0	0 0	0 0	2 2	R	2	High
NSA10-2196	HRW	2 2	2 5	3 10	3 5	3 10	2 2	3 5	3 5	2 5	R	2	Moderate
Norwest 553	HRW	2 2	2 10	2 2	2 5	2 5	0 0	0 0	0 0	2 5	R	2	High
OR2110664	HWW	2 5	2 5	2 1	2 2	2 5	0 0	0,8 0,10	0,8 0,10	2 1	R	2	Moderate
WB-Rimrock	HRW	8 92	5 20	8 90	7 60	4 50	2 2	8 50	8 50	8 10	S	9	No
WA 8231	HRW	2 2	2 5	2 5	2 5	2 10	0 0	0 0	0 0	2 2	R	2	Moderate
WA 8248	HRW	2 2	2 10	2 2	2 5	2 5	0 0	0 0	0 0	2 2	R	2	Moderate
WA 8249	HRW	2 1	2 5	2 1	2 2	2 5	0 0	0 0	0 0	2 2	R	1	Unknown
LCS Aymeric	HRW	5 5	2 5	5 10	3 10	2 10	0 0	0,8 0,5	0,8 0,5	2 1	MR	3	Moderate
LCS Evina	HRW	2 2	2 5	2 5	2 2	2 5	2 2	0 0	0 0	2 5	R	1	Unknown
WB 4059	HRW	8 100	8 62	8 100	6 70	8 80	0 0	8 80	8 80	8 60	S	9	No
OR2110679	HWW	2 5	2 2	2 5	2 20	2 5	0 0	0 0	0 0	2 1	R	1	High
Esperia	HRW	8 100	5 10	8 90	7 80	2 30	8 2	5 40	5 40	2 1	S	9	No
PS279	CHECK	8 100	8 8	8 100	8 80	8 90	8 15	8 90	8 90	8 80	S	9	No
Mandala	HRW	5 20	5 10	5 10	3 30	3 10	8 15	2 5	2 5	2 2	MR	3	Moderate
Rebaldi	HRW	2 2	2 2	2 2	3 10	3 10	2 2	0 0	0 0	2 2	MR	3	Moderate

^a Infection Type (IT) was recorded based on the 0-9 scale with ITs 8 and 9 combined as 8 (the most susceptible reaction) in field data. Generally IT 0-3 are considered resistant, 4-6 intermediate, and 7-9 susceptible. Heterogenous reactions of an entry were indicated by two or more ITs separated by "," for most plants with the first IT and few plants with the second IT or connected with "-" for entries containing plants with continuous ITs.

^b Entries with a high IT in the first note, but a low IT in the second note at Mt. Vernon may indicate that they have high-temperature, adult-plant (HTAP) resistance.

^c R = resistant, MR = moderately resistant, MS = moderately susceptible, and S =susceptible.

^d 1 = most resistant and 9 most susceptible.

Note: The summary and ratings are based on the highest IT and % severity to discourage use of race-specific resistance.

^e The high-temperature adult-plant (HTAP) resistance data were based on greenhouse tests (see data in the "Greenhouse Tests" worksheet. Unknown = Whether the entry has HTAP resistance or not couldn't be determined as it was resistant to all tested races in the seedling stage. TBT = to be tested. Entries with the combination of Yr5 and/or Yr15 may not have HTAP resistance but their resistance should be highly effective as no races virulent to either of the genes are found in the US.

Table 60.

STRIPE RUST INFECTION TYPE (IT) ON SEEDLINGS AND ADULT-PLANTS OF CULTIVARS AND LINES IN THE WINTER EXTENSION DISEASE NURSERY (EXP 02) COORDINATED BY RYAN HIGGINBOTHAM TESTED WITH SELECTED *Puccinia striiformis* f. sp. *tritici* (PST) RACES UNDER CONTROLLED GREENHOUSE CONDITIONS AT LOW TEMPERATURES (DIURNAL TEMPERATURES GRADUALLY CHANGING FROM 4 TO 20°C FOR THE SEEDLING TESTS AND AT HIGH TEMPERATURES (DIURNAL TEMPERATURES GRADUALLY CHANGING FROM 10 TO 30°C) FOR THE ADULT-PLANT TESTS

Variety	Class	Infection types produced by PST races*																		Possible HTAP**** resistance
		Seedling test (4-20° C)**					Adult plant tests (10-30° C)**													
		PSTv-4	PSTv-14	PSTv-37	PSTv-40	PSTv-51	PSTv-14(12-116-NG)			PSTv-37(12-114-NG)			PSTv-40 (09-78)			PSTv-4(13-268)		PSTv-51(11-366)		
		13-268	12-116	12-114	09-78	11-366	REP1	REP2	REP3	REP1	REP2	REP3	REP1	REP2	REP3	REP1	REP2	REP1	REP2	
LCS Colonia	HRW	2	2	2	2	2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					Unknown
LCS Jet	HRW	2	5	8	8	2	2,2,2	2,2,2	2,2,2	2,2,3	2,2,3	2,2,3	3,4,4	2,3,3	3,3,3					Moderate
Keldin	HRW	8	8	8	8	8	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					High
WB-Arrowhead	HRW	2	2	2	8	2	1,1,1	1,1,1	1,1,1	1,1,2	1,1,1	2,2,2	2,2,2	2,2,2	2,2,2					High
OR2120012R	HRW	8	8	8	8	8	2,2,2	2,3,3	3,5,5	8,8,8	8,8,8	8,8,8	2,2,5	3,5,5	2,3,5					No
OR2120276H	HWW	5	8	8	8	5	2,3,5	2,2,2	3,3,3	5,5,5	3,5,5	2,2,2	2,2,2	2,2,2	2,2,2					Moderate
04PN028B-3	HRW	8	8	8	8	8	2,2,2	2,2,2	2,3,3	4,5,6	3,6,6	2,2,2	2,2,2	2,2,2	2,2,2					Moderate
SY Clearstone CL2	HRW	8	8	8	5	8	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					High
Whetstone	HRW	8	8	8	8	8	3,3,3	3,3,3	3,3,3	5,5,5	5,5,5	5,5,5	5,5,5	5,5,5	5,5,5					Moderate
IDO1101	HWW	8	8	8	8	5	3,3,3	3,3,3	3,3,3	3,5,5	5,5,5	5,5,5	2,2,3	2,3,3	2,2,3					Moderate
HE181/3	HRW	8	8	8	5	8	2,2,2	1,1,1	2,2,2	2,2,2	2,2,2	2,2,3	2,2,2	2,2,2	2,2,2					High
AP503 CL2	HRW	8	8	8	8	8	3,3,3	2,2,2	2,3,3	5,5,5	5,5,8	3,3,8	5,5,6	5,5,5	5,5,6					Moderate
Bauermeister	HRW	8	8	8	8	8	5,8,8	5,5,5	5,8,8	8,8,8	8,8,8	8,8,8	3,5,5	2,5,5	5,5,5					No
Earl	HWW	2	8	8	8	8	2,2,2	2,2,2	2,2,2	2,2,3	2,2,2	2,2,5	2,2,2	2,3,3	2,2,2					High
Farnum	HRW	2	7	8	8	8	2,2,2	2,2,2	2,2,2	2,2,2	2,2,3	2,2,2	2,2,2	2,2,2	2,2,2					High
Finley	HRW	2	2	8	8	8	2,2,2	2,2,2	2,2,2	2,3,5	5,5,5	5,5,5	5,5,5	5,5,5	5,5,5					Moderate
Sequoia (WA 8180)	HRW	2	2	2	8	2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	5,5,5	3,5,5	3,5,5					Moderate
WA 8197	HRW	8	8	8	8	8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	5,8,8	8,8,8	8,8,8					No
WA 8207	HRW	8	8	8	8	8	3,3,4	3,3,4	2,2,3	2,3,5	3,5,5	2,2,2	2,2,3	3,3,3	2,3,3					Moderate
WA 8228	HRW	2	2	2	2	2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					Unknown
PS279	CHECK	8	8	8	8	8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8					No
WA 8229	HRW	2	2	2	8	2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					High
WA 8246	HRW	8	8	8	8	8	2,2,3	2,2,3	2,2,2	2,2,3	2,2,2	3,3,3	2,2,2	2,2,2	2,2,2					High
WA 8247	HRW	8	8	8	8	8	3,5,5	2,2,5	2,2,5	2,2,2	2,3,5	2,2,2	3,5,5	2,3,5	3,3,5					Moderate
WA 8250	HRW	8	8	8	8	8	5,5,6	3,3,3	5,5,6	2,2,5	2,3,5	5,5,5	2,2,5	5,5,5	3,3,4					Moderate
LCS-Azmut	HRW	2	2	8	2	8	2,2,2	-	-	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2			2,2,2	2,2,2	High
NSA10-2196	HRW	2	8	8	2	8	3,3,3	2,2,3	2,2,2	2,3,3	2,2,3	2,3,3	-	-	2,2,2			2,2,3	2,3,5	Moderate
Norwest 553	HRW	8	8	8	8	8	2,2,2	3,3,3	2,2,2	2,2,5	2,2,3	2,2,3	2,2,2	2,2,2	2,2,2					High
OR2110664	HWW	2,5	8	8	2,5	5	2,2,2	2,2,3	2,2,2	3,4,5	3,3,5	2,2,2	2,2,2	2,2,2	2,2,2					Moderate
WB-Rimrock	HRW	8	8	8	8	8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	3,3,3	3,3,4	3,3,3					No
WA 8231	HRW	8	8	8	8	8	5,5,5	5,5,5	5,5,5	3,3,5	4,4,5	5,5,5	5,5,5	3,5,5	5,5,5					Moderate
WA 8248	HRW	8	8	8	7	8	2,3,3	3,3,4	3,3,4	5,5,3	5,3,3	5,5,3	2,2,2	2,2,2	2,2,3					Moderate
WA 8249	HRW	2	2	2	2	2	2,2,2	2,2,2	2,2,2	2,2,3	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					Unknown
LCS Aymeric	HRW	8	8	8	7	8	3,3,3	2,2,3	3,3,3	3,3,3	2,3,3	2,2,2	2,2,2	2,2,2	2,2,2					Moderate
LCS Evina	HRW	2	2	2	2	2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2					Unknown
WB 4059	HRW	8	8	8	8	8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8					No
OR2110679	HRWW	8	5	8	2	5	2,2,3	2,2,2	2,3,3	2,2,2	2,2,2	2,2,2	-	-	2,2,2	2,2,2	2,2,2			High
Esperia	HRW	8	8	8	8	8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8					No
PS279	CHECK	8	8	8	8	8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8					No
Mandala****	HRW	0	0	0	0	0	3,3,4	2,2,2	2,2,2	3,3,3	2,2,2	2,2,2	2,3,4	2,2,2	2,2,2					Moderate
Rebaldi	HRW	8	8	8	8	8	2,2,3	2,3,3	2,3,4	2,2,5	2,2,2	2,2,5	2,2,2	2,2,2	2,2,2					Moderate

* Infection Type (IT) was recorded based on the 0-9 scale. Generally IT 0-3 are considered resistant, 4-6 intermediate, and 7-9 susceptible. Heterogenous reactions of an entry were indicated by two or more ITs separated by "," for most plants with the first IT and few plants with the second IT or connected with "-" for entries containing plants with continuous ITs. Entries with a high IT in the seedling test, but a low IT in the adult-plant test may indicate that they have high-temperature, adult-plant (HTAP) resistance. PSTv-4 is virulent to Yr1, Yr6, Yr9, Yr17, Yr27, YrSP, and YrTye; PSTv-14 is virulent to Yr1, Yr6, Yr7, Yr8, Yr9, Yr17, Yr27, Yr43, Yr44, YrTr1, YrExp2, and YrTye; PSTv-37 is virulent to Yr6, Yr7, Yr8, Yr9, Yr17, Yr27, Yr43, Yr44, YrTr1, and YrExp2; PSTv-40 is virulent to Yr6, Yr7, Yr8, Yr9, Yr10, Yr24, Yr27, Yr32, Yr43, Yr44, YrTr1, and YrExp2; and PSTv-51 is virulent to resistance genes Yr1, Yr6, Yr7, Yr8, Yr9, Yr10, Yr17, Yr24, Yr27, Yr32, Yr43, Yr44, YrSP, YrTr1, YrExp2, and YrTye. None of the predominant races (PSTv-4, PSTv-14, PSTv-37, and PSTv-40) or most virulent race (PSTv-51) is virulent to Yr5 and Yr15 in the differential set.

** For the seedling tests, about 5 to 10 plants were used. Inoculation was done at the 2-leaf stage and incubated in the dew chamber at 10C for about 24 h in dark. The inoculated plants were then grown in a greenhouse growth chamber at a diurnal temperature cycle gradually changing from 4 C at 2:00 am to 20 C at 2:00 pm with a 16 h photoperiod in the day time. Infection type was recorded for the line about 20 days after inoculation. For the adult-plant tests, One-leaf seedlings were started to vernalized at 2-4 C for about 6 weeks and vernalized seedlings were transplanted into a big pots. 3 plants were used in each race test. Inoculation was done at the boot to heading stages and incubated in the dew chamber at 10C for about 24 h in dark. The inoculated plants were then grown in a greenhouse growth chamber at a diurnal temperature cycle gradually changing from 10 C at 2:00 am to 30 C at 2:00 pm with a 16 h photoperiod in the day time. Infection type was recorded for each individual plant using the flag leaf about 20 days after inoculation.

*** Unknown = Whether the entry has HTAP resistance or not could not be determined as it was resistant to all tested races in the seedling stage.

**** As the seeds were treated with fungicide, the seedling testing may not be reliable.

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Table 61. 2016 WSU Variety Testing Soft White Spring Wheat Zone Summary
 Precipitation Zone = >20"

Variety Name <i>Club Italicized</i>	Fairfield *	Farmington	Palouse	Pullman **	Average	Fairfield *	Farmington	Palouse	Pullman **	Average	Fairfield *	Farmington	Palouse	Pullman **	Average
	YIELD (BU/A)					TEST WT (LBS/BU)					PROTEIN (%)				
RELEASED VARIETIES															
Tekoa (WA 8189)	57	104	116	86	91	60.7	61.2	62.9	62.6	61.9	9.7	7.8	10.9	11.6	10.0
Seahawk	53	95	109	99	89	61.3	60.6	63.0	63.2	62.0	10.5	8.4	11.4	11.6	10.5
<i>Melba</i>	43	100	108	94	86	61.2	60.4	63.3	61.2	61.6	10.7	8.0	10.6	10.8	10.0
Ryan (WA 8214)	55	102	109	79	86	60.1	59.8	61.3	61.0	60.6	9.9	8.4	10.7	9.8	9.7
Diva	58	95	104	83	85	61.7	60.6	62.7	60.3	61.3	10.1	7.9	11.1	10.2	9.8
WB6121	52	89	99	95	84	61.5	61.6	62.4	63.4	62.2	11.3	9.3	12.0	12.9	11.4
SY Saltese (SY 04PN3024-2)	45	102	102	79	82	61.5	61.2	62.6	60.8	61.6	10.1	7.9	10.9	11.1	10.0
Louise	49	95	105	71	80	61.3	60.7	61.8	57.7	60.4	10.2	8.0	10.9	11.9	10.3
<i>JD</i>	44	90	94	89	79	61.6	61.2	63.8	63.1	62.4	10.6	8.7	11.8	11.3	10.6
Whit	52	95	97	71	79	60.7	59.9	60.5	60.6	60.4	10.1	8.1	10.9	11.3	10.1
WB6341	55	100	96	56	77	58.7	59.4	60.1	58.9	59.3	9.4	7.3	10.6	9.7	9.2
UI-Stone	39	87	93	57	69	60.8	59.4	60.8	59.7	60.2	10.4	7.5	10.6	9.5	9.5
Babe	41	92	88	44	66	60.5	59.6	61.0	55.0	59.0	9.8	7.5	10.8	11.5	9.9
WB-1035CL+	43	79	68	39	57	60.0	60.3	57.8	57.2	58.8	11.1	8.7	12.8	11.9	11.1
EXPERIMENTAL LINES															
14-SW-1059	58	98	106	91	88	58.8	58.7	60.0	59.0	59.1	10.6	8.8	11.7	11.1	10.5
14-SW-1030	51	95	111	90	86	59.0	59.2	59.9	59.0	59.3	11.3	8.7	12.0	10.1	10.5
WA 8253	42	93	111	88	84	60.8	60.3	62.5	60.9	61.1	10.5	7.9	10.1	10.5	9.8
WA 8254	45	103	111	73	83	60.9	60.3	62.3	56.7	60.1	10.5	8.0	10.2	11.0	9.9
WA 8255	41	100	104	75	80	62.2	61.0	63.8	61.4	62.1	10.3	8.1	10.9	10.6	10.0
<i>WA 8236 CL+</i>	33	94	99	86	78	61.5	61.2	63.7	63.0	62.3	11.8	9.0	11.7	12.3	11.2
12-SW-068	52	88	95	71	76	59.1	59.2	60.0	59.1	59.4	10.6	8.5	11.1	10.4	10.1
WA 8266 CL+	49	101	89	56	74	61.5	61.5	60.1	58.0	60.3	10.2	7.9	11.7	11.8	10.4
WA 8265 CL+	48	94	89	57	72	61.1	61.4	60.3	57.3	60.0	10.1	7.7	11.3	11.6	10.2
YS-602	39	83	92	57	68	59.3	59.3	60.2	55.7	58.6	10.9	8.2	10.6	10.8	10.1
C.V. %	10	5	5	6	6	0	1	1	1	1	5	4	2	10	6
LSD (0.05)	7	7	6	6	3	0.4	0.4	0.5	0.9	0.3	0.7	0.4	0.3	1.5	0.4
Average	48	95	100	74	79	60.7	60.3	61.5	59.8	60.6	10.4	8.2	11.1	11.1	10.2
Highest	58	104	116	99	91	62.2	61.6	63.8	63.4	62.4	11.8	9.3	12.8	12.9	11.4
Lowest	33	79	68	39	57	58.7	58.7	57.8	55.0	58.6	9.4	7.3	10.1	9.5	9.2

* Fairfield location impacted by Hessian fly infestation

** Pullman location was not sprayed with fungicide and stripe rust pressure was high.

Table 62. 2016 WSU Variety Testing Soft White Spring Wheat Zone Summary
Precipitation Zone = 16-20"

Variety Name <i>Club Italicized</i>	Dayton	Mayview	Plaza	St. John	Walla Walla	Average	Dayton	Mayview	Plaza	St. John	Walla Walla	Average	Dayton	Mayview	Plaza	St. John	Walla Walla	Average
	YIELD (BU/A)						TEST WT (LBS/BU)						PROTEIN (%)					
RELEASED VARIETIES																		
<i>Melba</i>	72	64	100	81	114	86	62.7	61.9	63.3	63.3	61.7	62.6	9.5	9.2	10.8	9.6	9.9	9.8
Seahawk	59	63	101	73	128	85	62.4	62.0	62.7	62.5	61.3	62.2	11.3	9.7	11.3	10.8	10.4	10.7
Ryan (WA 8214)	66	44	94	76	124	81	61.9	61.0	62.4	61.9	61.8	61.8	9.7	10.4	10.8	10.3	10.0	10.2
Louise	60	49	101	77	114	80	62.2	61.2	63.0	62.4	62.2	62.2	9.8	8.8	10.8	10.2	9.9	9.9
Diva	59	52	103	75	111	80	62.5	62.3	62.6	62.7	61.7	62.4	9.9	10.7	10.9	10.3	10.5	10.5
WB6341	66	47	90	79	108	78	61.1	60.6	61.8	62.6	60.5	61.3	9.4	9.5	9.5	9.8	9.4	9.5
<i>JD</i>	62	53	94	75	104	78	63.3	62.7	63.9	63.1	62.3	63.1	10.0	11.0	12.2	10.8	10.8	11.0
Tekoa (WA 8189)	52	55	97	70	113	77	63.0	61.8	63.1	63.2	60.5	62.3	9.8	8.8	10.8	10.4	11.0	10.2
SY Saltese (SY 04PN3024-2)	61	43	98	75	103	76	62.7	61.8	63.2	63.2	62.3	62.7	9.3	9.7	10.7	10.7	10.1	10.1
Whit	62	53	91	71	103	76	61.9	60.6	63.1	61.7	60.5	61.6	9.6	9.0	10.8	10.8	10.2	10.1
WB6121	63	50	93	59	110	75	62.5	62.3	63.0	62.5	61.7	62.4	10.4	11.7	12.2	12.5	11.3	11.6
UI-Stone	64	48	83	68	106	74	62.8	61.4	61.5	62.8	60.5	61.8	10.2	9.5	10.4	10.7	9.1	10.0
Babe	59	39	77	77	82	67	62.5	61.3	61.9	62.6	60.1	61.7	10.1	9.7	10.0	10.4	9.9	10.0
WB-1035CL+	55	43	80	60	88	65	61.3	60.8	61.3	62.3	59.6	61.0	11.2	11.4	12.5	12.7	11.6	11.9
EXPERIMENTAL LINES																		
WA 8265 CL+	66	54	95	84	95	79	62.7	62.0	62.2	62.8	60.5	62.0	9.8	9.2	10.8	9.8	10.5	10.0
14-SW-1059	69	56	91	78	96	78	60.5	59.0	60.3	60.2	59.8	60.0	10.9	10.2	11.4	10.0	11.2	10.7
14-SW-1030	68	52	90	78	102	78	60.7	59.2	59.5	60.9	59.7	60.0	10.8	9.7	11.5	10.8	9.9	10.5
WA 8254	61	35	100	75	119	78	62.4	61.3	63.1	62.8	62.8	62.5	9.5	9.8	10.2	10.1	9.2	9.8
WA 8266 CL+	70	55	89	75	100	78	62.7	61.8	62.1	62.7	61.1	62.1	9.9	9.9	11.0	10.5	10.4	10.3
WA 8253	63	46	91	72	115	77	62.0	60.8	62.6	62.5	61.5	61.9	10.0	9.8	10.1	10.6	9.8	10.1
12-SW-068	65	53	86	65	114	77	60.5	59.7	60.8	61.0	60.1	60.4	11.1	10.2	11.2	11.4	10.0	10.8
WA 8255	58	50	81	76	101	73	62.9	62.4	64.0	63.1	62.6	63.0	9.9	9.6	10.6	10.3	10.4	10.2
YS-602	61	48	69	75	97	70	61.3	60.3	61.7	61.7	60.3	61.1	11.0	10.5	11.0	11.0	10.1	10.7
<i>WA 8236 CL+</i>	62	48	77	68	96	70	62.4	62.2	63.3	63.1	62.2	62.7	10.6	10.7	12.5	11.6	11.6	11.4
C.V. %	5	12	5	8	4	6	0	1	1	0	1	1	4	7	3	6	7	6
LSD (0.05)	4	8	8	8	5	3	0.3	0.5	0.9	0.3	1.2	0.3	0.6	0.9	0.5	0.9	1.0	0.4
Average	62	50	90	73	106	76	62.1	61.3	62.3	62.4	61.1	61.9	10.2	9.9	11.0	10.7	10.3	10.4
Highest	72	64	103	84	128	86	63.3	62.7	64.0	63.3	62.8	63.1	11.3	11.7	12.5	12.7	11.6	11.9
Lowest	52	35	69	59	82	65	60.5	59.0	59.5	60.2	59.6	60.0	9.3	8.8	9.5	9.6	9.1	9.5

Table 63. 2016 WSU Variety Testing Soft White Winter Wheat Zone Summary
Precipitation Zone = 12-16"

Variety Name <i>Club Italicized</i>	Almira	Reardan*	Average	Almira	Reardan*	Average	Almira	Reardan*	Average
	YIELD (BU/A)			TEST WT			PROTEIN (%)		
RELEASED VARIETIES									
Seahawk	76	85	80	61.6	63.9	62.8	11.1	11.4	11.2
<i>Melba</i>	71	86	79	62.1	64.5	63.3	10.8	10.5	10.6
<i>JD</i>	68	76	72	62.2	64.6	63.4	11.9	12.0	12.0
Diva	67	76	72	61.6	63.2	62.4	11.5	11.3	11.4
Ryan (WA 8214)	67	76	71	61.1	62.3	61.7	11.3	10.9	11.1
SY Saltese (SY 04PN3024-)	63	76	69	61.6	63.1	62.3	11.9	10.8	11.3
Louise	63	74	69	60.7	62.4	61.6	11.5	11.0	11.3
UI-Stone	68	69	69	62.0	61.8	61.9	11.5	10.4	11.0
Tekoa (WA 8189)	60	76	68	61.6	64.1	62.9	11.0	10.9	10.9
WB6341	70	62	66	61.3	61.6	61.5	10.8	9.6	10.2
Whit	65	64	64	60.8	61.5	61.1	11.9	10.6	11.3
WB6121	56	71	63	61.0	63.1	62.1	14.0	12.8	13.4
WB-1035CL+	62	49	55	61.1	59.2	60.2	13.8	12.4	13.1
Babe	56	52	54	61.1	59.2	60.1	11.5	10.8	11.1
EXPERIMENTAL LINES									
14-SW-1059	82	91	86	59.2	60.7	59.9	11.0	11.0	11.0
14-SW-1030	78	91	84	59.3	61.4	60.4	11.3	11.3	11.3
WA 8255	72	69	71	61.9	64.1	63.0	10.9	10.5	10.7
12-SW-068	68	68	68	60.5	61.2	60.8	12.0	11.1	11.6
WA 8253	60	76	68	61.3	63.2	62.3	11.5	10.7	11.1
WA 8266 CL+	70	65	68	61.2	60.9	61.0	11.2	11.1	11.2
<i>WA 8236 CL+</i>	62	70	66	62.2	64.2	63.2	12.4	12.1	12.3
YS-602	65	67	66	60.1	61.0	60.6	12.0	10.3	11.2
WA 8265 CL+	70	60	65	61.8	60.3	61.1	10.8	10.9	10.9
WA 8254	56	63	59	61.3	62.4	61.8	11.5	10.5	11.0
C.V. %	8	6	7	1	1	1	2	3	3
LSD (0.05)	8	6	5	0.5	0.8	0.5	0.3	0.5	0.3
Average	66	71	69	61.2	62.2	61.7	11.6	11.0	11.3
Highest	82	91	86	62.2	64.6	63.4	14.0	12.8	13.4
Lowest	55	49	54	59.2	59.2	59.9	10.8	9.6	10.2

* Reardan was moved to the 12-16" zone in 2016

Table 64. 2016 WSU Variety Testing Soft White Spring Wheat Zone Summary
Precipitation Zone = <12"

Variety Name <i>Club Italicized</i>	Horse Heaven	Lind	Average	Horse Heaven	Lind	Average	Horse Heaven	Lind	Average
	YIELD (BU/A)			TEST WT (LBS/BU)			PROTEIN (%)		
RELEASED VARIETIES									
Tekoa (WA 8189)	32	52	42	62.8	66.7	64.8	11.4	12.2	11.8
<i>Melba</i>	27	56	42	62.4	67.5	65.0	11.1	12.0	11.6
<i>JD</i>	27	52	39	62.8	66.9	64.9	11.5	12.4	11.9
Louise	28	50	39	61.0	66.4	63.7	10.8	11.8	11.3
Diva	25	53	39	61.5	66.2	63.9	10.9	12.4	11.7
Seahawk	24	47	36	62.1	66.3	64.2	10.8	12.1	11.4
SY Saltese (SY 04PN3024-2)	25	46	35	61.9	66.3	64.1	10.7	12.4	11.6
WB6341	21	46	33	61.4	65.9	63.6	10.5	11.2	10.9
UI-Stone	21	45	33	62.0	66.4	64.2	11.2	12.2	11.7
WB-1035CL+	23	43	33	61.5	65.1	63.3	12.1	14.0	13.1
Whit	19	44	31	61.2	65.1	63.1	11.1	12.0	11.6
Babe	25	38	31	62.1	66.9	64.5	10.9	13.1	12.0
Ryan (WA 8214)	19	43	31	61.7	65.7	63.7	11.7	12.6	12.2
WB6121	20	40	30	61.6	65.5	63.6	12.7	13.9	13.3
EXPERIMENTAL LINES									
WA 8265 CL+	29	49	39	60.9	65.9	63.4	10.4	11.4	10.9
WA 8266 CL+	27	44	35	61.6	66.0	63.8	10.5	11.9	11.2
WA 8254	22	44	33	62.2	66.1	64.2	10.9	11.7	11.3
WA 8255	21	45	33	62.6	67.3	65.0	11.2	12.0	11.6
WA 8253	21	43	32	61.1	66.0	63.6	10.9	12.3	11.6
12-SW-068	21	42	31	60.2	64.4	62.3	11.7	12.4	12.0
YS-602	24	38	31	61.1	65.6	63.3	11.8	13.3	12.6
14-SW-1030	22	38	30	59.8	63.9	61.8	13.0	13.8	13.4
14-SW-1059	22	37	30	60.7	64.3	62.5	12.7	13.5	13.1
WA 8236 CL+	15	40	27	62.2	66.5	64.3	12.3	13.1	12.7
C.V. %	11	9	10	1	1	1	3	2	3
LSD (0.05)	4	6	3	0.5	0.6	0.4	0.5	0.5	0.3
Average	23	45	34	61.6	66.0	63.8	11.4	12.5	11.9
Highest	32	56	42	62.8	67.5	65.0	13.0	14.0	13.4
Lowest	15	37	27	59.8	63.9	61.8	10.4	11.2	10.9

Table 65. 2016 WSU Variety Testing Soft White Spring Wheat Zone Summary
 Precipitation Zone = Irrigated

Variety Name <i>Club Italicized</i>	Moses Lake	Pasco	Average	Moses Lake	Pasco	Average	Moses Lake	Pasco	Average
	YIELD (BU/A)			TEST WT (LBS/BU)			PROTEIN (%)		
RELEASED VARIETIES									
Tekoa (WA 8189)	135	120	128	63.8	62.3	63.1	9.9	12.0	11.0
Seahawk	130	120	125	63.7	62.7	63.2	10.5	12.6	11.6
Whit	118	117	117	62.5	61.9	62.2	10.4	12.0	11.2
SY Saltese (SY 04PN3024-2)	113	111	112	63.6	62.2	62.9	10.1	12.3	11.2
Ryan (WA 8214)	112	111	112	63.0	61.6	62.3	11.2	12.8	12.0
UI-Stone	115	108	111	63.3	62.6	63.0	9.7	10.9	10.3
<i>Melba</i>	131	89	110	64.1	61.3	62.7	10.1	12.4	11.3
WB6121	103	106	105	63.9	62.4	63.2	12.0	13.4	12.7
Diva	116	90	103	63.6	61.1	62.4	10.8	12.9	11.9
Louise	113	93	103	62.7	61.3	62.0	10.8	12.5	11.7
WB6341	109	97	103	62.3	61.2	61.8	9.5	10.9	10.2
Babe	96	82	89	62.0	60.3	61.2	10.0	12.1	11.0
WB-1035CL+	90	85	87	60.7	60.7	60.7	11.6	13.3	12.5
EXPERIMENTAL LINES									
12-SW-052	138	116	127	62.3	59.2	60.8	9.3	12.7	11.0
14-SW-1030	132	111	122	62.0	59.6	60.8	10.3	12.5	11.4
14-SW-1059	129	108	119	61.3	59.2	60.3	10.3	12.9	11.6
WA 8254	119	117	118	63.1	63.0	63.1	10.1	11.1	10.6
WA 8253	113	111	112	63.2	61.7	62.5	11.1	11.6	11.4
WA 8255	119	106	112	63.5	63.0	63.3	9.9	11.6	10.8
12-SW-068	106	103	104	60.7	61.1	60.9	10.6	12.3	11.4
YS-602	99	102	100	62.0	61.2	61.6	10.5	11.5	11.0
<i>WA 8236 CL+</i>	103	96	100	66.8	62.1	64.4	11.9	13.8	12.9
WA 8265 CL+	114	70	92	63.5	57.6	60.6	9.6	12.5	11.1
WA 8266 CL+	110	67	89	60.9	58.1	59.5	10.0	12.9	11.5
C.V. %	6	7	7	1	1	1	4	3	4
LSD (0.05)	10	10	8	1.0	0.9	0.8	0.6	0.5	0.5
Average	115	101	108	62.9	61.2	62.0	10.4	12.3	11.4
Highest	138	120	128	66.8	63.0	64.4	12.0	13.8	12.9
Lowest	90	67	87	60.7	57.6	59.5	9.3	10.9	10.2

Table 66. WSU Variety Testing Soft White Spring Wheat Multi-Year Summary

Precipitation Zone = >20"
(Fairfield, Farmington, Palouse, Pullman)

Variety Name <i>Club Italicized</i>	2 Years 2015-2016, 6 loc/years			3 Years 2014-2016, 8 loc/years			5 Years 2012-2016, 14 loc/years		
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
Tekoa (WA 8189)	82	61.4	10.1	81	60.5	10.6			
Ryan (WA 8214)	81	60.3	10.0	80	59.2	10.3			
Seahawk	81	61.4	10.7	79	60.4	11.3	77	60.4	11.0
<i>Melba</i>	80	61.2	10.4	78	60.4	10.5			
Diva	79	60.9	9.9	77	59.9	10.3	75	60.0	10.4
WB6121	77	61.6	11.5						
<i>JD</i>	76	62.2	10.7	74	61.3	11.0	74	61.1	11.1
Louise	74	59.8	10.3	72	58.7	10.6	74	59.1	10.4
Whit	74	59.9	10.4	76	59.3	10.6	75	59.5	10.8
WB6341	72	59.1	9.6	74	58.3	10.0			
UI-Stone	67	60.2	9.9	69	59.5	10.3	69	59.8	10.4
Babe	66	59.4	10.0	68	58.9	10.3	69	59.4	10.4
WB-1035CL+	58	59.0	11.5	61	58.5	11.7	65	58.9	11.9
EXPERIMENTAL LINES									
12-SW-068	73	58.7	10.5						
<i>WA 8236 CL+</i>	72	61.8	11.3						
C.V. %	6	1	5	6	1	6	6	1	5
LSD (0.05)	2	0.3	0.3	2	0.3	0.3	2	0.2	0.2
Average	74	60.5	10.5	74	59.6	10.6	72	59.8	10.8
Highest	82	62.2	11.5	81	61.3	11.7	77	61.1	11.9
Lowest	58	58.7	9.6	61	58.3	10.0	65	58.9	10.4

Table 67. WSU Variety Testing Soft White Spring Wheat Multi-Year Summary

Precipitation Zone = 16-20"

(Dayton, Mayview, Plaza, St. John, Walla Walla)

Variety Name <i>Club Italicized</i>	2 Years 2015-2016, 8 loc/years			3 Years 2014-2016, 10 loc/years			5 Years 2012-2016, 18 loc/years		
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
<i>Melba</i>	66	60.1	11.0	64	59.7	11.2			
Seahawk	66	60.2	11.5	63	60.0	11.6	65	60.5	11.5
Ryan (WA 8214)	65	59.6	11.1	64	59.6	11.2			
WB6341	63	59.4	10.4	62	59.2	10.6			
Diva	63	60.1	11.2	64	59.8	11.3	66	60.2	11.2
Louise	63	59.0	11.1	62	58.8	11.2	65	59.4	11.1
<i>JD</i>	62	61.2	11.8	61	60.9	11.9	63	61.2	11.7
Whit	62	59.0	11.3	61	58.9	11.5	64	59.4	11.4
WB6121	61	60.4	12.0						
Tekoa (WA 8189)	60	60.1	11.3	59	59.7	11.4			
UI-Stone	59	60.1	11.0	58	59.9	11.2	61	60.5	11.0
Babe	57	59.7	11.0	56	59.7	11.2	61	60.3	11.1
WB-1035CL+	54	59.1	12.7	53	59.1	12.8	57	59.7	12.6
EXPERIMENTAL LINES									
12-SW-068	63	57.9	11.6						
<i>WA 8236 CL+</i>	57	60.6	12.2						
C.V. %	6	1	5	6	1	4	6	1	4
LSD (0.05)	2	0.3	0.2	2	0.3	0.2	1	0.2	0.1
Average	61	59.8	11.4	61	59.6	11.4	63	60.2	11.5
Highest	66	61.2	12.7	64	60.9	12.8	66	61.2	12.6
Lowest	54	57.9	10.4	53	58.8	10.6	57	59.4	11.0

Table 68. **WSU Variety Testing Soft White Spring Wheat Multi-Year Summary**

Precipitation Zone = 12-16"

(Almira, Endicott, Lamont, Reardan*)

Variety Name <i>Club Italicized</i>	2 Years 2015-2016, 5 loc/years			3 Years 2014-2016, 8 loc/years			5 Years 2012-2016, 15 loc/years		
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
Seahawk	47	59.3	13.6	40	59.1	13.8	49	59.6	13.4
<i>JD</i>	45	59.4	13.6	39	59.3	13.9	47	59.8	13.6
WB6121	45	58.4	14.0						
Diva	45	57.8	12.9	42	58.5	13.3	51	59.1	12.9
<i>Melba</i>	44	58.1	13.4	38	58.1	13.8			
Ryan (WA 8214)	44	57.7	12.6	42	58.1	12.9			
Whit	42	56.7	13.3	39	57.4	13.6	48	58.1	13.5
Tekoa (WA 8189)	41	58.7	13.4	38	58.5	13.8			
Louise	41	55.4	13.3	39	56.5	13.5	50	57.8	12.9
WB6341	40	57.5	12.0	38	57.9	12.4			
UI-Stone	39	58.5	12.7	36	58.8	13.0	47	59.2	12.7
Babe	35	56.8	12.9	34	57.6	13.3	46	58.9	12.9
WB-1035CL+	34	56.5	14.4	33	57.2	14.8	43	57.9	14.4
EXPERIMENTAL LINES									
12-SW-068	43	55.1	13.1						
<i>WA 8236 CL+</i>	43	59.0	14.1						
C.V. %	8	2	5	9	1	5	8	1	5
LSD (0.05)	2	0.5	0.4	2	0.4	0.3	1	0.3	0.2
Average	42	57.7	13.3	38	58.1	13.5	48	58.8	13.3
Highest	47	59.4	14.4	42	59.3	14.8	51	59.8	14.4
Lowest	34	55.1	12.0	33	56.5	12.4	43	57.8	12.7

* Reardan was moved to the 12-16" zone in 2016

Table 69. WSU Variety Testing Soft White Spring Wheat Multi-Year Summary

Precipitation Zone = <12"
(Bickleton, Horse Heaven, Lind)

Variety Name <i>Club Italicized</i>	2 Years 2015-2016, 5 loc/years			3 Years 2014-2016, 8 loc/years			5 Years 2012-2016, 14 loc/years		
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
Diva	28	60.2	12.6	27	60.5	12.3	29	60.5	12.5
<i>Melba</i>	28	60.7	12.9	26	60.7	12.7			
<i>JD</i>	28	61.8	12.8	26	61.7	12.7	28	61.7	12.8
Tekoa (WA 8189)	28	60.9	13.1	26	60.7	13.1			
Louise	27	59.2	12.6	25	59.3	12.5	28	59.7	12.6
WB6341	26	60.7	11.9	25	60.4	12.0			
Babe	26	60.8	12.8	24	60.7	12.9	26	61.0	12.9
UI-Stone	25	61.5	12.6	24	61.7	12.5	26	61.5	12.3
WB-1035CL+	25	60.1	14.0	23	60.1	14.0	26	60.2	14.1
Whit	25	60.0	12.7	24	59.8	12.6	27	59.9	12.7
Seahawk	25	60.9	12.6	24	60.8	12.6	26	60.8	12.6
WB6121	25	60.9	13.8						
Ryan (WA 8214)	25	61.0	12.8	24	60.7	12.7			
EXPERIMENTAL LINES									
12-SW-068	26	58.8	12.8						
<i>WA 8236 CL+</i>	23	61.1	13.4						
C.V. %	10	1	3	9	1	3	9	1	3
LSD (0.05)	2	0.4	0.3	1	0.4	0.2	1	0.3	0.2
Average	26	60.6	12.9	25	60.6	12.7	27	60.6	12.8
Highest	28	61.8	14.0	27	61.7	14.0	29	61.7	14.1
Lowest	23	58.8	11.9	23	59.3	12.0	26	59.7	12.3

Table 70. 2016 WSU Variety Testing SW Spring Wheat Trial, Almira

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year*	5 Year**
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
Seahawk	76	61.6	11.1	30	167	47	51	
<i>Melba</i>	71	62.1	10.8	28	167	44	50	
WB6341	70	61.3	10.8	29	161	47		
UI-Stone	68	62.0	11.5	30	160	46	51	
<i>JD</i>	68	62.2	11.9	32	166	45	51	55
Diva	67	61.6	11.5	33	163	45	50	55
Ryan (WA 8214)	67	61.1	11.3	30	160	46		
Whit	65	60.8	11.9	31	161	44	50	53
Louise	63	60.7	11.5	34	165	41	48	52
SY Saltese (SY 04PN3024-2)	63	61.6	11.9	31	159			
WB-1035CL+	62	61.1	13.8	28	161	44	49	49
Tekoa (WA 8189)	60	61.6	11.0	32	167	40	47	
Babe	56	61.1	11.5	31	168	40	49	52
WB6121	56	61.0	14.0	27	160	41		
EXPERIMENTAL LINES								
14-SW-1059	82	59.2	11.0	30	167			
14-SW-1030	78	59.3	11.3	32	167			
WA 8255	72	61.9	10.9	33	167			
WA 8265 CL+	70	61.8	10.8	33	168			
WA 8266 CL+	70	61.2	11.2	32	167			
12-SW-068	68	60.5	12.0	30	162	47		
YS-602	65	60.1	12.0	30	167			
<i>WA 8236 CL+</i>	62	62.2	12.4	29	163	43		
WA 8253	60	61.3	11.5	31	162			
WA 8254	56	61.3	11.5	29	162			
C.V. %	8	1	2	3	1	9	8	10
LSD (0.05)	8	0.5	0.3	1	1	4	3	3
Average	66	61.2	11.6	31	164	44	50	53
Highest	82	62.2	14.0	34	168	47	51	55
Lowest	55	59.2	10.8	27	159	40	47	49

Agronomic Information

Planting Date: 4/19/2016
 Harvest Date: 9/16/2016
 Seeding Rate (lbs/acre): 80
 Previous Crop: Spring Wheat
 Spring soil test:
 N (lb/ac) 4-ft sample 82
 P (ppm-bicarb) 2-ft sample 56
 S (lb/ac) 2-ft sample 30
 pH (top six inches) 5.76
 Herbicide:
 Huskie & Tilt applied on 5/26

Trial Notes:

1. The Almira nursery was located about 11 miles north of Almira, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. This was a no-till location and fertilizer applied at planting was: 60#N, 10#P, 10#S.
3. Stripe rust was not an issue at this location.

Cooperator: D. McKay

* 3-Year average from 2016, 2015, 2013

** 5-Year average from 2016, 2015, 2013, 2012, 2011

Table 71. 2016 WSU Variety Testing SW Spring Wheat Trial, Dayton

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
<i>Melba</i>	72	62.7	9.5	29	161	50	48	
Ryan (WA 8214)	66	61.9	9.7	30	157	49	49	
WB6341	66	61.1	9.4	27	158	48	47	
UI-Stone	64	62.8	10.2	30	157	47	44	47
WB6121	63	62.5	10.4	27	157	47		
Whit	62	61.9	9.6	29	158	47	45	49
<i>JD</i>	62	63.3	10.0	31	161	46	44	47
SY Saltese (SY 04PN3024-2)	61	62.7	9.3	31	155			
Louise	60	62.2	9.8	33	159	44	44	48
Diva	59	62.5	9.9	33	159	44	43	48
Babe	59	62.5	10.1	32	159	44	42	46
Seahawk	59	62.4	11.3	32	162	45	44	48
WB-1035CL+	55	61.3	11.2	26	156	42	40	43
Tekoa (WA 8189)	52	63.0	9.8	32	161	37	39	
EXPERIMENTAL LINES								
WA 8266 CL+	70	62.7	9.9	32	161			
14-SW-1059	69	60.5	10.9	30	164			
14-SW-1030	68	60.7	10.8	32	163			
WA 8265 CL+	66	62.7	9.8	33	161			
12-SW-068	65	60.5	11.1	28	158	48		
WA 8253	63	62.0	10.0	29	159			
<i>WA 8236 CL+</i>	62	62.4	10.6	30	160	44		
WA 8254	61	62.4	9.5	28	158			
YS-602	61	61.3	11.0	31	160			
WA 8255	58	62.9	9.9	31	160			
C.V. %	5	0	4	4	1	5	5	5
LSD (0.05)	4	0.3	0.6	2	1	3	2	2
Average	62	62.1	10.2	30	159	45	44	47
Highest	72	63.3	11.3	33	164	50	49	49
Lowest	52	60.5	9.3	26	155	37	39	43

Agronomic Information

Planting Date: 4/12/2016
 Harvest Date: 8/24/2016
 Seeding Rate (lbs/acre): 80
 Previous Crop: Winter Wheat
 Spring soil test:
 N (lb/ac) 4-ft sample 57
 P (ppm-bicarb) 2-ft sample 69
 S (lb/ac) 2-ft sample 19
 pH (top six inches) 5.78
 Herbicide:
 Huskie & Tilt applied on 5/6

Trial Notes:

1. The Dayton nursery was located about 6 miles northwest of Dayton, WA. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
2. Fertilizer applied prior to planting (after the soil sample) was: 100#N, 15#P, 20#S.
3. One fungicide application kept stripe rust under control

Cooperator: J. Penner

Table 72. 2016 WSU Variety Testing SW Spring Wheat Trial, Fairfield

Variety Name <i>Club Italicized</i>	2016				2 Year*	3 Year**	5 Year***
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES							
Diva	58	61.7	10.1	33	66	68	66
Tekoa (WA 8189)	57	60.7	9.7	32	70	73	
WB6341	55	58.7	9.4	27	69		
Ryan (WA 8214)	55	60.1	9.9	29	70		
Seahawk	53	61.3	10.5	30	65	65	
Whit	52	60.7	10.1	31	72	68	68
WB6121	52	61.5	11.3	28			
Louise	49	61.3	10.2	32	60	67	67
SY Saltese (SY 04PN3024-2)	45	61.5	10.1	31			
JD	44	61.6	10.6	31	57	60	62
Melba	43	61.2	10.7	27	57	55	
WB-1035CL+	43	60.0	11.1	28	59	61	58
Babe	41	60.5	9.8	31	62	64	64
UI-Stone	39	60.8	10.4	29	57	56	
EXPERIMENTAL LINES							
14-SW-1059	58	58.8	10.6	30			
12-SW-068	52	59.1	10.6	29			
14-SW-1030	51	59.0	11.3	32			
WA 8266 CL+	49	61.5	10.2	30			
WA 8265 CL+	48	61.1	10.1	34			
WA 8254	45	60.9	10.5	29			
WA 8253	42	60.8	10.5	29			
WA 8255	41	62.2	10.3	31			
YS-602	39	59.3	10.9	29			
WA 8236 CL+	33	61.5	11.8	28			
C.V. %	10	0	5	5	8	8	7
LSD (0.05)	7	0.4	0.7	2	5	4	3
Average	48	60.7	10.4	30	64	64	64
Highest	58	62.2	11.8	34	72	73	68
Lowest	33	58.7	9.4	27	57	55	58

Agronomic Information

Planting Date: 5/2/2016
 Harvest Date: 9/14/2016
 Seeding Rate (lbs/acre): 90
 Previous Crop: Winter Wheat
 Spring soil test:
 N (lb/ac) 4-ft sample 75
 P (ppm-bicarb) 2-ft sample 62
 S (lb/ac) 2-ft sample 56
 pH (top six inches) 5.51
 Herbicide:
 Huskie & Tilt applied on 6/1

Trial Notes:

1. The Fairfield nursery was located about 1/2 mile south of Rockford, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. Base fertilizer applied was 90#N and 15#S.
3. Hessian fly infestation was very high (although not uniform across the trial) at this location and yield of susceptible varieties was impacted. Hessian fly also accounts for the higher than normal variation in the trial.

* 2-Year average from 2016 & 2014

** 3-Year average from 2016, 2014, 2013

*** 5-Year average from 2016, 2014, 2013, 2012, 2011

Cooperator: B. LaShaw

Table 73. 2016 WSU Variety Testing SW Spring Wheat Trial, Farmington

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
Tekoa (WA 8189)	104	61.2	7.8	39	167	91	86	
SY Saltese (SY 04PN3024-2)	102	61.2	7.9	40	157			
Ryan (WA 8214)	102	59.8	8.4	38	159	92	83	
Melba	100	60.4	8.0	36	167	89	84	
WB6341	100	59.4	7.3	35	159	86	81	
Louise	95	60.7	8.0	40	166	83	75	76
Seahawk	95	60.6	8.4	38	166	85	80	81
Diva	95	60.6	7.9	42	166	88	82	79
Whit	95	59.9	8.1	39	159	85	79	79
Babe	92	59.6	7.5	39	167	86	80	78
JD	90	61.2	8.7	43	166	85	79	78
WB6121	89	61.6	9.3	34	158	82		
UI-Stone	87	59.4	7.5	39	162	78	77	76
WB-1035CL+	79	60.3	8.7	36	158	74	72	75
EXPERIMENTAL LINES								
WA 8254	103	60.3	8.0	36	161			
WA 8266 CL+	101	61.5	7.9	38	167			
WA 8255	100	61.0	8.1	40	167			
14-SW-1059	98	58.7	8.8	39	170			
14-SW-1030	95	59.2	8.7	39	171			
WA 8265 CL+	94	61.4	7.7	39	167			
WA 8236 CL+	94	61.2	9.0	40	166	83		
WA 8253	93	60.3	7.9	37	162			
12-SW-068	88	59.2	8.5	36	162	82		
YS-602	83	59.3	8.2	37	164			
C.V. %	5	1	4	3	1	5	6	6
LSD (0.05)	7	0.4	0.4	2	2	4	4	3
Average	95	60.3	8.2	38	164	85	80	78
Highest	104	61.6	9.3	43	171	92	86	81
Lowest	79	58.7	7.3	34	157	74	72	75

Agronomic Information

Planting Date: 4/7/2016
 Harvest Date: 9/14/2016
 Seeding Rate (lbs/acre): 90
 Previous Crop: Winter Wheat
 Spring soil test:
 N (lb/ac) 4-ft sample 110
 P (ppm-bicarb) 2-ft sample 80
 S (lb/ac) 2-ft sample 31
 pH (top six inches) 5.9
 Herbicide:
 Huskie & Tilt applied on 5/17

Trial Notes:

1. The Farmington nursery was located about 4 miles south of Farmington, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. Base fertilizer, applied prior to the soil sample, was: 85#N, 20#P, 20#S.
3. This trial received only one fungicide application. Stripe rust was present on susceptible varieties late in the growing season.

Cooperator: B. Nelson

Table 74. 2016 WSU Variety Testing SW Spring Wheat Trial, Horse Heaven

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
Tekoa (WA 8189)	32	62.8	11.4	23	149	24	23	
Louise	28	61.0	10.8	25	145	21	20	25
<i>JD</i>	27	62.8	11.5	21	145	22	22	25
<i>Melba</i>	27	62.4	11.1	20	148	23	22	
Diva	25	61.5	10.9	24	144	21	21	25
Babe	25	62.1	10.9	21	142	22	21	23
SY Saltese (SY 04PN3024-2)	25	61.9	10.7	22	139			
Seahawk	24	62.1	10.8	20	145	20	21	24
WB-1035CL+	23	61.5	12.1	19	142	21	20	23
UI-Stone	21	62.0	11.2	22	140	19	19	23
WB6341	21	61.4	10.5	18	142	20	20	
WB6121	20	61.6	12.7	20	141	19		
Ryan (WA 8214)	19	61.7	11.7	22	142	19	20	
Whit	19	61.2	11.1	22	142	18	19	23
EXPERIMENTAL LINES								
WA 8265 CL+	29	60.9	10.4	24	146			
WA 8266 CL+	27	61.6	10.5	23	147			
YS-602	24	61.1	11.8	21	144			
14-SW-1030	22	59.8	13.0	21	148			
14-SW-1059	22	60.7	12.7	21	147			
WA 8254	22	62.2	10.9	19	143			
WA 8253	21	61.1	10.9	20	143			
12-SW-068	21	60.2	11.7	21	143	20		
WA 8255	21	62.6	11.2	21	144			
<i>WA 8236 CL+</i>	15	62.2	12.3	19	145	17		
C.V. %	11	1	3	7	0	11	10	9
LSD (0.05)	4	0.5	0.5	2	1	2	2	1
Average	23	61.6	11.4	21	144	20	21	24
Highest	32	62.8	13.0	25	149	24	23	25
Lowest	15	59.8	10.4	18	139	17	19	23

Agronomic Information

Planting Date: 3/10/2016
 Harvest Date: 8/5/2016
 Seeding Rate (lbs/acre): 50
 Previous Crop: Fallow
 Spring soil test:
 N (lb/ac) 4-ft sample 76
 P (ppm-bicarb) 2-ft sample 20
 S (lb/ac) 2-ft sample 14
 pH (top six inches) 6.9
 Herbicide:
 Huskie & Tilt applied on 5/3

Trial Notes:

1. The Horse Heaven nursery was located about 11 miles southeast of Prosser, WA . All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. Fertilizer applied at planting was 50#N.
3. Stripe rust was not an issue and the CV of 11% is typical for Horse Heaven.

Cooperator: G. Moon

Table 75. 2016 WSU Variety Testing SW Spring Wheat Trial, Lind

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
<i>Melba</i>	56	67.5	12.0	27	153	37	33	
Diva	53	66.2	12.4	31	149	39	36	33
Tekoa (WA 8189)	52	66.7	12.2	29	154	35	32	
<i>JD</i>	52	66.9	12.4	28	152	37	34	31
Louise	50	66.4	11.8	31	152	37	34	32
Seahawk	47	66.3	12.1	27	150	32	29	28
WB6341	46	65.9	11.2	27	146	35	32	
SY Saltese (SY 04PN3024-2)	46	66.3	12.4	31	144			
UI-Stone	45	66.4	12.2	29	144	33	30	30
Whit	44	65.1	12.0	28	146	35	32	29
Ryan (WA 8214)	43	65.7	12.6	28	144	34	31	
WB-1035CL+	43	65.1	14.0	27	146	31	28	27
WB6121	40	65.5	13.9	28	146	32		
Babe	38	66.9	13.1	28	147	32	29	27
EXPERIMENTAL LINES								
WA 8265 CL+	49	65.9	11.4	29	152			
WA 8255	45	67.3	12.0	29	151			
WA 8254	44	66.1	11.7	26	147			
WA 8266 CL+	44	66.0	11.9	29	153			
WA 8253	43	66.0	12.3	28	147			
12-SW-068	42	64.4	12.4	28	148	34		
<i>WA 8236 CL+</i>	40	66.5	13.1	27	150	30		
YS-602	38	65.6	13.3	27	146			
14-SW-1030	38	63.9	13.8	29	154			
14-SW-1059	37	64.3	13.5	26	154			
C.V. %	9	1	2	4	0	10	9	8
LSD (0.05)	6	0.6	0.5	2	1	4	3	2
Average	45	66.0	12.5	28	149	34	32	29
Highest	56	67.5	14.0	31	154	39	36	33
Lowest	37	63.9	11.2	26	144	30	28	27

Agronomic Information

Planting Date:	3/8/2016
Harvest Date:	7/25/2016
Seeding Rate (lbs/acre):	60
Previous Crop:	Fallow
Spring soil test:	
N (lb/ac) 4-ft sample	203
P (ppm-bicarb) 1-ft sample	18
S (lb/ac) 2-ft sample	12
pH (top foot)	5.9

Trial Notes:

1. The Lind nursery was located on the WSU Lind Dryland Experiment Station. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
2. No fungicide was applied and only low levels of stripe rust were observed.
3. Higher than usual precipitation led to great yields and very high test weights.

Cooperator: WSU Lind Dryland Experiment Station

Herbicide:

Affinity Broadspec, Huskie, and Dagger MCPA applied by cooperator. No fungicide applied.

Table 76. 2016 WSU Variety Testing SW Spring Wheat Trial, Mayview

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year*	5 Year**
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
<i>Melba</i>	64	61.9	9.2	28	177	54	55	
<i>Seahawk</i>	63	62.0	9.7	29	178	55	57	
Tekoa (WA 8189)	55	61.8	8.8	31	178	48	52	
<i>JD</i>	53	62.7	11.0	29	175	51	52	51
Whit	53	60.6	9.0	30	172	52	54	52
Diva	52	62.3	10.7	31	174	51	53	52
WB6121	50	62.3	11.7	27	171	50		
Louise	49	61.2	8.8	33	177	49	52	52
UI-Stone	48	61.4	9.5	29	171	50	51	
WB6341	47	60.6	9.5	28	171	46		
Ryan (WA 8214)	44	61.0	10.4	28	172	46		
SY Saltese (SY 04PN3024-2)	43	61.8	9.7	32	170			
WB-1035CL+	43	60.8	11.4	27	173	43	47	43
Babe	39	61.3	9.7	30	176	44	50	47
EXPERIMENTAL LINES								
14-SW-1059	56	59.0	10.2	27	174			
WA 8266 CL+	55	61.8	9.9	31	177			
WA 8265 CL+	54	62.0	9.2	31	177			
12-SW-068	53	59.7	10.2	30	173	52		
14-SW-1030	52	59.2	9.7	31	177			
WA 8255	50	62.4	9.6	30	176			
<i>WA 8236 CL+</i>	48	62.2	10.7	27	172	45		
YS-602	48	60.3	10.5	31	174			
WA 8253	46	60.8	9.8	30	174			
WA 8254	35	61.3	9.8	28	174			
C.V. %	12	1	7	5	1	9	8	7
LSD (0.05)	8	0.5	0.9	2	2	5	4	3
Average	50	61.3	9.9	30	174	49	52	49
Highest	64	62.7	11.7	33	178	55	57	52
Lowest	35	59.0	8.8	27	170	43	47	43

Agronomic Information

Planting Date: 4/22/2016
 Harvest Date: 8/30/2016
 Seeding Rate (lbs/acre): 80
 Previous Crop: Fallow
 Spring soil test:
 N (lb/ac) 4-ft sample 58
 P (ppm-bicarb) 2-ft sample 80
 S (lb/ac) 2-ft sample 42
 pH (top six inches) 4.97
 Herbicide:
 Huskie & Tilt applied on 6/1

Trial Notes:

1. The Mayview nursery was located about 3.5 miles south of Lower Granite Dam. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. This trial received only one application of fungicide and stripe rust was not an issue.
3. Base fertilizer (applied after soil test) was 80#N and 15#S.
4. Plot-to-plot variation for yield was higher than normal, leading to a CV of 12%.

Cooperator: R. & R. Koller

* 3-Year average from 2016, 2015, 2013

** 5-Year average from 2016, 2015, 2013, 2012, 2011

Table 77. 2016 WSU Variety Testing SW Spring Wheat Trial, Moses Lake

Variety Name <i>Club Italicized</i>	2016						2 Year*	3 Year**	5 Year***
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES									
Tekoa (WA 8189)	135	63.8	9.9	39	149	0	139	139	
<i>Melba</i>	131	64.1	10.1	37	147	0	138	129	
Seahawk	130	63.7	10.5	37	146	0	132	127	
Whit	118	62.5	10.4	38	141	0	127	126	110
Diva	116	63.6	10.8	40	145	20	128	114	108
UI-Stone	115	63.3	9.7	35	140	0	130	131	
Louise	113	62.7	10.8	40	147	72	132	121	114
SY Saltese (SY 04PN3024-2)	113	63.6	10.1	37	140	0			
Ryan (WA 8214)	112	63.0	11.2	36	141	0	127		
WB6341	109	62.3	9.5	34	141	0	125		
WB6121	103	63.9	12.0	34	141	0			
Babe	96	62.0	10.0	36	145	0	121	119	112
WB-1035CL+	90	60.7	11.6	35	141	0	109	112	104
EXPERIMENTAL LINES									
12-SW-052	138	62.3	9.3	39	148	3			
14-SW-1030	132	62.0	10.3	39	149	0			
14-SW-1059	129	61.3	10.3	39	149	0			
WA 8255	119	63.5	9.9	38	147	50			
WA 8254	119	63.1	10.1	34	143	0			
WA 8265 CL+	114	63.5	9.6	38	147	38			
WA 8253	113	63.2	11.1	37	142	8			
WA 8266 CL+	110	60.9	10.0	37	147	7			
12-SW-068	106	60.7	10.6	36	143	0			
<i>WA 8236 CL+</i>	103	66.8	11.9	37	145	17			
YS-602	99	62.0	10.5	36	144	0			
C.V. %	6	1	4	3	0	--	6	6	7
LSD (0.05)	10	1.0	0.6	2	1	--	8	7	6
Average	115	62.9	10.4	37	144	9	128	124	110
Highest	138	66.8	12.0	40	149	72	139	139	114
Lowest	90	60.7	9.3	34	140	0	109	112	104

Agronomic Information

Planting Date: 3/16/2016
 Harvest Date: 7/28/2016
 Seeding Rate (lbs/acre): 100
 Previous Crop: legume cover crop
 Spring soil test:
 N (lb/ac) 4-ft sample 134
 P (ppm-bicarb) 1-ft sample 24
 S (lb/ac) 2-ft sample 10
 pH (top foot) 7.3

Herbicide:
 Affinity Broadspec, Huskie, Dagger MCPA
 applied by cooperator. No fungicide applied.

Trial Notes:

1. The Moses Lake nursery was located on the WSU Othello Research Farm. It was difficult to find an irrigated spring wheat producer located closer to Moses Lake. All yield and test weight values within the 5% range of the highest value are shown in bold.
2. An additional 250#N, 20#P, and 20#S was applied prior to planting (not accounted for in the soil sample).
3. No fungicide was applied at this location, and only low levels of stripe rust were observed.

Cooperator: Othello Research Farm

* 2-Year average from 2016 & 2014

** 3-Year average from 2016, 2014, 2013

*** 5-Year average from 2016, 2014, 2013, 2012, 2011

Table 78. 2016 WSU Variety Testing SW Spring Wheat Trial, Palouse

Variety Name <i>Club Italicized</i>	2016				2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES							
Tekoa (WA 8189)	116	62.9	10.9	40	--	--	--
Ryan (WA 8214)	109	61.3	10.7	40	--	--	--
Seahawk	109	63.0	11.4	39	--	--	--
<i>Melba</i>	108	63.3	10.6	38	--	--	--
Louise	105	61.8	10.9	42	--	--	--
Diva	104	62.7	11.1	43	--	--	--
SY Saltese (SY 04PN3024-2)	102	62.6	10.9	42	--	--	--
WB6121	99	62.4	12.0	36	--	--	--
Whit	97	60.5	10.9	40	--	--	--
WB6341	96	60.1	10.6	39	--	--	--
<i>JD</i>	94	63.8	11.8	44	--	--	--
UI-Stone	93	60.8	10.6	41	--	--	--
Babe	88	61.0	10.8	43	--	--	--
WB-1035CL+	68	57.8	12.8	38	--	--	--
EXPERIMENTAL LINES							
WA 8254	111	62.3	10.2	40	--	--	--
WA 8253	111	62.5	10.1	39	--	--	--
14-SW-1030	111	59.9	12.0	42	--	--	--
14-SW-1059	106	60.0	11.7	42	--	--	--
WA 8255	104	63.8	10.9	39	--	--	--
<i>WA 8236 CL+</i>	99	63.7	11.7	41	--	--	--
12-SW-068	95	60.0	11.1	38	--	--	--
YS-602	92	60.2	10.6	41	--	--	--
WA 8266 CL+	89	60.1	11.7	41	--	--	--
WA 8265 CL+	89	60.3	11.3	40	--	--	--
C.V. %	5	1	2	4			
LSD (0.05)	6	0.5	0.3	2			
Average	100	61.5	11.1	40			
Highest	116	63.8	12.8	44			
Lowest	68	57.8	10.1	36			

Agronomic Information

Planting Date: 4/13/2016
 Harvest Date: 8/29/2016
 Seeding Rate (lbs/acre): 90
 Previous Crop: Winter Wheat
 Spring soil test:
 N (lb/ac) 4-ft sample 260
 P (ppm-bicarb) 2-ft sample 61
 S (lb/ac) 2-ft sample 17
 pH (top six inches) 5.3
 Herbicide:
 Huskie & Tilt applied on 5/18

Trial Notes:

1. The Palouse nursery was located about 7 miles west of Palouse, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. This trial was following winter wheat, but previous to that, the field had been in alfalfa.
3. The Palouse location was new in 2016, so there are no long-term averages.
4. Only one fungicide application was applied and stripe rust was observed on susceptible varieties.

Cooperator: D. Lange

Table 79. 2016 WSU Variety Testing SW Spring Wheat Trial, Pasco

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES						--	--	--
Seahawk	120	62.7	12.6	41	0	--	--	--
Tekoa (WA 8189)	120	62.3	12.0	41	0	--	--	--
Whit	117	61.9	12.0	37	0	--	--	--
Ryan (WA 8214)	111	61.6	12.8	37	10	--	--	--
SY Saltese (SY 04PN3024-2)	111	62.2	12.3	37	25	--	--	--
UI-Stone	108	62.6	10.9	39	0	--	--	--
WB6121	106	62.4	13.4	39	0	--	--	--
WB6341	97	61.2	10.9	38	0	--	--	--
Louise	93	61.3	12.5	40	27	--	--	--
Diva	90	61.1	12.9	40	33	--	--	--
Melba	89	61.3	12.4	38	0	--	--	--
WB-1035CL+	85	60.7	13.3	38	0	--	--	--
Babe	82	60.3	12.1	39	0	--	--	--
EXPERIMENTAL LINES								
WA 8254	117	63.0	11.1	38	0	--	--	--
12-SW-052	116	59.2	12.7	39	0	--	--	--
WA 8253	111	61.7	11.6	39	35	--	--	--
14-SW-1030	111	59.6	12.5	39	0	--	--	--
14-SW-1059	108	59.2	12.9	40	0	--	--	--
WA 8255	106	63.0	11.6	40	0	--	--	--
12-SW-068	103	61.1	12.3	38	0	--	--	--
YS-602	102	61.2	11.5	36	0	--	--	--
WA 8236 CL+	96	62.1	13.8	37	0	--	--	--
WA 8265 CL+	70	57.6	12.5	38	0	--	--	--
WA 8266 CL+	67	58.1	12.9	38	0	--	--	--
C.V. %	7	1	3	4	--	--	--	--
LSD (0.05)	10	0.9	0.5	2	--	--	--	--
Average	101	61.2	12.3	39	5	--	--	--
Highest	120	63.0	13.8	41	35	--	--	--
Lowest	67	57.6	10.9	36	0	--	--	--

Agronomic Information

Planting Date:	3/18/2016
Harvest Date:	7/29/2016
Seeding Rate (lbs/acre):	100
Previous Crop:	Potatoes
Spring soil test:	
N (lb/ac) 4-ft sample	417
P (ppm-bicarb) 2-ft sample	112
S (lb/ac) 2-ft sample	129
pH (top 6 inches)	5.35

Herbicide:

Huskie, 2,4-D, and Tilt were applied by the cooperator. Warrior was applied later on for cereal leaf beetle control. **Cooperator:** T. Schuh

Trial Notes:

1. This is a new location for 2016. The Pasco nursery was located about 1.5 miles NW of Connell, WA. It was difficult to find an irrigated spring wheat producer located closer to Pasco. All yield and test weight values within the 5% range of the highest value are shown in bold.
2. Hessian fly was present at this location early in the season and caused yield losses in susceptible varieties.
3. Only one fungicide application was applied. Stripe rust developed later in the season, and may have had a small impact on susceptible varieties.

Table 80. 2016 WSU Variety Testing SW Spring Wheat Trial, Plaza

Variety Name <i>Club Italicized</i>	2016*					2 Year**	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
Diva	103	62.6	10.9	42	173	94		
Louise	101	63.0	10.8	40	174	89		
Seahawk	101	62.7	11.3	37	175	85		
Melba	100	63.3	10.8	36	173	85		
SY Saltese (SY 04PN3024-2)	98	63.2	10.7	41	170			
Tekoa (WA 8189)	97	63.1	10.8	38	174	84		
JD	94	63.9	12.2	41	173	82		
Ryan (WA 8214)	94	62.4	10.8	37	171	87		
WB6121	93	63.0	12.2	35	171			
Whit	91	63.1	10.8	37	171	82		
WB6341	90	61.8	9.5	37	171	80		
UI-Stone	83	61.5	10.4	38	172	75		
WB-1035CL+	80	61.3	12.5	37	171	73		
Babe	77	61.9	10.0	38	174	74		
EXPERIMENTAL LINES								
WA 8254	100	63.1	10.2	37	173			
WA 8265 CL+	95	62.2	10.8	39	174			
14-SW-1059	91	60.3	11.4	38	175			
WA 8253	91	62.6	10.1	39	173			
14-SW-1030	90	59.5	11.5	38	175			
WA 8266 CL+	89	62.1	11.0	37	174			
12-SW-068	86	60.8	11.2	35	172			
WA 8255	81	64.0	10.6	38	174			
WA 8236 CL+	77	63.3	12.5	38	173			
YS-602	69	61.7	11.0	36	174			
C.V. %	5	1	3	2	0	5		
LSD (0.05)	8	0.9	0.5	2	1	4		
Average	90	62.3	11.0	38	173	82		
Highest	103	64.0	12.5	42	175	94		
Lowest	69	59.5	9.5	35	170	73		

Agronomic Information

Planting Date: 4/20/2016
 Harvest Date: 7/18/2016
 Seeding Rate (lbs/acre): 80
 Previous Crop: Winter Wheat
 Spring soil test:
 N (lb/ac) 4-ft sample 93
 P (ppm-bicarb) 1-ft sample 12
 S (lb/ac) 2-ft sample 12
 pH (top foot) 6.0

Herbicide:

Affinity Broadspec, Huskie, Dagger MCPA No fungicide applied.

Trial Notes:

1. The Plaza nursery was located about 5.5 miles east of Rosalia, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. Base fertilizer (applied after soil sample) was: 80#N, 20#P, 15#S.
3. Due to unknown soil variation, the second rep yielded considerably less than reps one and three. The second rep was dropped from analysis and results are only from reps 1 and 3.
4. Stripe rust was not an issue at this location.

Cooperator: G. Ward

* 2016 results from reps 1 & 3

** 2-year average from 2014 & 2016

Table 81. 2016 WSU Variety Testing SW Spring Wheat Trial, Pullman

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year*	5 Year**
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
Seahawk	99	63.2	11.6	38	162	76	76	77
WB6121	95	63.4	12.9	33	158	74		
Melba	94	61.2	10.8	36	161	74	73	
JD	89	63.1	11.3	41	162	73	73	74
Tekoa (WA 8189)	86	62.6	11.6	37	162	69	70	
Diva	83	60.3	10.2	40	161	68	67	71
Ryan (WA 8214)	79	61.0	9.8	37	158	68		
SY Saltese (SY 04PN3024-2)	79	60.8	11.1	37	157			
Louise	71	57.7	11.9	40	161	62	64	68
Whit	71	60.6	11.3	36	159	63	68	68
UI-Stone	57	59.7	9.5	37	159	56	62	67
WB6341	56	58.9	9.7	32	159	56		
Babe	44	55.0	11.5	36	161	48	52	57
WB-1035CL+	39	57.2	11.9	33	158	44	51	55
EXPERIMENTAL LINES								
14-SW-1059	91	59.0	11.1	37	163			
14-SW-1030	90	59.0	10.1	39	163			
WA 8253	88	60.9	10.5	38	160			
WA 8236 CL+	86	63.0	12.3	38	161	68		
WA 8255	75	61.4	10.6	37	162			
WA 8254	73	56.7	11.0	35	161			
12-SW-068	71	59.1	10.4	36	160	65		
YS-602	57	55.7	10.8	36	160			
WA 8265 CL+	57	57.3	11.6	38	163			
WA 8266 CL+	56	58.0	11.8	36	163			
C.V. %	6	1	10	2	0	5	5	6
LSD (0.05)	6	0.9	1.5	1	1	4	3	3
Average	74	59.8	11.1	37	161	64	66	67
Highest	99	63.4	12.9	41	163	76	76	77
Lowest	39	55.0	9.5	32	157	44	51	55

Agronomic Information

Planting Date: 4/8/2016
 Harvest Date: 8/16/2016
 Seeding Rate (lbs/acre): 90
 Previous Crop: Winter Wheat
 Spring soil test:
 N (lb/ac) 4-ft sample 62
 P (ppm-bicarb) 1-ft sample 25
 S (lb/ac) 2-ft sample 8
 pH (top foot) 5.8
 Herbicide:
 Affinity Broadspec, Huskie, Dagger MCPA applied by cooperator. No fungicide applied.

Trial Notes:

1. The Pullman nursery was located about 1.5 miles southeast of Pullman, WA on the WSU Spillman Agronomy Farm. All yield and test weight values within the 5% range of the highest value are shown in bold.

2. An additional 200#N, 20#P, and 20#S was applied prior to planting (not accounted for in the soil sample).

3. No fungicide was applied at this location, **stripe rust pressure was severe**. This location provided an opportunity to evaluate stripe rust and illustrates the importance of genetic resistance to stripe rust.

Cooperator: WSU Spillman Agronomy Farm

* 3-Year average from 2016, 2015, 2013

** 5-Year average from 2016, 2015, 2013, 2012, 2011

Table 82. 2016 WSU Variety Testing SW Spring Wheat Trial, Reardan

Variety Name <i>Club Italicized</i>	2016						2 Year*	3 Year**	5 Year***
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES									
<i>Melba</i>	86	64.5	10.5	32	170	0	58	66	
Seahawk	85	63.9	11.4	36	169	0	58	65	
Ryan (WA 8214)	76	62.3	10.9	30	168	17	57		
<i>JD</i>	76	64.6	12.0	34	170	17	52	62	66
Diva	76	63.2	11.3	32	169	23	56	66	70
Tekoa (WA 8189)	76	64.1	10.9	33	169	2	52	63	
SY Saltese (SY 04PN3024-2)	76	63.1	10.8	32	167	5			
Louise	74	62.4	11.0	37	169	37	52	62	69
WB6121	71	63.1	12.8	33	166	0			
UI-Stone	69	61.8	10.4	32	168	7	51	62	
Whit	64	61.5	10.6	34	169	0	50	62	64
WB6341	62	61.6	9.6	31	168	0	47		
Babe	52	59.2	10.8	33	170	0	42	57	62
WB-1035CL+	49	59.2	12.4	31	168	2	41	54	55
EXPERIMENTAL LINES									
14-SW-1030	91	61.4	11.3	35	174	0			
14-SW-1059	91	60.7	11.0	33	173	0			
WA 8253	76	63.2	10.7	33	167	0			
<i>WA 8236 CL+</i>	70	64.2	12.1	30	169	12			
WA 8255	69	64.1	10.5	34	170	22			
12-SW-068	68	61.2	11.1	33	167	0			
YS-602	67	61.0	10.3	33	168	0			
WA 8266 CL+	65	60.9	11.1	32	169	8			
WA 8254	63	62.4	10.5	31	167	0			
WA 8265 CL+	60	60.3	10.9	31	170	17			
C.V. %	6	1	3	5	0	66	7	6	7
LSD (0.05)	6	0.8	0.5	2	1	6	4	4	3
Average	71	62.2	11.0	33	169	7	51	62	64
Highest	91	64.6	12.8	37	174	37	58	66	70
Lowest	49	59.2	9.6	30	166	0	41	54	55

Agronomic Information

Planting Date: 4/11/2016
 Harvest Date: 9/1/2016
 Seeding Rate (lbs/acre): 80
 Previous Crop: Winter Wheat
 Spring soil test:
 N (lb/ac) 4-ft sample 79
 P (ppm-bicarb) 2-ft sample 65
 S (lb/ac) 2-ft sample 33
 pH (top six inches) 5.0
 Herbicide:
 Huskie and Tilt applied on 5/31.

Trial Notes:

1. The Reardan nursery was located about 7 miles west of Reardan, WA . All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. This is a no-till location and fertilizer applied at planting (not accounted for in the soil sample) was: 80#N, 14#P, 14#S.
3. This trial received only one fungicide application and yield-limiting stripe rust was observed on susceptible varieties.

Cooperator: H. Johnson

* 2-Year average from 2016 & 2014

** 3-Year average from 2016, 2014, 2013

*** 5-Year average from 2016, 2014, 2013, 2012, 2011

Table 83. 2016 WSU Variety Testing SW Spring Wheat Trial, St. John

Variety Name <i>Club Italicized</i>	2016				2 Year	3 Year	5 Year	
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
<i>Melba</i>	81	63.3	9.6	31	163	53	56	
WB6341	79	62.6	9.8	30	160	54	56	
Louise	77	62.4	10.2	37	163	48	53	62
Babe	77	62.6	10.4	34	162	51	52	60
Ryan (WA 8214)	76	61.9	10.3	34	160	52	54	
Diva	75	62.7	10.3	36	161	50	57	66
<i>JD</i>	75	63.1	10.8	36	163	49	53	60
SY Saltese (SY 04PN3024-2)	75	63.2	10.7	34	158			
Seahawk	73	62.5	10.8	32	163	49	51	61
Whit	71	61.7	10.8	34	159	47	51	60
Tekoa (WA 8189)	70	63.2	10.4	32	162	46	51	
UI-Stone	68	62.8	10.7	32	159	44	48	57
WB-1035CL+	60	62.3	12.7	31	159	41	44	52
WB6121	59	62.5	12.5	30	159	42		
EXPERIMENTAL LINES								
WA 8265 CL+	84	62.8	9.8	36	163			
14-SW-1030	78	60.9	10.8	34	162			
14-SW-1059	78	60.2	10.0	33	162			
WA 8255	76	63.1	10.3	35	163			
YS-602	75	61.7	11.0	35	163			
WA 8266 CL+	75	62.7	10.5	35	163			
WA 8254	75	62.8	10.1	32	160			
WA 8253	72	62.5	10.6	34	161			
<i>WA 8236 CL+</i>	68	63.1	11.6	33	162	44		
12-SW-068	65	61.0	11.4	32	160	47		
C.V. %	8	0	6	5	0	8	8	7
LSD (0.05)	8	0.3	0.9	2	1	5	4	3
Average	73	62.4	10.7	33	161	48	52	60
Highest	84	63.3	12.7	37	163	54	57	66
Lowest	59	60.2	9.6	30	158	41	44	52

Agronomic Information

Planting Date: 4/18/2016
 Harvest Date: 8/16/2016
 Seeding Rate (lbs/acre): 80
 Previous Crop: Winter Wheat
 Spring soil test:
 N (lb/ac) 4-ft sample 167
 P (ppm-bicarb) 2-ft sample 100
 S (lb/ac) 2-ft sample 47
 pH (top six inches) 5.26
 Herbicide:
 Huskie & Tilt applied on 5/25

Trial Notes:

1. The St. John nursery was located about 3 miles east of St. John, WA. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
2. This trial received only one fungicide application and no stripe rust was observed.
3. Soil test was taken after planting.

Cooperator: M. Mills

Table 84. 2016 WSU Variety Testing SW Spring Wheat Trial, Walla Walla

Variety Name <i>Club Italicized</i>	2016					2 Year	3 Year*	5 Year**
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
Seahawk	128	61.3	10.4	38	0	96	103	
Ryan (WA 8214)	124	61.8	10.0	37	17	99		
Louise	114	62.2	9.9	39	0	90	99	90
Melba	114	61.7	9.9	36	0	90	97	
Tekoa (WA 8189)	113	60.5	11.0	38	0	90	98	
Diva	111	61.7	10.5	40	30	88	96	87
WB6121	110	61.7	11.3	35	0	90		
WB6341	108	60.5	9.4	34	0	92		
UI-Stone	106	60.5	9.1	35	0	84	96	
JD	104	62.3	10.8	40	0	87	95	84
SY Saltese (SY 04PN3024-2)	103	62.3	10.1	37	0			
Whit	103	60.5	10.2	37	0	87	95	87
WB-1035CL+	88	59.6	11.6	34	0	78	87	81
Babe	82	60.1	9.9	37	0	77	92	86
EXPERIMENTAL LINES								
WA 8254	119	62.8	9.2	36	0			
WA 8253	115	61.5	9.8	36	0			
12-SW-068	114	60.1	10.0	36	0	95		
14-SW-1030	102	59.7	9.9	37	0			
WA 8255	101	62.6	10.4	37	0			
WA 8266 CL+	100	61.1	10.4	36	0			
YS-602	97	60.3	10.1	35	0			
14-SW-1059	96	59.8	11.2	36	0			
WA 8236 CL+	96	62.2	11.6	37	10	83		
WA 8265 CL+	95	60.5	10.5	38	17			
C.V. %	4	1	7	3	--	4	4	4
LSD (0.05)	5	1.2	1.0	2	14	4	4	3
Average	106	61.1	10.3	37	3	88	96	86
Highest	128	62.8	11.6	40	30	99	103	90
Lowest	82	59.6	9.1	34	0	77	87	81

Agronomic Information

Planting Date: 4/8/2016
 Harvest Date: 8/23/2016
 Seeding Rate (lbs/acre): 80
 Previous Crop: Winter Wheat
 Spring soil test:
 N (lb/ac) 4-ft sample 266
 P (ppm-bicarb) 2-ft sample 86
 S (lb/ac) 2-ft sample 65
 pH (top six inches) 6.7
 Herbicide:
 Huskie & Tilt applied on 5/12

Trial Notes:

1. The Walla Walla nursery was located about 1.5 miles west of Waitsburg, WA. All yield, test weight and protein values within the 5% LSD range of the highest value are shown in bold.
2. This trial only received one fungicide application. Stripe rust was present on susceptible varieties after flowering.
3. This was a very uniform trial.

Cooperator: P. Dozier

* 3-Year average from 2016, 2015, 2013

** 5-Year average from 2016, 2015, 2013, 2012, 2011

Table 85.

STRIPE RUST INFECTION TYPE (IT^a) AND SEVERITY (%) ON CULTIVARS AND LINES IN THE SPRING EXTENSION DISEASE NURSERY (EXP32) (COORDINATED BY RYAN HIGGINBOTHAM AS SPRING WHEAT VARIETY TRIAL NURSERIES) AT SPILLMAN (LOC 01), PLANT PATH (LOC 03), AND PCFS (LOC 04) FARMS NEAR PULLMAN, MT VERNON (LOC 05); WALLA WALLA (LOC 6); AND LIND (LOC 07), WA WHEN RECORDED AT THE INDICATED DATES AND STAGES OF PLANT GROWTH IN 2016 UNDER NATURAL INFECTION.

Name	Class	Spillman Farm (Pullman)		Plant Path Farm (Pullman)		Palouse Conservation Farm (Pullman)		Mt. Vernon		Walla Walla		Field summary ^c	Overall rating ^d
		LOC 01		LOC 03		LOC 04		LOC 05 ^b		LOC 06	LOC 07		
		6/20	6/29	6/20	6/28	6/21	7/5	6/1	6/27	6/20	6/16		
		Stem elong.	Heading	Stem elong.	E. flower.	E. flower.	S. dough	Stem elong.	Milk	Milk	Milk		
	IT %	IT %	IT %	IT %	IT %	IT %	IT %	IT %	IT %	IT %			
LCS Silk (12-SW-068)	SWS	3 10	3 10	2 10	2 10	3 5	5 25	7 20	5 30	5 20	2 10	MR	4
14-SW-1030	SWS	2 10	2 10	2 10	2 5	2 10	3 20	5 10	5 10	5 5	2 5	MR	3
14-SW-1059	SWS	2 10	2 5	2 10	2 5	2 10	3 15	5 10	2 15	5 5	2 5	R	2
SY Saltese (SY 04PN3024-2)	SWS	2 10	2 10	2 20	2 10	5 10	5 15	6 30	5 25	5 20	3 20	MR	4
UI-Stone	SWS	5 10	5 10	3 10	5 5	3 5	5 30	8 40	5 30	5 10	3 20	MR	4
WB-1035CL+	SWSI	8 30	8 70	5 20	5 15	8 20	8 30	8 30	8 50	5 25	8 80	S	8
WB6121	SWS	2 1	2 1	2 1	2 1	2 5	2 5	2 1	3 5	5 5	0 0	R	2
WB6341	SWS	5 10	5 10	3 10	5 5	5 10	5 30	8 40	5 40	5 10	5 30	MR	4
Babe	SWS	8 20	8 50	5 20	8 20	8 10	5 35	8 40	8 80	8 10	8 20	S	8
Diva	SWS	2 10	3 10	2 10	2 5	3 2	5 15	5 20	5 25	5 15	2 15	MR	4
WA 8265 CL+	SWSI	2 10	5 20	2 10	5 20	8 15	5 30	8 20	8 40	5 40	8 30	MS	6
WA 8266 CL+	SWSI	2 10	5 20	2 10	5 20	8 15	5 40	8 20	5 35	5 30	8 30	MS	6
JD	SC	2 1	2 1	2 1	2 1	2 10	2 10	8 5	3 2	3 5	2 10	R	2
Louise	SWS	2 10	3 10	2 5	3 5	3 5	5 25	5 20	5 25	5 15	3 15	MR	4
Melba	SC	2 1	2 2	2 1	2 2	2 5	3 5	5 10	5 15	-	2 5	MR	3
Seahawk	SWS	2 1	2 1	2 1	2 1	2 5	2 1	1 1	2 5	2 1	2 5	R	1
Tekoa (WA 8189)	SWS	2 5	2 2	2 1	2 2	3 1	3 5	2 5	2 10	3 2	3 10	R	2
Ryan (WA 8214)	SWS	2 5	2 5	5 5	2 5	3 2	3 5	8 20	5 25	5 10	3 20	MR	4
WA 8236 CL+	SCI	2 1	2 2	2 1	2 2	3 2	2 5	2 5	5 20	5 10	3 10	MR	3
WA 8253	SWS	2 10	2 10	2 1	2 10	3 5	5 15	8 30	5 40	5 10	3 20	MR	4
S. CHECK		8 60	8 90	8 60	8 90	8 30	8 100	8 80	8 100	8 25	8 70	S	9
WA 8254	SWS	5 10	5 10	2 10	5 5	3 5	5 20	8 20	5 40	5 15	3 20	MR	4
WA 8255	SWS	2 10	2 10	5 10	3 5	3 5	5 25	5 10	5 35	5 15	-	MR	4
Whit	SWS	5 10	5 5	2 10	5 5	5 10	5 25	2 5	2 20	5 15	5 20	MR	4
YS-602	SWS	8 10	3 10	2 15	3 10	2 15	3 15	5 10	5 15	5 10	2 15	MR-MS	5
12-SW-052	SWS	2 10	2 5	2 10	2 5	2 15	3 15	8 10	5 25	5 5	2 5	MR	4

^a Infection Type (IT) was recorded based on the 0-9 scale with ITs 8 and 9 combined as 8 (the most susceptible reaction) in field data. Generally IT 0-3 are considered resistant, 4-6 intermediate, and 7-9 susceptible. Heterogenous reactions of an entry were indicated by two or more ITs separated by "," for most plants with the first IT and few plants with the second IT or connected with "-" for entries containing plants with continuous ITs.

^b Entries with a high IT in the first note, but a low IT in the second note at Mt. Vernon (LOC 05) may indicate that they have high-temperature, adult-plant (HTAP) resistance.

^c R = resistant, MR = moderately resistant, MS = moderately susceptible, and S =susceptible.

^d 1 = most resistant and 9 most susceptible.

Note: The summary and ratings are based on the highest IT and % severity to discourage use of race-specific resistance.

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Table 86. 2016 WSU Variety Testing Hard Spring Wheat Zone Summary

Precipitation Zone = >20"

Variety Name <i>Hard White Italicized</i>	Fairfield *	Farmington	Palouse	Pullman **	Average	Fairfield *	Farmington	Palouse	Pullman **	Average	Fairfield *	Farmington	Palouse	Pullman **	Average
	YIELD (BU/A)					TEST WT (LBS/BU)					PROTEIN (%)				
RELEASED VARIETIES															
<i>Dayn</i>	42	87	106	106	85	60.2	61.3	61.8	61.9	61.3	12.4	9.5	12.9	12.0	11.7
LCS Iron (11SB0096)	43	85	100	99	82	59.5	60.0	61.6	61.3	60.6	11.9	10.1	13.0	11.5	11.6
Glee	42	87	105	83	79	61.4	60.8	60.7	61.8	61.2	12.2	9.9	13.1	11.7	11.7
SY Coho (04W40292R)	39	88	105	85	79	58.2	59.6	59.9	57.1	58.7	11.5	10.3	13.9	12.8	12.1
Alum	48	81	96	90	79	61.2	62.0	61.7	61.9	61.7	12.0	10.0	13.5	12.3	11.9
<i>UI-Platinum</i>	41	92	97	83	78	60.8	61.6	62.2	61.9	61.6	11.7	9.2	12.0	10.5	10.8
WB9518	39	75	106	91	78	59.6	60.7	61.3	62.5	61.0	13.1	11.4	14.5	12.4	12.9
SY Selway (04PN3001-2)	41	86	88	93	77	61.5	60.8	63.6	60.2	61.6	12.8	10.9	14.4	11.9	12.5
Chet	44	83	94	84	76	61.5	62.6	63.6	63.0	62.7	12.3	9.9	14.6	13.0	12.5
WB9229	36	70	96	100	76	59.9	61.1	61.5	61.4	61.0	12.8	10.9	14.2	12.9	12.7
WB9200	28	76	101	92	74	60.7	62.4	62.7	63.3	62.3	14.3	11.5	14.0	13.2	13.3
WB9668	36	71	98	89	73	60.5	61.6	62.3	63.5	62.0	15.2	12.2	15.2	13.4	14.0
SY Steelhead	44	74	96	76	72	61.4	62.1	63.5	63.4	62.6	13.3	10.5	14.5	12.2	12.6
LCS Buck Pronto	34	73	96	80	71	60.1	60.9	61.2	60.1	60.6	13.5	11.3	14.3	13.2	13.1
Hollis	42	73	88	69	68	60.9	61.0	61.5	59.5	60.8	12.4	10.1	14.4	13.2	12.5
Bullseye	34	85	87	65	68	61.4	62.1	61.1	58.1	60.7	12.7	9.3	13.3	12.2	11.9
Kelse	42	75	87	63	67	60.4	61.1	60.7	57.4	59.9	12.5	10.5	14.6	14.0	12.9
WB9879CLP	32	73	82	57	61	59.3	60.6	60.9	57.9	59.7	12.8	10.3	13.8	13.0	12.5
SY605 CL	31	71	80	62	61	61.5	62.4	62.4	60.4	61.7	14.1	10.5	14.8	12.5	13.0
EXPERIMENTAL LINES															
12SB0197	42	97	107	104	87	58.8	59.2	59.6	60.0	59.4	12.1	10.0	12.8	11.5	11.6
12SB0199	43	92	106	100	85	58.6	59.0	59.4	59.7	59.2	11.5	9.5	12.9	11.7	11.4
12SB0224	45	82	104	97	82	58.3	59.6	59.4	59.0	59.1	12.2	9.6	13.0	12.3	11.8
10SB0087-B	40	78	99	95	78	59.7	61.1	61.3	60.6	60.7	12.4	10.1	13.0	12.6	12.0
SY 06PN3015-08	41	81	95	94	78	59.6	60.9	60.9	61.0	60.6	12.1	9.6	13.5	12.0	11.8
<i>WA 8240 CL+</i>	30	84	99	93	77	59.8	60.7	62.2	60.9	60.9	13.6	10.0	13.2	11.5	12.1
WA 8258	36	75	101	89	75	60.2	60.9	60.8	60.3	60.6	12.8	10.8	14.1	12.7	12.6
WA 8261	39	78	98	77	73	61.2	61.0	61.8	61.4	61.4	12.2	10.3	13.1	12.4	12.0
SY 04PN3051-9	41	78	99	74	73	61.0	61.7	63.5	63.3	62.4	13.3	10.7	14.4	12.1	12.6
WA 8259	41	82	92	75	73	61.4	62.3	63.0	61.8	62.1	13.0	10.9	14.0	12.6	12.6
WA 8241 CL+	42	75	97	76	72	61.1	61.8	62.3	63.1	62.0	11.8	10.5	12.6	11.5	11.6
<i>IDO1203S-A</i>	37	82	95	68	71	60.7	61.0	61.0	59.9	60.7	12.0	9.6	12.7	11.6	11.5
YS-802-1	38	82	94	67	70	60.8	61.8	62.1	61.2	61.5	13.1	10.4	13.8	11.8	12.3
WA 8260	31	72	100	76	70	61.0	61.6	62.5	61.8	61.7	14.7	11.0	14.0	14.0	13.4
HRS 3616	32	70	92	70	66	59.4	60.4	61.6	58.2	59.9	13.6	10.8	14.1	13.0	12.9
HRS 3504	40	81	72	50	61	59.0	59.7	56.9	53.3	57.2	11.9	9.9	13.7	12.3	12.0
HRS 3530	27	67	76	45	54	58.9	61.0	60.4	56.1	59.1	12.5	9.7	13.3	12.3	11.9
C.V. %	11	7	4	4	6	1	0	1	1	1	6	6	2	5	5
LSD (0.05)	6	8	5	4	3	0.5	0.3	0.6	1.0	0.3	1.0	0.9	0.3	0.8	0.4
Average	38	79	95	81	74	60.3	61.1	61.5	60.5	60.8	12.7	10.3	13.7	12.4	12.3
Highest	48	97	107	106	87	61.5	62.6	63.6	63.5	62.7	15.2	12.2	15.2	14.0	14.0
Lowest	27	67	72	45	54	58.2	59.0	56.9	53.3	57.2	11.5	9.2	12.0	10.5	10.8

* Fairfield location impacted by Hessian fly infestation

** Pullman location was not sprayed with fungicide and stripe rust pressure was high.

Table 87. 2016 WSU Variety Testing Hard Spring Wheat Zone Summary
Precipitation Zone = 16-20"

Variety Name <i>Hard White Italicized</i>	Dayton	Mayview	St. John	Walla Walla	Average	Dayton	Mayview	St. John	Walla Walla	Average	Dayton	Mayview	St. John	Walla Walla	Average
	YIELD (BU/A)					TEST WT (LBS/BU)					PROTEIN (%)				
RELEASED VARIETIES															
<i>Dayn</i>	62	48	72	121	76	62.8	61.8	62.2	62.4	62.3	11.2	13.0	12.7	12.5	12.4
SY Selway (04PN3001-2)	59	40	68	121	72	61.1	60.4	61.4	60.8	60.9	11.9	13.5	12.8	12.1	12.6
SY Coho (04W40292R)	59	48	76	103	72	60.4	59.8	61.1	60.2	60.4	12.5	12.8	12.2	13.3	12.7
Alum	62	54	68	101	71	62.9	62.5	62.7	62.6	62.7	12.5	13.0	13.3	12.8	12.9
LCS Iron (11SB0096)	63	44	73	103	71	61.8	61.1	62.3	61.5	61.7	12.2	12.5	12.7	12.4	12.5
<i>UI-Platinum</i>	63	44	62	111	70	63.2	63.0	63.5	62.8	63.1	11.2	11.9	12.4	11.8	11.8
Glee	60	40	65	113	70	62.3	62.0	62.3	62.6	62.3	11.4	13.0	13.2	12.6	12.5
Bullseye	61	41	70	102	69	63.8	62.6	63.7	62.7	63.2	11.8	12.9	12.9	12.8	12.6
SY Steelhead	54	46	64	102	66	63.1	62.2	63.3	62.9	62.9	12.9	14.4	14.1	14.1	13.9
WB9229	52	60	71	82	66	62.2	61.4	62.3	62.1	62.0	13.5	13.8	14.1	14.1	13.9
Chet	55	45	66	96	66	63.3	62.8	62.7	63.4	63.1	12.8	13.8	14.7	13.8	13.8
Kelse	58	47	67	89	65	62.2	61.6	62.1	60.5	61.6	12.8	13.6	14.4	14.0	13.7
WB9518	51	42	68	98	65	61.3	60.5	61.3	61.9	61.2	14.8	15.9	15.1	13.9	14.9
WB9668	53	41	59	101	63	62.5	61.9	62.8	62.4	62.4	13.9	16.5	15.6	14.7	15.2
SY605 CL	53	47	57	96	63	62.4	61.7	62.3	62.6	62.2	12.8	14.2	15.4	13.5	14.0
WB9879CLP	52	47	66	86	63	62.0	61.1	61.4	61.4	61.5	12.8	13.3	15.1	13.7	13.8
LCS Buck Pronto	49	42	60	96	62	61.3	61.1	61.7	61.4	61.4	13.3	14.6	14.5	13.9	14.1
WB9200	43	39	53	88	56	62.2	62.2	62.4	62.7	62.4	15.1	15.6	16.4	14.3	15.3
Hollis	44	34	58	87	56	62.0	61.6	61.6	61.8	61.8	12.4	13.7	14.1	13.5	13.4
EXPERIMENTAL LINES															
12SB0197	70	55	80	113	80	60.9	60.1	61.2	61.2	60.8	12.0	12.0	11.9	11.5	11.9
12SB0199	64	45	77	113	75	60.5	60.1	61.4	60.7	60.7	12.1	12.4	12.3	11.8	12.2
<i>IDO1203S-A</i>	69	43	78	110	75	63.1	62.2	63.4	62.4	62.8	11.9	13.0	13.0	11.2	12.3
12SB0224	60	61	74	96	73	60.9	59.5	60.8	60.9	60.5	11.6	12.7	12.0	11.7	12.0
10SB0087-B	61	49	67	105	70	61.2	61.2	62.0	61.6	61.5	12.4	13.2	13.1	12.5	12.8
<i>WA 8240 CL+</i>	58	39	69	113	70	61.7	60.8	61.4	62.0	61.5	11.8	13.6	12.9	12.5	12.7
SY 06PN3015-08	55	52	65	105	69	62.0	61.6	62.3	62.5	62.1	11.6	13.0	13.0	11.8	12.3
HRS 3504	59	46	70	94	67	61.3	60.4	61.7	59.8	60.8	12.7	12.5	14.1	11.3	12.7
YS-802-1	55	46	63	97	65	62.6	62.1	62.5	63.3	62.6	11.3	14.1	13.9	12.5	13.0
WA 8258	52	43	64	101	65	61.7	61.2	61.7	62.0	61.6	12.8	13.6	14.7	12.8	13.5
SY 04PN3051-9	55	46	60	95	64	63.1	62.0	62.9	63.2	62.8	13.4	14.2	14.6	13.9	14.0
WA 8259	50	37	62	104	63	63.0	62.0	62.8	63.1	62.7	13.5	14.6	15.0	14.1	14.3
WA 8261	56	35	62	99	63	62.8	62.0	62.5	62.3	62.4	12.2	13.2	13.6	13.3	13.1
WA 8241 CL+	54	38	60	97	62	62.8	62.4	62.6	62.9	62.7	12.2	13.1	13.4	13.0	12.9
WA 8260	55	37	56	98	61	62.2	62.0	62.4	62.6	62.3	13.8	14.8	14.8	14.3	14.4
HRS 3616	51	37	62	95	61	60.6	60.3	61.2	61.2	60.8	13.1	14.5	14.8	14.0	14.1
HRS 3530	51	35	54	84	56	61.8	60.5	61.9	60.2	61.1	13.6	13.1	14.8	12.6	13.5
C.V. %	4	9	6	4	6	0	0	0	1	0	5	3	4	4	4
LSD (0.05)	3	5	6	6	3	0.3	0.4	0.3	0.5	0.2	0.9	0.6	0.7	0.7	0.4
Average	56	44	66	100	67	62.1	61.4	62.2	62.0	61.9	12.6	13.6	13.8	13.0	13.3
Highest	70	61	80	121	80	63.8	63.0	63.7	63.4	63.2	15.1	16.5	16.4	14.7	15.3
Lowest	43	34	53	82	56	60.4	59.5	60.8	59.8	60.4	11.2	11.9	11.9	11.2	11.8

Table 88. 2016 WSU Variety Testing Hard Spring Wheat Zone Summary
Precipitation Zone = 12-16"

Variety Name <i>Hard White Italicized</i>	Almira	Reardan*	Average	Almira	Reardan*	Average	Almira	Reardan*	Average
	YIELD (BU/A)			TEST WT (LBS/BU)			PROTEIN (%)		
RELEASED VARIETIES									
LCS Iron (11SB0096)	66	79	72	60.9	63.4	62.2	13.1	13.5	13.3
Alum	69	71	70	62.0	63.5	62.8	14.1	13.4	13.7
<i>Dayn</i>	56	77	66	60.8	63.0	61.9	13.7	13.3	13.5
SY Coho (04W40292R)	61	72	66	59.5	61.3	60.4	13.4	13.2	13.3
WB9229	59	74	66	60.4	63.3	61.9	15.0	15.5	15.3
<i>UI-Platinum</i>	58	72	65	62.0	63.9	63.0	13.9	12.5	13.2
SY Selway (04PN3001-2)	62	66	64	59.8	61.8	60.8	14.3	14.5	14.4
Glee	59	65	62	61.5	62.7	62.1	13.3	13.4	13.4
SY Steelhead	58	66	62	62.1	63.8	63.0	14.3	15.1	14.7
Kelse	59	62	60	61.2	61.7	61.4	14.8	14.6	14.7
Chet	55	63	59	61.4	63.8	62.6	15.4	14.9	15.2
WB9518	51	66	59	60.0	62.1	61.0	14.9	15.8	15.3
Bullseye	61	56	58	62.8	61.4	62.1	13.5	13.2	13.3
WB9668	47	66	56	61.4	63.0	62.2	17.2	17.1	17.2
WB9200	51	56	54	61.4	62.7	62.1	16.2	16.1	16.1
LCS Buck Pronto	48	57	52	60.6	62.4	61.5	15.8	15.2	15.5
WB9879CLP	52	47	49	59.6	57.8	58.7	15.1	14.6	14.8
SY605 CL	47	49	48	61.1	62.2	61.7	16.3	15.4	15.9
Hollis	46	46	46	60.5	61.6	61.1	14.8	14.3	14.5
EXPERIMENTAL LINES									
12SB0197	69	82	76	59.9	61.7	60.8	12.2	12.1	12.2
12SB0224	64	82	73	58.7	61.7	60.2	12.6	12.6	12.6
12SB0199	64	80	72	59.8	61.9	60.8	13.0	12.6	12.8
SY 06PN3015-08	60	70	65	61.1	62.9	62.0	13.6	13.5	13.5
SY 04PN3051-9	61	65	63	61.8	63.2	62.5	14.5	14.6	14.6
<i>WA 8240 CL+</i>	56	70	63	60.2	62.5	61.4	13.9	13.8	13.9
10SB0087-B	56	69	63	60.9	62.8	61.8	14.2	13.7	13.9
<i>IDO1203S-A</i>	61	61	61	62.1	62.0	62.0	14.3	12.2	13.3
WA 8259	53	63	58	61.4	63.6	62.5	15.3	15.0	15.2
WA 8258	47	67	57	60.4	62.3	61.4	15.4	14.9	15.2
WA 8261	51	60	55	61.7	63.1	62.4	13.8	13.5	13.7
HRS 3504	60	48	54	60.9	57.2	59.1	14.4	13.4	13.9
HRS 3530	56	50	53	61.2	60.3	60.7	14.5	13.0	13.8
WA 8241 CL+	48	56	52	61.5	63.5	62.5	14.6	13.1	13.8
YS-802-1	48	55	52	61.4	62.5	62.0	15.4	13.9	14.6
WA 8260	48	55	51	61.3	62.9	62.1	16.2	16.4	16.3
HRS 3616	43	53	48	59.5	61.5	60.5	15.8	15.2	15.5
C.V. %	9	6	7	1	1	1	3	2	2
LSD (0.05)	7	5	4	0.4	0.7	0.4	0.5	0.4	0.3
Average	56	64	60	60.9	62.3	61.6	14.5	14.1	14.3
Highest	69	82	76	62.8	63.9	63.0	17.2	17.1	17.2
Lowest	43	46	46	58.7	57.2	58.7	12.2	12.1	12.2

* Reardan was moved to the 12-16" zone in 2016

Table 89. 2016 WSU Variety Testing Hard Spring Wheat Zone Summary
Precipitation Zone = <12"

Variety Name <i>Hard White Italicized</i>	Horse Heaven	Lind	Average	Horse Heaven	Lind	Average	Horse Heaven	Lind	Average
	YIELD (BU/A)			TEST WT (LBS/BU)			PROTEIN (%)		
RELEASED VARIETIES									
<i>Dayn</i>	23	46	35	61.5	65.0	63.3	13.2	15.3	14.3
Alum	21	45	33	63.0	65.7	64.4	13.6	15.0	14.3
Chet	22	44	33	62.8	65.9	64.3	14.1	16.0	15.0
SY Coho (04W40292R)	24	42	33	59.7	64.0	61.9	12.9	15.2	14.0
Kelse	25	40	33	61.4	65.3	63.4	14.0	15.7	14.9
SY Steelhead	23	40	32	62.5	65.6	64.0	13.7	16.4	15.1
Glee	22	41	31	62.2	65.6	63.9	13.0	15.5	14.3
WB9879CLP	24	38	31	61.4	64.5	63.0	14.4	15.5	15.0
Hollis	21	39	30	61.3	64.6	62.9	13.7	15.2	14.5
Bullseye	19	41	30	64.1	66.8	65.4	12.7	15.0	13.9
LCS Iron (11SB0096)	19	41	30	61.8	64.9	63.4	12.8	14.6	13.7
WB9229	18	42	30	61.6	65.4	63.5	14.3	16.1	15.2
SY Selway (04PN3001-2)	17	41	29	60.7	63.9	62.3	13.8	15.2	14.5
SY605 CL	18	38	28	61.7	64.8	63.3	14.3	16.5	15.4
LCS Buck Pronto	16	35	25	60.2	64.7	62.5	14.4	16.2	15.3
WB9668	16	35	25	62.0	65.3	63.7	16.9	17.8	17.3
<i>UI-Platinum</i>	15	35	25	63.4	66.3	64.8	12.6	14.7	13.7
WB9518	16	32	24	61.5	63.9	62.7	15.6	16.5	16.0
WB9200	13	32	23	63.1	65.3	64.2	15.3	16.7	16.0
EXPERIMENTAL LINES									
12SB0197	27	52	39	60.5	64.5	62.5	12.4	13.9	13.2
12SB0224	28	46	37	60.7	64.4	62.6	12.6	14.6	13.6
12SB0199	22	48	35	60.5	64.2	62.4	13.1	13.7	13.4
10SB0087-B	25	41	33	61.4	64.8	63.1	14.0	15.1	14.6
HRS 3504	23	40	32	60.9	64.9	62.9	13.5	14.9	14.2
<i>WA 8240 CL+</i>	21	40	31	61.2	64.3	62.8	14.4	15.7	15.1
SY 06PN3015-08	19	41	30	61.6	65.4	63.5	12.8	15.2	14.0
SY 04PN3051-9	22	38	30	62.3	65.6	63.9	14.1	16.2	15.2
WA 8261	16	41	28	63.0	65.6	64.3	13.8	14.9	14.4
HRS 3530	18	38	28	61.0	64.6	62.8	13.9	14.7	14.3
WA 8258	13	42	28	61.3	64.5	62.9	15.1	15.9	15.5
HRS 3616	18	36	27	61.1	64.8	63.0	14.9	16.0	15.5
YS-802-1	17	37	27	62.8	65.3	64.1	14.8	15.4	15.1
<i>IDO1203S-A</i>	16	38	27	62.6	65.9	64.3	13.9	14.3	14.1
WA 8259	13	40	27	62.0	65.3	63.6	14.7	16.3	15.5
WA 8260	15	35	25	62.1	65.0	63.6	15.1	17.3	16.2
WA 8241 CL+	8	37	22	62.2	65.2	63.7	14.1	15.1	14.6
C.V. %	12	7	9	1	0	0	3	3	3
LSD (0.05)	3	4	2	0.5	0.4	0.3	0.5	0.5	0.4
Average	19	40	30	61.8	65.1	63.4	14.0	15.5	14.7
Highest	28	52	39	64.1	66.8	65.4	16.9	17.8	17.3
Lowest	8	32	22	59.7	63.9	61.9	12.4	13.7	13.2

Table 90. 2016 WSU Variety Testing Hard Spring Wheat Zone Summary
Precipitation Zone = Irrigated

Variety Name <i>Hard White Italicized</i>	Moses Lake	Pasco	Average	Moses Lake	Pasco	Average	Moses Lake	Pasco	Average
	YIELD (BU/A)			TEST WT (LBS/BU)			PROTEIN (%)		
RELEASED VARIETIES									
<i>Dayn</i>	131	115	123	64.0	61.6	62.8	13.5	14.2	13.8
LCS Iron (11SB0096)	123	111	117	64.3	61.3	62.8	12.0	13.7	12.9
SY Basalt	138	89	114	64.0	58.5	61.3	11.6	15.5	13.6
Yurok	125	100	112	64.8	61.2	63.0	12.5	13.9	13.2
Glee	106	113	109	64.1	63.1	63.6	12.5	14.9	13.7
Alum	111	107	109	65.3	61.7	63.5	12.7	15.5	14.1
SY Coho (04W40292R)	124	92	108	63.3	58.0	60.7	12.8	14.9	13.8
WB9229	129	85	107	64.8	59.6	62.2	13.7	15.8	14.7
Bullseye	110	91	101	65.1	61.0	63.0	11.7	14.5	13.1
<i>UI-Platinum</i>	106	91	98	65.1	61.2	63.2	11.7	13.2	12.5
WB9518	109	86	98	63.7	58.4	61.0	14.3	15.5	14.9
LCS Buck Pronto	95	98	97	63.5	61.9	62.7	14.1	16.2	15.2
WB9668	105	88	97	65.0	60.6	62.8	14.6	16.1	15.3
Kelse	103	81	92	63.5	59.4	61.5	13.7	16.3	15.0
WB9200	96	85	90	64.6	62.2	63.4	13.9	15.6	14.7
SY605 CL	84	88	86	63.7	62.4	63.0	14.9	16.7	15.8
WB9879CLP	87	77	82	62.3	59.6	60.9	13.0	14.8	13.9
EXPERIMENTAL LINES									
<i>WA 8264</i>	130	111	121	65.0	61.7	63.4	12.4	14.1	13.2
<i>WA 8240 CL+</i>	120	106	113	63.7	61.3	62.5	13.4	14.6	14.0
12SB0197	132	88	110	63.2	54.5	58.9	11.5	14.9	13.2
SY 04PN3051-9	112	103	107	65.0	62.9	64.0	13.3	14.6	14.0
12SB0224	119	96	107	63.6	56.8	60.2	12.9	14.9	13.9
WA 8258	105	105	105	63.5	61.9	62.7	13.7	15.2	14.4
12SB0199	128	79	104	63.1	54.9	59.0	11.9	15.3	13.6
WA 8241 CL+	102	104	103	64.7	63.6	64.1	12.2	14.6	13.4
WA 8259	100	105	102	65.3	62.8	64.1	13.9	15.8	14.8
WA 8261	106	98	102	64.4	61.5	63.0	12.7	15.4	14.1
WA 8260	104	99	102	64.0	62.9	63.4	14.2	16.1	15.2
<i>WA 8263</i>	109	89	99	64.2	61.1	62.6	13.6	15.3	14.4
<i>WA 8262</i>	107	86	96	64.1	60.3	62.2	11.7	14.8	13.3
<i>IDO1203S-A</i>	94	97	96	63.8	61.4	62.6	12.0	13.9	13.0
10SB0087-B	99	92	96	64.0	59.7	61.8	13.2	14.8	14.0
SY 06PN3015-08	116	75	95	64.7	57.0	60.8	12.1	16.4	14.2
HRS 3616	88	93	90	63.2	60.8	62.0	14.4	15.8	15.1
YS-802-1	91	83	87	64.1	62.3	63.2	12.8	15.9	14.4
HRS 3530	95	77	86	62.6	59.1	60.9	12.1	13.5	12.8
C.V. %	7	6	7	0	1	1	3	3	3
LSD (0.05)	11	8	8	0.4	1.0	0.6	0.6	0.6	0.5
Average	109	94	102	64.1	60.5	62.3	13.0	15.1	14.0
Highest	138	115	123	65.3	63.6	64.1	14.9	16.7	15.8
Lowest	84	75	82	62.3	54.5	58.9	11.5	13.2	12.5

Table 91. **WSU Variety Testing Hard Spring Wheat Multi-Year Summary**

Precipitation Zone = >20"

(Fairfield, Farmington, Palouse, Pullman)

Variety Name <i>Hard White Italicized</i>	2 Years 2015-2016, 6 loc/years			3 Years 2014-2016, 8 loc/years			5 Years 2012-2016, 14 loc/years		
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
<i>Dayn</i>	79	60.8	12.0	77	59.6	12.3	76	60.4	12.4
Glee	74	60.8	12.2	72	59.8	12.5	74	60.4	12.6
Alum	74	61.0	12.4	71	59.4	13.0	71	60.3	13.0
LCS Iron (11SB0096)	74	59.5	12.1	73	58.3	12.5			
<i>UI-Platinum</i>	72	61.1	11.3	72	59.8	11.9			
Chet	72	62.0	13.1	69	60.6	13.7	70	61.4	13.7
WB9518	72	60.6	13.1						
SY Selway (04PN3001-2)	71	60.3	12.9						
SY Coho (04W40292R)	71	57.6	12.8						
WB9229	68	60.5	13.1						
WB9668	68	61.5	14.2						
SY Steelhead	68	62.1	13.1	67	61.0	13.7			
Bullseye	67	61.2	12.2	66	60.1	13.1	67	61.1	13.1
LCS Buck Pronto	66	60.0	13.5	65	59.0	14.0	66	59.9	13.7
Hollis	65	60.2	13.1	64	58.9	13.9	65	59.6	13.8
Kelse	64	59.8	13.2	65	58.8	13.7	67	59.8	13.8
WB9879CLP	61	59.9	12.9	63	59.3	13.3			
SY605 CL	59	61.5	13.2	61	60.8	13.7	62	61.2	13.9
EXPERIMENTAL LINES									
<i>WA 8240 CL+</i>	73	60.4	12.2						
10SB0087-B	72	60.2	12.5	71	59.0	13.0			
WA 8241 CL+	69	61.6	12.1						
C.V. %	6	1	5	6	1	6	6	1	5
LSD (0.05)	2	0.3	0.3	2	0.4	0.4	2	0.3	0.2
Average	70	60.6	12.7	68	59.6	13.2	69	60.5	13.3
Highest	79	62.1	14.2	77	61.0	14.0	76	61.4	13.9
Lowest	59	57.6	11.3	61	58.3	11.9	62	59.6	12.4

Table 92. WSU Variety Testing Hard Spring Wheat Multi-Year Summary

Precipitation Zone = 16-20"
(Dayton, Mayview, Plaza, St. John, Walla Walla)

Variety Name <i>Hard White Italicized</i>	2 Years 2015-2016, 8 loc/years			3 Years 2014-2016, 10 loc/years			5 Years 2012-2016, 18 loc/years		
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
<i>Dayn</i>	59	60.2	13.1	56	60.0	13.2	58	60.5	13.0
Glee	58	60.4	13.3	56	60.3	13.4	60	60.7	13.1
LCS Iron (11SB0096)	57	58.8	13.2	56	58.3	13.3			
SY Selway (04PN3001-2)	57	58.4	13.6						
Alum	57	60.2	13.8	55	60.0	14.0	58	60.6	13.6
<i>UI-Platinum</i>	56	61.0	12.4	54	60.9	12.6			
SY Coho (04W40292R)	56	56.9	14.1						
Bullseye	56	61.6	13.4	53	61.5	13.6	57	61.9	13.4
WB9518	55	59.6	14.9						
Chet	54	61.1	14.5	53	60.8	14.7	56	61.4	14.4
WB9229	54	59.9	14.4						
WB9668	53	60.5	15.5						
SY Steelhead	52	61.0	14.5	52	60.8	14.6			
Kelse	52	59.4	14.5	51	59.4	14.5	55	60.1	14.2
WB9879CLP	52	59.8	14.2	51	59.6	14.5			
LCS Buck Pronto	51	59.1	14.7	49	59.1	14.8	54	59.9	14.2
SY605 CL	50	61.0	14.4	47	60.8	14.7	52	61.3	14.3
Hollis	49	59.4	14.5	48	59.4	14.6	53	59.9	14.2
EXPERIMENTAL LINES									
10SB0087-B	58	59.7	13.4	57	59.7	13.5			
<i>WA 8240 CL+</i>	56	59.7	13.4						
WA 8241 CL+	53	61.1	13.5						
C.V. %	6	1	4	7	1	4	7	1	4
LSD (0.05)	2	0.3	0.3	2	0.3	0.2	1	0.2	0.2
Average	55	59.9	14.0	53	60.0	14.0	56	60.7	13.8
Highest	59	61.6	15.5	57	61.5	14.8	60	61.9	14.4
Lowest	49	56.9	12.4	47	58.3	12.6	52	59.9	13.0

Table 93. **WSU Variety Testing Hard Spring Wheat Multi-Year Summary**

Precipitation Zone = 12-16"

(Almira, Endicott, Lamont, Reardan*)

Variety Name <i>Hard White Italicized</i>	2 Years 2015-2016, 3 loc/years			3 Years 2014-2016, 6 loc/years			5 Years 2012-2016, 13 loc/years		
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
LCS Iron (11SB0096)	55	60.1	14.2	40	58.6	15.0			
Alum	54	60.7	14.6	41	59.7	15.5	49	59.7	15.1
<i>Dayn</i>	52	59.7	14.4	40	59.0	15.2	49	59.3	14.7
SY Coho (04W40292R)	51	57.3	14.6						
WB9229	51	60.2	15.6						
<i>UI-Platinum</i>	50	61.0	13.7	39	60.5	14.4			
SY Selway (04PN3001-2)	50	59.2	15.0						
Glee	48	60.1	14.6	38	59.6	15.3	50	59.7	15.1
Chet	48	61.0	15.6	39	60.1	16.2	47	60.3	15.9
SY Steelhead	48	61.0	15.6	38	60.0	16.2			
Kelse	47	59.6	15.6	36	59.0	16.5	46	59.2	15.9
WB9518	46	59.4	15.9						
Bullseye	45	61.2	14.3	34	60.7	15.5	46	60.9	15.0
WB9668	44	60.6	17.6						
LCS Buck Pronto	42	59.5	16.1	32	58.8	16.6	45	59.3	15.6
Hollis	39	59.0	15.3	34	58.9	15.7	44	58.8	15.6
WB9879CLP	39	58.0	15.5	32	57.6	16.2			
SY605 CL	38	60.4	16.2	30	59.7	16.9	44	60.4	16.1
EXPERIMENTAL LINES									
10SB0087-B	50	59.8	14.6	40	58.7	15.1			
<i>WA 8240 CL+</i>	49	60.1	14.8						
WA 8241 CL+	42	61.2	14.7						
C.V. %	8	1	2	8	1	3	9	1	5
LSD (0.10)	3	0.5	0.3	2	0.4	0.3	2	0.3	0.3
Average	47	60.0	15.2	37	59.4	15.7	47	59.7	15.4
Highest	55	61.2	17.6	41	60.7	16.9	50	60.9	16.1
Lowest	38	57.3	13.7	30	57.6	14.4	44	58.8	14.7

* Reardan was moved to the 12-16" zone in 2016

Table 94. WSU Variety Testing Hard Spring Wheat Multi-Year Summary

Precipitation Zone = <12"
(Bickleton, Horse Heaven, Lind)

Variety Name <i>Hard White Italicized</i>	2 Years 2015-2016, 5 loc/years			3 Years 2014-2016, 8 loc/years			5 Years 2012-2016, 14 loc/years		
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
<i>Dayn</i>	26	60.9	15.0	23	60.7	14.9	25	60.5	15.0
Alum	25	61.1	15.4	23	60.9	15.2	26	61.0	15.2
Chet	25	61.6	15.9	23	61.5	15.6	26	61.4	15.6
Glee	25	61.8	15.1	23	61.6	14.9	25	61.4	15.1
Bullseye	25	62.5	15.1	23	62.2	14.9	27	62.1	15.0
LCS Iron (11SB0096)	25	59.9	14.4	23	59.7	14.3			
SY Coho (04W40292R)	24	58.1	15.1						
SY Steelhead	24	60.5	15.9	23	60.5	15.9			
WB9879CLP	24	59.7	15.7	22	59.6	15.7			
SY Selway (04PN3001-2)	24	58.5	15.4						
Kelse	24	59.8	16.1	22	60.1	15.8	24	60.2	15.9
Hollis	24	59.7	15.8	22	59.9	15.7	25	60.0	15.6
WB9229	23	60.7	15.7						
SY605 CL	23	61.1	16.0	21	61.0	15.9	24	60.8	16.0
<i>UI-Platinum</i>	23	61.3	14.2	22	61.4	13.9			
WB9668	22	60.9	17.5						
WB9518	22	59.9	16.1						
LCS Buck Pronto	21	60.0	16.0	20	60.1	16.0	23	60.1	15.8
EXPERIMENTAL LINES									
10SB0087-B	25	60.2	15.1	24	60.1	14.8			
<i>WA 8240 CL+</i>	24	60.4	15.5						
WA 8241 CL+	21	61.2	15.5						
C.V. %	9	2	3	8	2	3	9	2	3
LSD (0.05)	1	0.6	0.3	1	0.5	0.2	1	0.4	0.2
Average	24	60.5	15.5	23	60.7	15.3	25	60.8	15.4
Highest	26	62.5	17.5	24	62.2	16.0	27	62.1	16.0
Lowest	21	58.1	14.2	20	59.6	13.9	23	60.0	15.0

Table 95. 2016 WSU Variety Testing Hard Spring Wheat Trial, Almira

Variety Name <i>Hard White Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
Alum	69	62.0	14.1	31	166	--	--	--
LCS Iron (11SB0096)	66	60.9	13.1	29	167	--	--	--
SY Selway (04PN3001-2)	62	59.8	14.3	32	160	--	--	--
SY Coho (04W40292R)	61	59.5	13.4	30	168	--	--	--
Bullseye	61	62.8	13.5	27	162	--	--	--
Glee	59	61.5	13.3	32	160	--	--	--
WB9229	59	60.4	15.0	27	168	--	--	--
Kelse	59	61.2	14.8	33	162	--	--	--
SY Steelhead	58	62.1	14.3	29	167	--	--	--
<i>UI-Platinum</i>	58	62.0	13.9	27	158	--	--	--
<i>Dayn</i>	56	60.8	13.7	30	159	--	--	--
Chet	55	61.4	15.4	36	164	--	--	--
WB9879CLP	52	59.6	15.1	29	167	--	--	--
WB9518	51	60.0	14.9	27	166	--	--	--
WB9200	51	61.4	16.2	27	160	--	--	--
LCS Buck Pronto	48	60.6	15.8	29	159	--	--	--
WB9668	47	61.4	17.2	25	159	--	--	--
SY605 CL	47	61.1	16.3	32	159	--	--	--
Hollis	46	60.5	14.8	35	161	--	--	--
EXPERIMENTAL LINES								
12SB0197	69	59.9	12.2	27	168	--	--	--
12SB0224	64	58.7	12.6	27	168	--	--	--
12SB0199	64	59.8	13.0	28	163	--	--	--
<i>IDO1203S-A</i>	61	62.1	14.3	27	158	--	--	--
SY 04PN3051-9	61	61.8	14.5	30	166	--	--	--
HRS 3504	60	60.9	14.4	31	165	--	--	--
SY 06PN3015-08	60	61.1	13.6	28	162	--	--	--
10SB0087-B	56	60.9	14.2	28	165	--	--	--
HRS 3530	56	61.2	14.5	34	168	--	--	--
<i>WA 8240 CL+</i>	56	60.2	13.9	31	160	--	--	--
WA 8259	53	61.4	15.3	33	162	--	--	--
WA 8261	51	61.7	13.8	32	160	--	--	--
YS-802-1	48	61.4	15.4	30	157	--	--	--
<i>WA 8241 CL+</i>	48	61.5	14.6	33	158	--	--	--
WA 8260	48	61.3	16.2	31	161	--	--	--
WA 8258	47	60.4	15.4	33	160	--	--	--
HRS 3616	43	59.5	15.8	31	165	--	--	--
C.V. %	9	1	3	4	1			
LSD (0.05)	7	0.4	0.5	2	1			
Average	56	60.9	14.5	30	163			
Highest	69	62.8	17.2	36	168			
Lowest	43	58.7	12.2	25	157			

Agronomic Information

Planting Date: 4/19/2016
Harvest Date: 9/16/2016
Seeding Rate (lbs/acre): 80
Previous Crop: Spring Wheat
Spring soil test:
 N (lb/ac) 4-ft sample 82
 P (ppm-bicarb) 2-ft sample 56
 S (lb/ac) 2-ft sample 30
 pH (top six inches) 5.76
Herbicide:
Huskie & Tilt applied on 5/26

Trial Notes:

- 1.** The Almira nursery was located about 11 miles north of Almira, WA . All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
- 2.** This was a no-till location and fertilizer applied at planting was: 60#N, 10#P, 10#S.
- 3.** Stripe rust was not an issue at this location.
- 4.** There are no long-term averages because the 2015 and 2014 results were not published.

Cooperator: D. McKay

Table 96. 2016 WSU Variety Testing Hard Spring Wheat Trial, Dayton

Variety Name <i>Hard White Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
LCS Iron (11SB0096)	63	61.8	12.2	28	159	47	46	
<i>UI-Platinum</i>	63	63.2	11.2	28	155	45	46	
Alum	62	62.9	12.5	31	159	46	44	46
<i>Dayn</i>	62	62.8	11.2	29	155	46	44	45
Bullseye	61	63.8	11.8	26	158	43	42	44
Glee	60	62.3	11.4	31	156	46	44	47
SY Coho (04W40292R)	59	60.4	12.5	27	160	44		
SY Selway (04PN3001-2)	59	61.1	11.9	31	157	44		
Kelse	58	62.2	12.8	33	159	43	43	46
Chet	55	63.3	12.8	39	159	43	43	45
SY Steelhead	54	63.1	12.9	29	160	41	42	
WB9668	53	62.5	13.9	24	155	39		
SY605 CL	53	62.4	12.8	32	155	37	36	40
WB9879CLP	52	62.0	12.8	30	161	40	41	
WB9229	52	62.2	13.5	26	162	40		
WB9518	51	61.3	14.8	28	158	39		
LCS Buck Pronto	49	61.3	13.3	28	157	38	39	43
Hollis	44	62.0	12.4	38	157	38	38	41
WB9200	43	62.2	15.1	26	157			
EXPERIMENTAL LINES								
12SB0197	70	60.9	12.0	29	159			
<i>IDO1203S-A</i>	69	63.1	11.9	27	155			
12SB0199	64	60.5	12.1	26	159			
10SB0087-B	61	61.2	12.4	26	159	48	47	
12SB0224	60	60.9	11.6	27	162			
HRS 3504	59	61.3	12.7	29	160			
<i>WA 8240 CL+</i>	58	61.7	11.8	30	156	42		
WA 8261	56	62.8	12.2	29	156			
YS-802-1	55	62.6	11.3	32	153			
SY 04PN3051-9	55	63.1	13.4	30	159			
WA 8260	55	62.2	13.8	29	156			
SY 06PN3015-08	55	62.0	11.6	26	158			
WA 8241 CL+	54	62.8	12.2	29	155	41		
WA 8258	52	61.7	12.8	30	156			
HRS 3530	51	61.8	13.6	31	160			
HRS 3616	51	60.6	13.1	32	160			
WA 8259	50	63.0	13.5	31	157			
C.V. %	4	0	5	4	0	6	7	7
LSD (0.05)	3	0.3	0.9	1	1	3	3	2
Average	56	62.1	12.6	29	158	42	42	44
Highest	70	63.8	15.1	39	162	48	47	47
Lowest	43	60.4	11.2	24	153	37	36	40

Agronomic Information

Planting Date: 4/12/2016
Harvest Date: 8/24/2016
Seeding Rate (lbs/acre): 80
Previous Crop: Winter Wheat
Spring soil test:
 N (lb/ac) 4-ft sample 57
 P (ppm-bicarb) 2-ft sample 69
 S (lb/ac) 2-ft sample 19
 pH (top six inches) 5.78
Herbicide:
Huskie & Tilt applied on 5/6

Trial Notes:

1. The Dayton nursery was located about 6 miles northwest of Dayton, WA. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
2. Fertilizer applied prior to planting (after the soil sample) was: 100#N, 15#P, 20#S. An additional 25#N was topdressed onto the hard trial after planting.
3. One fungicide application kept stripe rust under control and no rust was observed later in the season.

Cooperator: J. Penner

Table 97. 2016 WSU Variety Testing Hard Spring Wheat Trial, Fairfield

Variety Name <i>Hard White Italicized</i>	2016				2 Year*	3 Year**	5 Year***
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES							
Alum	48	61.2	12.0	32	59	60	
Chet	44	61.5	12.3	37	55	56	
SY Steelhead	44	61.4	13.3	33	60		
LCS Iron (11SB0096)	43	59.5	11.9	30	60	57	
Kelse	42	60.4	12.5	33	58	57	57
Glee	42	61.4	12.2	30	59	61	60
<i>Dayn</i>	42	60.2	12.4	31	59	60	60
Hollis	42	60.9	12.4	38	56	56	56
SY Selway (04PN3001-2)	41	61.5	12.8	29			
<i>UI-Platinum</i>	41	60.8	11.7	27	62	57	
SY Coho (04W40292R)	39	58.2	11.5	28			
WB9518	39	59.6	13.1	28			
WB9229	36	59.9	12.8	27			
WB9668	36	60.5	15.2	24			
Bullseye	34	61.4	12.7	25	49	49	50
LCS Buck Pronto	34	60.1	13.5	29	49	52	53
WB9879CLP	32	59.3	12.8	31	52	54	
SY605 CL	31	61.5	14.1	30	48	47	
WB9200	28	60.7	14.3	27			
EXPERIMENTAL LINES							
12SB0224	45	58.3	12.2	28			
12SB0199	43	58.6	11.5	26			
WA 8241 CL+	42	61.1	11.8	31			
12SB0197	42	58.8	12.1	28			
WA 8259	41	61.4	13.0	32			
SY 04PN3051-9	41	61.0	13.3	30			
SY 06PN3015-08	41	59.6	12.1	27			
10SB0087-B	40	59.7	12.4	26	57		
HRS 3504	40	59.0	11.9	27			
WA 8261	39	61.2	12.2	30			
YS-802-1	38	60.8	13.1	32			
<i>IDO1203S-A</i>	37	60.7	12.0	27			
WA 8258	36	60.2	12.8	31			
HRS 3616	32	59.4	13.6	30			
WA 8260	31	61.0	14.7	30			
<i>WA 8240 CL+</i>	30	59.8	13.6	26			
HRS 3530	27	58.9	12.5	31			
C.V. %	11	1	6	5	11	11	10
LSD (0.05)	6	0.5	1.0	2	5	4	3
Average	38	60.3	12.7	29	56	55	56
Highest	48	61.5	15.2	38	62	61	60
Lowest	27	58.2	11.5	24	48	47	50

Agronomic Information

Planting Date: 5/2/2016
Harvest Date: 9/14/2016
Seeding Rate (lbs/acre): 90
Previous Crop: Winter Wheat
Spring soil test:
 N (lb/ac) 4-ft sample 75
 P (ppm-bicarb) 2-ft sample 62
 S (lb/ac) 2-ft sample 56
 pH (top six inches) 5.51
Herbicide:
Huskie & Tilt applied on 6/1

Cooperator: B. LaShaw

Trial Notes:

1. The Fairfield nursery was located about 1/2 mile south of Rockford, WA. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
2. In addition to the base fertilizer (90#N, 15#S), an extra 70#N was topdressed on the hard trial.
3. Hessian fly infestation was very high (although not uniform across the trial) at this location and yield of susceptible varieties was impacted. Hessian fly also accounts for the higher than normal variation in the trial.

* 2-Year average from 2016 & 2014

** 3-Year average from 2016, 2014, 2013

*** 5-Year average from 2016, 2014, 2013, 2012, 2011

Table 98. 2016 WSU Variety Testing Hard Spring Wheat Trial, Farmington

Variety Name <i>Hard White Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
<i>UI-Platinum</i>	92	61.6	9.2	32	156	79	73	
SY Coho (04W40292R)	88	59.6	10.3	36	166	75		
<i>Dayn</i>	87	61.3	9.5	36	158	80	75	77
Glee	87	60.8	9.9	39	157	79	73	76
SY Selway (04PN3001-2)	86	60.8	10.9	38	159	75		
Bullseye	85	62.1	9.3	33	159	80	73	75
LCS Iron (11SB0096)	85	60.0	10.1	35	164	75	72	
Chet	83	62.6	9.9	50	160	77	70	72
Alum	81	62.0	10.0	38	163	75	68	71
WB9200	76	62.4	11.5	32	158			
Kelse	75	61.1	10.5	40	160	70	67	71
WB9518	75	60.7	11.4	32	161	71		
SY Steelhead	74	62.1	10.5	38	162	70	65	
WB9879CLP	73	60.6	10.3	37	163	71	70	
LCS Buck Pronto	73	60.9	11.3	36	156	67	64	67
Hollis	73	61.0	10.1	50	161	69	65	67
WB9668	71	61.6	12.2	31	157	68		
SY605 CL	71	62.4	10.5	40	156	67	67	69
WB9229	70	61.1	10.9	31	168	63		
EXPERIMENTAL LINES								
12SB0197	97	59.2	10.0	35	169			
12SB0199	92	59.0	9.5	34	167			
<i>WA 8240 CL+</i>	84	60.7	10.0	37	160	79		
WA 8259	82	62.3	10.9	39	159			
<i>IDO1203S-A</i>	82	61.0	9.6	32	156			
12SB0224	82	59.6	9.6	32	169			
YS-802-1	82	61.8	10.4	41	153			
HRS 3504	81	59.7	9.9	35	168			
SY 06PN3015-08	81	60.9	9.6	33	161			
SY 04PN3051-9	78	61.7	10.7	38	161			
WA 8261	78	61.0	10.3	38	158			
10SB0087-B	78	61.1	10.1	31	163	73	69	
WA 8258	75	60.9	10.8	40	159			
WA 8241 CL+	75	61.8	10.5	38	157	74		
WA 8260	72	61.6	11.0	39	157			
HRS 3616	70	60.4	10.8	37	164			
HRS 3530	67	61.0	9.7	41	166			
C.V. %	7	0	6	3	1	6	7	6
LSD (0.05)	8	0.3	0.9	2	2	5	4	3
Average	79	61.1	10.3	37	161	73	69	72
Highest	97	62.6	12.2	50	169	80	75	77
Lowest	67	59.0	9.2	31	153	63	64	67

Agronomic Information

Planting Date: 4/7/2016
Harvest Date: 9/14/2016
Seeding Rate (lbs/acre): 90
Previous Crop: Winter Wheat
Spring soil test:
 N (lb/ac) 4-ft sample 110
 P (ppm-bicarb) 2-ft sample 80
 S (lb/ac) 2-ft sample 31
 pH (top six inches) 5.9
Herbicide:
Huskie & Tilt applied on 5/17

Trial Notes:

1. The Farmington nursery was located about 4 miles south of Farmington, WA. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
2. Base fertilizer, applied prior to the soil sample, was: 85#N, 20#P, 20#S. An additional 60#N was topdressed on the hard trial. Low proteins indicate that the trial could have used more nitrogen.
3. This trial received only one fungicide application. Stripe rust was present on susceptible varieties late in the growing season.

Cooperator: B. Nelson

Table 99. 2016 WSU Variety Testing Hard Spring Wheat Trial, Horse Heaven

Variety Name <i>Hard White Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
Kelse	25	61.4	14.0	25	142	20	21	21
SY Coho (04W40292R)	24	59.7	12.9	21	143	20		
WB9879CLP	24	61.4	14.4	21	147	20	20	
<i>Dayn</i>	23	61.5	13.2	22	141	20	20	22
SY Steelhead	23	62.5	13.7	23	145	21	21	
Chet	22	62.8	14.1	24	140	19	20	22
Glee	22	62.2	13.0	20	138	19	20	22
Alum	21	63.0	13.6	22	144	19	20	23
Hollis	21	61.3	13.7	25	143	19	19	23
Bullseye	19	64.1	12.7	19	143	18	20	24
LCS Iron (11SB0096)	19	61.8	12.8	20	143	19	20	
SY605 CL	18	61.7	14.3	22	138	19	19	22
WB9229	18	61.6	14.3	19	143	17		
SY Selway (04PN3001-2)	17	60.7	13.8	23	140	18		
LCS Buck Pronto	16	60.2	14.4	21	141	16	17	21
WB9518	16	61.5	15.6	21	140	17		
WB9668	16	62.0	16.9	20	141	16		
<i>UI-Platinum</i>	15	63.4	12.6	18	141	16	18	
WB9200	13	63.1	15.3	18	139			
EXPERIMENTAL LINES								
12SB0224	28	60.7	12.6	20	144			
12SB0197	27	60.5	12.4	21	144			
10SB0087-B	25	61.4	14.0	20	143	21	22	
HRS 3504	23	60.9	13.5	21	145			
SY 04PN3051-9	22	62.3	14.1	23	146			
12SB0199	22	60.5	13.1	20	143			
<i>WA 8240 CL+</i>	21	61.2	14.4	22	142	20		
SY 06PN3015-08	19	61.6	12.8	20	143			
HRS 3530	18	61.0	13.9	23	145			
HRS 3616	18	61.1	14.9	22	143			
YS-802-1	17	62.8	14.8	21	138			
<i>IDO1203S-A</i>	16	62.6	13.9	19	140			
WA 8261	16	63.0	13.8	21	141			
WA 8260	15	62.1	15.1	20	139			
WA 8258	13	61.3	15.1	20	140			
WA 8259	13	62.0	14.7	20	140			
WA 8241 CL+	8	62.2	14.1	19	139	14		
C.V. %	12	1	3	7	0	12	11	11
LSD (0.05)	3	0.5	0.5	2	1	2	2	1
Average	19	61.8	14.0	21	142	18	20	22
Highest	28	64.1	16.9	25	147	21	22	24
Lowest	8	59.7	12.4	18	138	14	17	21

Agronomic Information

Planting Date: 3/10/2016
Harvest Date: 8/5/2016
Seeding Rate (lbs/acre): 50
Previous Crop: Fallow
Spring soil test:
 N (lb/ac) 4-ft sample 76
 P (ppm-bicarb) 2-ft sample 20
 S (lb/ac) 2-ft sample 14
 pH (top six inches) 6.9
Herbicide:
Huskie & Tilt applied on 5/3

Trial Notes:

- 1.** The Horse Heaven nursery was located about 11 miles southeast of Prosser, WA . All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
- 2.** Fertilizer applied at planting was 50#N and no additional fertilizer was applied.
- 3.** Stripe rust was not an issue and the CV of 12% is typical for Horse Heaven.

Cooperator: G. Moon

Table 100. 2016 WSU Variety Testing Hard Spring Wheat Trial, Lind

Variety Name <i>Hard White Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
<i>Dayn</i>	46	65.0	15.3	30	146	33	29	26
Alum	45	65.7	15.0	29	148	33	30	28
Chet	44	65.9	16.0	35	147	32	29	27
WB9229	42	65.4	16.1	27	146	31		
SY Coho (04W40292R)	42	64.0	15.2	27	147	31		
SY Selway (04PN3001-2)	41	63.9	15.2	33	145	30		
Glee	41	65.6	15.5	31	144	31	27	25
LCS Iron (11SB0096)	41	64.9	14.6	28	147	31	28	
Bullseye	41	66.8	15.0	27	148	31	27	25
SY Steelhead	40	65.6	16.4	29	151	30	26	
Kelse	40	65.3	15.7	33	148	30	27	25
Hollis	39	64.6	15.2	37	146	29	26	26
SY605 CL	38	64.8	16.5	32	143	28	25	23
WB9879CLP	38	64.5	15.5	29	152	29	26	
WB9668	35	65.3	17.8	26	143	27		
<i>UI-Platinum</i>	35	66.3	14.7	27	141	28	26	
LCS Buck Pronto	35	64.7	16.2	29	144	26	23	23
WB9200	32	65.3	16.7	27	141			
WB9518	32	63.9	16.5	27	143	26		
EXPERIMENTAL LINES								
12SB0197	52	64.5	13.9	27	152			
12SB0199	48	64.2	13.7	27	148			
12SB0224	46	64.4	14.6	26	148			
WA 8258	42	64.5	15.9	32	145			
SY 06PN3015-08	41	65.4	15.2	28	149			
10SB0087-B	41	64.8	15.1	28	148	31	28	
WA 8261	41	65.6	14.9	31	145			
WA 8259	40	65.3	16.3	32	147			
<i>WA 8240 CL+</i>	40	64.3	15.7	29	147	30		
HRS 3504	40	64.9	14.9	28	151			
<i>IDO1203S-A</i>	38	65.9	14.3	28	141			
SY 04PN3051-9	38	65.6	16.2	30	151			
HRS 3530	38	64.6	14.7	32	151			
YS-802-1	37	65.3	15.4	32	139			
WA 8241 CL+	37	65.2	15.1	31	142	27		
HRS 3616	36	64.8	16.0	31	151			
WA 8260	35	65.0	17.3	32	144			
C.V. %	7	0	3	3	0	7	7	7
LSD (0.05)	4	0.4	0.5	1	1	2	2	2
Average	40	65.1	15.5	30	146	30	27	25
Highest	52	66.8	17.8	37	152	33	30	28
Lowest	32	63.9	13.7	26	139	26	23	23

Agronomic Information

Planting Date: 3/8/2016
Harvest Date: 7/25/2016
Seeding Rate (lbs/acre): 60
Previous Crop: Fallow
N (lb/ac) 4-ft sample 203
P (ppm-bicarb) 1-ft sample 18
S (lb/ac) 2-ft sample 12
pH (top foot) 5.9

Herbicide:
Affinity Broadspec, Huskie, Dagger MCPA
applied by cooperator. No fungicide applied.

Trial Notes:

1. The Lind nursery was located on the WSU Lind Dryland Experiment Station. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
2. No fungicide was applied and only low levels of stripe rust were observed.
3. Higher than usual precipitation led to great yields and very high test weights.

Cooperator: WSU Lind Dryland Experiment Station

Table 101. 2016 WSU Variety Testing Hard Spring Wheat Trial, Mayview

Variety Name <i>Hard White Italicized</i>	2016					2 Year	3 Year*	5 Year**
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
WB9229	60	61.4	13.8	27	175	53		
Alum	54	62.5	13.0	28	171	51	53	
<i>Dayn</i>	48	61.8	13.0	29	169	48	51	47
SY Coho (04W40292R)	48	59.8	12.8	26	176	46		
WB9879CLP	47	61.1	13.3	27	172	46	47	
Kelse	47	61.6	13.6	32	171	44	47	46
SY605 CL	47	61.7	14.2	30	169	42	46	
SY Steelhead	46	62.2	14.4	29	174	44		
Chet	45	62.8	13.8	35	172	46	49	
LCS Iron (11SB0096)	44	61.1	12.5	26	174	45	47	
<i>UI-Platinum</i>	44	63.0	11.9	25	168	44	46	
WB9518	42	60.5	15.9	26	173	44		
LCS Buck Pronto	42	61.1	14.6	30	170	41	45	45
Bullseye	41	62.6	12.9	25	172	43	47	45
WB9668	41	61.9	16.5	24	168	42		
Glee	40	62.0	13.0	29	168	43	48	49
SY Selway (04PN3001-2)	40	60.4	13.5	32	169	43		
WB9200	39	62.2	15.6	28	170			
Hollis	34	61.6	13.7	37	171	38	42	42
EXPERIMENTAL LINES								
12SB0224	61	59.5	12.7	27	177			
12SB0197	55	60.1	12.0	26	174			
SY 06PN3015-08	52	61.6	13.0	28	170			
10SB0087-B	49	61.2	13.2	27	173	48		
SY 04PN3051-9	46	62.0	14.2	29	173			
HRS 3504	46	60.4	12.5	27	175			
YS-802-1	46	62.1	14.1	32	167			
12SB0199	45	60.1	12.4	25	173			
<i>IDO1203S-A</i>	43	62.2	13.0	25	169			
WA 8258	43	61.2	13.6	32	169			
<i>WA 8240 CL+</i>	39	60.8	13.6	28	170	42		
WA 8241 CL+	38	62.4	13.1	29	169	41		
WA 8259	37	62.0	14.6	30	171			
WA 8260	37	62.0	14.8	27	171			
HRS 3616	37	60.3	14.5	29	173			
WA 8261	35	62.0	13.2	29	171			
HRS 3530	35	60.5	13.1	28	175			
C.V. %	9	0	3	5	1	7	6	7
LSD (0.05)	5	0.4	0.6	2	2	4	3	2
Average	44	61.4	13.6	28	171	44	47	46
Highest	61	63.0	16.5	37	177	53	53	49
Lowest	34	59.5	11.9	24	167	38	42	42

Agronomic Information

Planting Date: 4/22/2016
Harvest Date: 8/30/2016
Seeding Rate (lbs/acre): 80
Previous Crop: Fallow
Spring soil test:
 N (lb/ac) 4-ft sample 58
 P (ppm-bicarb) 2-ft sample 80
 S (lb/ac) 2-ft sample 42
 pH (top six inches) 4.97
Herbicide:
Huskie & Tilt applied on 6/1

Trial Notes:

- 1.** The Mayview nursery was located about 3.5 miles south of Lower Granite Dam. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
- 2.** This trial received only one application of fungicide and stripe rust was not an issue.
- 3.** Base fertilizer (applied after soil test) was 80#N and 15#S. An additional 32#N was topdressed on the hard trial.

Cooperator: R. & R. Koller

* 3-Year average from 2016, 2015, 2013

** 5-Year average from 2016, 2015, 2013, 2012, 2011

Table 102. 2016 WSU Variety Testing Hard Spring Wheat Trial, Moses Lake

Variety Name <i>Hard White Italicized</i>	2016						2 Year*	3 Year**	5 Year***
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES									
SY Basalt	138	64.0	11.6	35	147	0			
<i>Dayn</i>	131	64.0	13.5	37	141	0	133	133	119
WB9229	129	64.8	13.7	33	146	0	119		
Yurok	125	64.8	12.5	35	147	0			
SY Coho (04W40292R)	124	63.3	12.8	37	147	0			
LCS Iron (11SB0096)	123	64.3	12.0	35	146	0	117	120	
Alum	111	65.3	12.7	38	143	0	106	113	
Bullseye	110	65.1	11.7	33	143	0	115	118	108
WB9518	109	63.7	14.3	33	143	0			
<i>UI-Platinum</i>	106	65.1	11.7	32	140	0	114	119	
Glee	106	64.1	12.5	38	141	8	114	115	103
WB9668	105	65.0	14.6	33	141	0			
Kelse	103	63.5	13.7	39	145	0	109	110	99
WB9200	96	64.6	13.9	32	141	0			
LCS Buck Pronto	95	63.5	14.1	36	141	0	106	106	97
WB9879CLP	87	62.3	13.0	39	147	10	94	99	
SY605 CL	84	63.7	14.9	40	140	0	100	102	
EXPERIMENTAL LINES									
12SB0197	132	63.2	11.5	35	147	0			
<i>WA 8264</i>	130	65.0	12.4	35	142	0			
12SB0199	128	63.1	11.9	34	145	0			
WA 8240 CL+	120	63.7	13.4	37	143	0			
12SB0224	119	63.6	12.9	33	147	0			
SY 06PN3015-08	116	64.7	12.1	34	145	0			
SY 04PN3051-9	112	65.0	13.3	39	147	0			
<i>WA 8263</i>	109	64.2	13.6	36	141	5			
<i>WA 8262</i>	107	64.1	11.7	37	142	3			
WA 8261	106	64.4	12.7	38	141	13			
WA 8258	105	63.5	13.7	40	142	3			
WA 8260	104	64.0	14.2	39	141	0			
<i>WA 8241 CL+</i>	102	64.7	12.2	39	141	20			
WA 8259	100	65.3	13.9	39	144	8			
10SB0087-B	99	64.0	13.2	33	146	0			
HRS 3530	95	62.6	12.1	40	146	0			
<i>IDO1203S-A</i>	94	63.8	12.0	33	140	0			
YS-802-1	91	64.1	12.8	37	138	0			
HRS 3616	88	63.2	14.4	37	145	0			
C.V. %	7	0	3	2	0	--	7	7	7
LSD (0.05)	11	0.4	0.6	1	1	--	9	7	6
Average	109	64.1	13.0	36	143	2	112	114	105
Highest	138	65.3	14.9	40	147	20	133	133	119
Lowest	84	62.3	11.5	32	138	0	94	99	97

Agronomic Information

Planting Date: 3/16/2016
Harvest Date: 7/28/2016
Seeding Rate (lbs/acre): 100
Previous Crop: legume cover crop
Spring soil test:
 N (lb/ac) 4-ft sample 134
 P (ppm-bicarb) 1-ft sample 24
 S (lb/ac) 2-ft sample 10
 pH (top foot) 7.3

Herbicide:
Affinity Broadspec, Huskie, Dagger MCPA
applied by cooperator. No fungicide applied.

Trial Notes:

- 1.** The Moses Lake nursery was located on the WSU Othello Research Farm. It was difficult to find an irrigated spring wheat producer located closer to Moses Lake. All yield, test weight, and protein values within the 5% range of the highest value are shown in bold.
- 2.** An additional 250#N, 20#P, and 20#S was applied prior to planting (not accounted for in the soil sample).
- 3.** No fungicide was applied at this location, and only low levels of stripe rust were observed.

Cooperator: Othello Research Farm

* 2-Year average from 2016 & 2014

** 3-Year average from 2016, 2014, 2013

*** 5-Year average from 2016, 2014, 2013, 2012, 2011

Table 103. 2016 WSU Variety Testing Hard Spring Wheat Trial, Palouse

Variety Name <i>Hard White Italicized</i>	2016				2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES							
<i>Dayn</i>	106	61.8	12.9	42	--	--	--
WB9518	106	61.3	14.5	38	--	--	--
SY Coho (04W40292R)	105	59.9	13.9	40	--	--	--
Glee	105	60.7	13.1	41	--	--	--
WB9200	101	62.7	14.0	38	--	--	--
LCS Iron (11SB0096)	100	61.6	13.0	37	--	--	--
WB9668	98	62.3	15.2	34	--	--	--
<i>UI-Platinum</i>	97	62.2	12.0	35	--	--	--
WB9229	96	61.5	14.2	35	--	--	--
LCS Buck Pronto	96	61.2	14.3	41	--	--	--
SY Steelhead	96	63.5	14.5	42	--	--	--
Alum	96	61.7	13.5	41	--	--	--
Chet	94	63.6	14.6	52	--	--	--
SY Selway (04PN3001-2)	88	63.6	14.4	41	--	--	--
Hollis	88	61.5	14.4	51	--	--	--
Bullseye	87	61.1	13.3	37	--	--	--
Kelse	87	60.7	14.6	43	--	--	--
WB9879CLP	82	60.9	13.8	39	--	--	--
SY605 CL	80	62.4	14.8	44	--	--	--
EXPERIMENTAL LINES							
12SB0197	107	59.6	12.8	36	--	--	--
12SB0199	106	59.4	12.9	36	--	--	--
12SB0224	104	59.4	13.0	35	--	--	--
WA 8258	101	60.8	14.1	43	--	--	--
WA 8260	100	62.5	14.0	43	--	--	--
SY 04PN3051-9	99	63.5	14.4	43	--	--	--
<i>WA 8240 CL+</i>	99	62.2	13.2	40	--	--	--
10SB0087-B	99	61.3	13.0	36	--	--	--
WA 8261	98	61.8	13.1	41	--	--	--
WA 8241 CL+	97	62.3	12.6	44	--	--	--
SY 06PN3015-08	95	60.9	13.5	36	--	--	--
<i>IDO1203S-A</i>	95	61.0	12.7	38	--	--	--
YS-802-1	94	62.1	13.8	47	--	--	--
HRS 3616	92	61.6	14.1	40	--	--	--
WA 8259	92	63.0	14.0	43	--	--	--
HRS 3530	76	60.4	13.3	44	--	--	--
HRS 3504	72	56.9	13.7	38	--	--	--
C.V. %	4	1	2	4			
LSD (0.05)	5	0.6	0.3	2			
Average	95	61.5	13.7	40			
Highest	107	63.6	15.2	52			
Lowest	72	56.9	12.0	34			

Agronomic Information

Planting Date: 4/13/2016
Harvest Date: 8/29/2016
Seeding Rate (lbs/acre): 90
Previous Crop: Winter Wheat
Spring soil test:
 N (lb/ac) 4-ft sample 260
 P (ppm-bicarb) 2-ft sample 61
 S (lb/ac) 2-ft sample 17
 pH (top six inches) 5.3
Herbicide:
Huskie & Tilt applied on 5/18

Trial Notes:

- 1.** The Palouse nursery was located about 7 miles west of Palouse, WA. All yield, test weight and protein values within the 5% LSD range of the highest value are shown in bold.
- 2.** This trial was following winter wheat, but previous to that, the field had been in alfalfa.
- 3.** The Palouse location was new in 2016, so there are no long-term averages.
- 4.** Only one fungicide application was applied and stripe rust was observed on susceptible varieties.

Cooperator: D. Lange

Table 104. 2016 WSU Variety Testing Hard Spring Wheat Trial, Pasco

Variety Name <i>Hard White Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
<i>Dayn</i>	115	61.6	14.2	37	0	--	--	--
Glee	113	63.1	14.9	36	0	--	--	--
LCS Iron (11SB0096)	111	61.3	13.7	35	0	--	--	--
Alum	107	61.7	15.5	36	0	--	--	--
Yurok	100	61.2	13.9	34	0	--	--	--
LCS Buck Pronto	98	61.9	16.2	36	8	--	--	--
SY Coho (04W40292R)	92	58.0	14.9	35	0	--	--	--
Bullseye	91	61.0	14.5	33	0	--	--	--
<i>UI-Platinum</i>	91	61.2	13.2	32	0	--	--	--
SY Basalt	89	58.5	15.5	32	0	--	--	--
WB9668	88	60.6	16.1	33	0	--	--	--
SY605 CL	88	62.4	16.7	43	0	--	--	--
WB9518	86	58.4	15.5	33	0	--	--	--
WB9229	85	59.6	15.8	32	0	--	--	--
WB9200	85	62.2	15.6	33	0	--	--	--
Kelse	81	59.4	16.3	37	0	--	--	--
WB9879CLP	77	59.6	14.8	38	0	--	--	--
EXPERIMENTAL LINES								
<i>WA 8264</i>	111	61.7	14.1	37	0	--	--	--
<i>WA 8240 CL+</i>	106	61.3	14.6	37	0	--	--	--
WA 8258	105	61.9	15.2	38	0	--	--	--
WA 8259	105	62.8	15.8	44	0	--	--	--
WA 8241 CL+	104	63.6	14.6	38	13	--	--	--
SY 04PN3051-9	103	62.9	14.6	39	0	--	--	--
WA 8260	99	62.9	16.1	38	0	--	--	--
WA 8261	98	61.5	15.4	38	0	--	--	--
<i>IDO1203S-A</i>	97	61.4	13.9	34	8	--	--	--
12SB0224	96	56.8	14.9	32	0	--	--	--
HRS 3616	93	60.8	15.8	40	0	--	--	--
10SB0087-B	92	59.7	14.8	34	0	--	--	--
WA 8263	89	61.1	15.3	36	0	--	--	--
12SB0197	88	54.5	14.9	34	0	--	--	--
<i>WA 8262</i>	86	60.3	14.8	37	0	--	--	--
YS-802-1	83	62.3	15.9	38	0	--	--	--
12SB0199	79	54.9	15.3	34	0	--	--	--
HRS 3530	77	59.1	13.5	41	0	--	--	--
SY 06PN3015-08	75	57.0	16.4	34	0	--	--	--
C.V. %	6	1	3	4	--	--	--	--
LSD (0.05)	8	1.0	0.6	2	--	--	--	--
Average	94	60.5	15.1	36	1	--	--	--
Highest	115	63.6	16.7	44	13	--	--	--
Lowest	75	54.5	13.2	32	0	--	--	--

Agronomic Information

Planting Date: 3/18/2016
Harvest Date: 7/29/2016
Seeding Rate (lbs/acre): 100
Previous Crop: Potatoes
Spring soil test:
 N (lb/ac) 4-ft sample 417
 P (ppm-bicarb) 2-ft sample 112
 S (lb/ac) 2-ft sample 129
 pH (top foot) 5.35

Herbicide:

Huskie, 2,4-D, and Tilt were applied by the cooperator. Warrior was applied later on for cereal leaf beetle control.

Trial Notes:

- 1.** This is a new location for 2016. The Pasco nursery was located about 1.5 miles NW of Connell, WA. It was difficult to find an irrigated spring wheat producer located closer to Pasco. All yield, test weight, and protein values within the 5% range of the highest value are shown in bold.
- 2.** Hessian fly was present at this location early in the season and caused yield losses in susceptible varieties.
- 3.** Only one fungicide application was applied. Stripe rust developed later in the season, and may have had a small impact on susceptible varieties.

Cooperator: T. Schuh

Table 105. 2016 WSU Variety Testing Hard Spring Wheat Trial, Pullman

Variety Name <i>Hard White Italicized</i>	2016					2 Year	3 Year*	5 Year**
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
<i>Dayn</i>	106	61.9	12.0	37	158	83	82	82
WB9229	100	61.4	12.9	33	163	76		
LCS Iron (11SB0096)	99	61.3	11.5	36	161	76	74	
SY Selway (04PN3001-2)	93	60.2	11.9	39	160	75		
WB9200	92	63.3	13.2	33	157			
WB9518	91	62.5	12.4	34	160	71		
Alum	90	61.9	12.3	38	161	76	75	
WB9668	89	63.5	13.4	31	157	69		
SY Coho (04W40292R)	85	57.1	12.8	36	161	67		
Chet	84	63.0	13.0	46	160	70	72	
Glee	83	61.8	11.7	36	157	70	72	74
<i>UI-Platinum</i>	83	61.9	10.5	32	157	69	69	
LCS Buck Pronto	80	60.1	13.2	35	156	67	68	70
SY Steelhead	76	63.4	12.2	38	161	64		
Hollis	69	59.5	13.2	45	160	61	63	65
Bullseye	65	58.1	12.2	34	161	61	65	68
Kelse	63	57.4	14.0	38	160	57	62	63
SY605 CL	62	60.4	12.5	39	158	55	59	
WB9879CLP	57	57.9	13.0	37	161	54	59	
EXPERIMENTAL LINES								
12SB0197	104	60.0	11.5	34	161			
12SB0199	100	59.7	11.7	33	161			
12SB0224	97	59.0	12.3	33	162			
10SB0087-B	95	60.6	12.6	32	161	74		
SY 06PN3015-08	94	61.0	12.0	32	160			
<i>WA 8240 CL+</i>	93	60.9	11.5	38	159	76		
WA 8258	89	60.3	12.7	39	159			
WA 8261	77	61.4	12.4	36	159			
WA 8241 CL+	76	63.1	11.5	37	158	65		
WA 8260	76	61.8	14.0	38	158			
WA 8259	75	61.8	12.6	39	159			
SY 04PN3051-9	74	63.3	12.1	37	160			
HRS 3616	70	58.2	13.0	37	161			
<i>IDO1203S-A</i>	68	59.9	11.6	32	157			
YS-802-1	67	61.2	11.8	38	155			
HRS 3504	50	53.3	12.3	34	161			
HRS 3530	45	56.1	12.3	38	162			
C.V. %	4	1	5	3	0	4	4	4
LSD (0.05)	4	1.0	0.8	2	1	3	3	2
Average	81	60.5	12.4	36	159	68	68	70
Highest	106	63.5	14.0	46	163	83	82	82
Lowest	45	53.3	10.5	31	155	54	59	63

Agronomic Information

Planting Date: 4/8/2016
Harvest Date: 8/13/2016
Seeding Rate (lbs/acre): 90
Previous Crop: Winter Wheat
Spring soil test (pre-fertilizer):
 N (lb/ac) 4-ft sample 62
 P (ppm-bicarb) 1-ft sample 25
 S (lb/ac) 2-ft sample 14
 pH (top foot) 5.8
Herbicide:
Affinity Broadspec, Huskie, Dagger MCPA
applied by cooperator. No fungicide applied.

Trial Notes:

1. The Pullman nursery was located about 1.5 miles southeast of Pullman, WA on the WSU Spillman Agronomy Farm. All yield, test weight, and protein values within the 5% range of the highest value are shown in bold.
2. An additional 200#N, 20#P, and 20#S was applied prior to planting (not accounted for in the soil sample).
3. No fungicide was applied at this location, **stripe rust pressure was severe**. This location provided an opportunity to evaluate stripe rust and illustrates the importance of genetic resistance to stripe rust.

Cooperator: WSU Spillman Agronomy Farm

* 3-Year average from 2016, 2015, 2013

** 5-Year average from 2016, 2015, 2013, 2012, 2011

Table 106. 2016 WSU Variety Testing Hard Spring Wheat Trial, Reardan

Variety Name <i>Hard White Italicized</i>	2016						2 Year*	3 Year**	5 Year***
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES									
LCS Iron (11SB0096)	79	63.4	13.5	32	169	0	55	64	
<i>Dayn</i>	77	63.0	13.3	35	166	0	55	64	65
WB9229	74	63.3	15.5	31	169	0			
<i>UI-Platinum</i>	72	63.9	12.5	32	167	0	54	61	
SY Coho (04W40292R)	72	61.3	13.2	32	170	0			
Alum	71	63.5	13.4	35	169	0	50	59	
SY Steelhead	66	63.8	15.1	35	168	0	47		
WB9518	66	62.1	15.8	32	168	0			
SY Selway (04PN3001-2)	66	61.8	14.5	34	167	3			
WB9668	66	63.0	17.1	32	167	0			
Glee	65	62.7	13.4	32	167	3	47	60	65
Chet	63	63.8	14.9	43	167	2	46	55	
Kelse	62	61.7	14.6	35	167	0	44	56	59
LCS Buck Pronto	57	62.4	15.2	33	166	2	41	54	58
WB9200	56	62.7	16.1	30	168	0			
Bullseye	56	61.4	13.2	31	168	2	42	55	58
SY605 CL	49	62.2	15.4	36	167	0	39	53	
WB9879CLP	47	57.8	14.6	34	167	0	36	49	
Hollis	46	61.6	14.3	43	167	7	37	51	55
EXPERIMENTAL LINES									
12SB0197	82	61.7	12.1	33	169	0			
12SB0224	82	61.7	12.6	29	170	0			
12SB0199	80	61.9	12.6	31	169	0			
SY 06PN3015-08	70	62.9	13.5	30	167	0			
<i>WA 8240 CL+</i>	70	62.5	13.8	33	167	0			
10SB0087-B	69	62.8	13.7	31	169	0	49		
WA 8258	67	62.3	14.9	36	168	2			
SY 04PN3051-9	65	63.2	14.6	34	168	0			
WA 8259	63	63.6	15.0	36	166	5			
<i>IDO1203S-A</i>	61	62.0	12.2	32	166	0			
WA 8261	60	63.1	13.5	34	167	3			
WA 8241 CL+	56	63.5	13.1	33	168	23			
YS-802-1	55	62.5	13.9	37	166	0			
WA 8260	55	62.9	16.4	33	167	0			
HRS 3616	53	61.5	15.2	34	168	0			
HRS 3530	50	60.3	13.0	36	168	0			
HRS 3504	48	57.2	13.4	32	167	0			
C.V. %	6	1	2	4	0	--	6	6	7
LSD (0.05)	5	0.7	0.4	2	1	3	4	3	3
Average	64	62.3	14.1	34	168	1	46	57	60
Highest	82	63.9	17.1	43	170	23	55	64	65
Lowest	46	57.2	12.1	29	166	0	36	49	55

Agronomic Information

Planting Date: 4/11/2016
Harvest Date: 9/1/2016
Seeding Rate (lbs/acre): 80
Previous Crop: Winter Wheat
Spring soil test:
 N (lb/ac) 4-ft sample 79
 P (ppm-bicarb) 2-ft sample 65
 S (lb/ac) 2-ft sample 33
 pH (top six inches) 5.0
Herbicide:
Huskie and Tilt applied on 5/31.

Trial Notes:

- 1.** The Reardan nursery was located about 7 miles west of Reardan, WA . All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
- 2.** This is a no-till location and fertilizer applied at planting (not accounted for in the soil sample) was: 80#N, 14#P, 14#S.
- 3.** This trial received only one fungicide application and yield-limiting stripe rust was observed on susceptible varieties.

Cooperator: H. Johnson

* 2-Year average from 2016 & 2014

** 3-Year average from 2016, 2014, 2013

*** 5-Year average from 2016, 2014, 2013, 2012, 2011

Table 107. 2016 WSU Variety Testing Hard Spring Wheat Trial, St. John

Variety Name <i>Hard White Italicized</i>	2016					2 Year	3 Year	5 Year
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	HEAD DATE	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES								
SY Coho (04W40292R)	76	61.1	12.2	33	163	51		
LCS Iron (11SB0096)	73	62.3	12.7	32	162	52	53	
<i>Dayn</i>	72	62.2	12.7	34	159	51	51	55
WB9229	71	62.3	14.1	29	163	49		
Bullseye	70	63.7	12.9	30	161	51	48	55
SY Selway (04PN3001-2)	68	61.4	12.8	35	160	48		
Alum	68	62.7	13.3	35	162	49	52	56
WB9518	68	61.3	15.1	31	164	50		
Kelse	67	62.1	14.4	37	161	48	50	55
Chet	66	62.7	14.7	43	161	46	49	54
WB9879CLP	66	61.4	15.1	32	163	46	48	
Glee	65	62.3	13.2	34	159	52	52	58
SY Steelhead	64	63.3	14.1	32	161	46	48	
<i>UI-Platinum</i>	62	63.5	12.4	27	158	47	46	
LCS Buck Pronto	60	61.7	14.5	32	159	43	45	51
WB9668	59	62.8	15.6	27	158	45		
Hollis	58	61.6	14.1	42	160	44	46	52
SY605 CL	57	62.3	15.4	35	159	43	42	47
WB9200	53	62.4	16.4	29	160			
EXPERIMENTAL LINES								
12SB0197	80	61.2	11.9	30	162			
<i>IDO1203S-A</i>	78	63.4	13.0	29	158			
12SB0199	77	61.4	12.3	28	162			
12SB0224	74	60.8	12.0	29	162			
HRS 3504	70	61.7	14.1	32	163			
<i>WA 8240 CL+</i>	69	61.4	12.9	34	160	49		
10SB0087-B	67	62.0	13.1	29	163	52	54	
SY 06PN3015-08	65	62.3	13.0	26	161			
WA 8258	64	61.7	14.7	36	160			
YS-802-1	63	62.5	13.9	35	157			
WA 8261	62	62.5	13.6	34	160			
HRS 3616	62	61.2	14.8	33	163			
WA 8259	62	62.8	15.0	35	160			
SY 04PN3051-9	60	62.9	14.6	32	162			
WA 8241 CL+	60	62.6	13.4	35	159	48		
WA 8260	56	62.4	14.8	35	159			
HRS 3530	54	61.9	14.8	34	162			
C.V. %	6	0	4	4	0	8	8	8
LSD (0.05)	6	0.3	0.7	2	1	5	4	3
Average	66	62.2	13.8	33	161	48	49	54
Highest	80	63.7	16.4	43	164	52	54	58
Lowest	53	60.8	11.9	26	157	43	42	47

Agronomic Information

Planting Date: 4/18/2016
Harvest Date: 8/16/2016
Seeding Rate (lbs/acre): 80
Previous Crop: Winter Wheat
Spring soil test:
 N (lb/ac) 4-ft sample 167
 P (ppm-bicarb) 2-ft sample 100
 S (lb/ac) 2-ft sample 47
 pH (top six inches) 5.26
Herbicide:
Huskie & Tilt applied on 5/25

Trial Notes:

- 1.** The St. John nursery was located about 3 miles east of St. John, WA. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
- 2.** This trial received only one fungicide application and no stripe rust was observed.
- 3.** Soil test was taken after planting.

Cooperator: M. Mills

Table 108. 2016 WSU Variety Testing Hard Spring Wheat Trial, Walla Walla

Variety Name <i>Hard White Italicized</i>	2016				2 Year	3 Year*	5 Year**
	YIELD (BU/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLANT HT	AVERAGE (BU/A)	AVERAGE (BU/A)	AVERAGE (BU/A)
RELEASED VARIETIES							
SY Selway (04PN3001-2)	121	60.8	12.1	37	94		
<i>Dayn</i>	121	62.4	12.5	36	92	96	86
Glee	113	62.6	12.6	35	93	98	88
<i>UI-Platinum</i>	111	62.8	11.8	32	89	93	
SY Coho (04W40292R)	103	60.2	13.3	34	83		
LCS Iron (11SB0096)	103	61.5	12.4	32	87	88	
Bullseye	102	62.7	12.8	32	87	93	85
SY Steelhead	102	62.9	14.1	38	79		
Alum	101	62.6	12.8	37	80	86	
WB9668	101	62.4	14.7	31	83		
WB9518	98	61.9	13.9	31	85		
Chet	96	63.4	13.8	45	81	86	
SY605 CL	96	62.6	13.5	39	78	83	
LCS Buck Pronto	96	61.4	13.9	33	80	87	79
Kelse	89	60.5	14.0	35	74	83	76
WB9200	88	62.7	14.3	31			
Hollis	87	61.8	13.5	44	76	83	77
WB9879CLP	86	61.4	13.7	35	75	82	
WB9229	82	62.1	14.1	29	73		
EXPERIMENTAL LINES							
12SB0197	113	61.2	11.5	33			
12SB0199	113	60.7	11.8	32			
<i>WA 8240 CL+</i>	113	62.0	12.5	35	89		
<i>IDO1203S-A</i>	110	62.4	11.2	33			
SY 06PN3015-08	105	62.5	11.8	31			
10SB0087-B	105	61.6	12.5	31	86		
WA 8259	104	63.1	14.1	37			
WA 8258	101	62.0	12.8	35			
WA 8261	99	62.3	13.3	35			
WA 8260	98	62.6	14.3	35			
YS-802-1	97	63.3	12.5	40			
WA 8241 CL+	97	62.9	13.0	37	83		
12SB0224	96	60.9	11.7	33			
SY 04PN3051-9	95	63.2	13.9	37			
HRS 3616	95	61.2	14.0	36			
HRS 3504	94	59.8	11.3	33			
HRS 3530	84	60.2	12.6	37			
C.V. %	4	1	4	3	5	5	5
LSD (0.05)	6	0.5	0.7	1	5	4	3
Average	100	62.0	13.0	35	83	88	82
Highest	121	63.4	14.7	45	94	98	88
Lowest	82	59.8	11.2	29	73	82	76

Agronomic Information

Planting Date: 4/8/2016
Harvest Date: 8/23/2016
Seeding Rate (lbs/acre): 80
Previous Crop: Winter Wheat
Spring soil test:
 N (lb/ac) 4-ft sample 266
 P (ppm-bicarb) 2-ft sample 86
 S (lb/ac) 2-ft sample 65
 pH (top six inches) 6.7
Herbicide:
Huskie & Tilt applied on 5/12

Trial Notes:

- 1.** The Walla Walla nursery was located about 1.5 miles west of Waitsburg, WA. All yield, test weight and protein values within the 5% LSD range of the highest value are shown in bold.
- 2.** This trial only received one fungicide application. Stripe rust was present on susceptible varieties after flowering.
- 3.** This was a very uniform trial.

Cooperator: P. Dozier

* 3-Year average from 2016, 2015, 2013

** 5-Year average from 2016, 2015, 2013, 2012, 2011

Table 109.

STRIPE RUST INFECTION TYPE (IT^a) AND SEVERITY (%) ON CULTIVARS AND LINES IN THE SPRING EXTENSION DISEASE NURSERY (EXP32) (COORDINATED BY RYAN HIGGINBOTHAM AS SPRING WHEAT VARIETY TRIAL NURSERIES) AT SPILLMAN (LOC 01), PLANT PATH (LOC 03), AND PCFS (LOC 04) FARMS NEAR PULLMAN, MT VERNON (LOC 05); WALLA WALLA (LOC 6); AND LIND (LOC 07), WA WHEN RECORDED AT THE INDICATED DATES AND STAGES OF PLANT GROWTH IN 2016 UNDER NATURAL INFECTION.

Name	Class	Spillman Farm (Pullman)		Plant Path Farm (Pullman)		Palouse Conservation Farm (Pullman)		Mt. Vernon		Walla Walla		Field summary ^c	Overall rating ^d
		LOC 01		LOC 03		LOC 04		LOC 05 ^b		LOC 06	LOC 07		
		6/20	6/29	6/20	6/28	6/21	7/5	6/1	6/27	6/20	6/16		
		Stem elong.	Heading	Stem elong.	E. flower.	E. flower.	S. dough	Stem elong.	Milk	Milk	Milk		
	IT %	IT %	IT %	IT %	IT %	IT %	IT %	IT %	IT %	IT %			
LCS Luna (10SB0087-B)	HRS	2/5	2/5	2/10	2/5	2/1	3/2	8/20	5/25	3/2	2/2	MR	4
12SB0197	HRS	2/10	2/10	2/10	2/10	2/5	5/15	2/5	2/20	3/2	2/10	MR	3
12SB0199	HRS	2/5	2/2	2/5	2/2	2/5	3/2	2/5	2/20	3/2	2/5	R	2
12SB0224	HRS	2/10	2/5	2/10	3/2	2/15	2/10	2/5	2/15	3/5	2/5	R	2
LCS Iron (11SB0096)	HRS	2/5	2/1	2/5	2/1	2/5	2/5	2/5	3/5	2/5	2/2	R	1
LCS Buck Pronto	HRS	5/10	5/10	5/10	3/10	2/15	5/30	8/10	5/25	5/20	3/30	MR	4
Bullseye	HRS	5/10	5/10	5/5	5/10	3/5	5/30	7/10	5/50	5/20	3/15	MR-MS	5
SY 04PN3051-9	HRS	3/10	3/10	3/10	3/5	2/10	3/25	8/30	5/45	5/10	2/10	MR-MS	5
SY 06PN3015-08	HRS	2/10	2/5	2/10	2/5	2/10	3/15	2/5	3/2	5/10	2/5	MR	3
SY Coho (04W40292R)	HRS	2/5	2/5	2/5	3/5	2/5	5/15	2/5	3/5	3/5	2/5	MR	3
SY Selway (04PN3001-2)	HRS	2/10	3/10	2/10	3/5	2/10	5/20	8/5	5/25	5/15	2/15	MR	4
SY Steelhead	HRS	5/5	3/10	3/10	3/5	2/15	5/25	8/40	5/40	5/10	2/15	MR	4
SY605 CL	HRSI	8/30	8/80	8/60	8/20	6/30	8/70	8/30	8/50	5/15	7/40	S	8
IDO1203S-A	HWS	3/10	3/10	3/10	5/20	3/5	5/15	8/40	5/40	5/20	3/20	MR	4
S. CHECK		8/70	8/90	8/60	8/90	8/30	8/100	8/80	8/100	8/20	8/70	S	9
UI-Platinum	HWS	2/10	5/10	2/10	5/10	3/15	5/20	7/30	5/20	5/25	3/15	MR	3
WB9200	HRS	2/1	2/1	2/1	2/1	2/1	2/1	2/5	2/15	2/5	2/2	R	2
WB9229	HRS	2/2	2/1	2/2	2/1	2/5	2/5	2/5	2/20	2/2	2/5	R	2
WB9518	HRS	2/1	2/1	2/1	2/1	2/2	2/2	2/5	2/5	2/1	2/5	R	1
WB9668	HRS	2/1	2/1	2/1	2/1	2/2	0/0	1/1	2/1	2/1	2/5	R	1
WB9879CLP	HRSI	8/20	8/30	5/10	8/20	5/10	5/30	8/40	8/60	3/1	5/10	MS	7
HRS 3504	HRS	8/60	8/80	5/10	8/50	7/20	8/90	8/30	8/70	5/15	7/20	S	9
HRS 3530	HRS	8/50	8/80	8/30	8/50	6/20	8/90	8/40	8/50	5/20	8/40	S	9
HRS 3616	HRS	8/30	5/10	2/10	5/5	2/10	5/40	8/30	5/50	5/20	2/10	MS	6
Alum	HRS	2/2	2/5	2/2	2/5	2/15	5/20	8/40	5/10	5/15	2/10	MR	3
Chet	HRS	2/5	2/5	2/2	2/5	3/2	5/15	8/30	5/5	5/15	3/15	MR	3
Dayn	HWS	2/1	2/1	2/1	2/1	2/5	2/5	8/20	2/15	5/10	2/5	MR	3
Glee	HRS	2/10	3/10	2/10	5/10	3/15	5/15	8/20	2/20	5/10	3/30	MR	3
Hollis	HRS	5/10	5/10	5/10	5/10	5/15	5/20	8/40	5/25	5/25	5/30	MR	4
Kelse	HRS	3/10	5/10	5/10	5/10	5/20	5/25	8/30	5/40	5/30	7/20	MR-MS	5
WA 8240 CL+	HWSI	2/5	2/2	2/2	2/2	2/15	2/5	2/5	5/25	5/15	2/10	MR	4
WA 8241 CL+	HRSI	3/10	3/10	3/10	2/10	5/10	5/15	8/20	5/30	5/10	3/20	MR	4
WA 8258	HRS	2/10	2/10	3/10	3/10	3/10	5/25	8/40	5/25	5/25	3/10	MR	4
WA 8259	HRS	2/10	2/10	5/5	5/5	3/5	5/30	8/30	5/50	5/25	3/15	MR-MS	5
S. CHECK		8/60	8/90	8/60	8/90	8/30	8/95	8/80	8/100	8/30	8/60	S	9
WA 8260	HRS	2/15	2/10	2/10	5/5	3/10	5/15	8/40	5/40	5/25	3/20	MR	4
WA 8261	HRS	2/15	3/10	2/10	3/10	5/15	5/20	8/20	5/25	5/30	3/20	MR	4
YS-802-1	HRS	8/50	5/20	8/50	8/10	7/30	5/35	8/40	5/40	5/30	7/40	MS	7
SY Basalt	HRS	2/5	2/2	2/1	2/1	2/5	3/1	8/20	3/20	3/1	2/5	R	2
Yurok	HRS	2/1	2/1	2/1	2/1	0/0	3/1	1/1	2/2	3/1	2/2	R	1
WA 8263	HWS	2/5	2/2	2/2	2/5	3/2	3/2	5/10	5/20	5/5	3/15	MR	3
WA 8264	HRS	2/10	2/5	2/2	2/5	3/15	3/15	2/5	5/15	5/10	3/15	MR	3
WA 8262	HWS	5/10	5/5	3/10	5/5	3/15	5/25	8/20	5/25	5/25	3/15	MR	4
S. CHECK		8/60	8/90	8/60	8/90	8/30	8/95	8/90	8/100	8/30	8/70		

^a Infection Type (IT) was recorded based on the 0-9 scale with ITs 8 and 9 combined as 8 (the most susceptible reaction) in field data. Generally IT 0-3 are considered resistant, 4-6 intermediate, and 7-9 susceptible. Heterogenous reactions of an entry were indicated by two or more ITs separated by "," for most plants with the first IT and few plants with the second IT or connected with "-" for entries containing plants with continuous ITs.

^b Entries with a high IT in the first note, but a low IT in the second note at Mt. Vernon (LOC 05) may indicate that they have high-temperature, adult-plant (HTAP) resistance.

^c R = resistant, MR = moderately resistant, MS = moderately susceptible, and S = susceptible.

^d 1 = most resistant and 9 most susceptible.

Note: The summary and ratings are based on the highest IT and % severity to discourage use of race-specific resistance.

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Table 110. 2016 WSU Variety Testing Barley Zone Summary
Precipitation Zone = >20"

Variety Name <i>Hulless Italicized</i>	Farmington	Palouse	Pullman	Average	Farmington	Palouse	Pullman	Average	Farmington	Palouse	Pullman	Average
	YIELD (LBS/A)				TEST WT (LBS/BU)				PROTEIN (%)			
RELEASED VARIETIES												
Claymore (BZ509-216)	6140	7023	5613	6259	52.5	52.0	52.5	52.3	9.7	13.3	12.6	11.9
Oreana (BZ509-448)	5415	7409	5445	6090	52.1	53.8	51.9	52.6	10.2	12.3	13.2	11.9
LCS Genie	5749	7087	5267	6035	51.2	53.0	52.6	52.2	10.0	12.5	12.3	11.6
Lenetah	5541	6681	5837	6019	52.6	54.0	52.3	52.9	11.5	12.9	12.5	12.3
Champion	5801	6395	5796	5997	53.5	55.1	53.2	53.9	11.2	13.1	13.0	12.4
LCS Vespa	5838	6664	5337	5946	52.1	54.1	50.9	52.4	10.1	13.0	13.2	12.1
LCS Westminster	5331	6724	5522	5859	51.7	53.7	52.3	52.6	10.8	13.2	13.2	12.4
CDC Copeland	5796	6263	5321	5794	51.8	51.9	50.4	51.4	10.0	13.2	12.6	11.9
Lyon	5736	5772	5423	5644	52.3	52.6	51.5	52.2	9.7	13.9	13.4	12.3
LCS Odyssey	6251	4871	5698	5607	51.4	51.9	51.5	51.6	10.4	12.5	12.9	12.0
Muir	5462	5824	5524	5604	52.4	53.2	52.2	52.6	11.6	13.7	13.1	12.8
Bob	5273	5661	5571	5502	53.3	54.3	52.8	53.5	10.2	14.7	13.5	12.8
<i>Havener (09WA-265.5)</i>	4763	5181	4612	4852	59.0	59.5	60.0	59.5	12.8	14.0	14.1	13.6
EXPERIMENTAL LINES												
10WA-106.18	5703	6609	5404	5905	52.9	53.8	52.3	53.0	11.0	12.5	12.7	12.0
2Ab08-X05M010-82	6137	5941	5520	5866	52.2	52.5	51.6	52.1	10.5	13.2	12.7	12.1
10WA-106.20	5827	5863	5365	5685	52.8	54.3	52.8	53.3	10.2	12.7	12.6	11.8
11WA-107.43	5503	6565	4966	5678	52.8	54.5	53.2	53.5	11.0	13.2	13.9	12.7
11WA-107.58	5537	5861	5634	5677	53.4	54.6	53.1	53.7	11.8	13.2	13.4	12.8
BZ 509-601	5522	5843	5639	5668	53.4	54.2	52.8	53.5	11.2	13.4	13.2	12.6
10WA-105.C	5496	6129	5322	5649	52.1	52.7	52.1	52.3	10.4	13.3	13.5	12.4
07MWA-204	5345	5798	5710	5618	52.8	53.7	51.9	52.8	11.5	14.8	13.4	13.2
07MWA-202	5153	5848	5591	5531	52.9	54.0	52.6	53.2	10.6	14.2	13.1	12.6
07MWA-203	5403	4982	5612	5332	52.9	54.4	52.3	53.2	11.1	14.6	13.2	13.0
11WA-105.11	4986	6072	4939	5332	52.4	54.4	52.4	53.1	10.9	13.6	13.3	12.6
12WA-120.14	5368	5259	5159	5262	52.0	52.3	51.3	51.8	10.6	14.8	13.6	13.0
12WA-120.17	5323	5623	4757	5235	51.8	52.0	51.9	51.9	11.9	15.2	13.8	13.6
10WA-117.17	5062	5019	5543	5208	51.7	52.8	51.6	52.1	11.0	13.4	12.9	12.4
<i>X05013-T1</i>	5251	5498	4559	5103	58.3	59.7	58.4	58.8	13.7	14.8	15.7	14.7
10WA-117.24	4954	4709	4992	4885	50.8	51.8	51.6	51.4	11.1	14.2	13.9	13.1
<i>2Ab09-X06F058HL-31</i>	4151	5356	3746	4418	54.9	56.2	54.2	55.1	13.3	15.8	15.1	14.7
C.V. %	8	10	7	8	1	1	1	1	9	3	2	5
LSD (0.05)	593	784	524	367	0.5	0.9	1.1	0.5	1.3	0.5	0.4	0.5
Average	5461	5951	5314	5575	52.9	53.9	52.7	53.2	11.0	13.6	13.3	12.7
Highest	6251	7409	5837	6259	59.0	59.7	60.0	59.5	13.7	15.8	15.7	14.7
Lowest	4151	4709	3746	4418	50.8	51.8	50.4	51.4	9.7	12.3	12.3	11.6

Table 111. 2016 WSU Variety Testing Barley Zone Summary
Precipitation Zone = 16-20"

Variety Name <i>Hulless Italicized</i>	Dayton	Mayview	St. John	Walla Walla	Average	Dayton	Mayview	St. John	Walla Walla	Average	Dayton	Mayview	St. John	Walla Walla	Average
	YIELD (LBS/A)					TEST WT (LBS/BU)					PROTEIN (%)				
RELEASED VARIETIES															
Claymore (BZ509-216)	4017	3840	4103	7094	6259	52.6	51.8	52.7	53.3	52.3	11.8	11.9	13.0	11.9	11.9
Oreana (BZ509-448)	4348	4492	4531	6512	6090	53.2	53.7	53.0	53.5	52.6	11.5	12.2	12.3	11.4	11.9
LCS Genie	4171	4384	4316	6727	6035	53.3	52.7	52.8	53.4	52.2	11.6	12.0	12.2	10.6	11.6
Lenetah	4604	4519	4813	6808	6019	54.0	53.5	53.6	54.4	52.9	11.2	12.1	12.9	11.5	12.3
Champion	4120	3716	4334	5361	5997	53.9	54.0	53.9	53.8	53.9	11.0	12.2	13.3	12.2	12.4
LCS Vespa	4155	4278	4120	7006	5946	52.7	52.3	52.8	54.1	52.4	12.0	11.9	12.9	12.1	12.1
LCS Westminster	4060	3571	3973	6434	5859	52.3	52.9	52.8	54.2	52.6	12.3	12.6	13.1	11.6	12.4
CDC Copeland	3370	3436	4430	5991	5794	51.6	50.7	52.2	52.1	51.4	12.7	12.5	11.7	11.8	11.9
Lyon	4269	4178	4480	5667	5644	52.6	52.7	53.4	52.1	52.2	12.5	12.5	12.9	12.7	12.3
LCS Odyssey	3959	4164	4742	7430	5607	52.8	52.0	52.8	53.2	51.6	11.9	11.8	12.1	11.5	12.0
Muir	3897	3380	4479	6079	5604	52.8	52.6	53.1	52.8	52.6	12.6	12.4	13.6	12.2	12.8
Bob	3434	3753	4061	5328	5502	53.8	52.9	53.5	53.8	53.5	13.0	13.1	13.6	13.5	12.8
<i>Havener (09WA-265.5)</i>	3272	3102	3654	5168	4852	61.1	60.3	60.9	62.0	59.5	12.5	13.5	13.7	12.7	13.6
EXPERIMENTAL LINES															
10WA-106.18	4392	2871	4732	5655	5905	53.6	53.1	53.9	53.1	53.0	11.7	11.9	12.9	12.1	12.0
2Ab08-X05M010-82	4173	3956	5015	6506	5866	52.1	51.4	52.8	52.1	52.1	11.8	12.4	12.3	11.4	12.1
10WA-106.20	3869	3221	4209	6326	5685	53.5	53.4	53.9	53.6	53.3	11.1	12.0	12.4	11.8	11.8
11WA-107.43	3912	3459	4048	6279	5678	53.3	53.3	53.5	54.0	53.5	12.8	12.7	13.5	12.5	12.7
11WA-107.58	3898	3680	4350	6110	5677	54.2	54.2	54.2	54.6	53.7	12.9	12.8	12.8	12.3	12.8
BZ 509-601	4203	3804	4487	6733	5668	53.7	53.6	54.2	54.2	53.5	11.6	13.1	13.1	12.0	12.6
10WA-105.C	4157	3898	3656	6715	5649	51.6	51.9	52.3	52.8	52.3	11.6	12.8	13.6	12.7	12.4
07MWA-204	3696	3786	4016	5446	5618	53.6	53.1	53.3	53.1	52.8	13.8	13.5	14.2	13.4	13.2
07MWA-202	3774	3744	4201	6050	5531	53.7	52.2	53.6	53.2	53.2	12.4	13.2	12.8	12.5	12.6
07MWA-203	3603	3958	4115	6035	5332	53.8	52.8	53.2	54.0	53.2	12.9	13.2	13.2	12.8	13.0
11WA-105.11	3936	3080	4237	6201	5332	52.2	51.9	53.2	52.5	53.1	13.2	12.5	13.7	12.4	12.6
12WA-120.14	3738	2249	4341	5328	5262	51.2	52.1	52.1	52.2	51.8	12.1	13.4	13.5	13.3	13.0
12WA-120.17	3746	2712	4326	5078	5235	52.0	52.0	52.6	52.2	51.9	12.7	13.6	12.3	13.5	13.6
10WA-117.17	3769	2171	4293	4810	5208	51.9	52.2	52.8	51.0	52.1	12.2	12.4	12.1	13.4	12.4
<i>X05013-T1</i>	3283	3193	3448	5673	5103	59.7	59.3	59.7	61.3	58.8	14.8	15.0	14.7	13.9	14.7
10WA-117.24	3223	2119	3929	4380	4885	51.2	52.0	52.4	50.5	51.4	12.6	13.2	13.3	13.7	13.1
<i>2Ab09-X06F058HL-31</i>	3176	3017	3526	4243	4418	57.5	57.4	57.8	57.1	55.1	14.4	14.7	15.6	13.7	14.7
C.V. %	8	9	7	8	8	1	1	1	1	1	7	4	6	5	5
LSD (0.05)	399	454	396	622	367	0.6	0.6	0.6	0.9	0.5	1.2	0.7	1.1	0.8	0.5
Average	3874	3524	4232	5972	5575	53.5	53.3	53.8	53.8	53.2	12.4	12.8	13.1	12.4	12.7
Highest	4604	4519	5015	7430	6259	61.1	60.3	60.9	62.0	59.5	14.8	15.0	15.6	13.9	14.7
Lowest	3176	2119	3448	4243	4418	51.2	50.7	52.1	50.5	51.4	11.0	11.8	11.7	10.6	11.6

Table 112. 2016 WSU Variety Testing Barley Zone Summary

Precipitation Zone = <16"

Variety Name <i>Hullless Italicized</i>	Almira	Reardan	Average	Almira	Reardan	Average	Almira	Reardan	Average
	YIELD (LBS/A)			TEST WT			PROTEIN (%)		
RELEASED VARIETIES									
LCS Odyssey	4473	5103	4788	52.9	53.2	53.1	12.8	12.1	12.5
Oreana (BZ509-448)	4309	4781	4545	52.9	54.0	53.5	13.0	12.6	12.8
LCS Genie	4501	4354	4428	52.9	53.5	53.2	12.7	12.3	12.5
LCS Vespa	4133	4693	4413	52.4	52.5	52.5	13.1	13.2	13.2
Claymore (BZ509-216)	4409	4344	4376	52.4	53.2	52.8	12.2	12.5	12.4
Lenetah	4104	4450	4277	53.0	53.8	53.4	13.5	12.6	13.1
Muir	4369	3791	4080	52.6	53.0	52.8	14.2	13.3	13.8
Champion	3945	4008	3977	53.5	53.9	53.7	13.5	13.5	13.5
Lyon	3914	3977	3946	52.3	52.9	52.6	13.5	13.9	13.7
Bob	4174	3701	3937	53.4	53.4	53.4	13.3	14.3	13.8
LCS Westminster	3798	3966	3882	52.8	53.6	53.2	13.7	13.6	13.7
CDC Copeland	3700	3641	3671	51.6	52.6	52.1	12.8	12.2	12.5
<i>Havener (09WA-265.5)</i>	3085	3175	3130	60.6	61.5	61.0	14.6	14.7	14.6
EXPERIMENTAL LINES									
BZ 509-601	4132	3898	4015	53.1	53.9	53.5	13.8	13.6	13.7
10WA-105.C	3824	4201	4013	52.5	52.5	52.5	14.0	14.1	14.1
2Ab08-X05M010-82	4006	3897	3951	52.6	53.4	53.0	12.8	12.9	12.9
07MWA-204	3944	3952	3948	52.7	53.1	52.9	13.8	13.9	13.9
10WA-106.18	3937	3941	3939	53.2	54.0	53.6	13.4	12.6	13.0
07MWA-202	3938	3910	3924	52.7	53.1	52.9	13.2	13.8	13.5
11WA-107.43	3593	4202	3898	53.3	53.7	53.5	13.9	13.8	13.9
07MWA-203	3889	3902	3896	52.6	53.4	53.0	13.7	14.1	13.9
11WA-105.11	3712	3997	3855	52.9	53.2	53.1	14.4	14.0	14.2
11WA-107.58	3975	3708	3842	53.6	54.2	53.9	13.6	13.9	13.7
10WA-106.20	3705	3885	3795	53.1	53.9	53.5	12.7	13.4	13.1
12WA-120.17	3503	3221	3362	52.1	52.5	52.3	13.7	14.3	14.0
<i>X05013-T1</i>	3227	3289	3258	60.6	60.6	60.6	14.8	16.3	15.6
10WA-117.17	3356	3122	3239	52.5	52.9	52.7	13.4	13.2	13.3
12WA-120.14	3309	3015	3162	51.9	52.3	52.1	14.5	14.6	14.6
2Ab09-X06F058HL-31	3130	3013	3071	57.8	59.3	58.6	16.5	16.4	16.4
10WA-117.24	2996	2410	2703	51.4	52.3	51.8	14.1	14.5	14.3
C.V. %	7	9	8	1	1	1	4	2	3
LSD (0.05)	358	486	298	0.4	0.6	0.3	0.8	0.5	0.5
Average	3836	3852	3844	53.4	54.0	53.7	13.7	13.7	13.7
Highest	4501	5103	4788	60.6	61.5	61.0	16.5	16.4	16.4
Lowest	2996	2410	2703	51.4	52.3	51.8	12.2	12.1	12.4

Table 113. WSU Variety Testing Spring Barley Multi-Year Summary

Precipitation Zone = >20"

(Fairfield, Farmington, Palouse, Pullman)

Variety Name <i>Hulless Italicized</i>	2 Years 2016-2015, 4 loc/years			3 Years 2014-2016, 7 loc/years			5 Years 2012-2016, 13 loc/years		
	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
Claymore (BZ509-216)	6071	51.8	11.9						
Oreana (BZ509-448)	5969	52.3	11.9						
Lenetah	5865	52.8	12.3	5298	52.2	12.3	4877	52.4	12.0
LCS Vespa	5861	52.1	12.2	5162	51.2	12.5	4870	51.4	12.3
Champion	5841	53.7	12.4	5363	53.4	12.5	5046	53.2	12.0
LCS Genie	5830	51.8	11.7	5272	51.6	11.8			
LCS Odyssey	5676	51.3	11.8	5136	50.7	11.8			
Lyon	5661	52.2	12.3	5065	51.7	12.3	4854	51.7	12.1
CDC Copeland	5572	51.0	12.1	4962	50.5	12.2	4667	50.3	12.0
Muir	5558	52.4	12.5	4961	51.7	12.9	4724	52.0	12.4
Bob	5359	53.4	12.6	4895	52.9	13.0	4617	52.9	12.7
Havener (09WA-265.5)	4755	59.5	13.7	4181	58.3	13.7			
EXPERIMENTAL LINES									
10WA-106.18	5788	52.8	12.1	5204	52.2	12.2			
07MWA-204	5552	52.7	13.1						
07MWA-202	5550	53.0	12.8						
07MWA-203	5377	53.2	12.8						
X05013-T1	4895	59.1	14.6	4343	57.7	14.5			
2Ab09-X06F058HL-31	4287	55.8	14.8	3767	53.8	15.1			
C.V. %	8	1	5	8	2	5	8	2	6
LSD (0.05)	288	0.5	0.4	218	0.6	0.4	152	0.4	0.3
Average	5526	53.4	12.6	4893	52.9	12.8	4808	52.0	12.2
Highest	6071	59.5	14.8	5363	58.3	15.1	5046	53.2	12.7
Lowest	4287	51.0	11.7	3767	50.5	11.8	4617	50.3	12.0

Table 114. **WSU Variety Testing Spring Barley Multi-Year Summary**
Precipitation Zone = 16-20"
(Dayton, Mayview, St. John, Walla Walla)

Variety Name <i>Hulless Italicized</i>	2 Years 2016-2015, 8 loc/years			3 Years 2014-2016, 11 loc/years			5 Years 2012-2016, 19 loc/years		
	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
LCS Odyssey	4267	50.7	12.2	4075	51.1	12.6			
LCS Vespa	4242	51.6	12.7	4083	51.7	12.9	4416	52.2	12.4
Lenetah	4220	52.7	12.4	4083	52.8	12.6	4371	53.1	12.1
Oreana (BZ509-448)	4218	52.5	12.5						
Claymore (BZ509-216)	4143	50.9	12.8						
Lyon	4108	52.1	12.9	3937	52.1	13.3	4190	52.2	12.7
LCS Genie	4029	51.6	12.3	3879	51.9	12.6			
Muir	3847	51.5	13.1	3791	51.6	13.4	4062	52.0	12.8
Champion	3778	52.7	12.6	3782	53.0	12.6	4151	53.4	12.1
Bob	3746	52.3	13.7	3700	52.5	13.8	3963	52.8	13.1
CDC Copeland	3468	49.1	13.2	3451	49.5	13.3	3879	50.2	12.6
<i>Havener (09WA-265.5)</i>	3083	58.8	13.6	3018	59.0	13.9			
EXPERIMENTAL LINES									
07MWA-203	3878	52.3	13.2						
07MWA-202	3829	51.8	13.3						
10WA-106.18	3824	52.3	12.7	3877	52.5	12.7			
07MWA-204	3750	52.2	13.9						
X05013-T1	3154	58.6	15.2	3047	58.5	15.4			
2Ab09-X06F058HL-31	2883	57.4	15.1	2906	56.9	15.3			
C.V. %	8	1	5	9	1	5	8	1	5
LSD (0.05)	149	0.4	0.3	132	0.3	0.3	100	0.2	0.2
Average	3804	52.8	13.2	3664	53.3	13.4	4147	52.3	12.6
Highest	4267	58.8	15.2	4083	59.0	15.4	4416	53.4	13.1
Lowest	2883	49.1	12.2	2906	49.5	12.6	3879	50.2	12.1

Table 115. WSU Variety Testing Spring Barley Multi-Year Summary

Precipitation Zone = <16"

(Almira, Endicott, Lamont, Reardan)

Variety Name <i>Hulless Italicized</i>	2 Years 2016-2015, 3 loc/years			3 Years 2014-2016, 4 loc/years			5 Years 2012-2016, 8 loc/years		
	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)
RELEASED VARIETIES									
LCS Odyssey	3747	51.5	13.6	3498	51.7	13.6			
Oreana (BZ509-448)	3598	52.6	13.8						
Claymore (BZ509-216)	3476	51.3	13.8						
LCS Vespa	3395	51.1	14.4	3022	51.0	14.3	3209	49.9	14.4
Lenetah	3344	52.3	14.0	3146	52.2	13.8	3450	51.6	13.7
Muir	3304	51.7	14.5	3124	51.5	14.3	3361	50.5	14.3
LCS Genie	3293	52.8	14.0	3039	52.6	13.8			
Lyon	3198	51.8	14.5	2961	51.8	14.3	3233	50.5	14.2
Bob	3185	52.4	14.8	2977	52.4	14.6	3106	51.4	14.8
Champion	3039	53.4	14.5	2837	53.2	14.3	3320	52.6	13.8
CDC Copeland	2815	51.7	13.8	2621	51.2	14.0	2862	49.7	14.4
Havener (09WA-265.5)	2378	61.7	15.6	2195	60.8	15.6			
EXPERIMENTAL LINES									
07MWA-204	3187	51.4	15.0						
07MWA-203	3164	52.0	14.7						
10WA-106.18	3150	52.8	14.2	2982	52.6	14.0			
07MWA-202	3145	51.5	14.7						
X05013-T1	2488	60.2	16.6	2346	59.0	16.6			
2Ab09-X06F058HL-31	2335	59.0	17.1	2134	57.7	17.1			
C.V. %	8	2	3	9	2	3	9	2	7
LSD (0.05)	215	0.8	0.4	185	0.7	0.3	139	0.5	0.5
Average	3124	53.4	14.7	2837	53.7	14.6	3220	50.9	14.2
Highest	3747	61.7	17.1	3498	60.8	17.1	3450	52.6	14.8
Lowest	2335	51.1	13.6	2134	51.0	13.6	2862	49.7	13.7

Table 116. 2016 WSU Variety Testing Spring Barley, Almira

Variety Name <i>Hulless Italicized</i>	2016						2 Year*	3 Year*	5 Year*
	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLUMP (%)	PLANT HT	HEAD DATE	AVERAGE (LBS/A)	AVERAGE (LBS/A)	AVERAGE (LBS/A)
RELEASED VARIETIES									
LCS Genie	4501	52.9	12.7	97	24	167	--	--	--
LCS Odyssey	4473	52.9	12.8	97	25	167	--	--	--
Claymore (BZ509-216)	4409	52.4	12.2	97	27	168	--	--	--
Muir	4369	52.6	14.2	98	26	165	--	--	--
Oreana (BZ509-448)	4309	52.9	13.0	97	25	167	--	--	--
Bob	4174	53.4	13.3	97	28	165	--	--	--
LCS Vespa	4133	52.4	13.1	97	24	166	--	--	--
Lenetah	4104	53.0	13.5	97	27	167	--	--	--
Champion	3945	53.5	13.5	97	27	165	--	--	--
Lyon	3914	52.3	13.5	97	26	164	--	--	--
LCS Westminster	3798	52.8	13.7	97	27	168	--	--	--
CDC Copeland	3700	51.6	12.8	93	31	167	--	--	--
Havener (09WA-265.5)	3085	60.6	14.6	86	27	168	--	--	--
EXPERIMENTAL LINES									
BZ 509-601	4132	53.1	13.8	96	26	166	--	--	--
2Ab08-X05M010-82	4006	52.6	12.8	95	27	168	--	--	--
11WA-107.58	3975	53.6	13.6	97	28	166	--	--	--
07MWA-204	3944	52.7	13.8	98	27	167	--	--	--
07MWA-202	3938	52.7	13.2	97	26	167	--	--	--
10WA-106.18	3937	53.2	13.4	95	28	166	--	--	--
07MWA-203	3889	52.6	13.7	98	27	166	--	--	--
10WA-105.C	3824	52.5	14.0	97	26	166	--	--	--
11WA-105.11	3712	52.9	14.4	96	26	168	--	--	--
10WA-106.20	3705	53.1	12.7	97	26	166	--	--	--
11WA-107.43	3593	53.3	13.9	96	26	167	--	--	--
12WA-120.17	3503	52.1	13.7	97	27	167	--	--	--
10WA-117.17	3356	52.5	13.4	97	27	167	--	--	--
12WA-120.14	3309	51.9	14.5	97	28	166	--	--	--
X05013-T1	3227	60.6	14.8	94	28	167	--	--	--
2Ab09-X06F058HL-31	3130	57.8	16.5	94	28	168	--	--	--
10WA-117.24	2996	51.4	14.1	97	29	166	--	--	--
C.V. %	7	1	4	1	4	0	--	--	--
LSD (0.05)	358	0.4	0.8	1	2	1	--	--	--
Average	3836	53.4	13.7	96	27	167	--	--	--
Highest	4501	60.6	16.5	98	31	168	--	--	--
Lowest	2996	51.4	12.2	86	24	164	--	--	--

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Agronomic Information

Planting Date: 4/19/2016
Harvest Date: 9/16/2016
Seeding Rate (lbs/acre): 80
Previous Crop: Spring Wheat
Spring soil test:
 N (lb/ac) 4-ft sample 82
 P (ppm-bicarb) 2-ft sample 56
 S (lb/ac) 2-ft sample 30
 pH (top six inches) 5.76
Herbicide:
Huskie & Tilt applied on 5/26

Trial Notes:

- 1.** The Almira nursery was located about 11 miles north of Almira, WA . All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
- 2.** This was a no-till location and fertilizer applied at planting was: 60#N, 10#P, 10#S.

Cooperator: D. McKay

* No long-term averages because the 2015 & 2014 trials were not published.

Table 117. 2016 WSU Variety Testing Spring Barley, Dayton

Variety Name <i>Hulless Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLUMP (%)	PLANT HT	HEAD DATE	AVERAGE (LBS/A)	AVERAGE (LBS/A)	AVERAGE (LBS/A)
RELEASED VARIETIES									
Lenetah	4604	54.0	11.2	97	28	157	3331	3427	3972
Oreana (BZ509-448)	4348	53.2	11.5	93	24	159	3276		
Lyon	4269	52.6	12.5	95	27	156	3455	3260	3729
LCS Genie	4171	53.3	11.6	97	23	160	3180	3207	
LCS Vespa	4155	52.7	12.0	96	25	158	3263	3377	3854
Champion	4120	53.9	11.0	95	27	157	3120	3331	3825
LCS Westminster	4060	52.3	12.3	97	25	160			
Claymore (BZ509-216)	4017	52.6	11.8	96	28	159	3165		
LCS Odyssey	3959	52.8	11.9	98	25	160	3027	3117	
Muir	3897	52.8	12.6	94	27	158	3190	3252	3610
Bob	3434	53.8	13.0	96	28	156	2911	3088	3534
CDC Copeland	3370	51.6	12.7	96	30	162	2384	2646	3120
Havener (09WA-265.5)	3272	61.1	12.5	81	26	161	2497	2623	
EXPERIMENTAL LINES									
10WA-106.18	4392	53.6	11.7	92	29	157	3197	3369	
BZ 509-601	4203	53.7	11.6	92	27	158			
2Ab08-X05M010-82	4173	52.1	11.8	89	25	161			
10WA-105.C	4157	51.6	11.6	94	25	157			
11WA-105.11	3936	52.2	13.2	96	25	162			
11WA-107.43	3912	53.3	12.8	96	27	157			
11WA-107.58	3898	54.2	12.9	96	27	158			
10WA-106.20	3869	53.5	11.1	95	27	157			
07MWA-202	3774	53.7	12.4	97	28	157	3030		
10WA-117.17	3769	51.9	12.2	95	27	160			
12WA-120.17	3746	52.0	12.7	96	27	158			
12WA-120.14	3738	51.2	12.1	95	29	159			
07MWA-204	3696	53.6	13.8	96	27	158	2985		
07MWA-203	3603	53.8	12.9	96	25	156	2970		
X05013-T1	3283	59.7	14.8	91	28	159	2369	2466	
10WA-117.24	3223	51.2	12.6	95	28	160			
2Ab09-X06F058HL-31	3176	57.5	14.4	89	26	160	2283	2453	
C.V. %	8	1	7	2	5	0	8	8	8
LSD (0.05)	399	0.6	1.2	2	2	1	241	205	159
Average	3874	53.5	12.4	94	27	159	2980	3047	3663
Highest	4604	61.1	14.8	98	30	162	3455	3427	3972
Lowest	3176	51.2	11.0	81	23	156	2283	2453	3120

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Agronomic Information

Planting Date: 4/12/2016
Harvest Date: 8/24/2016
Seeding Rate (lbs/acre): 90
Previous Crop: Winter Wheat
Spring soil test:
 N (lb/ac) 4-ft sample 57
 P (ppm-bicarb) 2-ft sample 69
 S (lb/ac) 2-ft sample 19
 pH (top six inches) 5.78
Herbicide:
Huskie & Tilt applied on 5/6

Trial Notes:

- 1.** The Dayton nursery was located about 6 miles northwest of Dayton, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
- 2.** Fertilizer applied prior to planting (after the soil sample) was: 100#N, 15#P, 20#S.
- 3.** Stripe rust was not an issue.

Cooperator: J. Penner

Table 118. 2016 WSU Variety Testing Spring Barley, Farmington

Variety Name <i>Hulless Italicized</i>	2016							2 Year	3 Year	5 Year
	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLUMP (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (LBS/A)	AVERAGE (LBS/A)	AVERAGE (LBS/A)
RELEASED VARIETIES										
LCS Odyssey	6251	51.4	10.4	98	29	170	0	6067	5534	
Claymore (BZ509-216)	6140	52.5	9.7	97	37	167	0	5825		
LCS Vespa	5838	52.1	10.1	97	29	170	0	5722	5337	5204
Champion	5801	53.5	11.2	98	34	165	0	5586	5430	5433
CDC Copeland	5796	51.8	10.0	97	39	170	0	5353	5131	4977
LCS Genie	5749	51.2	10.0	97	29	169	0	5482	5146	
Lyon	5736	52.3	9.7	97	32	164	0	5724	5527	5486
Lenetah	5541	52.6	11.5	97	33	168	13	5471	5530	5229
Muir	5462	52.4	11.6	98	32	167	0	5442	5328	5226
Oreana (BZ509-448)	5415	52.1	10.2	97	28	170	0	5511		
LCS Westminster	5331	51.7	10.8	98	33	168	0			
Bob	5273	53.3	10.2	97	36	163	0	5102	4995	4847
Havener (09WA-265.5)	4763	59.0	12.8	90	35	169	0	4613	4195	
EXPERIMENTAL LINES										
2Ab08-X05M010-82	6137	52.2	10.5	96	34	171	0			
10WA-106.20	5827	52.8	10.2	98	35	163	0			
10WA-106.18	5703	52.9	11.0	97	32	164	0	5569	5455	
11WA-107.58	5537	53.4	11.8	98	35	168	0			
BZ 509-601	5522	53.4	11.2	97	33	166	0			
11WA-107.43	5503	52.8	11.0	98	33	165	0			
10WA-105.C	5496	52.1	10.4	97	33	164	0			
07MWA-203	5403	52.9	11.1	97	35	165	0	5456		
12WA-120.14	5368	52.0	10.6	98	36	166	0			
07MWA-204	5345	52.8	11.5	98	36	164	0	5350		
12WA-120.17	5323	51.8	11.9	97	36	166	0			
X05013-T1	5251	58.3	13.7	95	36	167	0	4761	4457	
07MWA-202	5153	52.9	10.6	97	34	163	0	5381		
10WA-117.17	5062	51.7	11.0	97	36	166	0			
11WA-105.11	4986	52.4	10.9	98	33	170	0			
10WA-117.24	4954	50.8	11.1	97	39	166	13			
2Ab09-X06F058HL-31	4151	54.9	13.3	93	32	165	0	4023	3785	
C.V. %	8	1	9	1	5	1	--	7	8	7
LSD (0.05)	593	0.5	1.3	1	2	3	8	340	314	231
Average	5461	52.9	11.0	97	34	167	1	5358	5065	5200
Highest	6251	59.0	13.7	98	39	171	13	6067	5534	5486
Lowest	4151	50.8	9.7	90	28	163	0	4023	3785	4847

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Agronomic Information

Planting Date: 4/7/2016
Harvest Date: 9/14/2016
Seeding Rate (lbs/acre): 90
Previous Crop: Winter Wheat
Spring soil test:
 N (lb/ac) 4-ft sample 110
 P (ppm-bicarb) 2-ft sample 80
 S (lb/ac) 2-ft sample 31
 pH (top six inches) 5.9
Herbicide:
Huskie & Tilt applied on 5/17

Trial Notes:

- 1.** The Farmington nursery was located about 4 miles south of Farmington, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
- 2.** Base fertilizer, applied prior to the soil sample, was: 85#N, 20#P, 20#S.
- 3.** This trial received only one fungicide application and stripe rust was not an issue.

Cooperator: B. Nelson

Table 119. 2016 WSU Variety Testing Spring Barley, Mayview

Variety Name <i>Hulless Italicized</i>	2016					2 Year	3 Year*	5 Year**
	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLUMP (%)	PLANT HT	AVERAGE (LBS/A)	AVERAGE (LBS/A)	AVERAGE (LBS/A)
RELEASED VARIETIES								
Lenetah	4519	53.5	12.1	94	27	3916	4066	4009
Oreana (BZ509-448)	4492	53.7	12.2	95	25	4043		
LCS Genie	4384	52.7	12.0	94	26	3841	3972	
LCS Vespa	4278	52.3	11.9	96	25	4095	4161	
Lyon	4178	52.7	12.5	96	28	3847	3918	3895
LCS Odyssey	4164	52.0	11.8	95	22	3913	4016	
Claymore (BZ509-216)	3840	51.8	11.9	92	27	3734		
Bob	3753	52.9	13.1	94	28	3423	3562	3442
Champion	3716	54.0	12.2	95	30	3575	3792	3767
LCS Westminster	3571	52.9	12.6	96	26			
CDC Copeland	3436	50.7	12.5	90	32	3181	3329	3321
Muir	3380	52.6	12.4	94	26	3229	3531	3589
Havener (09WA-265.5)	3102	60.3	13.5	85	27	2719	2878	
EXPERIMENTAL LINES								
07MWA-203	3958	52.8	13.2	95	27	3691		
2Ab08-X05M010-82	3956	51.4	12.4	88	26			
10WA-105.C	3898	51.9	12.8	95	26			
BZ 509-601	3804	53.6	13.1	91	27			
07MWA-204	3786	53.1	13.5	94	27	3521		
07MWA-202	3744	52.2	13.2	95	27	3561		
11WA-107.58	3680	54.2	12.8	95	26			
11WA-107.43	3459	53.3	12.7	96	28			
10WA-106.20	3221	53.4	12.0	94	27			
X05013-T1	3193	59.3	15.0	86	27	2882	3006	
11WA-105.11	3080	51.9	12.5	92	26			
2Ab09-X06F058HL-31	3017	57.4	14.7	89	29	2649		
10WA-106.18	2871	53.1	11.9	92	28	3035		
12WA-120.17	2712	52.0	13.6	94	29			
12WA-120.14	2249	52.1	13.4	93	31			
10WA-117.17	2171	52.2	12.4	92	29			
10WA-117.24	2119	52.0	13.2	93	29			
C.V. %	9	1	4	2	6	8	7	7
LSD (0.05)	454	0.6	0.7	2	2	309	223	189
Average	3524	53.3	12.8	93	27	3492	3657	3671
Highest	4519	60.3	15.0	96	32	4095	4161	4009
Lowest	2119	50.7	11.8	85	22	2649	2878	3321

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Agronomic Information

Planting Date: 4/22/2016
Harvest Date: 8/30/2016
Seeding Rate (lbs/acre): 90
Previous Crop: Fallow
Spring soil test:
 N (lb/ac) 4-ft sample 58
 P (ppm-bicarb) 2-ft sample 80
 S (lb/ac) 2-ft sample 42
 pH (top six inches) 4.97
Herbicide:
Huskie & Tilt applied on 6/1

Trial Notes:

1. The Mayview nursery was located about 3.5 miles south of Lower Granite Dam. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
2. Base fertilizer (applied after soil test) was 80#N and 15#S.

Cooperator: R. & R. Koller

* 3-Year average from 2016, 2015, 2013

** 5-Year average from 2016, 2015, 2013, 2012, 2011

Table 120. 2016 WSU Variety Testing Spring Barley, Palouse

Variety Name <i>Hulless Italicized</i>	2016							2 Year	3 Year	5 Year
	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLUMP (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (LBS/A)	AVERAGE (LBS/A)	AVERAGE (LBS/A)
RELEASED VARIETIES										
Oreana (BZ509-448)	7409	53.8	12.3	94	32	164	0	--	--	--
LCS Genie	7087	53.0	12.5	94	33	164	3	--	--	--
Claymore (BZ509-216)	7023	52.0	13.3	87	41	164	22	--	--	--
LCS Westminster	6724	53.7	13.2	96	37	165	3	--	--	--
Lenetah	6681	54.0	12.9	95	37	162	48	--	--	--
LCS Vespa	6664	54.1	13.0	97	32	162	0	--	--	--
Champion	6395	55.1	13.1	96	40	160	27	--	--	--
CDC Copeland	6263	51.9	13.2	85	42	164	25	--	--	--
Muir	5824	53.2	13.7	95	40	161	30	--	--	--
Lyon	5772	52.6	13.9	91	36	160	67	--	--	--
Bob	5661	54.3	14.7	96	41	161	28	--	--	--
<i>Havener (09WA-265.5)</i>	5181	59.5	14.0	86	39	162	22	--	--	--
LCS Odyssey	4871	51.9	12.5	96	32	163	13	--	--	--
EXPERIMENTAL LINES										
10WA-106.18	6609	53.8	12.5	95	40	161	58	--	--	--
11WA-107.43	6565	54.5	13.2	97	38	161	8	--	--	--
10WA-105.C	6129	52.7	13.3	95	37	161	43	--	--	--
11WA-105.11	6072	54.4	13.6	96	37	162	40	--	--	--
2Ab08-X05M010-82	5941	52.5	13.2	88	37	163	80	--	--	--
10WA-106.20	5863	54.3	12.7	97	37	161	45	--	--	--
11WA-107.58	5861	54.6	13.2	97	36	161	2	--	--	--
07MWA-202	5848	54.0	14.2	96	39	161	25	--	--	--
BZ 509-601	5843	54.2	13.4	95	39	161	3	--	--	--
07MWA-204	5798	53.7	14.8	94	37	161	50	--	--	--
12WA-120.17	5623	52.0	15.2	92	40	161	50	--	--	--
X05013-T1	5498	59.7	14.8	93	40	163	10	--	--	--
2Ab09-X06F058HL-31	5356	56.2	15.8	91	39	165	47	--	--	--
12WA-120.14	5259	52.3	14.8	95	40	162	57	--	--	--
10WA-117.17	5019	52.8	13.4	91	41	162	68	--	--	--
07MWA-203	4982	54.4	14.6	97	38	161	20	--	--	--
10WA-117.24	4709	51.8	14.2	95	41	162	45	--	--	--
C.V. %	10	1	3	4	5	0	--	--	--	--
LSD (0.05)	784	0.9	0.5	5	3	1	25	--	--	--
Average	5951	53.9	13.6	94	38	162	31	--	--	--
Highest	7409	59.7	15.8	97	42	165	80	--	--	--
Lowest	4709	51.8	12.3	85	32	160	0	--	--	--

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Agronomic Information

Planting Date: 4/13/2016
Harvest Date: 8/29/2016
Seeding Rate (lbs/acre): 90
Previous Crop: Winter Wheat
Spring soil test:
 N (lb/ac) 4-ft sample 260
 P (ppm-bicarb) 2-ft sample 61
 S (lb/ac) 2-ft sample 17
 pH (top six inches) 5.3
Herbicide:
Huskie & Tilt applied on 5/18

Trial Notes:

- 1.** The Palouse nursery was located about 7 miles west of Palouse, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
- 2.** This trial was following winter wheat, but previous to that, the field had been in alfalfa.
- 3.** The Palouse location was new in 2016, so there are no long-term averages.
- 4.** Ample Nitrogen produced wide-spread lodging, except in entries with shorter or stiffer straw.

Cooperator: D. Lange

Table 121. 2016 WSU Variety Testing Spring Barley, Pullman

Variety Name <i>Hulless Italicized</i>	2016						2 Year*	3 Year**	5 Year***
	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLUMP (%)	PLANT HT	HEAD DATE	AVERAGE (LBS/A)	AVERAGE (LBS/A)	AVERAGE (LBS/A)
RELEASED VARIETIES									
Lenetah	5837	52.3	12.5	96	27	177	4887	4858	4632
Champion	5796	53.2	13.0	95	29	177	5233	5207	5001
LCS Odyssey	5698	51.5	12.9	95	25	178	5173	5104	
Claymore (BZ509-216)	5613	52.5	12.6	93	28	179			
Bob	5571	52.8	13.5	95	28	177	5092	5082	4798
Muir	5524	52.2	13.1	96	26	178	4838	4936	4779
LCS Westminster	5522	52.3	13.2	97	27	178			
Oreana (BZ509-448)	5445	51.9	13.2	96	24	177			
Lyon	5423	51.5	13.4	90	27	179	4605	4783	4651
LCS Vespa	5337	50.9	13.2	95	24	178	5021	5113	
CDC Copeland	5321	50.4	12.6	94	33	178	4687	4539	4385
LCS Genie	5267	52.6	12.3	96	23	178	4955	4925	
<i>Havener (09WA-265.5)</i>	4612	60.0	14.1	90	28	178	4132	4068	
EXPERIMENTAL LINES									
07MWA-204	5710	51.9	13.4	96	28	177			
BZ 509-601	5639	52.8	13.2	95	28	178			
11WA-107.58	5634	53.1	13.4	96	28	177			
07MWA-203	5612	52.3	13.2	95	27	179			
07MWA-202	5591	52.6	13.1	95	26	179			
10WA-117.17	5543	51.6	12.9	95	29	177			
2Ab08-X05M010-82	5520	51.6	12.7	93	26	177			
10WA-106.18	5404	52.3	12.7	94	27	177	4761		
10WA-106.20	5365	52.8	12.6	95	28	177			
10WA-105.C	5322	52.1	13.5	95	24	177			
12WA-120.14	5159	51.3	13.6	96	28	178			
10WA-117.24	4992	51.6	13.9	96	31	179			
11WA-107.43	4966	53.2	13.9	96	27	178			
11WA-105.11	4939	52.4	13.3	94	27	178			
12WA-120.17	4757	51.9	13.8	95	26	178			
X05013-T1	4559	58.4	15.7	92	29	177	4316	4186	
2Ab09-X06F058HL-31	3746	54.2	15.1	94	26	178	3526		
C.V. %	7	1	2	1	7	1	8	7	9
LSD (0.05)	524	1.1	0.4	2	2	2	359	279	270
Average	5314	52.7	13.3	95	27	178	4710	4800	4708
Highest	5837	60.0	15.7	97	33	179	5233	5207	5001
Lowest	3746	50.4	12.3	90	23	177	3526	4068	4385

Continued on next page.

Agronomic Information

Planting Date: 4/25/2016
Harvest Date: 8/14/2016
Seeding Rate (lbs/acre): 90
Previous Crop: Winter Wheat
Spring soil test:
 N (lb/ac) 4-ft sample 107
 P (ppm-bicarb) 2-ft sample 16
 S (lb/ac) 2-ft sample 10
 pH (1st foot) 5.2
Herbicide:
Brox-2EC & Axial-XL

Trial Notes:

- 1.** The Pullman nursery was located about 1.5 miles southeast of Pullman, WA on the WSU Spillman Agronomy Farm. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
- 2.** Despite the low CV, there was a fair amount of unexplained variation, leading to fewer significant differences among entries.

Cooperator: WSU Spillman Agronomy Farm

* 2-Year average from 2016 and 2014

** 3-Year average from 2016, 2014, 2013

*** 5-Year average from 2016, 2014, 2013, 2012, 2011

Table 122. 2016 WSU Variety Testing Spring Barley, Reardan

Variety Name <i>Hulless Italicized</i>	2016							2 Year	3 Year	5 Year
	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLUMP (%)	PLANT HT	HEAD DATE	LODGING (%)	AVERAGE (LBS/A)	AVERAGE (LBS/A)	AVERAGE (LBS/A)
RELEASED VARIETIES										
LCS Odyssey	5103	53.2	12.1	98	28	170	0	3385	--	--
Oreana (BZ509-448)	4781	54.0	12.6	97	27	168	0	3242	--	--
LCS Vespa	4693	52.5	13.2	98	26	168	0	3026	--	--
Lenetah	4450	53.8	12.6	98	31	166	3	2964	--	--
LCS Genie	4354	53.5	12.3	98	27	170	0	2689	--	--
Claymore (BZ509-216)	4344	53.2	12.5	98	32	168	5	3010	--	--
Champion	4008	53.9	13.5	98	32	166	0	2585	--	--
Lyon	3977	52.9	13.9	98	30	167	0	2839	--	--
LCS Westminster	3966	53.6	13.6	97	30	170	0		--	--
Muir	3791	53.0	13.3	98	30	169	0	2772	--	--
Bob	3701	53.4	14.3	98	33	167	0	2691	--	--
CDC Copeland	3641	52.6	12.2	97	37	174	7	2372	--	--
Havener (09WA-265.5)	3175	61.5	14.7	90	32	169	2	2024	--	--
EXPERIMENTAL LINES										
11WA-107.43	4202	53.7	13.8	98	30	168	0		--	--
10WA-105.C	4201	52.5	14.1	97	28	166	0		--	--
11WA-105.11	3997	53.2	14.0	97	32	170	0		--	--
07MWA-204	3952	53.1	13.9	98	31	167	0	2809	--	--
10WA-106.18	3941	54.0	12.6	98	31	167	0	2756	--	--
07MWA-202	3910	53.1	13.8	98	31	169	0	2748	--	--
07MWA-203	3902	53.4	14.1	98	29	168	0	2801	--	--
BZ 509-601	3898	53.9	13.6	97	31	166	0		--	--
2Ab08-X05M010-82	3897	53.4	12.9	97	31	171	2		--	--
10WA-106.20	3885	53.9	13.4	99	31	166	0		--	--
11WA-107.58	3708	54.2	13.9	98	31	167	0		--	--
X05013-T1	3289	60.6	16.3	95	31	167	7	2119	--	--
12WA-120.17	3221	52.5	14.3	97	32	169	7		--	--
10WA-117.17	3122	52.9	13.2	97	30	170	17		--	--
12WA-120.14	3015	52.3	14.6	97	32	165	8		--	--
2Ab09-X06F058HL-31	3013	59.3	16.4	96	30	167	12	1937	--	--
10WA-117.24	2410	52.3	14.5	97	33	169	12		--	--
C.V. %	9	1	2	0	4	0	--	10	--	--
LSD (0.05)	486	0.6	0.5	1	2	1	4	271	--	--
Average	3852	54.0	13.7	97	31	168	3	2709	--	--
Highest	5103	61.5	16.4	99	37	174	17	3385	--	--
Lowest	2410	52.3	12.1	90	26	165	0	1937	--	--

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Agronomic Information

Planting Date: 4/11/2016
Harvest Date: 9/1/2016
Seeding Rate (lbs/acre): 90
Previous Crop: Winter Wheat
Spring soil test:
 N (lb/ac) 4-ft sample 79
 P (ppm-bicarb) 2-ft sample 65
 S (lb/ac) 2-ft sample 33
 pH (top six inches) 5.0
Herbicide:
Huskie and Tilt applied on 5/31.

Trial Notes:

- 1.** The Reardan nursery was located about 7 miles west of Reardan, WA . All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
- 2.** This is a no-till location and fertilizer applied at planting (not accounted for in the soil sample) was: 80#N, 14#P, 14#S.
- 3.** This trial received only one fungicide application and stripe rust was not an issue.
- 4.** Three and five year averages are not available because the 2014 and 2013 barley trials were not published.

Cooperator: H. Johnson

Table 123. 2016 WSU Variety Testing Spring Barley, St. John

Variety Name <i>Hulless Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLUMP (%)	PLANT HT	HEAD DATE	AVERAGE (LBS/A)	AVERAGE (LBS/A)	AVERAGE (LBS/A)
RELEASED VARIETIES									
Lenetah	4813	53.6	12.9	97	33	161	3691	3980	4265
LCS Odyssey	4742	52.8	12.1	98	28	163	3785	4112	
Oreana (BZ509-448)	4531	53.0	12.3	98	27	163	3547		
Lyon	4480	53.4	12.9	96	29	160	3856	4112	4409
Muir	4479	53.1	13.6	97	30	161	3790	4070	4254
CDC Copeland	4430	52.2	11.7	96	35	165	3132	3751	4242
Champion	4334	53.9	13.3	97	32	161	3470	3920	4231
LCS Genie	4316	52.8	12.2	97	26	164	3251	3703	
LCS Vespa	4120	52.8	12.9	97	25	162	3286	3656	4137
Claymore (BZ509-216)	4103	52.7	13.0	97	32	163	3379		
Bob	4061	53.5	13.6	97	32	161	3514	3787	4029
LCS Westminster	3973	52.8	13.1	97	29	162			
Havener (09WA-265.5)	3654	60.9	13.7	82	32	164	2591	2884	
EXPERIMENTAL LINES									
2Ab08-X05M010-82	5015	52.8	12.3	95	29	162			
10WA-106.18	4732	53.9	12.9	97	32	161	3858	4269	
BZ 509-601	4487	54.2	13.1	97	30	162			
11WA-107.58	4350	54.2	12.8	98	31	161			
12WA-120.14	4341	52.1	13.5	98	32	163			
12WA-120.17	4326	52.6	12.3	98	34	163			
10WA-117.17	4293	52.8	12.1	97	34	164			
11WA-105.11	4237	53.2	13.7	97	30	163			
10WA-106.20	4209	53.9	12.4	98	30	161			
07MWA-202	4201	53.6	12.8	97	31	161	3435		
07MWA-203	4115	53.2	13.2	98	31	160	3527		
11WA-107.43	4048	53.5	13.5	97	29	161			
07MWA-204	4016	53.3	14.2	97	32	161	3311		
10WA-117.24	3929	52.4	13.3	97	33	164			
10WA-105.C	3656	52.3	13.6	97	29	161			
2Ab09-X06F058HL-31	3526	57.8	15.6	92	30	164	2665	3023	
X05013-T1	3448	59.7	14.7	92	31	164	2655	2970	
C.V. %	7	1	6	1	5	0	7	8	8
LSD (0.05)	396	0.6	1.1	1	2	1	305	265	242
Average	4232	53.8	13.1	96	31	162	3375	3711	4224
Highest	5015	60.9	15.6	98	35	165	3858	4269	4409
Lowest	3448	52.1	11.7	82	25	160	2591	2884	4029

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Agronomic Information

Planting Date: 4/18/2016
Harvest Date: 8/16/2016
Seeding Rate (lbs/acre): 90
Previous Crop: Winter Wheat
Spring soil test:
 N (lb/ac) 4-ft sample 167
 P (ppm-bicarb) 2-ft sample 100
 S (lb/ac) 2-ft sample 47
 pH (top six inches) 5.26
Herbicide:
Huskie & Tilt applied on 5/25

Trial Notes:

- 1.** The St. John nursery was located about 3 miles east of St. John, WA. All yield, test weight, and protein values within the 5% LSD range of the highest value are shown in bold.
- 3.** Soil test was taken after planting.

Cooperator: M. Mills

Table 124. 2016 WSU Variety Testing Spring Barley, Walla Walla

Variety Name <i>Hulless Italicized</i>	2016						2 Year	3 Year	5 Year
	YIELD (LBS/A)	TEST WT (LBS/BU)	PROTEIN (%)	PLUMP (%)	PLANT HT	LODGING (%)	AVERAGE (LBS/A)	AVERAGE (LBS/A)	AVERAGE (LBS/A)
RELEASED VARIETIES									
LCS Odyssey	7430	53.2	11.5	97	33	0	6344	5103	
Claymore (BZ509-216)	7094	53.3	11.9	95	39	0	6293		
LCS Vespa	7006	54.1	12.1	97	34	0	6323	5209	5692
Lenetah	6808	54.4	11.5	96	35	8	5941	4954	5181
LCS Genie	6727	53.4	10.6	96	30	0	5845	4752	
Oreana (BZ509-448)	6512	53.5	11.4	95	31	0	6007		
LCS Westminster	6434	54.2	11.6	96	35	0			
Muir	6079	52.8	12.2	92	36	22	5181	4425	4792
CDC Copeland	5991	52.1	11.8	91	42	25	5176	4137	4766
Lyon	5667	52.1	12.7	91	36	50	5274	4499	4775
Champion	5361	53.8	12.2	94	38	30	4947	4234	4782
Bob	5328	53.8	13.5	93	38	73	5134	4408	4733
Havener (09WA-265.5)	5168	62.0	12.7	84	38	17	4527	3745	
EXPERIMENTAL LINES									
BZ 509-601	6733	54.2	12.0	94	37	8			
10WA-105.C	6715	52.8	12.7	95	34	27			
2Ab08-X05M010-82	6506	52.1	11.4	89	34	8			
10WA-106.20	6326	53.6	11.8	95	38	23			
11WA-107.43	6279	54.0	12.5	97	37	0			
11WA-105.11	6201	52.5	12.4	93	35	25			
11WA-107.58	6110	54.6	12.3	98	38	0			
07MWA-202	6050	53.2	12.5	91	37	13	5291		
07MWA-203	6035	54.0	12.8	95	39	8	5326		
X05013-T1	5673	61.3	13.9	93	37	0	4710	3815	
10WA-106.18	5655	53.1	12.1	89	36	38	5205	4552	
07MWA-204	5446	53.1	13.4	92	37	42	5182		
12WA-120.14	5328	52.2	13.3	91	38	58			
12WA-120.17	5078	52.2	13.5	92	37	35			
10WA-117.17	4810	51.0	13.4	89	36	80			
10WA-117.24	4380	50.5	13.7	94	39	58			
2Ab09-X06F058HL-31	4243	57.1	13.7	89	34	0	3935	3413	
C.V. %	8	1	5	3	5	--	8	9	8
LSD (0.05)	622	0.9	0.8	4	2	25	416	343	252
Average	5972	53.8	12.4	93	36	22	5369	4404	4960
Highest	7430	62.0	13.9	98	42	80	6344	5209	5692
Lowest	4243	50.5	10.6	84	30	0	3935	3413	4733

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Agronomic Information

Planting Date: 4/8/2016
Harvest Date: 8/23/2016
Seeding Rate (lbs/acre): 90
Previous Crop: Winter Wheat
Spring soil test:
 N (lb/ac) 4-ft sample 266
 P (ppm-bicarb) 2-ft sample 86
 S (lb/ac) 2-ft sample 65
 pH (top six inches) 6.7
Herbicide:
Huskie & Tilt applied on 5/12

Trial Notes:

- 1.** The Walla Walla nursery was located about 1.5 miles west of Waitsburg, WA. All yield and test weight values within the 5% LSD range of the highest value are shown in bold.
- 2.** Stripe rust was not an issue.
- 3.** Plenty of Nitrogen produced lodging which limited the yield of many entries.

Cooperator: P. Dozier

Table 125.

STRIPE RUST INFECTION TYPE (IT*) AND PERCENT (%) ON CULTIVARS AND LINES IN THE SPRING BARLEY EXTENSION NURSERY (EXP52) AT SPILLMAN (LOC 01), PLANT PATH (LOC 03) AND PCFS FARM (LOC 04) NEAR PULLMAN, MT VERNON (LOC 05), WALLA WALLA (LOC 06), AND LIND (LOC 07) WA WHEN RECORDED AT THE INDICATED DATES AND STAGES OF PLANT GROWTH, 2016.

NOTE: EXCEPT LOC 04 AND LOC 05, BARLEY STRIPE RUST WAS GENERALLY LOW AND NOT UNIFORM. OTHER DISEASES [LEAF RUST (LR), SCALD, AND POWDERY MILDEW (PM) AT LOC 05 AFFECTED STRIPE RUST REACTION IN THE LATE SEASON)

Name	Type	Stripe rust										Other dis. (%)		
		Spillman Farm (Pullman)		Plant Path Farm (Pullman)		Palouse Conservation Farm		Mt. Vernon		Walla Walla	Lind	Mt. Vernon		
		LOC 01		LOC 03		LOC 04		LOC 05		LOC 06	LOC 07	LOC 05		
		6/20	6/29	6/20	6/28	6/22	7/5	6/2	6/28	6/20	6/16	6/28		
		Stem elong.	L. flower.	Stem elong.	L. flower.	E. flower.	S. dough	Stem elong.	Milk	Dough	Milk	Milk		
IT %	IT %	IT %	IT %	IT %	IT %	IT %	IT %	IT %	IT %	IT %	LR	Scald	PM	
MOREX		8 5	8 5	8 5	8 20	8 30	8 20	8 60	8 20	0 0	8 10	30	20	0
BZ 509-601	S2	0 0	0 0	8 5	8 5	8 30	3 10	8 30	2 5	0 0	0 0	20	10	0
Champion	S2	0 0	0 0	8 1	8 2	8 20	5 20	8 30	8 10	0 0	8 10	40	10	10
Claymore	S2	8 10	8 5	8 5	8 5	8 30	5 30	8 30	0 0	0 0	8 20	60	10	0
Oreana	S2	0 0	0 0	8 1	0 0	2 5	2 5	2 5	8 5	0 0	0 0	50	0	0
Bob	S2	0 0	0 0	0 0	0 0	2 10	2 10	2 5	0 0	0 0	0 0	20	20	0
LCS Vespa	S2	2 5	0 0	0 0	0 0	2 20	2 10	5 20	0 0	0 0	8 5	20	0	0
Lenetah	S2	0 0	0 0	0 0	0 0	2 10	2 10	2 5	0 0	0 0	0 0	40	0	0
10WA-106.18	S2	0 0	8 2	0 0	8 5	5 30	3 10	0 0	0 0	0 0	8 10	30	10	0
10WA-106.20	S2	8 5	0 0	8 1	0 0	8 20	5 10	0 0	0 0	0 0	8 20	10	10	20
Lyon	S2	8 5	8 5	8 1	8 5	8 30	8 20	0 0	0 0	0 0	8 10	30	10	0
Muir	S2	0 0	0 0	0 0	0 0	2 10	2 5	0 0	0 0	0 0	0 0	10	40	0
10WA-105.C	S2	0 0	0 0	0 0	0 0	2 10	3 10	8 30	0 0	8 1	8 10	40	10	0
11WA-105.11	S2	0 0	0 0	0 0	8 1	8 30	8 20	8 30	0 0	0 0	3 5	50	10	10
07MWA-202	S2I	0 0	0 0	0 0	0 0	2 5	2 10	5 20	0 0	0 0	0 0	10	20	20
07MWA-203	S2I	0 0	0 0	0 0	0 0	2 5	2 10	3 20	0 0	0 0	0 0	20	20	0
07MWA-204	S2I	0 0	0 0	0 0	0 0	2 5	2 5	2 10	0 0	0 0	0 0	10	20	0
2Ab09-X06F058HL-31	S2NWxBgF	0 0	0 0	0 0	0 0	2 5	3 5	0 0	0 0	0 0	0 0	20	0	0
Havener	S2NWxF	0 0	0 0	0 0	0 0	2 20	2 10	3 10	8 10	0 0	5 5	40	10	0
X05013-T1	S2NBgF	0 0	0 0	0 0	0 0	2 5	2 5	3 20	8 20	0 0	0 0	30	20	10
MOREX		8 5	8 5	8 5	8 5	8 20	8 20	8 40	8 10	8 1	3 5	30	20	10
CDC Copeland	S2M	0 0	0 0	0 0	0 0	2 10	2 10	2 20	0 0	0 0	0 0	30	20	0
LCS Genie	S2M	0 0	0 0	0 0	0 0	2 20	2 5	2 10	0 0	0 0	0 0	10	30	0
LCS Odyssey	S2M	0 0	0 0	0 0	0 0	2 10	2 20	0 0	0 0	0 0	0 0	0	10	0
LCS Westminster	S2M	0 0	0 0	0 0	0 0	2 20	2 10	4 20	0 0	0 0	0 0	10	20	0
2Ab08-X05M010-82	S2M	0 0	0 0	0 0	0 0	2 10	2 10	0 0	0 0	0 0	0 0	20	10	0
10WA-117.17	S2M	0 0	0 0	0 0	0 0	2 10	2 5	0 0	0 0	0 0	0 0	50	10	0
10WA-117.24	S2M	0 0	0 0	0 0	0 0	2 20	2 10	0 0	0 0	0 0	0 0	20	10	0
11WA-107.43	S2M	0 0	0 0	0 0	0 0	8 30	5 20	0 0	0 0	0 0	8 10	0	20	30
11WA-107.58	S2M	0 0	0 0	0 0	0 0	3 20	5 5	2 10	0 0	0 0	0 0	20	20	10
12WA-120.14	S2M	0 0	0 0	0 0	0 0	5 20	5 20	8 30	0 0	0 0	0 0	10	20	20
12WA-120.17	S2M	0 0	8 1	0 0	0 0	2 20	3 10	3 10	0 0	0 0	0 0	40	10	0
MOREX		8 5	8 5	8 2	8 5	8 40	5 20	8 30	8 20	8 3	8 5	30	10	20

* Infection Type (IT) was recorded based on the 0-9 scale with ITs 8 and 9 combined as 8 (the most susceptible reaction) in field data. Generally IT 0-3 are considered resistant, 4-6 intermediate, and 7-9 susceptible. Heterogenous reactions of an entry were indicated by two or more ITs separated by "," for most plants with the first IT and few plants with the second IT or connected with "-" for entries containing plants with continuous ITs.