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2018 Small Grain and Grain Legume Report

Northern Idaho Small Grain and Grain Legume Research and Extension Program

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Cover Image

Winter wheat variety trials in Bonners Ferry, Idaho. Photo by Saugat Baskota.

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*Northern Idaho Small Grain and Grain Legume
Research and Extension Program*

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Introduction

This report summarizes the performance of winter wheat, spring wheat, winter barley, spring barley, winter pea, spring pea, lentil, and chickpea varieties tested in Extension variety trials conducted in northern Idaho during the 2017–2018 crop season. The variety trials were located in cooperators' fields at nine test sites in Idaho, Lewis, Nez Perce, Latah, Benewah, and Boundary Counties and on the University of Idaho Research and Extension Center farm in Moscow (Plant Sciences Farm). Specific trial locations and management practices used at each of the trial locations are listed in Table 1.

Plant breeding and Extension testing programs strive to increase yield potential through enhanced disease and insect resistance, winter hardiness, straw strength, and other agronomic factors. In addition, varieties are developed for improved end-use quality and new markets. Additional variety performance data for northern Idaho and the rest of the state can be viewed at the website www.uidaho.edu/extension/cereals. The northern Idaho Extension variety-testing program evaluates the relative performance of cereal and legume varieties grown in various northern Idaho environments under a range of commercial production conditions. Breeding lines that have shown promise through regional, public, and private testing programs are evaluated along with leading commercially released varieties.

Increased field crop yield is the result of a combination of improved agronomic practices and advances in variety development. Trials reported in this publication help producers compare new varieties with widely grown varieties using field production practices common for their area. The provided information represents crop performance results from specific locations, production practices, and environmental conditions. 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 recommending any variety over varieties not included in the trials.

Cereal Test Procedures

Seven winter cereal trials were planted in northern Idaho in the fall of 2017 and eight spring cereal trials were planted in the spring of 2018. For each crop, the seeding rate for all entries was a uniform number of seeds planted per square foot (spsf). These rates were determined by weighing 1,000 seeds of each cereal variety. Winter wheat and spring barley were planted at 23 spsf, spring wheat at 28 spsf, and winter barley at 21 spsf. Winter wheat, winter barley, spring wheat, and spring barley seeds were treated with Vibrance Extreme at 2.8 oz/100 lbs seed plus Sharda 1.0 oz/100 lbs seed. All plots were seeded 20 ft long. Plots in conventional tillage systems were seeded on 5 ft centers using a double-disc opener with 7 rows, 7 in apart. Direct-seeded trials had five paired rows with 3 in spacing and 10 in from center to center of each opener. The direct-seed drill is equipped with Flexi-Coil Stealth openers that allow fertilizer to be banded below and between the paired rows. Typical cereal seeding depth varied from 0.75 to 1.5 in depending on soil texture and moisture conditions. At each location, each variety entry was replicated four times in a randomized complete block design. After plants were well established, the beds were cut back to a plot size length of 15 ft with an application of Glyphosate herbicide using a tractor-mounted, shielded sprayer between plots. For most trials conducted in collaboration with a grower cooperator, pesticides were applied by the grower while treating the remainder of the field surrounding the trial. Fertilizers and pesticides used in the trials are listed in Table 1 for the sites where the information was provided. Planting and harvesting operations by University of Idaho personnel were timed to approximately coincide with the cooperator's operations.

Prior to harvest, mature plant height was recorded, each plot was evaluated for lodging, and plot length was measured to more accurately determine the harvestable area for each plot. Cereal plant height is the length of the plant from the soil surface to the tip of the head (awns excluded). For lodging, the affected area was scored from 0% to 100%, with 0% equal to no lodging and 100% being completely lodged. After harvest, each small grain entry at each location was evaluated for grain yield and test weight. Cereal test weight was reported in pounds per standard bushel. Cereal yields were reported in bushels per acre, using a standard

60 lbs/bu conversion factor for wheat and 48 lbs/bu for barley. Percentage grain plumps and thins were measured for barley. Plumpness is the percent of the sample that stayed on top of a 5.5/64 in slotted screen after shaking. Thin percentage is the portion of the sample that went through a 5.5/64 in slotted screen. Wheat whole grain protein at 12% moisture was measured at the University of Idaho Wheat Quality Laboratory at Aberdeen using Near Infrared Spectrometry (NIRS) technology. For winter and spring wheat samples, all four replications were tested for protein, but the barley samples consisted of a single composite sample for each variety at each location.

Legume Test Procedures

In the fall of 2017, two winter pea trials were established using a seeding rate of 10 spsf. In the spring of 2018, spring pea, lentil, and chickpea trials were seeded near Craigmont, Genesee, and Moscow. For each legume variety, 1,000 seeds were weighed and seeding rates calculated to give a uniform planting density of pea at 8 spsf, lentil at 8 spsf, and chickpea at 5 spsf. Spring pea and lentil seed were treated with an Apron (0.16 oz/cwt), Maxim (0.08 oz/cwt), Cruiser (0.5 oz/cwt), and molybdenum (0.1 oz/cwt) mix; and chickpea seed was treated with Apron (0.2 oz/cwt), Maxim (0.08 oz/cwt), Mertect (2.04 oz/cwt), Cruiser (0.5 oz/cwt), and molybdenum (0.1 oz/cwt). All winter and spring legume plots were established in beds similar to the cereal trials; they were planted on 20 ft long beds that were cut back to 15 ft plots. Planting depths were between 1 and 1.5 in for lentils and between 1.5 and 2.5 in for pea and chickpea. Due to wider row spacing between plots, particularly for peas, chemical weed control was supplemented with hand weeding when necessary. Legumes were evaluated for vine length (pea) or plant height (lentil and chickpea), canopy height at harvest, seed yield, 100-seed weight and seed size (chickpea only). Lentil or chickpea plant height or pea vine lengths were measured from the soil surface to the end of the growing point on the main stem. Plant height and vine length measurements were recorded several weeks prior to harvest when plant tissue was green. Pea and lentil canopy height was measured from the soil surface to the average height of the canopy immediately prior to harvest. Seed yields were expressed in pounds per acre. Chickpea seed was sized by shaking 250 g of seed through screens. The screen sizes included 25/64", 22/64", and 20/64".

Statistical Interpretation

Data in the tables are sorted by yield with the highest-yielding entries listed first. The overall trial average is shown at the bottom of each table. The least significant difference (LSD) and the coefficient of variation (CV) are listed. The LSD is given at the 5% error level and aids in comparing varieties. If the measured values of any two varieties within a column differ by the LSD value or greater, they may be considered different with a confidence level of 95%. If the measured values are less than the LSD value, the differences may be due to random error rather than actual varietal differences. If no significant statistical differences were found among varieties, "ns" (not significant) is shown for the LSD. The CV listed in the tables is given as a general measurement of the precision of each experiment. Lower CV percentage values indicate lower experimental variation and greater precision. A higher CV value indicates abnormal variation within the trial that could be due to external factors such as animal grazing, hail damage, or other variable stress on the plants. CV values were not averaged across trials or years.

Variety choice should take into consideration as much performance data as possible with comparisons across years and locations. In addition to yield, other factors such as end use quality, disease and insect resistance, lodging tendency, maturity, plant height, winter hardiness, test weight, and any observations from grower experience can be used in deciding on which variety to plant. Due to seasonal variation, caution should be taken when looking at the results from a single growing season. A summary of released varieties tested during the 2017–2018 growing season is listed in Table 2.

Table 1. Trial locations and management information for the 2017–2018 northern Idaho Extension variety trials.

County	Nursery Location	Rainfall Zone (inches)	Elevation (feet)	Production System	Planting Date	Harvest Date	Previous Crop	Fertilizer N-P-K-S (lb/A)*	-----Chemical-----	
									Product Name	Rate
<u>Winter Cereals - Soft White Winter Wheat</u>										
Lewis	Nezperce	22	3200	Direct Seed	10/4/17	8/13/18	Chickpea	94-31-0-10 (f) 29-0-13-6 (s)	Osprey Ally Xtra Carnivore Aframe	4 oz/A 0.4 oz/A 24 oz/A 7 oz/A
Nez Perce	Lewiston (Tammany)	14	1660	Conventional Tillage	9/29/17	7/19/18	Fallow	120-30-0-20 (f)	Olympus Huskie Orion Affinity BS	0.9oz/A 12oz/A 17 oz/A 0.8 oz/A
Nez Perce	Genesee	20	2700	Direct Seed	10/2/17	8/2/18	Chickpea	108-35-0-25 (f) 39-5-1-0 (s)	Osprey Widematch Tilt 2,4-D	4 oz/A 1.25 oz/A 4 oz/A 8 oz/A
Latah	Moscow	20	2850	Conventional Tillage	10/10/17	8/8/18	Chickpea	100-20-0-20 (f)	Huskie Affinity BS Axial XL Priaxor	12 oz/A 0.8 oz/A 16.4 oz/A 4 oz/A
Benewah	Tensed	27	2600	Conventional Tillage	10/24/17	8/10/18	Chickpea	100-20-0-20 (f)	Huskie Affinity BS Axial XL	12 oz/A 0.4 oz/A 16.4 oz/A
Boundary	Bonnars Ferry	25	1750	Direct Seed	9/28/17	8/15/18	Chickpea	76-37-22-10 (f) 40-0-0-6 (s)	Axial Star Affinity BS Priaxor Tilt Huskie	16.4 oz/A 0.4 oz/A 8 oz/A 4 oz/A 12 oz/A

* (f) = fall applied, (s) = spring applied

Table 1 (cont.). Trial locations and management information for the 2017–2018 northern Idaho Extension variety trials.

County	Nursery Location	Rainfall Zone (inches)	Elevation (feet)	Production System	Planting Date	Harvest Date	Previous Crop	Fertilizer N-P-K-S (lb/A)	-----Chemical-----	
									Product Name	Rate
<u>Winter Cereals - Hard Winter Wheat</u>										
Lewis	Nezperce	22	3200	Direct Seed	10/4/17	8/13/18	Chickpea	94-31-0-10 (f) 29-0-13-6 (s)	Osprey Ally Xtra Carnivore Aframe	4oz/A 0.4 oz/A 24 oz/A 7 oz/A
Nez Perce	Lewiston (Tammany)	14	1660	Conventional Tillage	9/29/17	7/19/18	Fallow	120-30-0-20 (f) 40-0-0-0 (s)	Olympus Huskie Orion Affinity BS	0.9 oz/A 12 oz/A 17 oz/A 0.8 oz/A
Nez Perce	Genesee	20	2700	Direct Seed	10/2/17	8/2/18	Chickpea	108-35-0-25 (f) 39-5-1-0 (s)	Osprey Widematch Tilt 2,4-D	4 oz/A 1.25 oz/A 4 oz/A 8 oz/A
Latah	Moscow	20	2850	Conventional Tillage	10/10/17	8/8/18	Chickpea	100-20-0-20 (f) 40-0-0-0 (s)	Huskie Affinity BS Axial Priaxor	12 oz/A 0.4 oz/A 16.4 oz/A 8 oz/A
Benewah	Tensed	27	2600	Conventional Tillage	10/24/17	8/10/18	Chickpea	100-20-0-20 (f) 40-0-0-0 (s)	Huskie Affinity BS Axial XL	12 oz/A 0.4 oz/A 16.4 oz/A
Boundary	Bonnors Ferry	25	1750	Direct Seed	9/28/17	8/15/18	Chickpea	76-37-22-10 (f) 40-0-0-0 (s)	Axial Star Affinity BS Priaxor Tilt Huskie	16.4 oz/A 0.4 oz/A 8 oz/A 4 oz/A 12 oz/A
<u>Winter Cereals – Winter Barley</u>										
Boundary	Bonnors Ferry	25	1750	Direct Seed	9/28/17	8/15/18	Chickpea	76-37-22-10 (f) 40-0-0-6 (s)	Axial Star Affinity BS Priaxor Tilt WildCard	16.4 oz/A 0.4 oz/A 8 oz/A 4 oz/A 32 oz/A

* (f) = fall applied, (s) = spring applied

Table 1 (cont.). Trial locations and management information for the 2017–2018 northern Idaho Extension variety trials.

County	Nursery Location	Rainfall Zone (inches)	Elevation (feet)	Production System	Planting Date	Harvest Date	Previous Crop	Fertilizer N-P-K-S (lb/A)*	-----Chemical-----	
									Product Name	Rate
<u>Spring Cereals - Soft Spring Wheat</u>										
Idaho	Ferdinand/Craigmont	22	3650	Direct Seed	4/25/18	9/6/18	W. Wheat	105-20-0-20	Clethodim	16 oz/A PrePI
Nez Perce	Genesee	20	2650	Direct Seed	4/23/18	8/22/18	W. Wheat	60-0-0-0 (f) 50-15-0-20 (s)	Orion Affinity Huskie Starane	16.4 oz/A 0.8 oz/A 15 oz/A 8 oz/A
Latah	Moscow	24	2630	Conventional Tillage	4/27/18	9/11/18	W. Wheat	100-20-0-20	Huskie Orion Starane	12 oz/A 17 oz/A 5 oz/A
Boundary	Bonnars Ferry	25	1750	Direct Seed	5/14/18	9/4/18	W. Wheat	107-23-36-11	Powerflex Tilt Wildcard	2 oz/A 2 oz/A 25 oz/A
<u>Spring Cereals - Hard Spring Wheat</u>										
Idaho	Ferdinand/Craigmont	22	3650	Direct Seed	4/25/18	9/6/18	W. Wheat	150-20-0-20	Clethodim	16 oz/A PrePI
Nez Perce	Genesee	20	2650	Direct Seed	4/23/18	8/22/18	W. Wheat	60-0-0-0 (f) 120-15-0-25 (s)	Orion Affinity Huskie Starane	12 oz/A 0.4 oz/A 16.4 oz/A 8 oz/A
Latah	Moscow	24	2630	Conventional Tillage	4/27/18	9/11/18	W. Wheat	100-20-0-20	Huskie Orion Starane	12 oz/A 17 oz/A 5 oz/A
Boundary	Bonnars Ferry	25	1750	Direct Seed	5/14/18	9/4/18	W. Wheat	107-36-23-11	Powerflex Tilt Wildcard	2 oz/A 2 oz/A 25 oz/A

* (f) = fall applied, (s) = spring applied

Table 1 (cont.). Trial locations and management information for the 2017–2018 northern Idaho Extension variety trials.

County	Nursery Location	Rainfall Zone (inches)	Elevation (feet)	Production System	Planting Date	Harvest Date	Previous Crop	Fertilizer N-P-K-S (lb/A)*	-----Chemical-----	
									Product Name	Rate
<u>Spring Cereals - Spring Barley</u>										
Idaho	Ferdinand/ Craigmont	22	3650	Direct Seed	4/25/18	9/6/18	W. Wheat	105-20-0-20	Clethodim	16 oz/A
Nez Perce	Genesee	20	2650	Direct Seed	4/23/18	8/20/18	W. Wheat	60-0-0-0 (f) 50-15-0-20 (s)	Peak Axial Star MCPA Tilt	0.5 oz/A 16.4 oz/A 0.5 oz/A 2 oz/A
Latah	Moscow	24	2630	Direct Seed	5/4/18	9/10/18	W. Wheat	87-28-0-20	Huskie Orion Starane	12 oz/A 17 oz/A 5 oz/A
Boundary	Bonniers Ferry	25	1750	Direct Seed	5/14/18	9/4/18	W. Wheat	67-36-23-11	Powerflex Tilt Wildcard	2 oz/A 2 oz/A 2 oz/A
<u>Legumes - Winter Peas</u>										
Latah	Moscow	24	2630	Conventional Tillage	10/6/17	8/7/18	S. Barley		Tricor Sharpen Asana XL	8 oz/A 1 oz/A 9.6 oz/A
Idaho	Genesee	22	4236	Conventional Tillage	10/10/17	8/7/18	S. Wheat		Tricor Sharpen Asana XL Assure II	8 oz/A 1 oz/A 1.9 oz/A 8 oz/A

* (f) = fall applied, (s) = spring applied

Table 1 (cont.). Trial locations and management information for the 2017–2018 northern Idaho Extension variety trials.

County	Nursery Location	Rainfall Zone (inches)	Elevation (feet)	Production System	Planting Date	Harvest Date	Previous Crop	Fertilizer N-P-K-S (lb/A)*	-----Chemical-----	
									Product Name	Rate**
<u>Legumes - Spring Peas</u>										
Latah	Moscow	24	2630	Direct Seed	5/3/18	10/10/18	W. Wheat		Sharpen	1 oz/A PrePl
									Tricor	6 oz/A PrePl
									Assure II	8 oz/A
									Asana XL	9.6 oz/A
Nez Perce	Genesee	20	2800	Direct Seed	4/21/18	8/23/18	S. Barley		Sharpen	1 oz/A PrePl
									Sencor	2 oz/A PreEm
									Asana XL	9.6oz/A
Idaho	Ferdinand/ Craigmont	22	3300	Direct Seed	4/25/18	9/6/18	S. Wheat		Clethodim	16 oz/A PrePl
									Metribuzin	1 oz/A PreEm
									Asana XL	9.6 oz/A
									Sharpen	4 oz/A PreEm
<u>Legumes - Spring Lentils</u>										
Latah	Moscow	24	2615	Direct Seed	5/3/18	10/10/18	W. Wheat		Sharpen	1 oz/A PrePl
									Tricor	6 oz/A PrePl
									Assure II	8 oz/A
									Asana XL	9.6 oz/A
Nez Perce	Genesee	20	2600	Direct Seed	4/21/18	8/23/18	S. Barley		Sharpen	1 oz/A PreEm
									Sencor	8 oz/A PreEm
Idaho	Ferdinand/ Craigmont	22	3300	Direct Seed	4/25/18	9/6/18	W. Wheat		Clethodim	16 oz/A PreEm
									Sharpen	1 oz/A PreEm
									Metribuzin	8 oz/A PreEm

* (f) = fall applied, (s) = spring applied

** PreEm = Preemergence, PrePl = Preplant

Table 1 (cont.). Trial locations and management information for the 2017–2018 northern Idaho Extension variety trials.

County	Nursery Location	Rainfall Zone (inches)	Elevation (feet)	Production System	Planting Date	Harvest Date	Previous Crop	Fertilizer N-P-K-S (lb/A)*	-----Chemical-----	
									Product Name	Rate**
Legumes - Spring Chickpeas										
Latah	Moscow	24	2615	Direct Seed	5/3/18	10/10/18	W. Wheat		Sharpen	1 oz/A PrePl
									Tricor	6 oz/A PrePl
									Assure II	8 oz/A
Nez Perce	Genesee	20	2600	Direct Seed	4/21/18	8/23/18	S. Barley		Sharpen	1 oz/A PreEm
									Sencor	8 oz/A PreEm
Idaho	Ferdinand/ Craigmont	22	3300	Direct Seed	4/25/18	9/6/18	W. Wheat		Clethodim	16 oz/A PrePl
									Sharpen	1 oz/A PreEm
									Metribuzin	8 oz/A PreEm

* (f) = fall applied, (s) = spring applied

** PreEm = Preemergence, PrePl = Preplant

Table 2. Varieties tested in northern Idaho Extension variety trials in 2017–2018.

Variety	Experimental No.	Year Released	Developer(s) of Variety
Soft White Winter Wheat			
Brundage-96	ID-B-96	2001	Idaho AES, USDA
Bruneau	ID 93-64901A	2009	Idaho AES, USDA
Jasper	WA8169	2014	Washington AES
LCS Artdeco	NSA-2153A	2011	Limagrain Cereal Seeds
LCS Drive	LWW12-7105	2015	Limagrain Cereal Seeds
LCS Hulk	LWW14-73163	2017	Limagrain Cereal Seeds
LCS Shark	LWW14-71195	2017	Limagrain Cereal Seeds
LCS Sonic	LWW14-73161	2017	Limagrain Cereal Seeds
Norwest Duet	LOR-092	2016	Limagrain Cereal Seeds, Oregon AES, USDA
Norwest Tandem	LOR-334	2016	Limagrain Cereal Seeds, Oregon AES, USDA
PNW Hailey		2017	
Puma	WA 8134	2013	Washington AES
Purl	WA8234	2018	Washington AES
Rosalyn	OR2071071	2013	Oregon AES, USDA
Stephens	OR 65-116	1977	Oregon AES, USDA
SY Assure	SY 96-2	2016	Syngenta Seeds
SY Dayton	SY 62#18	2017	Syngenta Seeds
SY Ovation	03PN108-21	2011	Syngenta Seeds
SY Raptor	SY 46#16	2017	Syngenta Seeds
UI Castle CL+	09-DH10	2015	Idaho AES, USDA
UI Magic CL+	09-DH11	2015	Idaho AES, USDA
UI Palouse CL+	3_5_10	2015	Idaho AES, USDA
UI Sparrow	IDO1108DH	2016	Idaho AES, USDA
UI/WSU Huffman	IDN-03-29902A	2014	Idaho AES, Washington AES
WB1376CLP	EXP-1030CLP	2015	WestBred/Bayer
WB1529	BZ6WM07-436	2014	WestBred/Bayer
WB1532		2018	WestBred/Bayer
WB1604	BZ6WM09-458	2013	WestBred/Bayer
WB1783	BZ6W09-471	2017	WestBred/Bayer
Winter Club Wheat			
ARS Castella	ARS20060123-31C	2017	Washington AES, USDA
Cara	ARS97135-9	2007	Washington AES, USDA

Table 2 (cont.). Varieties tested in northern Idaho Extension variety trials in 2017–2018.

Variety	Experimental No.	Year Released	Developer(s) of Variety
Hard Red and White (W)			
Winter Wheat			
AAC Wildfire	LK1064 & W512	2015	Agriculture Canada
Irv (W)	OR2110679	2018	Oregon State AES, USDA
Keldin	AC55017	2011	WestBred/Bayer
LCS Jet	NSA10-7208	2015	Limagrain Cereal Seeds
LCS Rocket	NSA10-2196	2017	Limagrain Cereal Seeds
Mandala		-	Tri-State Seed
Metropolis		-	Tri-State Seed
Norwest-553	ORN00B553	2007	Oregon State AES, USDA, Nickerson (UK)
Rebelde		-	Tri-State Seed
SY Touchtone	04PN028B-3	2015	Syngenta Seeds
UI Silver (W)	IDO658	2011	Idaho AES, USDA
WB4303		-	WestBred/Bayer
WB4311	XA4104	-	WestBred/Bayer
WB4394	XB4325	2018	WestBred/Bayer
WB4623CLP		2017	WestBred/Bayer
Soft White Spring Wheat			
Alturas	IDO 526	2002	Idaho AES, USDA
Babe	WA 8039	2009	Washington AES, USDA
Diva	WA 8090	2009	Washington AES, USDA
JD (club)	WA 8047	2009	Washington AES, USDA
Melba (club)	WA 8193	2016	Washington AES, USDA
Ryan	WA 8214	2016	Washington AES, USDA
Seahawk	WA 8162	2014	Washington AES, USDA
SY Saltese	SY 3024-2	2016	Syngenta Seeds
Tekoa	WA 8189	2016	Washington AES, USDA
UI Stone	IDO599	2012	Idaho AES
WB-1035 CL+		-	WestBred/Bayer
WB6121	BZ608-121	2014	WestBred/Bayer
WB6341	BZ608-125	2014	WestBred/Bayer

Table 2 (cont.). Varieties tested in northern Idaho Extension variety trials in 2017–2018.

Variety	Experimental No.	Year Released	Developer(s) of Variety
Hard Red Spring Wheat			
Alum	WA 8166	2014	Washington AES, USDA
Glee	WA 8074	2012	Washington AES, USDA
Jefferson	IDO 462	1998	Idaho AES, USDA
LCS Iron	11SB0096	2016	Limagrain Cereal Seeds
LCS Luna	10SB0087-B	2017	Limagrain Cereal Seeds
NS Presser CLP		2018	Northern Seed
SY Coho	04W40292R	2015	Syngenta Seeds
SY Gunsight	06PN3015-08	2016	Syngenta Seeds
SY Renegade	06PN3017-09	2018	Syngenta Seeds
SY Selway	04PN3001-2	2015	Syngenta Seeds
UI Winchester	IDO 578	2009	Idaho AES, USDA
WB9350		2016	WestBred/Bayer
WB9518	BZ908-485	2013	WestBred/Bayer
WB9662		-	WestBred/Bayer
WB9668	BZ908-552	2015	WestBred/Bayer
WB9717		-	WestBred/Bayer
Hard White Spring Wheat			
Dayn	WA 8123	2013	Washington AES, USDA
UI Platinum	IDO 694C	2014	Idaho AES, USDA
WB7202CLP	XA7320	2017	WestBred/Bayer
WB-Hartline	BZ903-445WP	2012	WestBred/Bayer

Table 2 (cont.). Varieties tested in northern Idaho Extension variety trials in 2017–2018.

Variety	Use	Experimental No.	Year Released	Developer(s) of Variety
Two-Row Winter Barley				
Charles	Malt	94Ab1274	2006	USDA-ARS (Aberdeen)
Endeavor	Malt	95Ab2299	2008	Idaho AES, USDA
KWS Scala	Malt	GW2895	2012	KWS Lochow (Germany)
KWS Somerset	Malt	GW3479	2017	KWS Lochow (Germany)
Wintmalt	Malt		2007	KWS Lochow (Germany)
Six-Row Winter Barley				
Buck	Food	09OR-86	2015	Oregon AES, USDA
Eight-Twelve	Feed	79Ab812	1988	Idaho AES, USDA
LCS Calypso	Malt	98NZ233	2014	Limagrain Cereal Seeds
Sunstar Pride	Feed	SDM204-B	1995	Sunderman Breeding
Two-Row Spring Barley				
AAC Connect	Malt	TR0482	2016	Agriculture Canada/Canterra Seeds
Altorado	Feed	BZ509-601	2017	Highland Specialty Grains
Camas	Feed	ND 9147	1998	Idaho AES, USDA
CDC Bow	Malt	TR11127	2017	University of Saskatchewan/SeCan
CDC Fraser	Malt	TR12135	2018	University of Saskatchewan/SeCan
CDC-Copeland	Malt	TR150	1999	University of Saskatchewan, Canada
Champion	Feed	YU-501-385D	2008	WestBred/Bayer
Claymore	Feed	BZ509-210	2016	Highland Specialty Grains
Esmā	Malt		-	Ackermann Saatzeit GmbH
GemCraft	Malt	2Ab08-X05M010-65	2018	Idaho AES, USDA
Goldenhart	Food	2Ab09-X06F058HL-31	2018	Idaho AES, USDA
Havener	Food	09WA-265.5	2015	Washington AES, USDA
Kardia	Food	2Ab09-X06F084-51	2015	Idaho AES, USDA
LCS Genie	Malt	NSL07-8424-A	2011	Limagrain Cereal Seeds
LCS Odyssey	Malt	NSL08-4556-A	2013	Limagrain Cereal Seeds
LCS Opera	Malt		2016	Limagrain Cereal Seeds
LCS Sienna	Malt		2016	Limagrain Cereal Seeds
LCS Vespa	Feed		2010	Limagrain Cereal Seeds
Lenetah	Feed	01Ab11107	2007	Idaho AES, USDA
Lyon	Feed	05WA-316.K	2013	Washington AES, USDA
Manta	Malt		-	Ackermann Saatzeit GmbH
Meg's Song	Food		2017	Washington AES, USDA
Muir	Feed	07WA-601.6	2015	Washington AES, USDA
Oreana	Feed	BZ509-448	2016	Highland Specialty Grains
Salute	Food		-	WestBred/Bayer
Sangria	Malt		-	Ackermann Saatzeit GmbH
Survivor	Feed		2017	Washington AES, USDA
Tetonia	Feed	98Ab11720	2007	Idaho AES, USDA
Transit	Food	03AH3054-51	2010	Idaho AES, USDA

Table 2 (cont.). Varieties tested in northern Idaho Extension variety trials in 2017–2018.

Variety	Experimental No.	Year Released	Developer(s) of Variety
Chickpea			
BillyBeans		2010	PNW Farmers Cooperative
Bronic		-	Spain
CDC Frontier		2003	University of Saskatchewan, Canada
CDC Leader	493-24	2011	University of Saskatchewan, Canada
CDC Orion		2010	University of Saskatchewan, Canada
CDC Palmer	1041-3	2014	University of Saskatchewan, Canada
Nash	CA 04900843C	2013	USDA-ARS, Washington AES
Sawyer	CA 0090B347C	2010	USDA-ARS, Washington AES
Sierra	CA 9783152C	2001	USDA-ARS, Washington AES
Lentil (class)			
Avondale (<i>Medium green</i>)	LC 10602300R	2012	USDA-ARS, Washington AES
Crimson (<i>Small red</i>)	LC 800024	1990	USDA-ARS, Washington AES
Eston (<i>Small green</i>)		1980	University of Saskatchewan, Canada
Merrit (<i>Large green</i>)	LC 460266B	2001	USDA-ARS, Washington AES
Morena (<i>Spanish brown</i>)	LC 02601144P	2011	USDA-ARS, Washington AES
Pardina (<i>Spanish brown</i>)		-	Spain
Richlea (<i>Medium green</i>)		1994	University of Saskatchewan, Canada
Spring Green Pea			
AAC Comfort	P0511-06	2016	Agriculture Canada
Aragorn		2007	ProGene Plant Research
Ariel	NZ 4L25	2001	Plant and Food Research (New Zealand)
Banner	Pro 031-7053	2007	ProGene Plant Research
CDC Greenwater	CDC 2472-4	2014	University of Saskatchewan, Canada
Columbian		-	Campbell Soup
Ginny	Pro 091-7137	2014	ProGene Plant Research
Greenwood	Pro 7040	2012	ProGene Plant Research
Hampton	PS05100736	2014	USDA-ARS, Washington AES
Spring Yellow Pea			
Carousel	SW 995848	2004	ProGene Plant Research
Ewald	Pro822	-	ProGene Plant Research
Winter Pea			
Blaze	PRO 124-7130	2017	ProGene Plant Research
Granger (<i>Austrian</i>)	D258-1-2	1996	USDA-ARS, Washington AES
Icicle		2011	ProGene Plant Research
Koyote		2014	ProGene Plant Research
Lakota		-	
Specter	PS9830F009	2006	USDA-ARS, Washington AES
Windham	PS98305358	2006	USDA-ARS, Washington AES

2017–2018 Growing Conditions and Factors Affecting Trial Results

Fall crop conditions:

Fall cereal trials were planted from late September to mid-October. There were rain events prior to seeding and during October. As a result, there was good soil moisture and winter crops established well at all locations. The average temperatures were near normal for much of the year, but February and March were warmer than normal which allowed for greater early season growth (Figure 1A). There was little to no evidence of winter injury at any location. The precipitation between September 2017 and June 2018 was 4.4 in above normal at Moscow (Figure 1B). The greater winter and spring precipitation appears to have resulted in some nitrogen leaching and reduced seed protein content, particularly in the winter cereals.

Spring crop conditions:

Spring precipitation was well above normal in northern Idaho, particularly during April (Figure 1B). This resulted in delayed seeding for all spring trials. Most locations were seeded before the end of April, but seeding was not completed until the middle of May. Conditions in May and June were near normal, but there was virtually no precipitation in July and August. This lack of late-season precipitation resulted in lower test weights in spring cereals, particularly for the spring wheat. Conditions were dry during the harvest season and there was no evidence of sprout in any of the wheat or barley plots.

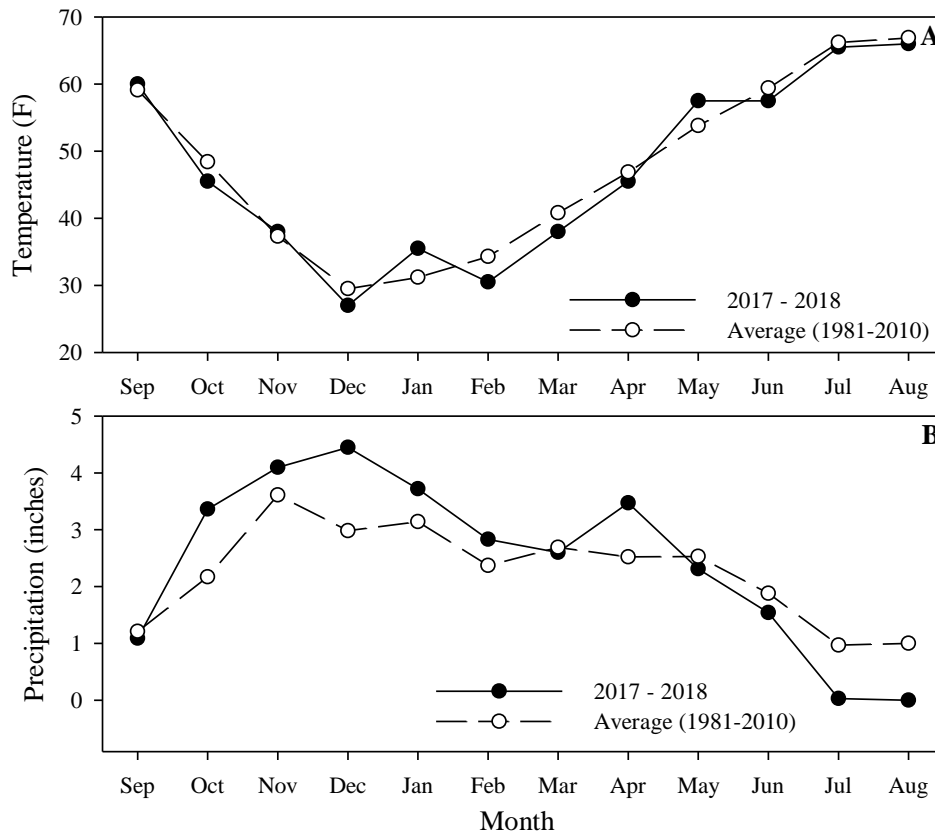


Figure 1. Mean monthly temperature (A) and precipitation (B) for the 2017–2018 growing season at the Parker Plant Sciences Farm east of Moscow compared to thirty-year average.

Diseases and pests:

Stripe rust (*Puccinia striiformis* f. sp. *tritici*) on wheat is commonly observed in northern Idaho. Conditions were conducive for development of stripe rust in the spring of 2018. Stripe rust pressure was moderate and timely fungicide applications and disease resistance in the wheat varieties or lines resulted in very little stripe rust development in the plots. As a result, no notes were collected on this disease. Cephalosporium stripe (*Cephalosporium graminearum*) was observed at some locations, but there was not substantial damage caused by this pathogen. Earlier seeding and establishment of winter wheat created conditions that were more conducive for infection. While not a disease, physiological leaf spot was observed at several winter wheat locations. Not all varieties will display symptoms of physiological leaf spot and there are mixed results as to whether this disorder will result in yield reduction. The wet, cool spring conditions seem to exacerbate symptoms. In general, plant diseases and disorders did not have a substantial role in crop performance in 2018.

Two insect pests were observed frequently in the 2018 trials. The first was pea weevil (*Bruchus pisorum*), which was observed in all fall and spring sown plots. Despite managing for pea weevil with insecticide application, damaged seed was observed at harvest and resulted in lower 100-seed weights. This pest can be adequately managed by application of insecticide soon after first bloom and repeating as necessary. This becomes somewhat problematic in a variety trial when not all varieties bloom at the same time.

The second insect pest was Hessian fly (*Mayetiola destructor*). There was evidence of this pest being present in the Bonners Ferry and Craigmont spring wheat plots. While not common in winter wheat, it also was observed in select winter wheat entries in Bonners Ferry as a low frequency pest. Many of the spring wheat varieties and lines included in the northern Idaho variety trials are resistant to Hessian fly, but those that lacked resistance were impacted by this insect. The severity of Hessian fly varies from year to year, but is best managed by seeding resistant spring wheat varieties.

Summary of 2017–2018 Results

Data is reported for all trials and locations that were seeded in the fall of 2017 and spring of 2018. While many of the plots were impacted by weather events, diseases, or pests as outlined above, there was acceptable data produced for each of the trials. As noted, in some cases not all varieties or entries are included at all locations.

A summary of selected agronomic characteristics for winter wheat, spring wheat, spring barley, and spring legumes is shown in Tables 3 and 4. Winter wheat yields in 2018 were 18 bu/A above the ten-year average. Winter wheat test weight in 2018 was the fourth highest for the past ten years at an average of 60.8 lb/bu. Due to delayed seeding and dry summer conditions, the yield for spring wheat was 5 bu/A below the ten-year average while the spring barley yield was 6 bu/A below average. Test weight for spring wheat were 1.1 lb/bu below the ten-year average while test weight for spring barley was 1.2 lb/bu above average.

While seeding was delayed for the spring legumes, the yields were near the ten-year average for each crop. The 2018 spring pea yield was equal to or just above the ten-year average with 2115 lb/A, but as alluded to earlier, the average 100-seed count was 1 g below average. Lentil yield was 64 lb/A below the ten-year average at 1076 lb/A, with a 100-seed weight just below the average. Likewise, chickpea was just below average at 1898 lb/A. However, the 100-seed weight and proportion of seed larger than 22/64” was much lower than average and the lowest since these data started being collected in 2014.

Specific yield data for all northern Idaho trials along with multilocation summaries are listed in Tables 5–54. Varieties or breeding lines are listed in order from highest yielding to lowest yielding in each table.

Table 3. Ten-year average of select agronomic characteristics for winter wheat, spring wheat, and spring barley, 2009–2018.

Winter Wheat (all market classes)

YIELD			TEST WEIGHT			PLANT HEIGHT			LODGING		
Year	bu/A	# of Loc.	Year	lb/bu	# of Loc.	Year	inches	# of Loc.	Year	%	# of Loc.
2016	122	6	2011	61.4	6	2016	38	6	2014	4	6
2018	115	6	2017	61.2	5	2012	38	6	2011	3	6
2011	111	6	2016	61.1	6	2011	38	5	2015	2	6
2017	107	5	2018	60.8	3	2010	38	5	Ave.	1	--
2013	104	6	2013	59.4	6	2017	36	5	2018	1	6
Ave.	97	--	Ave.	59.2	--	2015	36	6	2017	0	5
2015	97	6	2012	58.5	6	2018	36	6	2016	0	6
2012	86	6	2009	58.4	4	Ave.	35	--	2010	0	5
2010	84	5	2015	57.4	6	2013	35	6	2009	0	4
2014	78	6	2010	56.9	5	2009	31	4	2013	0	4
2009	67	4	2014	56.5	6	2014	28	6	2012	0	6

Spring Wheat (all market classes)

YIELD			TEST WEIGHT			PLANT HEIGHT			LODGING		
Year	bu/A	# of Loc.	Year	lb/bu	# of Loc.	Year	inches	# of Loc.	Year	%	# of Loc.
2013	76	4	2011	61.9	3	2014	33	4	2014	6	4
2012	75	4	2012	61.1	4	2012	33	4	2018	2	4
2016	72	4	2016	60.5	4	2013	32	4	2016	1	4
2010	65	3	2013	60.4	4	2011	32	3	Ave.	1	--
2014	61	4	2009	59.1	2	2010	32	3	2017	0	4
2011	61	3	Ave.	58.9	--	2018	31	4	2015	0	4
Ave.	60	--	2017	58.3	4	Ave.	31	--	2013	0	3
2018	55	4	2010	57.8	3	2016	30	4	2012	0	4
2017	47	4	2018	57.8	4	2015	29	4	2011	0	3
2015	46	4	2014	55.9	4	2017	27	4	2010	0	3
2009	44	3	2015	55.7	4	2009	27	3	2009	0	3

Spring Barley (all market classes)

YIELD			TEST WEIGHT			PLANT HEIGHT			LODGING		
Year	bu/A	# of Loc.	Year	lb/bu	# of Loc.	Year	inches	# of Loc.	Year	%	# of Loc.
2016	113	4	2012	54.7	4	2010	34	4	2014	33	4
2012	100	4	2011	53.7	4	2018	34	4	2013	15	4
2011	97	4	2016	53.2	4	2011	33	4	2016	14	4
2010	90	4	2018	52.5	4	2016	32	4	Ave.	10	--
2013	89	4	Ave.	51.3	--	2014	32	4	2010	8	4
2014	88	4	2013	51.3	4	Ave.	31	--	2012	6	4
Ave.	87	--	2017	50.7	4	2012	31	4	2015	3	4
2018	81	4	2010	50.4	4	2017	29	4	2018	2	4
2015	76	4	2009	49.5	3	2015	29	4	2017	0	4
2017	73	4	2015	48.9	4	2009	29	3	2011	--	0
2009	67	3	2014	48.2	4	2013	28	4	2009	--	0

Table 4. Ten-year average of select agronomic characteristics for pea, lentil, and chickpea, 2009–2018.

Pea (all market classes)

YIELD			100-SEED WEIGHT			VINE LENGTH			CANOPY HEIGHT		
Year	lb/A	# of Loc.	Year	grams	# of Loc.	Year	inches	# of Loc.	Year	inches	# of Loc.
2011	2724	2	2011	22.0	2	2018	33	3	2011	27	2
2013	2678	3	2016	21.7	3	2014	30	3	2018	27	3
2012	2678	4	2012	21.0	4	2012	30	4	2012	25	4
2016	2327	3	2013	20.4	3	2010	29	3	2010	22	3
2018	2115	3	Ave.	19.8	--	2013	28	3	2009	22	2
Ave.	1936	--	2009	19.7	2	2011	28	2	Ave.	21	--
2014	1877	3	2017	19.0	3	2016	27	3	2016	19	3
2009	1640	2	2014	18.8	3	Ave.	27	--	2015	17	3
2010	1414	3	2018	18.8	3	2009	25	2	2017	15	3
2015	1156	3	2015	18.3	3	2015	22	3	2014	15	3
2017	749	3	2010	17.9	3	2017	18	3	2013	--	0

Lentil (all market classes)

YIELD			100-SEED WEIGHT			PLANT HEIGHT			CANOPY HEIGHT		
Year	lb/A	# of Loc.	Year	grams	# of Loc.	Year	inches	# of Loc.	Year	inches	# of Loc.
2011	2063	3	2010	5.1	2	2014	16	4	2018	12	3
2012	1463	4	2013	5.0	4	2016	15	3	2017	12	3
2009	1383	2	2011	5.0	3	2011	15	3	Ave.	11	--
Ave.	1140	--	2014	4.8	4	2009	15	2	2014	11	4
2016	1110	3	2012	4.8	4	2018	15	3	2015	9	1
2018	1076	3	Ave.	4.6	--	Ave.	14	--	2016	--	0
2014	952	4	2017	4.6	3	2013	14	4	2013	--	0
2013	946	4	2018	4.4	3	2012	14	4	2012	--	0
2010	845	2	2009	4.4	2	2017	13	3	2011	--	0
2017	806	3	2015	4.3	1	2015	13	1	2010	--	0
2015	760	1	2016	3.9	3	2010	13	2	2009	--	0

Chickpea (all market classes)

YIELD			100-SEED WEIGHT			PLANT HEIGHT			A' BEAN (>22/64")		
Year	lb/A	# of Loc.	Year	grams	# of Loc.	Year	inches	# of Loc.	Year	%	# of Loc.
2011	3557	1	2011	51.9	1	2013	23	2	2015	73	3
2012	2936	1	2012	48.9	1	2016	22	3	2017	69	3
2016	2609	3	2010	48.3	1	2014	22	3	Ave.	61	--
2013	2514	2	2013	47.8	2	2011	22	1	2016	57	3
Ave.	1991	--	2015	47.6	3	Ave.	19	--	2014	57	3
2018	1898	3	2017	46.3	3	2012	18	1	2018	51	3
2017	1806	3	Ave.	45.4	--	2010	18	1	2013	--	0
2014	1742	3	2016	42.1	3	2018	18	3	2012	--	0
2010	1233	1	2018	41.7	3	2017	17	3	2011	--	0
2015	1119	2	2014	40.6	3	2015	17	3	2010	--	0
2009	495	1	2009	38.6	1	2009	14	1	2009	--	0

Table 5. Soft white winter wheat variety performance results at Bonners Ferry, 2018.

Variety or Selection*	2017–2018 Crop Year							
	3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Seed Protein (%)
UIL-15-72458DH			117	60.0	30	0	5/28	7.5
IDO1005			111	60.3	30	0	5/30	7.8
UIL-14-75044DH			109	57.6	29	0	5/30	7.5
WA8275CL+			107	59.8	29	0	5/29	7.7
Jasper	118	116	105	58.5	29	0	5/30	7.5
Bruneau	130	126	104	59.4	31	0	5/29	6.9
UIL-15-72234DH			104	59.8	31	0	5/28	6.8
ARSDH08X117-83C			103	59.6	28	0	5/29	7.3
OR2121086		119	102	60.7	31	0	5/30	7.5
UI/WSU Huffman	125	119	101	59.0	29	0	6/1	7.0
UI Castle CL+	120	116	100	60.8	30	0	5/30	7.2
LCS Hulk	122	117	100	60.4	29	0	5/29	7.0
UIL-09-15702A			99	59.8	30	0	5/29	7.6
WB1604	112	110	98	60.6	28	0	5/25	7.8
SY Raptor			98	59.1	28	0	5/27	7.4
OR2101043	122	118	98	59.3	29	0	5/30	7.1
Cara			97	54.3	28	0	6/1	7.2
OR2121285			95	58.9	27	0	5/28	7.6
PNW Hailey		112	95	61.7	31	0	5/30	7.5
Norwest Duet	125	122	94	59.6	31	0	5/30	7.0
Norwest Tandem		109	93	59.7	26	0	5/26	7.6
WA8274CL+			92	59.2	28	0	5/31	7.3
WB1532			92	60.0	29	0	5/30	8.0
WB1783	123	119	92	62.1	28	0	5/29	7.9
UI Palouse CL+		109	90	57.7	27	0	5/31	7.9
IDO1708			90	57.9	27	0	5/25	7.9
LCS Artdeco	112	106	89	58.1	28	0	5/26	7.2
WB1376CLP	104	100	88	62.4	30	0	5/27	8.7
Stephens	111	109	88	58.7	27	0	5/28	7.5
UI Sparrow	116	106	87	56.7	34	0	6/2	7.4
ARS Castella			86	56.7	29	0	5/30	7.1
UI Magic CL+	110	112	86	60.6	28	0	5/27	7.0
LCS Drive			84	58.9	24	0	5/25	7.5
Purl	116	109	84	60.1	29	0	5/27	7.1
SY Assure			83	60.7	25	0	5/26	7.9
LCS Sonic			82	57.3	28	0	5/28	7.0
SY Ovation	110	105	82	60.0	29	0	5/30	8.0
Puma	109	107	81	58.4	29	0	5/31	7.2
XB1104			79	61.7	26	0	5/25	8.0
WA8232	114	108	79	60.0	26	13	5/31	7.3
WB1529	112	108	78	61.3	27	0	5/29	7.4
Rosalyn			78	55.2	29	0	5/31	7.0
LCS Shark			78	59.1	27	0	5/28	7.7
Brundage 96		102	77	59.0	28	0	5/29	7.1
ORI2150031 Cl+		95	70	59.2	28	0	5/31	7.6
ORI2150061 Cl+			69	61.0	27	0	5/29	9.3
Average	116	111	92	59.4	28	<1	5/29	7.5
LSD (0.05)	11	13	19	1.0	2	3	2.0	0.6
CV (%)	11.3	11.9	14.7	1.3	5.1	831.4	17.0	6.1

*ARS Castella was previously tested as ARS20060123-31C and Purl was WA8234. LW14-72916 and UIL-07-28017B were planted at this site but were not included in the data summary due to significant wildlife damage to both entries.

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 6. Soft white winter wheat variety performance results at Genesee, 2018.

Variety or Selection*	2017–2018 Crop Year							
	3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Seed Protein (%)
UIL-15-72234DH			150	62.1	40	0	6/1	7.3
LCS Sonic		130	150	61.2	39	0	6/2	7.7
UIL-15-72458DH			149	60.2	37	0	5/29	6.9
Rosalyn			149	58.2	37	0	6/4	7.0
Jasper	132	128	146	60.7	38	0	6/4	7.7
Norwest Tandem		120	144	61.7	32	0	5/29	8.0
LWW14-72916			143	61.9	32	0	5/30	7.9
UIL-07-28017B	122	129	143	60.5	37	0	5/31	8.2
UI Sparrow	134	130	141	60.0	41	0	6/6	7.7
WB1783	119	120	141	63.6	38	0	6/1	8.2
UI Magic CL+	122	124	141	62.5	35	0	5/29	7.7
LCS Artdeco	126	124	140	60.8	32	0	5/29	7.6
ARSDH08X117-83C			140	61.6	37	0	6/3	7.9
SY Raptor			139	60.2	35	0	5/31	7.4
Purl	128	128	139	61.6	37	0	5/31	7.8
UIL-09-15702A			139	62.8	39	0	6/3	7.8
Puma	120	121	138	61.0	43	0	6/4	7.7
WB1604	116	117	138	61.4	34	0	5/29	8.0
Norwest Duet	125	124	138	60.6	42	0	6/5	7.5
SY Assure			137	62.8	33	0	5/28	8.4
WB1529	113	119	137	63.0	36	0	6/1	8.2
XB1104			137	63.4	32	0	5/29	8.8
ARS Castella			137	60.7	39	0	6/3	7.5
Stephens	115	115	136	61.1	35	0	5/31	7.5
UIL-14-75044DH			135	60.6	34	0	6/3	7.7
WA8275CL+			135	61.7	36	0	6/4	8.3
LCS Hulk	122	123	135	62.7	37	0	6/4	7.8
Bruneau	123	121	135	61.3	39	0	6/3	7.4
OR2101043	126	123	135	61.0	36	0	6/4	7.7
WA8232	122	119	135	62.2	38	0	6/5	7.8
OR2121086		120	134	61.3	39	0	6/2	8.0
UI/WSU Huffman	121	120	134	62.0	40	0	6/6	8.3
UI Castle CL+	121	120	134	62.1	38	0	6/5	8.4
PNW Hailey		120	134	63.4	37	0	6/3	8.1
OR2121285			133	61.3	33	0	6/3	8.4
SY Ovation	110	111	133	61.9	35	0	6/1	8.0
LCS Shark		123	133	61.2	34	0	5/31	7.8
IDO1708			133	59.9	35	0	5/29	7.8
Cara		117	132	59.1	36	0	6/6	7.6
ORI2150031 Cl+		115	132	61.8	39	0	6/4	8.9
WB1532			131	61.4	34	0	6/4	9.0
Brundage 96	114	113	130	59.8	35	0	6/1	7.8
WA8274CL+			130	61.3	37	0	6/6	8.3
LCS Drive	119	117	130	59.8	30	0	5/28	7.8
IDO1005			129	61.8	37	0	6/5	8.5
WB1376CLP	110	112	127	63.9	37	0	6/1	9.4
UI Palouse CL+	115	114	126	60.7	35	0	6/5	8.2
ORI2150061 Cl+			114	62.5	33	0	5/30	9.9
Average	121	120	136	61.4	36	0	6/2	8.0
LSD (0.05)	5	11	8	1.0	1	--	1.4	0.5
CV (%)	5.5	8.5	4.3	1.2	2.8	--	11.1	4.4

*ARS Castella was previously tested as ARS20060123-31C and Purl was WA8234.

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 7. Soft white winter wheat variety performance results at Moscow, 2018.

2017–2018 Crop Year						
Variety or Selection*	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Seed Protein (%)
LWW14-74143	130	58.0	36	0	5/30	6.7
Jasper	126	60.6	36	0	6/4	7.0
Rosalyn	125	59.7	35	0	6/3	6.4
UIL-15-72458DH	124	60.2	36	0	5/31	6.8
LCS Sonic	120	60.5	38	0	6/3	6.5
SY Raptor	120	60.1	32	0	5/30	6.5
SY Ovation	119	61.2	33	0	6/2	7.0
UI Sparrow	119	59.4	39	0	6/5	6.5
Bruneau	116	61.3	36	0	6/3	6.9
Purl	115	61.4	34	0	5/30	6.9
WA8232	115	61.8	35	0	6/4	6.8
PNW Hailey	114	62.9	34	0	6/2	7.3
UIL-07-28017B	114	61.6	35	0	6/1	7.3
LWW14-72916	113	60.7	29	0	6/1	6.5
Puma	113	60.9	37	0	6/4	6.8
Stephens	113	61.1	34	0	6/1	7.4
Norwest Duet	113	61.4	40	0	6/4	6.8
Cara	113	59.5	33	0	6/7	7.0
LCS Hulk	112	62.2	33	0	6/4	7.2
OR2121086	112	61.7	36	0	6/2	7.5
OR2101043	112	60.8	35	0	6/3	7.1
LCS Shark	111	60.5	33	0	5/31	7.4
ARSDH08X117-83C	111	61.8	35	0	6/3	6.8
Norwest Tandem	111	61.6	30	0	5/30	7.2
UI Magic CL+	110	61.7	33	0	5/29	7.4
UI Palouse CL+	110	60.1	33	0	6/4	7.2
WA8275CL+	110	61.4	34	0	6/3	7.6
UI Castle CL+	110	62.1	37	0	6/4	7.2
LCS Artdeco	109	60.5	31	0	5/29	7.1
ARS Castella	109	60.9	37	0	6/2	6.5
UIL-15-72234DH	108	61.5	37	0	5/31	6.6
UIL-14-75044DH	108	60.2	32	0	6/3	7.4
OR2121285	108	61.1	32	0	6/2	7.2
WB1529	108	62.2	32	0	6/1	7.0
IDO1708	108	59.9	34	0	5/29	6.8
UIL-09-15702A	105	61.3	35	0	6/1	7.4
ORI2150031 CI+	104	61.8	35	0	6/4	8.1
WB1604	104	61.5	34	0	5/29	7.2
LCS Drive	104	60.1	28	0	5/29	7.3
WA8274CL+	104	60.7	33	0	6/4	7.8
UI/WSU Huffman	102	60.7	37	0	6/4	7.4
SY Assure	101	62.1	32	0	5/29	7.6
Brundage 96	101	60.8	33	0	6/2	7.8
WB1532	100	62.0	33	0	6/4	7.9
XB1104	98	63.5	28	0	5/30	7.6
WB1783	97	63.1	35	0	6/1	7.9
IDO1005	97	60.6	35	0	6/4	7.7
WB1376CLP	96	62.9	35	0	6/1	8.4
ORI2150061 CI+	84	62.0	31	0	5/30	8.8
Average	110	61.1	34	0	6/2	7.2
LSD (0.05)	10	0.5	2	--	0.9	0.6
CV (%)	6.4	0.6	3.7	--	14.7	6.2

*ARS Castella was previously tested as ARS20060123-31C and Purl was WA8234.

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Note: There are no two-year and three-year averages as the data from this location in 2017 was not usable.

Table 8. Soft white winter wheat variety performance results at Nezperce, 2018.

Variety or Selection*	2017–2018 Crop Year							
	3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Seed Protein (%)
LCS Sonic		100	125	58.3	43	0	6/9	6.9
LCS Artdeco	107	104	122	58.8	36	0	6/7	7.2
LWW14-72916			122	58.8	32	0	6/9	6.8
UIL-15-72234DH			121	58.9	44	0	6/10	6.5
LWW14-74143			121	55.7	38	0	6/8	6.1
LCS Shark			121	59.4	38	0	6/9	7.0
WA8232	105	102	119	60.0	42	0	6/14	6.7
UIL-15-72458DH			119	58.0	41	0	6/8	6.6
WB1529	98	95	118	61.2	37	0	6/7	7.7
Rosalyn			116	56.6	39	0	6/12	6.1
SY Raptor			115	58.3	39	0	6/7	7.0
LCS Hulk	106	99	114	59.8	37	0	6/11	6.8
IDO1708			114	57.7	38	0	6/6	6.5
Puma	99	94	114	58.6	45	0	6/11	6.6
Norwest Duet	108	98	113	59.5	43	0	6/12	6.1
Jasper	107	98	113	57.5	41	0	6/12	7.4
Bruneau	105	98	111	58.7	42	0	6/13	6.7
LCS Drive			111	57.7	32	0	6/6	6.6
WB1532			111	59.5	38	0	6/13	7.8
Purl	101	94	110	58.8	38	0	6/9	7.3
UIL-09-15702A			110	59.3	40	0	6/11	6.6
ARS Castella			109	59.5	42	0	6/12	6.7
WB1604	93	89	109	59.1	35	0	6/6	6.9
SY Assure			109	59.9	34	0	6/6	6.9
SY Ovation	96	91	109	59.2	38	0	6/9	6.6
Norwest Tandem		90	109	58.9	34	0	6/9	6.8
PNW Hailey		94	109	60.5	40	0	6/13	6.6
WB1783	98	92	108	61.4	39	0	6/10	6.6
UI/WSU Huffman	100	93	108	58.2	41	0	6/15	7.0
ARSDH08X117-83C			108	60.0	40	0	6/13	7.8
OR2121086		91	108	59.0	41	0	6/13	7.3
OR2101043	102	95	108	58.0	38	0	6/11	6.6
XB1104			107	61.2	32	0	6/7	7.5
UIL-14-75044DH			107	57.1	37	0	6/13	6.9
Brundage 96	96	91	107	58.0	37	0	6/10	7.3
WA8275CL+			106	59.0	38	0	6/11	6.9
UI Sparrow	101	92	106	56.5	42	0	6/15	6.3
UI Magic CL+	91	89	106	60.4	37	0	6/8	6.7
UIL-07-28017B	98	95	106	59.0	37	0	6/10	7.1
UI Castle CL+	95	88	105	59.4	41	0	6/14	7.0
WA8274CL+			103	57.6	40	0	6/14	7.5
IDO1005			103	58.8	42	0	6/14	7.4
OR2121285			102	59.5	36	0	6/12	7.1
ORI2150031 Cl+		87	102	58.8	41	0	6/13	7.1
Stephens	91	83	99	58.1	39	0	6/9	7.3
WB1376CLP	88	85	99	62.1	36	0	6/8	8.2
Cara		86	98	56.4	38	0	6/17	6.8
ORI2150061 Cl+			96	60.9	35	0	6/7	8.8
UI Palouse CL+	91	84	94	57.4	37	0	6/15	8.3
Average	99	93	110	58.9	39	0	6/10	7.0
LSD (0.05)	6	7	9	0.9	2	--	1.9	0.9
CV (%)	7.9	7.9	6.0	1.1	3.3	--	17.9	9.3

*ARS Castella was previously tested as ARS20060123-31C and Purl was WA8234.

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 9. Soft white winter wheat variety performance results at Tammany (Lewiston), 2018.

Variety or Selection*	2017–2018 Crop Year							
	3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Seed Protein (%)
LCS Artdeco	149	144	160	60.7	41	0	5/17	7.3
IDN-15-72458DH			160	59.9	44	0	5/20	6.9
LWW14-72916			153	61.1	35	18	5/19	6.8
PNW Hailey		138	153	62.4	44	4	5/21	7.3
Rosalyn			153	58.2	42	0	5/20	6.1
Jasper	139	138	152	60.9	43	5	5/23	7.2
SY Dayton			151	60.5	42	1	5/21	7.3
LCS Hulk	145	140	151	62.2	43	0	5/23	7.8
SY Ovation	142	140	151	60.8	42	0	5/21	7.2
Norwest Duet	142	138	151	61.8	48	8	5/22	7.2
LCS Sonic		141	150	60.1	44	30	5/21	7.2
WB1783	136	133	148	63.0	43	0	5/21	7.5
LCS Shark			148	59.5	39	0	5/19	7.3
UI Sparrow	135	134	147	58.2	48	0	5/24	6.3
WB-1604	137	133	147	60.8	40	0	5/18	8.0
IDN-07-28017B	138	138	146	60.6	42	0	5/19	7.5
Stephens	131	128	146	59.9	43	6	5/21	7.4
Purl	138	135	146	60.7	42	0	5/21	7.6
IDN-15-72234DH			145	60.2	42	3	5/21	6.2
Puma	133	131	145	60.5	46	3	5/21	6.9
IDN-09-15702A			144	62.0	42	3	5/22	7.6
WA8275CL+			144	61.7	40	0	5/21	7.3
ARSDH08X117-83C			144	60.8	45	11	5/22	6.5
LCS Drive			144	58.0	35	0	5/17	7.4
UI Magic CL+	139	137	144	60.6	40	0	5/18	7.4
Bruneau	136	131	143	61.1	45	20	5/22	7.0
UI Castle CL+	130	127	143	60.2	43	13	5/22	7.4
UI-WSU Huffman	135	134	142	60.2	46	0	5/24	7.1
WA8274CL+			142	60.0	40	0	5/23	7.9
Cara		124	142	57.3	44	3	5/24	7.7
OR2101043	135	131	141	60.7	42	5	5/21	7.2
IDO1708			141	59.1	42	3	5/19	6.9
OR2121086		126	140	60.1	43	0	5/21	7.2
IDO1005			140	60.0	44	0	5/23	7.6
Brundage 96	130	125	138	59.9	43	0	5/21	7.5
WA8232	134	130	137	61.9	43	21	5/23	6.5
Norwest Tandem		126	137	60.6	39	0	5/19	7.4
WB1532			136	60.5	41	25	5/22	8.2
WB-1529	134	127	134	62.3	40	0	5/21	7.9
IDN-14-75044DH			134	60.2	41	13	5/21	6.9
OR2121285			133	60.2	40	0	5/21	7.4
XB1104			133	61.5	40	0	5/16	7.5
WB1376CLP	120	117	129	63.8	41	0	5/21	8.6
ARS Castella			126	58.8	45	59	5/21	7.1
UI Palouse CL+	126	122	126	60.6	40	0	5/22	7.7
ORI2150031 Cl+		116	122	60.4	42	0	5/22	8.2
ORI2150061 Cl+			113	62.3	39	0	5/20	8.6
Average	136	132	142	60.6	42	5	5/21	7.3
LSD (0.05)	9	16	10	1.2	3	17	1.2	0.7
CV (%)	7.7	11.8	5.0	1.4	4.7	226.8	12.2	7.0

*ARS Castella was previously tested as ARS20060123-31C and Purl was WA8234.

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 10. Soft white winter wheat variety performance results at Tensed, 2018.

Variety or Selection*	2017–2018 Crop Year							
	3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Seed Protein (%)
UIL-15-72458DH			121	60.6	36	0	6/4	7.2
UIL-15-72234DH			120	62.2	38	0	6/4	9.0
WA8232	126	124	118	62.6	36	0	6/6	7.7
UI Sparrow	127	119	118	59.1	39	0	6/8	7.1
Rosalyn			118	60.1	36	0	6/6	6.8
Jasper	130	125	117	60.9	36	0	6/6	7.9
LWW14-72916			116	61.1	30	0	6/2	7.4
LCS Sonic			116	61.3	36	0	6/4	7.8
LCS Hulk	130	123	115	62.5	34	0	6/6	7.8
Purl	125	115	114	62.5	37	0	6/2	7.8
OR2121086		112	113	61.5	36	0	6/4	8.4
ARS Castella			113	61.4	36	0	6/5	7.8
LCS Artdeco	126	115	113	60.9	31	0	6/1	8.5
Norwest Duet	127	118	112	61.9	40	0	6/6	7.7
Puma	122	118	111	61.2	40	0	6/6	7.7
Norwest Tandem		110	110	61.5	31	0	6/1	8.3
UIL-09-15702A			110	61.6	37	0	6/4	7.1
SY Raptor			110	60.4	34	0	6/3	7.4
UI/WSU Huffman	126	115	109	61.1	35	0	6/7	7.8
WA8274CL+			109	62.2	35	0	6/7	8.3
UIL-07-28017B	113	112	109	62.2	34	0	6/3	8.8
UIL-14-75044DH			108	60.3	32	0	6/6	7.8
PNW Hailey		117	107	63.5	36	0	6/4	8.0
UI Castle CL+	118	110	106	62.8	37	0	6/6	8.1
WB1529	113	105	106	62.9	33	0	6/4	8.1
OR2101043	122	113	106	61.4	35	0	6/5	8.5
Bruneau	118	106	105	61.4	37	0	6/6	8.3
IDO1708			104	60.9	34	0	6/1	8.9
WB1532			103	62.4	34	0	6/6	10.1
UI Palouse CL+	114	106	103	60.5	34	0	6/6	9.0
LCS Drive	115	106	102	60.8	28	0	5/31	8.9
SY Ovation	117	105	102	61.3	33	0	6/4	8.1
WA8275CL+			101	61.9	34	0	6/5	8.4
OR2121285			101	61.4	32	0	6/4	10.2
WB1604	111	102	101	61.9	32	0	5/31	9.0
WB1783	115	102	100	63.6	36	0	6/3	8.4
Stephens	114	104	100	60.9	35	0	6/3	8.5
XB1104			100	63.3	29	0	5/29	8.4
IDO1005			99	61.6	36	0	6/6	9.4
UI Magic CL+	116	107	99	62.1	33	0	6/2	9.3
ORI2150031 C1+		101	98	61.5	36	0	6/7	8.6
LCS Shark		103	98	60.4	33	0	6/2	10.5
Cara		94	97	59.4	33	0	6/9	8.1
ARSDH08X117-83C			96	62.2	33	0	6/5	10.6
WB1376CLP	104	98	93	63.5	34	0	6/4	9.6
Brundage 96	108	98	92	60.8	33	0	6/4	8.5
ORI2150061 C1+			80	62.4	32	0	6/2	11.0
Average	119	110	106	61.6	34	0	6/4	8.4
LSD (0.05)	8	8	8	0.6	2	--	1.0	1.2
CV (%)	7.8	7.1	4.8	0.7	3.3	--	10.5	9.8

*ARS Castella was previously tested as ARS20060123-31C and Purl was WA8234.

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 11. Soft white winter wheat performance comparison across northern Idaho, 2018.

Variety or Selection	2017–2018 Crop Year*												
	3-Yr Yield	2-Yr Yield	Northern Idaho Average	Bonnors Ferry	Genesee	Moscow	Nezperce	Tammany	Tensed	Test Weight	Plant Height	Lodging	Protein
	bu/A									(lb/bu)	(inches)	(%)	(%)
UIL-15-72458DH			132	117	149	124	119	160	121	59.8	37	0	7.0
Jasper	123	118	126	105	146	126	113	152	117	59.9	37	<1	7.4
UIL-15-72234DH			125	104	150	108	121	145	120	60.8	39	<1	7.1
LCS Sonic		118	124	82	150	120	125	150	116	59.8	38	5	7.2
Rosalyn			123	78	149	125	116	153	118	58.0	36	0	6.6
LCS Artdeco	120	113	122	89	140	109	122	160	113	59.9	33	0	7.5
LCS Hulk	121	116	121	100	135	112	114	151	115	61.6	35	0	7.4
Norwest Duet	121	115	120	94	138	113	113	151	112	60.8	40	1	7.0
UI Sparrow	119	112	120	87	141	119	106	147	118	58.3	40	0	6.8
Bruneau	119	113	119	104	135	116	111	143	105	60.5	38	3	7.2
PNW Hailey		112	118	95	134	114	109	153	107	62.4	37	<1	7.4
OR2121086		109	118	102	134	112	108	140	113	60.7	38	0	7.6
Purl	120	114	118	84	139	115	110	146	114	60.8	36	0	7.4
UIL-09-15702A			118	99	139	105	110	144	110	61.2	37	<1	7.3
Norwest Tandem		106	117	93	144	111	109	137	110	60.6	32	0	7.5
WA8275CL+			117	107	135	110	106	144	101	60.9	35	0	7.7
WA8232	116	112	117	79	135	115	119	137	118	61.4	37	6	7.1
Puma	113	109	117	81	138	113	114	145	111	60.1	40	<1	7.1
UIL-14-75044DH			117	109	135	108	107	134	108	59.3	34	2	7.4
ARSDH08X117-83C			117	103	140	111	108	144	96	61.0	36	2	7.8
OR2101043	118	112	117	98	135	112	108	141	106	60.2	36	<1	7.4
UI Castle CL+	114	109	116	100	134	110	105	143	106	61.2	38	2	7.5
WB1604	111	106	116	98	138	104	109	147	101	60.9	34	0	7.8
SY Ovation	113	108	116	82	133	119	109	151	102	60.7	35	0	7.5
UI/WSU Huffman	117	111	116	101	134	102	108	142	109	60.2	38	0	7.4
IDO1708			115	90	133	108	114	141	104	59.2	35	<1	7.4
LCS Shark		102	115	78	133	111	121	148	98	60.0	34	0	7.9
WB1783	114	108	114	92	141	97	108	148	100	62.8	36	0	7.7
UI Magic CL+	112	109	114	86	141	110	106	144	99	61.3	34	0	7.6
Stephens	111	106	114	88	136	113	99	146	100	60.0	35	1	7.6
WB1529	111	108	114	78	137	108	118	134	106	62.2	34	0	7.7
WA8274CL+			113	92	130	104	103	142	109	60.1	36	0	7.8
ARS Castella			113	86	137	109	109	126	113	59.7	38	10	7.1
Cara		103	113	97	132	113	98	142	97	57.6	35	<1	7.4
IDO1005			113	111	129	97	103	140	99	60.5	37	0	8.1
LCS Drive	109	102	112	84	130	104	111	144	102	59.2	30	0	7.6
WB1532			112	92	131	100	111	136	103	60.9	35	4	8.5
OR2121285			112	95	133	108	102	133	101	60.4	33	0	8.0
XB1104			109	79	137	98	107	133	100	62.4	31	0	8.0
UI Palouse CL+	109	104	108	90	126	110	94	126	103	59.5	34	0	8.0
Brundage 96	109	103	107	77	130	101	107	138	92	59.7	35	0	7.7
WB1376CLP	102	99	105	88	127	96	99	129	93	63.1	35	0	8.8
ORI2150031 Cl+		99	105	70	132	104	102	122	98	60.6	37	0	8.1
ORI2150061 Cl+			92	69	114	84	96	113	80	61.9	33	0	9.4
LWW14-72916			--	--	143	113	122	153	116	60.7	30	3	7.3
UIL-07-28017B	113	113	--	--	143	114	106	146	109	60.8	35	0	7.7
LWW14-74143			--	--	--	130	121	--	--	--	--	--	--
SY Dayton			--	--	--	--	--	151	--	--	--	--	--
SY Raptor			--	98	139	120	115	--	110	--	--	--	--
SY Assure			--	83	137	101	109	--	--	--	--	--	--
Average	115	109	117	92	136	110	110	142	106	60.5	36	0.9	7.6
LSD (0.05)	3	4	6	19	8	10	9	10	8	0.4	1	3	0.3
CV (%)	8.6	9.4	7.8	14.7	4.3	6.4	6	5	4.8	1.1	4.0	554	7.6

*Variety or selection yields in bold were statistically equal to the top yielding variety. Multilocation averages were not calculated for LWW14-74143, SY Dayton, SY Raptor, and SY Assure because these entries were not included at all locations. LWW14-72916 and UIL-07-28017B could not be included in the northern Idaho average yield due to wildlife herbivory at Bonnors Ferry.

Table 12. Hard winter wheat variety performance results at Bonners Ferry, 2018.

Variety or Selection*	Market Class**	2017–2018 Crop Year							
		3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)***	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Seed Protein (%)
LCS Jet	HRW	120	121	107	60.7	25	0	5/26	8.9
XB4542	HRW			104	63.9	33	0	5/25	9.2
LCS Rocket	HRW		123	101	60.8	26	0	5/25	8.7
OR2130118H	HWW		110	100	63.6	27	0	5/30	9.2
XB4325	HRW			97	63.5	31	0	5/23	9.6
AAC Wildfire	HRW			95	63.1	31	0	6/1	9.0
WB4303	HRW		105	93	61.5	25	0	5/23	9.7
OR2130021R	HRW		105	91	62.4	27	0	5/31	9.6
Keldin	HRW	108	117	91	62.5	30	0	5/28	8.9
Irv	HWW	100	102	89	61.3	25	0	5/28	9.5
SY Touchstone	HRW			87	62.2	27	0	5/28	8.9
Norwest 553	HRW	104	105	86	61.7	24	0	5/29	9.8
UI Silver	HWW	101	103	85	62.1	28	50	5/31	9.2
WB4623CLP	HRW		95	83	62.2	28	0	5/26	10.6
OR2120358H	HWW			83	60.2	27	0	5/30	9.8
IDO1706	HWW			81	57.7	28	0	5/30	8.7
IDO1506	HWW		96	78	60.2	20	0	5/25	9.2
WB4311	HRW		109	78	62.3	25	0	5/23	9.8
IDO1607	HRW			77	57.6	28	0	5/30	10.2
Average		107	107	90	61.5	27	3	5/27	9.5
LSD (0.05)		9	8	7	0.9	2	18	2.2	0.4
CV (%)		10.1	7.6	5.8	1.0	4.6	516.4	21.1	3.3

*Irv was previously tested as OR2110679 and WB4311 was XA4104. LWW14-73915 was planted at this site but was not included in the data summary due to significant wildlife damage to both entries.

**HRW = hard red wheat, HWW = hard white wheat

***Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 13. Hard winter wheat variety performance results at Genesee, 2018.

Variety or Selection*	Market Class**	2017–2018 Crop Year							
		3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)***	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Seed Protein (%)
LCS Rocket	HRW		137	158	60.9	34	0	5/29	8.1
LCS Jet	HRW	130	128	147	62.2	33	0	5/29	8.5
LWW14-73915	HRW			144	60.3	35	0	5/28	8.5
XB4542	HRW			141	62.7	42	0	6/1	8.4
Keldin	HRW	120	122	140	63.4	37	0	6/1	8.2
XB4325	HRW			140	63.9	42	0	5/29	8.7
IDO1706	HWW			135	59.9	38	0	6/3	8.7
OR2130118H	HWW		109	131	63.7	33	0	5/31	9.2
OR2120358H	HWW			131	61.7	34	0	6/2	9.2
UI Silver	HWW	110	112	131	61.6	40	0	6/4	8.6
Irv	HWW	110	107	131	61.9	34	0	6/1	9.1
OR2130021R	HRW		115	130	62.5	33	0	6/3	8.9
WB4311	HRW		111	129	62.7	34	0	5/27	9.0
WB4303	HRW		105	128	62.0	34	0	5/27	8.8
SY Touchstone	HRW			128	62.2	32	0	5/31	9.2
Norwest 553	HRW	109	107	128	62.5	31	0	6/1	9.1
IDO1506	HWW		99	121	61.4	26	0	6/2	8.9
IDO1607	HRW			119	60.8	35	0	6/5	9.1
AAC Wildfire	HRW			117	62.8	40	0	6/7	9.2
WB4623CLP	HRW		98	114	62.0	36	0	5/31	10.2
Average		116	113	132	62.0	35	0	6/1	8.9
LSD (0.05)		9	5	8	1.0	1	--	1.4	0.4
CV (%)		4.4	3.5	4.0	1.2	2.8	--	13.3	2.9

*Irv was previously tested as OR2110679 and WB4311 was XA4104.

**HRW = hard red wheat, HWW = hard white wheat

***Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 14. Hard winter wheat variety performance results at Moscow, 2018.

2017–2018 Crop Year							
Variety or Selection*	Market Class**	Seed Yield (bu/A)***	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Seed Protein (%)
LCS Rocket	HRW	133	60.8	32	0	5/30	7.8
LCS Jet	HRW	126	61.6	34	0	5/31	8.0
XB4325	HRW	120	63.9	39	0	5/29	8.8
LWW14-73915	HRW	117	60.5	34	0	5/29	8.6
Keldin	HRW	117	63.1	35	0	5/31	7.7
IDO1706	HWW	110	60.4	33	0	6/3	7.6
Norwest 553	HRW	109	62.3	30	0	6/1	8.7
SY Touchstone	HRW	106	63.0	31	0	6/1	8.9
OR2130021R	HRW	105	62.6	32	0	6/1	9.1
OR2120358H	HWW	104	61.9	33	0	6/2	8.4
XB4542	HRW	104	63.9	41	0	6/1	8.2
OR2130118H	HWW	103	64.2	32	0	5/31	9.0
Irv	HWW	103	62.2	34	0	6/1	8.3
IDO1607	HRW	103	60.4	33	0	6/3	7.8
AAC Wildfire	HRW	103	63.0	39	0	6/10	8.4
UI Silver	HWW	99	62.3	39	0	6/3	7.9
IDO1506	HWW	99	61.3	25	0	6/1	8.4
Mandala	HRW	98	63.3	33	0	6/1	8.8
WB4623CLP	HRW	98	62.7	36	0	5/30	9.1
WB4311	HRW	97	63.4	34	0	5/29	8.6
WB4303	HRW	96	61.8	34	0	5/29	8.3
Rebelde	HRW	92	64.1	32	0	5/29	9.6
Metropolis	HRW	87	63.6	29	0	5/29	8.8
Average		106	62.5	34	0	5/31	8.4
LSD (0.05)		13	0.4	3	--	1.6	0.8
CV (%)		7.6	0.4	6.7	--	32.5	6.5

*Irv was previously tested as OR2110679 and WB4311 was XA4104.

**HRW = hard red wheat, HWW = hard white wheat

***Variety or selection yields in bold were statistically equal to the top yielding variety.

Note: There are no two-year and three-year averages as the data from this location in 2017 was not usable.

Table 15. Hard winter wheat variety performance results at Nezperce, 2018.

Variety or Selection*	Market Class**	2017–2018 Crop Year							
		3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)***	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Seed Protein (%)
LWW14-73915	HRW			123	56.8	37	0	6/4	8.2
LCS Rocket	HRW		108	121	58.3	36	0	6/6	7.6
LCS Jet	HRW	111	108	121	59.1	35	0	6/7	8.0
WB4303	HRW		94	114	58.7	35	0	6/7	8.2
IDO1706	HWW			113	58.1	40	0	6/9	8.0
Irv	HWW	101	96	111	59.1	39	0	6/7	8.3
Keldin	HRW	100	100	109	61.0	39	0	6/8	7.8
XB4542	HRW			108	61.1	44	0	6/9	8.3
Norwest 553	HRW	103	98	107	59.5	33	0	6/7	8.0
XB4325	HRW			106	61.4	41	0	6/7	8.1
OR2130118H	HWW		91	105	62.0	36	0	6/7	8.4
OR2130021R	HRW		97	105	59.9	36	0	6/8	8.6
UI Silver	HWW	99	95	104	58.9	44	0	6/11	7.7
SY Touchstone	HRW			103	61.3	34	0	6/8	8.2
OR2120358H	HWW			102	58.7	37	0	6/10	9.0
IDO1506	HWW		89	100	58.6	29	0	6/10	8.4
WB4311	HRW		94	99	61.4	35	0	6/6	8.0
AAC Wildfire	HRW			98	60.3	45	0	6/13	8.4
WB4623CLP	HRW		89	97	61.8	39	0	6/7	8.5
IDO1607	HRW			96	58.1	35	0	6/11	8.0
Average		103	97	107	59.7	37	0	6/8	8.2
LSD (0.05)		6	8	9	0.8	2	--	2.1	0.6
CV (%)		7.2	8.2	6.0	0.9	2.9	--	30.2	5.5

*Irv was previously tested as OR2110679 and WB4311 was XA4104.

**HRW = hard red wheat, HWW = hard white wheat

***Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 16. Hard winter wheat variety performance results at Tammany (Lewiston), 2018.

Variety or Selection*	Market Class**	2017–2018 Crop Year							
		3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)***	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Seed Protein (%)
LCS Jet	HRW	149	151	167	62.9	42	0	5/17	8.6
LWW14-73915	HRW			153	60.2	43	39	5/16	8.8
LCS Rocket	HRW		143	145	59.9	37	9	5/18	8.3
WB4303	HRW		128	144	61.4	43	4	5/16	8.8
Irv	HWW	128	125	141	61.5	43	0	5/19	8.9
XB4325	HRW			141	63.8	49	14	5/19	8.7
Keldin	HRW	137	131	140	63.1	45	19	5/20	8.0
Norwest 553	HRW	129	126	138	63.0	37	0	5/21	8.9
SY Touchstone	HRW			137	62.5	37	0	5/21	9.0
OR2120358H	HWW			135	62.6	44	0	5/21	9.2
OR2130021R	HRW		127	134	62.6	41	0	5/21	8.9
IDO1706	HWW			133	58.9	45	9	5/23	9.0
OR2130118H	HWW		121	132	64.0	40	0	5/21	8.7
IDO1607	HRW			126	61.5	43	28	5/22	8.3
WB4311	HRW		120	125	62.9	41	14	5/16	9.0
UI Silver	HWW	118	117	124	61.8	47	39	5/23	8.2
XB4542	HRW			124	62.7	49	40	5/21	8.6
IDO1506	HWW		113	117	61.0	30	0	5/21	9.4
AAC Wildfire	HRW			116	63.0	48	1	5/25	8.6
WB4623CLP	HRW		97	100	63.7	44	53	5/21	10.6
Average		132	125	134	62.1	42	13	5/20	8.8
LSD (0.05)		3	16	13	1.0	2	22	1.0	0.8
CV (%)		1.3	10.3	7.0	1.1	3.5	114.2	11.8	6.5

*Irv was previously tested as OR2110679 and WB4311 was XA4104.

**HRW = hard red wheat, HWW = hard white wheat

***Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 17. Hard winter wheat variety performance results at Tensed, 2018.

Variety or Selection*	Market Class**	2017–2018 Crop Year							
		3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)***	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Protein (%)
LCS Rocket	HRW		127	117	61.3	33	0	6/1	8.5
LCS Jet	HRW	134	122	110	62.4	34	0	5/31	8.7
XB4325	HRW			108	63.7	41	0	6/3	9.4
XB4542	HRW			107	63.9	42	0	6/3	9.3
IDO1706	HWW			102	61.2	36	0	6/4	9.2
WB4311	HRW		104	102	63.7	39	0	5/31	9.1
Irv	HWW	110	100	98	62.2	35	0	6/3	9.6
LWW14-73915	HRW			96	60.7	35	0	5/29	9.2
OR2120358H	HWW			95	61.6	34	0	6/4	10.2
AAC Wildfire	HRW			94	62.9	40	0	6/7	9.4
IDO1607	HRW			93	61.6	34	0	6/6	9.3
OR2130021R	HRW		106	93	62.3	33	0	6/3	9.6
UI Silver	HWW	115	107	93	61.4	41	0	6/6	9.2
Keldin	HRW	117	107	92	62.4	32	0	5/29	9.4
OR2130118H	HWW		101	90	63.5	34	0	6/2	9.7
SY Touchstone	HRW			89	62.3	37	0	6/2	9.7
Mandala	HRW			88	63.1	39	0	6/3	10.2
WB4623CLP	HRW		93	85	63.0	32	0	5/29	10.2
IDO1506	HWW		88	83	61.5	26	0	6/4	9.6
Norwest 553	HRW	113	101	82	63.1	29	0	6/4	10.3
Rebelde	HRW			82	63.1	29	0	6/2	10.9
Metropolis	HRW			81	63.3	31	0	5/29	10.9
WB4303	HRW		83	79	62.3	36	0	6/2	11.0
Average		117	103	94	62.4	35	0	6/2	9.5
LSD (0.05)		8	8	7	1.0	2	--	1.1	0.5
CV (%)		8.0	7.3	5.4	1.1	3.3	--	14.5	3.4

*Irv was previously tested as OR2110679 and WB4311 was XA4104.

**HRW = hard red wheat, HWW = hard white wheat

***Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 18. Hard winter wheat variety performance comparison across northern Idaho, 2018.

Variety or Selection**	Market Class	3-Yr Yield	2-Yr Yield	2017–2018 Crop Year*										
				Northern Idaho Average*	Bonnors Ferry	Genesee	Moscow	Nezperce	Tammany	Tensed	Test Weight	Plant Height	Lodging	Protein
				bu/A							(lb/bu)	(inches)	(%)	(%)
LCS Jet	HRW	121	126	129	107	147	126	121	167	110	61.5	34	0	8.4
LCS Rocket	HRW		127	129	101	158	133	121	145	117	60.3	33	1	8.2
XB4325	HRW			119	97	140	120	106	141	108	63.4	40	2	8.9
Keldin	HRW	110	115	115	91	140	117	109	140	92	62.5	36	3	8.3
XB4542	HRW			115	104	141	104	108	124	107	63.0	42	7	8.7
IDO1706	HWW			112	81	135	110	113	133	102	59.3	36	1	8.5
Irv	HWW	104		112	89	131	103	111	141	98	61.4	35	0	8.9
OR2130118H	HWW		107	110	100	131	103	105	132	90	63.5	33	0	9.0
OR2130021R	HRW		110	110	91	130	105	105	134	93	62.1	34	0	9.1
WB4303	HRW		103	109	93	128	96	114	144	79	61.3	34	<1	9.1
OR2120358H	HWW			108	83	131	104	102	135	95	61.1	35	0	9.3
SY Touchstone	HRW			108	87	128	106	103	137	89	62.2	33	0	9.0
Norwest 553	HRW	106	107	108	86	128	109	107	138	82	62.0	31	0	9.1
UI Silver	HWW	103	107	106	85	131	99	104	124	93	61.3	40	15	8.4
WB4311	HRW		108	105	78	129	97	99	125	102	62.7	35	2	8.9
AAC Wildfire	HRW			104	95	117	103	98	116	94	62.5	40	<1	8.8
IDO1607	HRW			102	77	119	103	96	126	93	60.0	35	5	8.8
IDO1506	HWW		97	100	78	121	99	100	117	83	60.6	26	0	9.0
WB4623CLP	HRW		94	96	83	114	98	97	100	85	62.6	36	9	9.9
LWW14-73915	HRW			--	--	144	117	123	153	96	59.7	35	6	9.0
Rebelde	HRW			--	--	--	92	--	--	82	--	--	--	--
Mandala	HRW			--	--	--	98	--	--	88	--	--	--	--
Metropolis	HRW			--	--	--	87	--	--	81	--	--	--	--
Average		109	109	110	90	132	106	107	134	94	61.7	35	2.5	8.9
LSD (0.05)		3	4	5	7	8	13	9	13	7	0.4	1	5.3	0.3
CV (%)		8.6	7.9	7.2	5.8	4	7.6	6	7	5.4	1.1	4.3	327	5.2

*Variety or selection yields in bold were statistically equal to the top yielding variety. Multilocation averages were not calculated for Rebelde, Mandala, and Metropolis because these entries were not included at all locations. LWW14-73915 could not be included in the northern Idaho average yield due to wildlife herbivory at Bonnors Ferry.

**Irv was previously tested as OR2110679 and WB4311 was XA4104.

Table 19. Soft white spring wheat variety performance results at Bonners Ferry, 2018.

Variety or Selection*	2018 Crop Year							
	3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Protein (%)
WB-6341	60	45	45	60.5	24	0	6/26	8.8
Tekoa	57	42	43	61.6	25	0	6/26	9.0
Diva	57	39	42	61.1	26	3	6/27	9.5
14-FAC-2043			42	59.8	24	0	6/27	9.0
WA8277		38	41	62.5	24	3	6/25	9.7
Seahawk	64	42	41	59.7	24	0	7/3	9.0
Ryan	56	39	40	61.0	25	0	6/25	9.8
UI Stone	44	34	39	61.9	25	10	6/25	8.8
14-SSW-1059		43	39	58.1	23	0	7/4	10.0
WB-6121	51	35	37	61.8	24	0	6/25	10.7
WA8304 CL+			36	60.8	25	0	6/25	9.7
WB-1035CL+			36	61.8	23	0	6/25	10.7
Babe	43	34	32	61.1	25	4	6/26	9.1
Melba ^c	49	32	32	61.9	23	5	6/27	9.1
WA8296 CL+			31	60.4	25	8	6/26	10.1
IDO1401S			31	60.9	23	9	6/25	9.3
JD ^c	52	34	30	62.5	24	10	6/26	9.7
IDO1405S		31	27	59.5	25	15	6/28	10.9
Alturas	39	28	25	59.7	22	30	6/30	10.1
IDO1403S		22	14	59.2	20	18	6/28	10.9
Average	52	36	35	60.8	24	6	6/27	9.7
LSD (0.05)	5	4	4	1.4	1	6	1.1	0.9
CV (%)	10.6	10.5	9.0	1.6	3.1	69.1	20.8	6.7

*c = spring club

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 20. Soft white spring wheat variety performance results at Craigmont/Cottonwood, 2018.

Variety or Selection*	2018 Crop Year							
	3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Protein (%)
Ryan	69	58	60	55.9	35	0	6/26	8.7
Tekoa	69	55	57	58.2	33	0	7/2	9.1
WA8277		56	56	58.2	38	0	6/27	9.5
WA8304 CL+			55	57.7	34	0	7/1	9.1
WA8296 CL+			53	57.5	35	0	7/1	9.3
WB-6341	59	49	51	54.9	35	0	6/28	9.2
WB-6121	63		50	56.1	34	0	6/26	10.3
Alturas	54	46	50	56.3	32	0	7/1	9.2
14-FAC-2043			50	55.7	33	0	7/6	10.3
Seahawk	67	50	50	57.8	35	0	7/5	10.0
14-SSW-1059		52	48	54.2	34	0	7/9	11.7
JD ^c	60	48	48	57.4	38	0	7/1	9.7
Babe	62	49	48	55.3	35	0	7/1	9.5
WB-1035CL+			48	55.1	35	0	6/29	11.0
UI Stone	62	49	47	53.3	34	0	6/28	10.3
IDO1403S		47	47	55.3	31	0	7/1	10.2
IDO1401S			47	55.4	35	0	6/27	9.8
Diva	59	47	45	54.6	36	0	7/1	9.9
Melba ^c	63	47	45	56.4	33	0	7/4	10.3
IDO1405S		49	44	52.9	35	0	6/29	10.9
SY Saltese			41	54.3	35	0	6/29	9.9
Average	62	50	49	55.8	35	0	6/30	9.9
LSD (0.05)	6	ns	8	1.8	3	--	1.1	0.8
CV (%)	12.1	16.6	11.2	2.3	5.3	--	12.5	5.9

*c = spring club

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 21. Soft white spring wheat variety performance results at Genesee, 2018.

Variety or Selection*	2018 Crop Year							
	3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Protein (%)
Tekoa	78	82	95	61.7	36	0	7/2	7.7
Ryan	78	80	89	58.6	34	0	6/25	7.6
Seahawk	78	72	85	59.8	38	0	7/4	8.0
14-SSW-1059		72	85	57.2	38	0	7/6	9.1
Diva	75	73	84	59.5	39	0	6/30	7.6
Babe	66	72	82	59.8	36	0	6/30	8.1
WB-6121	74	72	81	59.8	33	0	6/25	8.8
IDO1405S		70	81	58.4	35	0	6/27	8.0
14-FAC-2043			80	58.0	36	0	7/2	8.3
WA8277		75	80	61.7	40	0	6/25	7.7
JD ^c	73	70	79	61.4	40	0	7/1	8.0
WB-6341	68	73	78	58.9	34	0	6/27	7.9
Melba ^c	74	69	77	60.3	32	0	7/3	7.4
WA8304 CL+			76	59.7	37	0	6/28	8.1
WA8296 CL+			73	58.7	35	0	7/1	8.2
SY Saltese			71	60.8	36	0	6/28	7.9
IDO1401S			71	58.9	34	0	6/26	7.4
WB-1035CL+			68	58.9	34	0	6/27	9.5
IDO1403S		60	67	59.7	33	0	7/1	8.8
UI Stone	62	64	66	58.6	34	0	6/28	7.6
Alturas	58	59	64	57.7	35	0	6/30	8.5
Average	71	71	78	59.4	36	0	6/29	8.1
LSD (0.05)	5	6	7	1.0	2	--	1.2	0.4
CV (%)	7.9	8.1	6.5	1.2	3.1	--	16.0	3.7

*c = spring club

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 22. Soft white spring wheat variety performance results at Moscow, 2018.

Variety or Selection*	2018 Crop Year							
	3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Protein (%)
Ryan	62	63	79	56.0	34	0	6/24	6.3
Tekoa	61	57	77	57.5	36	0	6/28	6.3
WA8277		61	76	60.1	37	0	6/22	7.1
Seahawk	63	58	75	57.7	35	0	7/1	6.6
WA8304 CL+			74	57.6	36	0	6/26	6.7
WB-6121	60	58	73	59.0	32	0	6/23	7.3
Diva	59	59	72	57.7	38	0	6/26	6.6
14-FAC-2043			72	54.7	36	0	6/28	7.1
WA8296 CL+			69	57.1	36	0	6/26	6.9
14-SSW-1059		51	68	53.3	36	0	7/3	8.1
IDO1405S		54	67	55.4	35	0	6/25	6.7
WB-6341	52	54	65	55.7	33	0	6/24	6.5
JD ^c	58	56	64	59.0	38	0	6/26	7.2
Melba ^c	54	49	64	57.7	32	0	6/28	6.4
UI Stone	47	48	57	55.2	35	0	6/24	6.6
Babe	43	45	55	55.7	35	0	6/27	6.4
IDO1401S			53	55.6	32	0	6/24	5.7
WB-1035CL+			53	56.2	34	0	6/24	7.9
SY Saltese			50	58.0	35	0	6/26	7.0
IDO1403S		38	49	56.1	30	0	7/1	7.8
Alturas	39	37	44	55.5	33	0	6/29	7.6
Average	54	53	65	56.7	35	0	6/26	6.9
LSD (0.05)	6	6	6	0.9	2	--	1.4	0.5
CV (%)	11.7	9.6	6.6	1.1	3.6	--	15.1	5.0

*c = spring club

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 23. Soft white spring wheat variety performance comparison across northern Idaho, 2018.

Variety or Selection*	2018 Crop Year										
	3-Yr Yield	2-Yr Yield	Northern Idaho Average**	Bonnors Ferry	Craigmont	Genesee	Moscow	Test Weight	Plant Height	Lodging	Protein
	bu/A							(lb/bu)	(inches)	(%)	(%)
Ryan	67	61	67	40	60	89	79	57.9	32	0	8.1
Tekoa	68	61	66	43	57	95	77	59.6	32	0	8.1
WA8277		58	63	41	56	80	76	60.6	34	1	8.5
Seahawk	70	57	63	41	50	85	75	58.7	33	0	8.4
14-FAC-2043			61	42	50	80	72	57.1	32	0	8.7
Diva	65	57	61	42	45	84	72	58.3	35	1	8.4
WA8304 CL+			60	36	55	76	74	58.9	33	0	8.4
14-SSW-1059		57	60	39	48	85	68	55.7	33	0	9.7
WB-6341	60	56	60	45	51	78	65	57.5	31	0	8.1
WB-6121	64	55	59	37	50	81	73	59.2	30	0	9.3
WA8296 CL+			56	31	53	73	69	58.4	33	2	8.6
JD ^c	62	53	55	30	48	79	64	60.1	35	3	8.6
IDO1405S		52	55	27	44	81	67	56.5	33	4	9.1
Melba ^c	61	50	54	32	45	77	64	59.1	30	1	8.3
Babe	54	51	54	32	48	82	55	58.0	33	1	8.3
UI Stone	55	51	52	39	47	66	57	57.2	32	3	8.3
WB-1035CL+			51	36	48	68	53	58.0	32	0	9.8
IDO1401S			50	31	47	71	53	57.7	31	2	8.1
Alturas	48	43	44	25	50	64	44	57.3	30	8	8.8
IDO1403S		43	44	14	47	67	49	57.6	29	4	9.4
SY Saltese			--	--	41	71	50	--	--	--	--
Average	61	53	57	35	49	78	65	58.2	32	1	8.6
LSD (0.05)	3	4	5	4	8	7	6	0.8	1	1	0.4
CV (%)	11.4	12.8	13.0	9.0	11.2	6.5	6.6	2.1	4.6	136.8	7.1

*c = spring club

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 24. Hard spring wheat variety performance results at Bonners Ferry, 2018.

Variety or Selection	Market Class*	2018 Crop Year							
		3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Protein (%)
NS Presser CLP	HRS			39	59.8	25	0	6/30	11.2
WA8280 CL+	HRS			37	62.0	25	0	6/27	11.7
WA8282	HRS			37	62.3	24	0	6/26	10.7
Alum	HRS	48	37	37	62.0	25	0	6/27	11.0
WB-Hartline	HWS	52	37	35	60.6	25	0	6/26	11.0
Dayn	HWS	56	36	34	60.8	24	3	6/25	10.4
Glee	HRS	54	35	34	61.8	26	0	6/25	11.3
IDO1603S	HRS		33	34	61.8	24	0	6/26	11.9
Jefferson	HRS	48	33	33	61.5	24	0	6/26	11.5
IDO1602S	HWS		34	32	61.4	23	0	6/24	11.2
WB7202CLP	HWS			30	61.7	21	0	6/24	11.5
UI Platinum	HWS	49	29	28	62.0	22	0	6/24	11.1
LCS Luna	HRS			28	61.7	22	1	6/27	11.8
12SB0197	HRS		35	28	59.3	23	10	6/28	12.2
UI Winchester	HRS	45	30	28	61.3	23	6	6/25	12.0
LCS Iron	HRS	51	31	27	59.2	21	5	7/4	11.7
IDO1604S	HWS			26	60.3	21	0	6/24	12.4
WB9717	HRS			25	59.7	20	65	7/5	11.8
WB9518	HRS	47	29	24	58.3	22	15	7/1	13.6
WB9350	HRS		24	24	59.0	20	5	6/27	14.1
WB9668	HRS	41	24	23	59.2	23	0	6/25	14.5
WB9662	HRS		23	15	55.8	21	63	7/5	14.9
12SB0224	HWS			15	54.9	19	63	6/30	12.7
Average		49	31	29	60.3	23	10	6/27	12.0
LSD (0.05)		3	3	3	1.4	1	7	1.1	0.5
CV (%)		7.5	7.9	7.8	1.6	3.7	46.1	16.1	2.7

*HRS = hard red spring, HWS = hard white spring

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 25. Hard spring wheat variety performance results at Craigmont/Cottonwood, 2018.

Variety or Selection	Market Class*	2018 Crop Year							
		3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Protein (%)
WB7202CLP	HWS			61	56.4	29	0	6/25	11.9
12SB0197	HRS		54	61	53.2	32	0	7/6	11.8
Glee	HRS	63	52	60	56.6	36	0	6/27	11.9
NS Presser CLP	HRS			57	54.0	36	0	7/3	12.1
WB-Hartline	HWS	63	51	57	54.5	34	0	6/29	12.3
WA8282	HRS			57	55.8	36	0	6/29	12.2
WB9350	HRS		51	55	54.7	25	0	6/29	12.4
Jefferson	HRS	57	48	54	56.4	34	0	6/29	12.5
LCS Luna	HRS			54	54.9	30	0	7/2	12.4
IDO1603S	HRS		48	53	56.3	31	0	6/28	12.4
Alum	HRS	59	48	53	55.5	36	0	7/1	12.3
UI Platinum	HWS	63	50	52	56.3	30	0	6/25	12.0
SY Selway	HRS			52	55.0	35	0	6/30	13.2
SY Coho	HRS			52	52.6	32	0	7/2	13.2
IDO1604S	HWS			52	55.2	32	0	6/25	12.6
WA8280 CL+	HRS			51	56.6	35	0	7/1	12.9
SY Renegade	HRS			51	53.1	34	0	7/2	12.8
LCS Iron	HRS	65	50	51	53.2	33	0	7/4	12.1
IDO1602S	HWS		50	51	54.6	34	0	6/28	12.5
12SB0224	HWS			51	52.7	30	0	7/7	12.6
WB9717	HRS			50	57.7	31	0	7/4	13.0
WB9668	HRS	59	47	49	56.7	30	0	6/26	13.7
UI Winchester	HRS	59	46	48	54.2	33	0	6/28	12.6
WB9518	HRS	57	45	48	54.8	31	0	6/30	13.1
WB9662	HRS		42	47	55.4	31	0	7/3	13.5
Dayn	HWS	62	47	47	54.2	33	0	6/27	12.7
SY Gunsight	HRS			45	52.9	30	0	6/30	13.2
Average		61	49	52	54.9	32	0	6/30	12.6
LSD (0.05)		ns	ns	8	1.9	2	--	1.5	0.8
CV (%)		11.9	14.3	10.6	2.5	4.1	--	17.5	4.4

*HRS = hard red spring, HWS = hard white spring

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 26. Hard spring wheat variety performance results at Genesee, 2018.

Variety or Selection	Market Class*	2018 Crop Year							
		3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Protein (%)
SY Renegade	HRS			77	56.7	34	0	6/29	11.7
WB9350	HRS		63	76	56.5	23	0	6/28	10.9
WB-Hartline	HWS	68	67	73	55.3	35	0	6/29	11.0
IDO1603S	HRS		65	73	57.3	30	0	6/26	11.4
WB9668	HRS	69	66	72	60.6	29	0	6/26	12.1
IDO1602S	HWS		66	72	58.7	32	0	6/26	11.1
SY Selway	HRS			72	56.7	37	0	6/29	11.6
UI Platinum	HWS	69	66	72	57.6	28	0	6/25	10.9
WB7202CLP	HWS			70	57.4	28	0	6/26	11.1
Jefferson	HRS	64	66	70	58.1	35	0	6/29	11.3
12SB0197	HRS		66	70	54.9	30	0	7/5	11.2
NS Presser CLP	HRS			70	55.9	37	0	7/3	11.2
WA8282	HRS			70	57.0	34	0	6/28	11.6
12SB0224	HWS			69	56.6	29	0	7/7	10.9
WA8280 CL+	HRS			69	59.0	34	0	6/30	11.2
LCS Iron	HRS	73	65	67	57.1	31	0	7/4	11.3
IDO1604S	HWS			67	57.9	30	0	6/25	11.2
WB9518	HRS	70		66	57.9	29	0	7/1	11.9
LCS Luna	HRS			66	57.0	28	0	7/3	11.2
SY Gunsight	HRS			65	57.0	29	0	7/1	11.0
WB9717	HRS			65	60.8	31	0	7/5	11.3
Glee	HRS	68	66	65	56.4	35	0	6/25	11.4
WB9662	HRS		59	62	58.7	31	0	7/6	11.8
Dayn	HWS	69	61	62	56.6	32	0	6/28	11.1
UI Winchester	HRS	61	59	62	56.3	32	0	6/27	11.4
Alum	HRS	63	59	62	57.1	36	0	6/30	11.7
SY Coho	HRS			57	53.4	30	0	7/4	12.5
Average		67	64	68	57.2	31	0	6/30	11.4
LSD (0.05)		4	5	6	1.3	1	--	1.5	0.5
CV (%)		6.5	7.3	6.1	1.6	3.0	--	18.3	2.9

*HRS = hard red spring, HWS = hard white spring

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 27. Hard spring wheat variety performance results at Moscow, 2018.

Variety or Selection	Market Class*	2018 Crop Year							
		3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Lodging (%)	Heading Date	Seed Protein (%)
WB7202CLP	HWS			79	58.4	30	0	6/21	8.7
UI Platinum	HWS	59	61	77	59.8	31	0	6/21	8.8
WA8282	HRS			76	54.7	38	0	6/25	10.8
Glee	HRS	58	60	73	58.9	37	0	6/24	9.0
WB-Hartline	HWS	59	58	73	56.3	36	0	6/26	9.0
SY Selway	HRS			72	57.8	36	0	6/24	9.0
SY Renegade	HRS			72	57.5	34	0	6/26	9.0
Dayn	HWS	60	58	69	58.7	34	0	6/22	9.1
LCS Luna	HRS			69	57.2	31	0	6/28	10.1
IDO1603S	HRS		55	69	58.6	33	0	6/23	10.0
IDO1602S	HWS		55	68	59.3	34	0	6/22	9.4
WA8280 CL+	HRS			67	57.9	38	0	6/27	10.2
Jefferson	HRS	52	52	67	58.4	36	0	6/24	9.3
12SB0197	HRS		56	66	53.9	32	0	7/1	9.6
IDO1604S	HWS			66	59.0	31	0	6/21	9.2
WB9668	HRS	52	51	65	59.3	30	0	6/22	10.9
WB9350	HRS		51	65	56.7	26	0	6/25	9.1
Alum	HRS	53	52	65	56.7	36	0	6/26	10.2
LCS Iron	HRS	55	53	64	54.3	34	0	7/1	9.9
SY Gunsight	HRS			63	56.5	32	0	6/26	9.1
SY Coho	HRS			62	53.1	33	0	6/30	10.2
WB9717	HRS			60	59.9	32	0	7/3	8.9
UI Winchester	HRS	48	48	58	57.9	33	0	6/25	9.7
WB9518	HRS	51	47	55	55.6	32	0	7/2	11.1
12SB0224	HWS			51	53.2	32	0	7/6	10.1
NS Presser CLP	HRS			48	49.3	38	0	6/28	10.6
WB9662	HRS		37	44	56.1	31	0	7/8	11.7
Average		55	53	65	56.8	33	0	6/26	9.7
LSD (0.05)		4	5	7	2.7	2	--	1.2	1.2
CV (%)		9.0	9.6	8.0	3.4	3.6	--	13.1	8.4

*HRS = hard red spring, HWS = hard white spring

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 28. Hard spring wheat variety performance comparison across northern Idaho, 2018.

2018 Crop Year												
Variety or Selection	Market Class*	3-Yr Yield	2-Yr Yield	Northern Idaho Avg.**	Bonners Ferry	Craigmont	Genesee	Moscow	Test Weight	Plant Height	Lodging	Protein
WB7202CLP	HWS			60	30	61	70	79	58.5	27	0	10.8
WB-Hartline	HWS	61	54	60	35	57	73	73	56.7	32	0	10.8
WA8282	HRS			59	37	57	70	76	57.8	33	0	11.4
Glee	HRS	62	54	58	34	60	65	73	58.4	33	0	10.9
UI Platinum	HWS	61	53	57	28	52	72	77	58.9	28	0	10.7
IDO1603S	HRS		51	57	34	53	73	69	58.5	29	0	11.4
12SB0197	HRS		54	56	28	61	70	66	55.3	29	3	11.2
WA8280 CL+	HRS			56	37	51	69	67	58.9	33	0	11.5
Jefferson	HRS	56	51	56	33	54	70	67	58.4	32	0	11.1
IDO1602S	HWS		52	56	32	51	72	68	58.5	31	0	11.0
WB9350	HRS		48	55	24	55	76	65	56.7	23	1	11.6
LCS Luna	HRS			54	28	54	66	69	57.7	28	0	11.4
Alum	HRS	56	49	54	37	53	62	65	57.8	33	0	11.3
NS Presser CLP	HRS			54	39	57	70	48	54.8	34	0	11.3
Dayn	HWS	63	52	53	34	47	62	69	57.6	31	1	10.8
IDO1604S	HWS			53	26	52	67	66	58.1	28	0	11.3
LCS Iron	HRS	62	51	52	27	51	67	64	55.9	30	1	11.2
WB9668	HRS	55	47	51	23	49	72	65	59.0	28	0	12.8
WB9717	HRS			50	25	50	65	60	59.5	28	16	11.2
UI Winchester	HRS	54	46	49	28	48	62	58	57.4	30	2	11.4
WB9518	HRS	56	46	48	24	48	66	55	56.8	28	4	12.4
12SB0224	HWS			46	15	51	69	51	54.3	28	16	11.6
WB9662	HRS		41	42	15	47	62	44	56.5	28	16	12.9
SY Coho	HRS			--	--	52	57	62	--	--	--	--
SY Gunsight	HRS			--	--	45	65	63	--	--	--	--
SY Renegade	HRS			--	--	51	77	72	--	--	--	--
SY Selway	HRS			--	--	52	72	72	--	--	--	--
Average		59	50	54	29	52	68	65	57.5	30	3	11.4
LSD (0.05)		2	3	5	3	8	6	7	1.1	1	2	0.5
CV (%)		9.6	11.7	12.2	7.8	10.6	6.1	8.0	2.8	4.2	95.1	6.7

*HRS = hard red spring, HWS = hard white spring

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 29. Winter barley variety performance results at Bonners Ferry, 2018.

2017–2018 Crop Year												
Variety or Selection*	Class	3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Plumps (%)		Thins (%)	Lodging (%)	Heading Date	Protein (%)
							(>6/64")	(>5.5/64")				
2-row												
06ARS633-3	Malt		132	128	51.8	25	84	10	6	0	5/26	9.3
KWS Scala	Malt			124	51.5	24	99	1	0	0	5/23	10.8
10.0777	Malt	133	140	122	51.5	24	97	2	1	0	5/25	9.3
05ARS561-208	Malt	125	127	117	50.1	25	93	5	2	0	6/1	7.6
Wintmalt	Malt	128	138	116	52.4	27	99	1	0	0	5/26	9.8
02Ab671	Malt			105	52.6	29	97	2	1	0	5/30	9.1
06ARS617-25	Malt		109	105	53.5	25	94	4	2	0	5/24	10.0
KWS Somerset	Malt			103	52.3	26	99	1	1	0	5/25	10.2
Charles	Malt	111	109	102	50.6	22	95	4	2	0	5/26	9.6
DH130910	Malt			102	53.1	24	98	1	1	0	5/22	10.8
Endeavor	Malt	98	104	92	53.8	28	95	3	1	0	5/26	11.2
07ARS518-13	Malt			--	53.2	28	95	3	1	0	5/25	11.0
LCS Calypso	Malt			--	51.9	27	96	2	1	0	5/22	12.7
6-row												
Eight-Twelve	Feed	132	144	122	51.6	24	85	11	4	0	5/26	8.7
Sunstar Pride	Feed	149	148	115	51.9	25	80	14	5	0	6/1	7.9
Buck	Malt	69	76	62	62.9	24	65	26	9	0	5/29	11.1
Average		118	122	104	52.8	25	92	6	2	0	5/26	--
LSD (0.05)		14	13	22	1.5	2	3	3	1	--	2.1	--
CV (%)		13.8	10.7	13.4	1.9	6.4	2.4	32.3	24.8	--	29.6	--

*Buck is a hulless variety. The two-row hulless selection 05ARS748-270 was included at this site, but no data is available due to poor establishment and significant wildlife damage.

**Variety or selection yields in bold were statistically equal to the top yielding variety. Yield is not reported for 07ARS518-13 and LCS Calypso as these two entries were significantly damaged by wildlife.

Table 30. Spring barley (feed and food) variety performance results at Bonners Ferry, 2018.

Variety or Selection	2018 Crop Year										
	3-Yr Average	2-Yr Average	Seed Yield	Test Weight	Plant Height	Plumps (%)		Thins	Lodging	Heading Date	Protein
	(bu/A)	(bu/A)	(bu/A)**	(lb/bu)	(in)	(>6/64")	(>5.5/64")	(%)	(%)		(%)
Feed											
Tetonia	105	78	76	51.3	22	89	10	2	0	7/2	10.0
Lyon	97	75	75	49.8	23	94	5	1	10	6/30	9.8
Oreana	103	75	75	51.9	22	94	5	1	5	7/2	10.4
Camas	100	76	74	52.4	24	88	10	2	3	6/30	10.1
LCS Vespa	102	73	73	51.3	23	97	3	1	0	7/1	10.7
Altorado	98	69	69	50.2	23	77	21	3	10	7/2	10.1
Champion	96	67	65	52.5	24	89	9	2	8	6/30	9.5
Lenetah	98	67	64	51.0	23	89	10	2	10	7/1	9.2
Muir			63	50.7	22	95	4	1	20	7/2	10.0
Survivor			60	51.7	23	94	5	1	13	7/2	11.0
Claymore	99	65	59	50.1	25	88	10	2	20	7/4	9.6
Food											
Kardia	96	63	66	49.3	24	89	9	2	0	7/4	12.0
Salute	84	60	61	50.0	23	96	3	1	4	6/30	11.8
Havener*			60	60.4	23	60	33	7	0	7/1	12.5
Meg's Song*			51	57.9	24	82	15	3	13	7/3	13.4
Goldenhart*	69	50	51	56.7	22	87	10	3	8	7/4	13.8
BB28*			40	55.2	20	54	37	9	3	6/25	12.5
Transit*	54	34	38	55.8	25	63	31	5	0	7/3	14.9
Average	92	65	62	52.7	23	85	13	3	7	7/1	11.2
LSD (0.05)	5	5	6	1.2	ns	4	3	1	7	1.0	--
CV (%)	5.7	7.3	7.1	1.6	7.6	3.6	18.5	32.4	69.7	8.1	--

*Entries are hulless.

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 31. Spring barley (malt) variety performance results at Bonners Ferry, 2018.

Variety or Selection	2018 Crop Year										
	3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)*	Test Weight (lb/bu)	Plant Height (in)	Plumps (%)		Thins (%)	Lodging (%)	Heading Date	Protein (%)
						(>6/64")	(>5.5/64")				
13WA-149.2			70	51.1	21	96	3	1	0	7/1	10.3
LCS Opera			70	50.9	21	96	3	1	0	7/1	9.7
08ARS116-91			69	50.2	21	92	7	1	0	6/27	9.7
13WA-135.26			68	51.6	20	95	4	1	0	6/29	10.5
11WA-107.58			67	52.3	22	95	4	1	3	7/1	10.2
13WA-101.2			66	51.3	21	96	4	1	0	7/2	10.6
CDC Fraser			64	48.5	22	90	8	2	0	7/4	9.3
AAC Connect			63	50.1	22	87	11	2	5	7/1	10.1
CDC-Copeland	91	64	62	50.1	23	92	7	1	10	7/5	9.4
GemCraft		63	59	50.3	22	85	13	2	3	7/1	9.5
2Ab08-X05M010-82	92	61	59	50.5	21	90	8	2	18	7/3	10.6
13WA-135.3			59	50.4	22	93	5	1	13	7/2	11.3
LCS Odyssey	97	61	58	50.1	20	96	3	1	10	7/1	10.2
11WA-107.43			58	51.4	21	93	6	1	10	7/1	10.4
AD120341			56	51.4	17	89	9	2	5	6/29	11.2
CDC Bow			56	49.5	24	91	7	2	10	7/4	9.9
LCS Sienna			56	51.3	21	96	3	1	3	7/2	9.8
LCS Genie	92	58	54	51.1	19	96	3	1	5	7/2	10.2
DH120058			53	51.6	18	87	11	2	20	7/3	11.0
DH120285			48	49.8	17	92	7	2	0	6/29	12.1
Average	93	61	61	50.7	21	92	6	1	6	7/1	10.3
LSD (0.05)	ns	ns	5	1.3	2	2	2	1	6	0.9	--
CV (%)	8.4	10.0	5.8	1.9	6.4	1.9	24.0	36.4	69.1	7.1	--

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 32. Spring barley (feed and food) variety performance results at Craigmont/Cottonwood, 2018.

Variety or Selection	2018 Crop Year										
	3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Plumps (%)		Thins (%)	Lodging (%)	Heading Date	Protein (%)
						(>6/64")	(>5.5/64")				
Feed											
Champion	105	93	90	53.1	40	55	35	10	0	6/28	8.5
Tetonia	99	88	88	51.7	39	56	32	12	0	7/7	8.8
Oreana	104	84	82	50.0	31	45	35	20	0	7/6	9.0
LCS Vespa	97	83	80	50.1	33	59	29	12	0	7/8	8.9
Lenetah	98	87	78	52.1	38	71	22	7	5	7/5	8.7
Altorado	98	85	77	50.2	36	25	41	34	0	7/1	8.6
Survivor			76	51.2	40	71	22	7	0	7/5	9.8
Camas	92	80	76	50.8	40	63	27	10	0	6/29	9.0
Lyon	96	82	75	48.9	35	47	34	19	0	7/4	9.3
Claymore	95	78	72	48.8	37	49	36	15	0	7/6	8.9
Muir			66	48.2	37	48	34	18	0	7/5	10.0
Food											
Salute	87	82	78	50.7	39	72	22	6	0	6/30	10.5
Meg's Song*			66	55.1	38	39	40	21	0	6/30	10.9
Kardia	80	62	62	49.0	37	56	30	14	0	7/7	10.5
Havener*			58	54.1	38	17	34	49	0	7/6	10.7
Goldenhart*	72	62	54	48.7	39	41	38	21	3	7/3	10.9
Transit*	53	42	43	54.0	39	31	40	29	0	7/7	13.3
Average	90	77	72	50.9	37	49	32	18	<1	7/4	9.8
LSD (0.05)	7	9	11	1.8	3	15	10	10	ns	1.9	--
CV (%)	9.4	11.8	10.0	2.4	4.8	20.3	21.5	38.3	396.4	15.0	--

*Entries are hulless.

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 33. Spring barley (malt) variety performance results at Craigmont/Cottonwood, 2018.

Variety or Selection	2018 Crop Year										
	3-Yr	2-Yr	Seed	Test	Plant	Plumps (%)		Thins	Lodging	Heading	Protein
	Average	Average	Yield	Weight	Height	(>6/64")	(>5.5/64")	(%)	(%)	Date	(%)
Esma			83	50.7	34	72	20	8	0	7/5	8.2
13WA-135.3			82	51.1	38	69	23	8	0	7/7	9.2
LCS Opera			82	47.1	31	56	24	20	0	7/8	8.7
08ARS116-91			82	50.8	39	74	19	7	0	6/27	9.2
Sangria			79	50.5	33	68	23	9	0	7/5	--
11WA-107.58			78	51.9	37	66	25	9	0	7/4	9.4
11WA-107.43			73	51.3	37	47	35	18	0	7/4	9.7
AAC Connect			73	49.3	38	51	33	16	0	7/4	9.5
GemCraft		80	72	46.7	36	49	27	24	0	7/6	8.7
13WA-101.2			71	49.8	36	67	21	12	0	7/8	9.0
LCS Sienna			70	48.5	35	54	27	18	0	7/8	9.2
LCS Odyssey	97	80	70	48.2	32	60	28	12	0	7/8	9.5
LCS Genie	95	81	69	50.6	33	74	15	10	0	7/8	9.6
13WA-135.26			69	50.2	35	53	31	16	0	6/30	10.0
Manta			69	49.9	33	54	30	15	0	7/8	10.0
2Ab08-X05M010-82	87	74	68	46.7	36	34	29	37	0	7/7	8.9
CDC Fraser			67	47.5	37	54	28	18	0	7/7	9.0
CDC Bow			67	49.0	41	60	25	15	0	7/5	9.8
13WA-149.2			65	49.9	37	68	20	12	0	7/7	10.0
CDC-Copeland	82	68	59	46.9	38	37	30	33	0	7/8	10.6
Average	90	77	72	49.3	36	58	26	16	0	7/6	9.4
LSD (0.05)	7	9	ns	2.1	3	20	ns	11	--	2.2	--
CV (%)	9.7	10.9	16.3	3.0	6.3	23.8	30.9	48.1	--	16.2	--

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 34. Spring barley (feed and food) variety performance results at Genesee, 2018.

Variety or Selection	2018 Crop Year										
	3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Plumps (%)		Thins (%)	Lodging (%)	Heading Date	Protein (%)
						(>6/64")	(>5.5/64")				
Feed											
Tetonia	101	96	111	54.9	38	74	17	9	0	6/28	9.6
Lyon	98	93	110	54.3	38	73	19	8	0	6/23	9.2
Oreana	109	99	109	54.5	32	66	19	15	0	6/27	9.1
LCS Vespa	107	96	105	54.8	33	80	14	6	0	7/5	9.4
Claymore	101	90	105	54.4	40	77	14	9	0	6/26	9.8
Altorado	96	90	104	55.5	36	74	17	9	0	6/24	9.3
Muir			102	54.9	39	75	17	8	0	6/25	9.8
Lenetah	103	93	100	55.3	39	79	14	7	0	6/23	9.1
Champion	99	94	100	55.6	41	80	14	6	0	6/22	10.0
Camas	93	87	93	56.9	38	82	12	6	0	6/22	10.8
Survivor			93	54.7	39	83	11	6	0	6/23	10.0
Food											
Havener*			93	62.4	41	72	21	7	0	6/27	11.1
Kardia	93	80	91	53.1	38	68	23	9	0	7/1	10.8
Salute	84	79	90	55.0	40	85	10	4	0	6/22	11.0
Meg's Song*			90	60.8	39	82	13	5	0	6/24	11.4
Goldenhart*	73	65	68	60.2	40	81	14	5	0	6/26	12.1
Transit*	65	58	60	59.3	40	61	32	7	0	7/4	13.1
Average	94	86	95	56.3	38	76	16	7	0	6/26	10.3
LSD (0.05)	5	6	9	1.7	3	10	6	5	--	2.6	--
CV (%)	6.3	7.3	6.8	2.1	6.0	8.7	24.0	42.0	--	29.7	--

*Entries are hullless.

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 35. Spring barley (malt) variety performance results at Genesee, 2018.

Variety or Selection	2018 Crop Year										
	3-Yr	2-Yr	Seed	Test	Plant	Plumps (%)		Thins	Lodging	Heading	Protein
	Average	Average	Yield	Weight	Height	(>6/64")	(>5.5/64")	(%)	(%)	Date	(%)
LCS Opera			112	52.8	33	72	17	12	0	6/30	8.7
GemCraft		97	111	53.0	41	67	20	13	0	6/25	9.4
LCS Odyssey	110	94	109	53.1	34	85	11	4	0	7/5	9.1
CDC Fraser			107	53.7	43	81	13	6	0	6/25	9.8
13WA-101.2			106	53.8	41	64	25	11	0	6/28	9.0
2Ab08-X05M010-82	104	92	106	52.7	42	56	25	19	0	6/26	9.2
11WA-107.43			104	56.3	38	81	14	5	0	6/24	9.7
08ARS116-91			104	55.0	41	81	14	4	0	6/22	9.7
LCS Sienna			103	54.1	36	78	14	9	0	6/29	8.9
13WA-135.3			102	55.6	41	80	14	7	0	6/26	9.6
LCS Genie	104	88	101	55.4	35	82	12	6	0	7/5	9.1
11WA-107.58			99	56.9	40	87	10	3	0	6/24	10.0
AAC Connect			98	54.7	43	79	15	6	0	6/23	10.1
13WA-135.26			98	55.9	37	81	13	6	0	6/23	10.0
CDC-Copeland	89	86	94	53.0	46	71	19	10	0	6/26	9.7
CDC Bow			94	54.7	44	86	10	4	0	6/26	9.7
13WA-149.2			94	56.7	41	88	9	3	0	6/25	9.5
Average	102	91	102	10.8	40	78	15	8	0	6/26	9.5
LSD (0.05)	6	7	9	1.7	3	14	7	8	--	2.1	--
CV (%)	6.7	7.1	6.3	2.1	5.2	12.8	33.6	74.8	--	22.8	--

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 36. Spring barley (feed and food) variety performance results at Moscow, 2018.

Variety or Selection	2018 Crop Year										
	3-Yr Average (bu/A)	2-Yr Average (bu/A)	Seed Yield (bu/A)**	Test Weight (lb/bu)	Plant Height (in)	Plumps (%)		Thins (%)	Lodging (%)	Heading Date	Protein (%)
						(>6/64")	(>5.5/64")				
Feed											
Oreana	79	75	105	52.3	33	89	9	2	0	7/5	8.3
Claymore	77	77	104	51.0	39	82	15	3	0	7/5	8.0
Champion	77	73	103	53.6	39	87	11	2	0	6/29	8.8
Tetonia	84	80	102	52.5	36	84	14	2	0	7/6	8.3
Lenetah	75	72	100	52.1	36	94	6	1	0	7/5	8.2
Muir			100	52.5	36	90	9	1	0	7/3	8.7
Lyon	80	76	99	52.5	35	90	8	1	0	7/2	8.4
Altorado	77	70	97	53.1	36	79	19	2	0	7/3	8.3
Survivor			95	54.0	38	96	4	1	0	7/1	9.3
Camas	75	71	94	53.8	39	94	5	1	0	6/29	8.9
LCS Vespa	78	71	92	52.0	33	93	6	1	0	7/6	8.7
Food											
Kardia	64	60	90	50.6	39	90	9	2	0	7/3	10.2
Salute	69	67	90	52.5	38	96	3	<1	0	6/29	9.7
Meg's Song*			79	60.1	37	72	23	4	0	7/3	10.8
Havener*			79	61.5	37	60	33	7	0	7/2	10.2
Goldenhart*	51	50	67	58.9	40	75	21	3	0	6/30	11.5
BB28*			65	56.6	36	46	42	12	0	6/27	9.8
Transit*	46	45	65	57.8	41	53	42	5	0	7/3	12.7
Average	72	68	90	54.3	37	82	15	3	0	7/2	9.4
LSD (0.05)	8	8	10	0.7	2	6	5	1	--	1.4	--
CV (%)	14.3	11.1	8.1	0.9	4.0	5.5	23.1	37.2	--	15.8	--

*Entries are hulless.

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 37. Spring barley (malt) variety performance results at Moscow, 2018.

Variety or Selection	2018 Crop Year										
	3-Yr	2-Yr	Seed	Test	Plant	Plumps (%)		Thins	Lodging	Heading	Protein
	Average	Average	Yield	Weight	Height	(>6/64")	(>5.5/64")	(%)	(%)	Date	(%)
LCS Opera			103	50.9	32	93	5	1	0	7/5	7.4
08ARS116-91			101	51.7	36	93	6	1	0	6/27	8.2
LCS Odyssey	79	76	100	50.8	33	96	4	1	0	7/6	7.8
GemCraft		75	97	51.0	35	89	9	1	0	7/4	7.9
13WA-101.2			96	51.8	35	93	6	1	0	7/5	8.7
13WA-135.26			93	52.0	36	94	5	1	0	7/2	8.6
LCS Sienna			92	50.9	34	95	4	1	0	7/5	8.1
LCS Genie	72	67	91	51.6	33	95	4	1	0	7/5	8.4
13WA-135.3			91	52.1	36	95	4	1	0	7/5	8.2
CDC Bow			90	50.5	38	94	5	1	0	7/3	8.4
2Ab08-X05M010-82	76	69	90	50.8	36	86	12	2	0	7/4	7.4
11WA-107.58			89	52.9	36	96	3	1	0	7/4	8.9
11WA-107.43			88	52.9	34	96	4	1	0	7/5	8.8
CDC Fraser			86	49.7	37	93	6	1	0	7/4	8.4
13WA-149.2			85	52.8	35	96	3	1	0	7/4	8.4
CDC-Copeland	80	72	82	51.2	40	92	7	1	0	7/5	8.4
AD120341			81	52.9	27	86	12	1	0	7/5	8.6
DH120058			75	50.0	29	75	21	4	0	7/6	8.6
DH120285			71	50.7	30	85	13	2	0	7/3	9.0
Average	77	72	90	51.4	34	92	7	1	0	7/4	8.3
LSD (0.05)	ns	6	11	0.8	2	3	2	1	--	1.4	--
CV (%)	10.5	8.4	8.5	1.0	4.1	2.0	21.7	32.2	--	12.1	--

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 38. Spring barley (feed and food) variety performance comparison across northern Idaho, 2018.

Variety or Selection	2018 Crop Year														
	3-Yr Average	2-Yr Average	Northern Idaho Avg.**	Bonnors Ferry	Craigmont	Genesee	Moscow	Test Weight	Plant Height	Plumps (>6/64)	Plumps (>5.5/64)	Thins	Lodging	Protein	
	bu/A							(lb/bu)	(inches)	%					
Feed															
Tetonia	97	86	94	76	88	111	102	52.6	34	76	18	6	0	9.2	
Oreana	99	84	93	75	82	109	105	52.2	30	73	17	9	1	9.2	
Champion	94	82	89	65	90	100	103	53.7	36	79	16	5	2	9.2	
Lyon	92	82	88	75	75	110	99	51.2	32	76	16	7	3	9.2	
LCS Vespa	96	82	87	73	80	105	92	52.0	30	82	13	5	0	9.4	
Altorado	92	79	87	69	77	104	97	52.2	33	64	24	12	3	9.1	
Lenetah	93	80	86	64	78	100	100	52.6	34	83	13	4	4	8.8	
Claymore	93	78	85	59	72	105	104	51.1	35	74	19	7	5	9.1	
Camas	90	79	84	74	76	93	94	53.5	35	82	13	5	1	9.7	
Muir			82	63	66	102	100	51.6	33	79	15	6	6	9.6	
Survivor			80	60	76	93	95	52.8	34	86	11	4	3	10.0	
Food															
Salute	81	73	80	61	78	90	90	52.0	35	87	10	3	1	10.8	
Kardia	83	66	77	66	62	91	90	50.5	34	75	18	7	0	10.9	
Havener*			72	60	58	93	79	59.6	35	52	30	18	0	11.1	
Meg's Song*			71	51	66	90	79	58.2	34	68	23	10	3	11.6	
Goldenhart*	67	57	60	51	54	68	67	56.1	35	71	21	8	3	12.1	
Transit*	55	45	52	38	43	60	65	56.7	36	52	36	12	0	13.5	
BB28*			--	40	--	--	65	--	--	--	--	--	--	--	
Average	87	75	80	62	72	95	90	53.5	34	74	18	8	2	10.1	
LSD (0.05)	3	4	5	6	11	9	10	0.8	1	6	3	3	2	--	
CV (%)	9.2	10.4	9.6	7.1	10.0	6.8	8.1	2.2	6.1	10.6	26.5	63.3	133.2	--	

*Entries are hulless.

**Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 39. Spring barley (malt) variety performance comparison across northern Idaho, 2018.

Variety or Selection	2018 Crop Year													
	3-Yr Average	2-Yr Average	Northern Idaho Avg.*	Bonnors Ferry	Craigmont	Genesee	Moscow	Test Weight	Plant Height	Plumps (>6/64)	Plumps (>5.5/64)	Thins	Lodging	Protein
	bu/A							(lb/bu)	(inches)	%				
LCS Opera			92	70	82	112	103	50.4	29	79	12	8	0	8.6
08ARS116-91			89	69	82	104	101	51.9	34	85	12	4	0	9.2
GemCraft		79	85	59	72	111	97	50.3	33	72	17	10	1	8.9
13WA-101.2			85	66	71	106	96	51.7	33	80	14	6	0	9.3
LCS Odyssey	96	79	84	58	70	109	100	50.5	30	84	11	5	3	9.2
13WA-135.3			83	59	82	102	91	52.3	34	85	11	4	3	9.6
11WA-107.58			83	67	78	99	89	53.5	33	86	10	4	1	9.6
13WA-135.26			82	68	69	98	93	52.4	32	81	13	6	0	9.8
CDC Fraser			81	64	67	107	86	49.8	35	80	14	7	0	9.1
11WA-107.43			81	58	73	104	88	53.0	32	79	15	6	3	9.7
2Ab08-X05M010-82	90	75	81	59	68	106	90	50.2	34	66	18	15	4	9.0
LCS Sienna			80	56	70	103	92	51.2	32	81	12	7	1	9.0
LCS Genie	90	74	79	54	69	101	91	52.1	30	87	9	5	1	9.3
13WA-149.2			78	70	65	94	85	52.6	34	87	9	4	0	9.6
CDC Bow			77	56	67	94	90	50.9	37	83	12	5	3	9.5
CDC-Copeland	85	73	74	62	59	94	82	50.3	36	73	16	11	3	9.5
Average	90	76	82	62	71	103	92	51.4	33	80	13	7	1	9.3
LSD (0.05)	4	4	7	5	ns	9	11	1.0	2	8	4	4	1	--
CV (%)	9.4	11.0	12.1	5.8	16.3	6.3	8.5	2.7	6.8	14.3	45.0	95.9	122.0	--

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Note: DH120285, DH1230058, AD120341, AAC Connect, Esma, Sangria, and Manta are not included in the multilocation averages as these varieties or selections were not seeded at all locations.

Table 40. Winter pea variety performance results at Genesee, 2018.

Variety or Selection	Seed Yield (lb/A)*	100-Seed Weight (g)	Vine Length (in)	Canopy Height (in)	Erect Index (0–1)
Lakota	3752	14.2	31	21	0.67
Pro 152-7206	3262	16.5	35	19	0.55
PS12300049W	3202	16.9	35	17	0.49
PS11300288W	3144	18.3	30	14	0.49
PS11300087W	3140	14.3	35	25	0.71
PS1430NZ011W	3135	17.2	38	24	0.63
Pro 152-7121	2940	22.1	29	18	0.62
PS11300287W	2909	15.1	27	18	0.66
Granger	2904	13.2	41	15	0.37
Windham	2897	18.1	32	24	0.76
Blaze	2886	18.7	34	24	0.71
Pro 142-7215	2771	18.6	30	22	0.73
Pro 154-7207	2699	18.0	30	18	0.61
PS11300289W	2686	17.9	26	13	0.51
Pro 124-7146	2479	17.2	34	24	0.71
Pro 144-7211	2425	17.8	28	25	0.91
Koyote	2421	15.5	33	22	0.66
Specter	2327	11.7	39	19	0.52
Icicle	2282	10.4	36	15	0.40
Pro 122-7150	2185	15.8	40	28	0.71
PS11300282W	2142	16.2	35	23	0.66
Average	2779	16.3	33	20	0.62
LSD (0.05)	1000	1.1	6	8	0.25
CV (%)	21.5	4.5	12.8	28.4	28.1

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 41. Winter pea variety performance results at Moscow, 2018.

Variety or Selection	Seed Yield (lb/A)*	100-Seed Weight (g)	Vine Length (in)	Canopy Height (in)	Erect Index (0-1)
Pro 152-7206	4986	14.7	40	13	0.32
Pro 152-7121	4670	21.0	41	29	0.70
Pro 124-7146	4634	16.3	46	33	0.72
PS11300282W	4607	15.2	38	20	0.53
Blaze	4583	15.6	40	19	0.51
Windham	4555	16.4	42	23	0.54
Pro 154-7207	4442	17.9	35	17	0.50
PS11300087W	4335	13.9	42	30	0.72
Lakota	4280	13.5	34	20	0.58
PS1430NZ011W	3949	15.4	38	20	0.53
Pro 144-7211	3863	17.1	42	26	0.63
Koyote	3762	14.6	41	26	0.64
Pro 142-7215	3748	15.9	37	24	0.67
PS11300288W	3693	15.7	28	14	0.48
PS11300287W	3634	14.0	32	15	0.47
PS12300049W	3522	13.9	39	16	0.39
PS11300289W	3438	15.0	34	14	0.44
Pro 122-7150	3434	14.6	48	31	0.65
Specter	3349	11.0	50	23	0.46
Granger	2976	12.9	51	19	0.37
Icicle	2943	10.4	50	17	0.35
Average	3971	14.9	40	21	0.53
LSD (0.05)	792	1.0	9	9	0.22
CV (%)	14.1	4.5	15.4	28.9	29.0

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 42. Spring pea variety performance results at Craigmont/Cottonwood, 2018.

Variety or Selection	3-Yr Average (lb/A)	2-Yr Average (lb/A)	2018 Crop Year				
			Seed Yield (lb/A)*	100-Seed Weight (g)	Vine Length (in)	Canopy Height (in)	Erect Index (0-1)
Green							
Hampton	1984	1623	2164	18.3	29	24	0.83
PS1410B0065			1870	19.3	34	27	0.78
Pro 141-6258		1756	1864	19.1	30	25	0.85
PS10100158			1862	16.3	34	26	0.75
Greenwood	2004	1502	1777	17.4	29	26	0.88
Aragorn		1204	1725	18.0	34	27	0.82
AAC Comfort			1647	22.2	32	29	0.91
Ginny	1905	1766	1614	17.9	32	26	0.83
Pro 151-7129			1613	17.9	37	27	0.72
Banner	1671	1508	1611	17.0	32	24	0.77
Pro 131-7123	1815	1563	1556	14.8	30	24	0.81
Ariel	1625	1430	1543	16.1	31	27	0.87
PS14100018		1540	1506	16.5	33	25	0.76
Columbian	1459	1489	1386	15.5	45	18	0.39
CDC Greenwater			1207	19.9	33	28	0.87
Pro 121-7126		1584	1182	19.4	31	24	0.79
Yellow							
PS16100102			1920	19.8	33	26	0.79
Pro 133-7409		1692	1858	20.3	37	26	0.72
Pro 143-6230		1538	1853	18.9	32	26	0.83
PS07100925	1461	1522	1791	21.5	26	23	0.88
Ewald			1693	20.3	33	26	0.80
Pro 093-7410		1527	1633	17.5	32	27	0.83
PS08101022	1381	1327	1585	21.0	31	23	0.76
PS16100085			1523	19.6	34	28	0.82
Carousel	1514	1201	1410	20.4	31	27	0.88
Average	1667	1519	1656	18.6	32	25	0.80
LSD (0.05)	ns	ns	490	1.2	4	4	0.11
CV (%)	24.9	15.6	20.7	4.5	8.2	10.0	9.9

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 43. Spring pea variety performance results southeast of Genesee, 2018.

Variety or Selection	2018 Crop Year						
	3-Yr Average (lb/A)	2-Yr Average (lb/A)	Seed Yield (lb/A)*	100-Seed Weight (g)	Vine Length (in)	Canopy Height (in)	Erect Index (0-1)
Green							
Pro 141-6258		1695	2664	20.2	30	28	0.95
Hampton	2572	1720	2490	20.3	32	23	0.72
PS1410B0065			2292	21.1	36	24	0.66
Greenwood	2181	1529	2286	19.5	34	32	0.95
CDC Greenwater			2215	19.8	32	31	0.96
PS10100158			2180	16.4	33	29	0.86
Banner	1870	1381	2113	19.0	32	26	0.82
Pro 121-7126		1407	1950	20.4	32	31	0.96
Pro 151-7129			1850	17.8	39	28	0.74
Ginny	2033	1325	1825	18.8	34	30	0.88
Aragorn	1835	1194	1758	19.5	33	31	0.94
Ariel	1900	1191	1747	16.8	34	31	0.93
Columbian	1885	1213	1692	17.3	30	10	0.34
AAC Comfort			1617	19.7	34	34	1.00
PS14100018		1220	1590	17.2	35	31	0.90
Pro 131-7123	2006	1134	1445	16.6	30	28	0.92
Yellow							
Pro 093-7410		1533	2233	18.7	33	25	0.76
PS16100102			1937	20.0	33	29	0.91
Pro 133-7409		1367	1916	21.8	35	29	0.84
PS08101022	2140	1361	1870	20.2	31	24	0.80
PS16100085			1765	18.8	33	29	0.89
PS07100925	2185	1233	1655	20.4	29	28	0.97
Ewald			1471	23.1	34	30	0.90
Pro 143-6230		974	1158	18.2	34	32	0.94
Carousel	1819	818	1011	19.9	36	35	0.98
Average	2039	1311	1869	19.3	33	28	0.86
LSD (0.05)	ns	ns	781	1.5	3	4	0.13
CV (%)	25.6	32.1	29.6	5.5	6.0	10.6	11.0

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 44. Spring pea variety performance results at Moscow, 2018.

Variety or Selection	2018 Crop Year						
	3-Yr Average (lb/A)	2-Yr Average (lb/A)	Seed Yield (lb/A)*	100-Seed Weight (g)	Vine Length (in)	Canopy Height (in)	Erect Index (0-1)
Green							
Pro 141-6258		1836	3034	19.6	34	28	0.82
Pro 151-7129			2849	18.0	37	30	0.81
Pro 121-7126		1721	2824	20.3	31	29	0.91
Greenwood	1563	1667	2764	18.3	32	27	0.83
Ginny	1514	1586	2618	18.1	31	26	0.85
PS1410B0065			2606	18.4	37	26	0.71
PS14100018		1746	2605	17.0	34	29	0.83
Ariel	1355	1581	2543	16.7	33	29	0.88
PS10100158			2508	15.0	32	25	0.78
Pro 131-7123	1504	1531	2497	16.5	32	27	0.85
AAC Comfort			2465	21.2	36	32	0.90
Aragorn	1424	1503	2445	18.9	33	26	0.78
Banner	1157	1427	2395	17.4	33	27	0.83
Hampton	1767	1362	2048	16.1	32	25	0.77
Columbian	988	1159	1989	15.4	38	9	0.26
CDC Greenwater			1983	18.1	32	30	0.93
Yellow							
Pro 093-7410		1860	3135	18.4	33	27	0.81
Pro 133-7409		1834	2877	21.0	34	23	0.67
PS16100102			2841	19.5	31	28	0.90
PS07100925	1577	1714	2828	20.4	29	25	0.89
PS08101022	1639	1683	2795	20.9	30	20	0.67
Carousel	1583	1699	2724	21.4	36	32	0.90
Ewald			2694	22.1	36	29	0.80
Pro 143-6230		1664	2664	19.7	35	29	0.85
PS16100085			1844	16.0	31	28	0.91
Average	1460	1622	2583	18.6	33	27	0.80
LSD (0.05)	195	ns	465	1.2	2	3	0.10
CV (%)	15.4	25.4	12.8	4.7	4.3	9.2	8.9

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 45. Spring pea variety performance comparison across northern Idaho, 2018.

Variety or Selection	2018 Crop Year									
	3-Yr Average (lb/A)	2-Yr Average (lb/A)	Northern Idaho Avg. (lb/A)*	Craigmont	Genesee	Moscow	100-Seed Weight (gram)	Vine Length (inches)	Canopy Height (inches)	Erect Index (0-1)
Green										
Pro 141-6258		1763	2653	1864	2664	3034	19.8	31	27	0.87
PS1410B0065			2405	1870	2292	2606	19.7	37	26	0.71
Greenwood	1908	1569	2351	1777	2286	2764	18.4	32	29	0.89
PS10100158			2263	1862	2180	2508	15.8	34	27	0.80
Hampton	2119	1566	2255	2164	2490	2048	18.1	31	24	0.77
Pro 151-7129			2164	1613	1850	2849	17.9	38	28	0.76
Banner	1557	1436	2100	1611	2113	2395	17.9	33	26	0.81
Pro 121-7126		1570	2099	1182	1950	2824	20.1	31	28	0.90
Ginny	1809	1550	2083	1614	1825	2618	18.4	33	28	0.86
Ariel	1627	1399	2032	1543	1747	2543	16.6	33	30	0.90
Aragorn	1595	1309	1965	1725	1758	2445	19.0	34	28	0.85
PS14100018		1500	1962	1506	1590	2605	16.9	34	29	0.84
AAC Comfort			1954	1647	1617	2465	20.8	34	32	0.94
Pro 131-7123	1780	1403	1911	1556	1445	2497	16.2	31	27	0.86
CDC Greenwater			1878	1207	2215	1983	19.1	33	30	0.92
Columbian	1443	1278	1748	1386	1692	1989	16.2	38	12	0.31
Yellow										
Pro 093-7410		1645	2476	1633	2233	3135	18.3	33	26	0.80
Pro 133-7409		1628	2347	1858	1916	2877	21.1	35	26	0.74
PS16100102			2271	1920	1937	2841	19.7	32	28	0.87
PS08101022	1751	1463	2179	1585	1870	2795	20.8	31	22	0.74
PS07100925	1767	1488	2173	1791	1655	2828	20.8	28	26	0.92
Ewald			2042	1693	1471	2694	22.0	35	29	0.83
Pro 143-6230		1386	1955	1853	1158	2664	18.9	34	29	0.87
PS16100085			1806	1523	1765	1844	18.1	32	29	0.89
Carousel	1650	1241	1776	1410	1011	2724	20.5	35	32	0.92
Average	1728	1482	2115	1656	1869	2583	18.8	33	27	0.82
LSD (0.05)	203	235	385	490	781	465	0.8	2	2	0.07
CV (%)	24.2	27.2	21.6	20.7	29.6	12.8	5.0	6.4	10.5	10.5

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 46. Spring lentil variety performance results Craigmont/Cottonwood, 2018.

Variety or Selection	Market Class	2018 Crop Year						
		3-Yr Average (lb/A)	2-Yr Average (lb/A)	Seed Yield (lb/A)*	100-Seed Weight (g)	Vine Length (in)	Canopy Height (in)	Erect Index (0-1)
LC01602273E	Small green	1637	1280	1196	3.6	13	13	0.98
LC0860113P	Spanish brown			1144	4.4	14	10	0.77
LC09600507P	Spanish brown		1358	1019	4.1	15	11	0.74
Avondale	Medium green	1715	1331	1000	4.5	15	12	0.79
Pardina	Spanish brown	1470	1193	948	3.6	12	10	0.86
Morena	Spanish brown	1649	1154	904	3.7	14	13	0.94
Eston	Small green	1453	1050	793	3.3	14	14	0.98
LC09600066E	Small green			739	3.6	14	14	0.94
LC09600410L	Large green	1224	1002	674	6.9	14	14	0.95
Merrit	Large green	1346	982	673	5.7	13	12	0.87
Richlea	Medium green	1463	1048	659	4.7	15	13	0.87
LC14600100L	Large green			656	7.0	15	15	0.98
LC14600088R	Medium green			641	5.0	15	13	0.85
Crimson	Small red	1391	952	408	3.5	11	10	0.89
Average		1483	1135	818	4.5	14	12	0.89
LSD (0.05)		185	825	408	0.2	2	3	ns
CV (%)		8.8	9.9	34.9	2.5	9.8	16.3	13.6

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 47. Spring lentil variety performance results at Genesee, 2018.

Variety or Selection	Market Class	2018 Crop Year						
		3-Yr Average (lb/A)	2-Yr Average (lb/A)	Seed Yield (lb/A)*	100-Seed Weight (g)	Vine Length (in)	Canopy Height (in)	Erect Index (0-1)
Crimson	Small red	1252	1201	1782	3.0	15	12	0.77
LC14600088R	Medium green			1700	4.3	19	15	0.80
LC01602273E	Small green	1424	1303	1697	3.3	17	14	0.86
Richlea	Medium green	1120	1291	1549	4.3	19	15	0.80
LC09600507P	Spanish brown		1279	1538	4.1	16	13	0.83
Avondale	Medium green	1284	1250	1513	4.2	19	16	0.85
Eston	Small green	965	1057	1470	3.2	15	13	0.87
LC09600066E	Small green			1443	3.2	17	13	0.79
LC09600410L	Large green	1166	1178	1438	5.4	16	14	0.83
Merrit	Large green	1218	1189	1433	5.1	16	13	0.88
Morena	Spanish brown	1235	1167	1393	3.6	17	15	0.91
Pardina	Spanish brown	1060	938	1364	3.4	15	13	0.84
LC14600100L	Large green			1321	5.7	19	17	0.89
LC0860113P	Spanish brown			1299	3.9	16	14	0.87
Average		1192	1185	1498	4.0	17	14	0.84
LSD (0.05)		ns	ns	ns	0.6	1	2	ns
CV (%)		28.0	13.5	15.3	9.6	5.1	9.5	8.7

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 48. Spring lentil variety performance results at Moscow, 2018.

Variety or Selection	Market Class	2018 Crop Year						
		3-Yr Average (lb/A)	2-Yr Average (lb/A)	Seed Yield (lb/A)*	100-Seed Weight (g)	Vine Length (in)	Canopy Height (in)	Erect Index (0–1)
LC09600410L	Large green	585	725	1190	7.0	15	11	0.71
Avondale	Medium green	617	731	1131	4.7	15	11	0.79
LC14600088R	Medium green			1067	5.5	17	10	0.61
LC09600066E	Small green			1049	3.6	14	11	0.77
Richlea	Medium green	485	644	973	4.8	15	13	0.82
LC0860113P	Spanish brown			960	4.4	14	10	0.73
LC01602273E	Small green	532	650	942	3.6	14	11	0.80
LC09600507P	Spanish brown		578	895	4.2	15	10	0.70
LC14600100L	Large green			884	7.5	15	15	0.97
Merrit	Large green	472	534	879	6.0	16	10	0.62
Morena	Spanish brown	618	598	848	3.8	14	12	0.91
Pardina	Spanish brown	434	499	843	3.7	13	10	0.74
Eston	Small green	367	438	756	3.5	15	12	0.80
Crimson	Small red	269	328	557	3.6	14	11	0.78
Average		487	572	927	4.7	15	11	0.77
LSD (0.05)		137	117	220	0.2	ns	2	0.15
CV (%)		31.3	9.5	16.6	3.0	10.7	10.2	13.6

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 49. Lentil variety performance comparison across northern Idaho, 2018.

		2018 Crop Year									
Variety or Selection	Market Class	3-Yr Average (lb/A)	2-Yr Average (lb/A)	Northern Idaho Avg.**	Craigmont	Genesee	Moscow	100-Seed Weight	Vine Length	Canopy Height	Erect Index
				(lb/A)*	(lb/A)*	(lb/A)*	(lb/A)*	(gram)	(inches)	(inches)	(0-1)
LC01602273E	Small green	1172	1059	1278	1196	1697	942	3.5	14	12	0.88
Avondale	Medium green	1176	1083	1215	1000	1513	1131	4.5	16	13	0.81
LC09600507P	Spanish brown		1046	1150	1019	1538	895	4.1	15	11	0.76
LC14600088R	Medium green			1136	641	1700	1067	4.9	17	12	0.75
LC0860113P	Spanish brown			1134	1144	1299	960	4.2	15	12	0.79
LC09600066E	Small green			1077	739	1443	1049	3.5	15	12	0.83
LC09600410L	Large green	972	955	1070	674	1438	1190	6.5	15	12	0.83
Richlea	Medium green	997	989	1060	659	1549	973	4.6	16	13	0.83
Pardina	Spanish brown	960	848	1052	948	1364	843	3.6	13	11	0.81
Morena	Spanish brown	1139	957	1048	904	1393	848	3.7	15	13	0.92
Eston	Small green	897	830	1006	793	1470	756	3.3	15	13	0.88
Merrit	Large green	986	880	955	673	1433	879	5.6	15	12	0.78
LC14600100L	Large green			954	656	1321	884	6.7	16	15	0.95
Crimson	Small red	946	816	916	408	1782	557	3.3	13	11	0.81
Average		1027	947	1076	818	1498	927	4.4	15	12	0.83
LSD (0.05)		123	152	ns	408	ns	220	0.2	1	1	0.09
CV (%)		25.0	26.8	24.3	34.9	15.3	16.6	5.5	8.9	12.7	12.8

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 50. Chickpea variety performance results southeast of Craigmont/Cottonwood, 2018.

Variety or Selection	2018 Crop year								
	3-Yr Average (lb/A)	2-Yr Average (lb/A)	Seed Yield (lb/A)*	100-Seed Weight (g)	Plant Height (in)	Chickpea Size (%)			
						(>25/64")	(>22/64")	(>20/64")	(<20/64")
BillyBeans	1946	1876	1476	28.0	18	<1	3	33	64
CA13900139C			1448	40.5	15	5	55	35	5
Bronic	1777	1777	1413	32.0	20	1	6	53	40
CDC Leader			1335	36.7	16	<1	28	61	11
CDC Orion	1780	1702	1315	38.9	16	1	36	57	6
Nash	1665	1747	1310	45.3	17	6	68	23	2
CA0790B0043C	1601	1642	1286	43.4	20	7	65	24	4
CDC Palmer			1250	35.9	15	<1	28	60	12
CA13900162C			1191	42.9	19	6	63	27	4
CDC Frontier	1611	1466	1140	33.8	17	0	8	72	20
CA13900119C			1074	37.8	13	1	39	46	14
CA0790B0547C	1689	1622	1072	42.4	16	1	46	44	9
CA13900129C			1067	43.9	15	3	61	32	4
CA0790B0034C	1583	1479	1017	46.4	21	9	71	18	2
Sawyer	1552	1290	918	38.8	16	2	34	54	10
CA13900023C			902	43.1	19	8	50	38	4
Sierra	1315	1304	866	39.8	16	4	51	36	9
Average	1654	1590	1181	39.4	17	3	42	42	13
LSD (0.05)	268	175	260	2.2	2	6	11	9	6
CV (%)	19.3	9.9	15.5	3.9	8.8	124.2	17.9	15.7	32.1

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 51. Chickpea variety performance results southeast of Genesee, 2018.

Variety or Selection	2018 Crop year								
	3-Yr Average	2-Yr Average	Seed Yield	100-Seed Weight	Plant Height	Chickpea Size (%)			
	(lb/A)	(lb/A)	(lb/A)*	(g)	(in)	(>25/64")	(>22/64")	(>20/64")	(<20/64")
CDC Orion	2900	2587	2696	41.4	20	<1	54	43	3
BillyBeans	2940	2507	2627	27.8	22	0	<1	19	81
CDC Palmer			2575	37.4	18	<1	30	60	11
CA13900139C			2539	43.1	19	3	58	33	7
CDC Frontier	3023	2722	2534	36.3	20	<1	16	70	14
CA0790B0547C		2291	2522	43.7	19	<1	53	41	6
Nash	2650	2347	2467	54.4	19	7	83	9	1
CDC Leader			2466	38.5	18	0	32	59	9
CA0790B0043C	2753	2396	2435	47.3	23	3	79	16	2
Bronic	2803	2462	2366	33.9	22	0	6	57	37
CA13900129C			2350	45.4	18	1	67	27	5
CA13900023C			2314	48.2	21	1	66	31	3
CA13900162C			2282	48.0	19	3	76	19	2
CA0790B0034C		2464	2248	47.7	24	4	78	16	2
CA13900119C			2195	43.0	17	3	58	31	8
Sawyer	2412	1917	2163	37.5	19	<1	14	71	15
Sierra	2193	1746	1882	45.0	19	1	58	32	9
Average	2709	2344	2391	42.3	20	2	49	37	13
LSD (0.05)	371	383	381	2.4	1	1	10	9	4
CV (%)	16.2	13.8	11.2	4.0	4.8	64.3	14.5	16.3	24.8

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 52. Chickpea variety performance results at Moscow, 2018.

Variety or Selection	2018 Crop Year								
	3-Yr Average	2-Yr Average	Seed Yield	100-Seed Weight	Plant Height	Chickpea Size (%)			
	(lb/A)	(lb/A)	(lb/A)*	(g)	(in)	(>25/64")	(>22/64")	(>20/64")	(<20/64")
BillyBeans	2274	2031	2804	29.3	20	0	0	32	68
Bronic	2210	1984	2774	35.9	22	0	9	66	25
CDC Frontier	2119	1873	2551	36.3	18	0	11	77	12
CDC Orion	2027	1692	2347	41.3	17	1	58	39	3
CA0790B0547C	2228	1883	2329	42.8	17	1	60	34	6
CDC Leader			2262	39.5	17	0	44	51	5
CDC Palmer			2250	37.6	16	0	30	59	11
CA13900139C			2203	43.0	19	7	67	22	4
CA13900129C			2166	47.3	19	5	75	18	2
CA13900119C			2050	47.8	17	16	66	16	2
CA0790B0043C	1816	1536	1954	48.1	21	16	71	11	2
Sawyer	1878	1490	1948	41.5	19	2	55	40	3
CA13900023C			1782	50.2	18	11	74	14	2
CA13900162C			1745	48.7	18	15	67	15	3
CA0790B0034C	1914	1494	1741	48.9	21	21	68	9	2
Nash	1930	1426	1688	55.9	17	30	60	8	2
Sierra	1695	1255	1449	45.4	16	12	66	18	4
Average	2009	1666	2120	43.5	18	8	52	31	9
LSD (0.05)	278	432	285	2.4	2	7	11	10	4
CV (%)	16.7	23.3	9.5	3.8	6.1	63.3	15.0	22.0	33.0

*Variety or selection yields in bold were statistically equal to the top yielding variety.

Table 53. Chickpea variety performance comparison across northern Idaho, 2018.

Variety or Selection	2018 Crop Year											
	3-Yr Average (lb/A)*	2-Yr Average (lb/A)	Northern Idal Avg. (lb/A)*	Craigmont	Genesee	Moscow	100-Seed Weight (gram)	Plant Height (inches)	Chickpea Size (%)			
									(>25/64")	(>22/64")	(>20/64")	(<20/64")
BillyBeans	2387	2138	2302	1476	2627	2804	28.4	20	0	1	28	71
Bronic	2264	2074	2184	1413	2366	2774	33.9	21	0	7	59	34
CDC Orion	2242	1993	2119	1315	2696	2347	40.5	18	1	49	46	4
CDC Frontier	2251	2020	2075	1140	2534	2551	35.4	18	0	11	73	15
CA13900139C			2063	1448	2539	2203	42.2	18	5	60	30	5
CDC Palmer			2025	1250	2575	2250	37.0	16	0	29	60	11
CDC Leader			2021	1335	2466	2262	38.2	17	0	35	57	8
CA0790B0547C		1932	1974	1072	2522	2329	43.0	17	1	53	40	7
CA0790B0043C	2070	1858	1892	1286	2435	1954	46.2	21	9	72	17	3
CA13900129C			1861	1067	2350	2166	45.5	17	3	68	26	4
Nash	2094	1840	1822	1310	2467	1688	51.9	18	15	70	13	2
CA13900119C			1773	1074	2195	2050	42.8	16	7	54	31	8
CA13900162C			1739	1191	2282	1745	46.5	18	8	69	20	3
Sawyer	1947	1566	1676	918	2163	1948	39.3	18	1	34	55	10
CA0790B0034C		1812	1669	1017	2248	1741	47.6	22	11	72	14	2
CA13900023C			1666	902	2314	1782	47.2	20	7	63	27	3
Sierra	1734	1435	1399	866	1882	1449	43.4	17	6	58	29	7
Average	2124	1867	1898	1181	2391	2120	41.7	18.0	4	47	37	12
LSD (0.05)	149	176	196	260	381	285	1.3	1	3	6	5	3
CV (%)	15.0	16.6	12.8	15.5	11.2	9.5	4.0	7.1	88.3	15.7	17.8	29.9

*Variety or selection yields in bold were statistically equal to the top yielding variety.