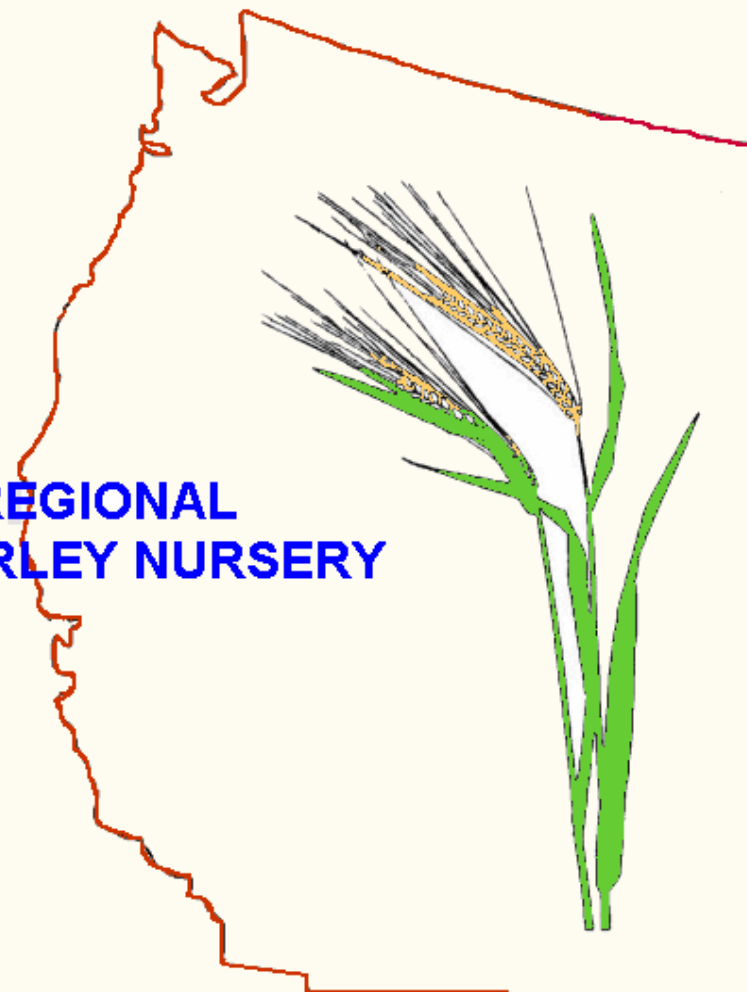


2009

WESTERN REGIONAL SPRING BARLEY NURSERY



UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
NORTHERN PLAINS AND PACIFIC WEST REGION
in cooperation with
State Agricultural Experiment Stations



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WESTERN REGIONAL SPRING BARLEY NURSERY

2009

Compiled by C. A. Erickson, Charles.Erickson@ars.usda.gov, Agronomist, USDA-ARS

This report is compiled in electronic format intended for transmittal to the nursery cooperators. The files and their contents are as follows:

2009WRBNREPORT.doc: WORD[®] document explaining the contents of the report with the following sections:

- Cover Page and Contents Page
- Location of Experiments and Personnel
- Western Regional Spring Barley Nursery Narrative
 - Nursery contents and locations
 - General Information
 - Data Analysis
 - Data Highlights
 - Data Tables

2009WRSBNDATA.xls: Excel[®] files containing data for the 2009 Western Regional Spring Barley Nursery in both English and metric format.

This is a joint progress report of cooperative investigations underway in the State Agricultural Experiment Stations and the Agricultural Research Service of the U.S. Department of Agriculture. This report contains preliminary data which have not been sufficiently confirmed to justify general release; interpretations may be modified with additional experimentation. Confirmed results will be published through established channels. This report is primarily a tool for use by cooperators, their official staffs and those persons having direct and special interest in the development of agricultural research programs.

This report includes data furnished by the State Agricultural Experiment Stations as well as by the Agricultural Research Service and was compiled in the Northern Plains Area and the Pacific West Area, Agricultural Research Service, U.S. Department of Agriculture. The report is not intended for publication and should not be referred to in literature citations nor quoted in publicity or advertising. Use of the data may be granted for certain purposes upon written request to the agency or agencies involved.

National Small Grains Germplasm Research Facility, Aberdeen, Idaho, 2009

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LOCATION OF EXPERIMENTS AND PERSONNEL

Idaho	
Aberdeen	Don Obert, Don.Obert@ars.usda.gov , Phil Bregizer, Phil.Bregizer@ars.usda.gov , hris Evans, Chris.Evans@ars.usda.gov , USDA-ARS
Idaho Falls	Chad Sellmer, chad.sellmer@anheuser-busch.com , Blake Cooper, Blake.Cooper@anheuser-busch.com , BARI
Tetonia	Don Obert, Don.Obert@ars.usda.gov , Chris Evans, Chris.Evans@ars.usda.gov , USDA-ARS, Jim Whitmore, whitmore@uidaho.edu , Univ. Idaho
Minnesota	
St. Paul	Brian J. Steffenson, bsteffen@umn.edu , Univ. of Minnesota
Montana	
Bozeman	Tom Blake, blake@montana.edu , Stanley Bates, bates@montana.edu , Montana State University (MSU),
Conrad	Chad Sellmer, chad.sellmer@anheuser-busch.com , Blake Cooper, Blake.Cooper@anheuser-busch.com , BARI
Fairfield	Chad Sellmer, chad.sellmer@anheuser-busch.com , Blake Cooper, Blake.Cooper@anheuser-busch.com , BARI
Manhattan	Dale Clark, dclark@westbred.com , Craig Cook, ccook@westbred.com , Western Plant Breeders (WPB)
North Dakota	
Hettinger	Erik Eriksmoen, eric.eriksmoen@ndsu.edu , North Dakota State University (NDSU)
Langdon	Rich Horsley, richard.horsley@ndsu.edu Martin R. Hochhalter, martin.hochhalter@ndsu.edu , Fargo, NDSU
Minot	Rich Horsley, richard.horsley@ndsu.edu Martin R. Hochhalter, martin.hochhalter@ndsu.edu , Fargo, NDSU
Williston	Neil Riveland, neil.riveland@ndsu.edu , NDSU
Saskatchewan	
Saskatoon	Brian Rossnagel, rossnagel@skyway.usask.ca , Shelley Duncan shelley.duncan@usask.ca . Univ. of Saskatoon
Utah	
Logan	David Hole, david.hole@usu.edu , Utah State University (USU)
Mt. Stirling	David Hole, david.hole@usu.edu ,, USU
Washington	
Pullman	Steve Ullrich, ullrich@wsu.edu , Vadim Jitkov, vjitkov@wsu.edu , Diter von Wettstein, diter@wsu.edu , Xianming Chen, xiaming@wsu.edu , Washington State Univ. (WSU)
Mt. Vernon	Xianming Chen, xiaming@wsu.edu , Washington State Univ. (WSU)
Wyoming	
Powell	Michael Killen, mkillen@uwyo.edu , Wyoming Agricultural Research Station
Malting Quality (separate report)	http://www.ars.usda.gov/mwa/madison/ccru
Madison WI	A. D. Budde, Allen.Budde@ars.usda.gov , USDA-ARS

2009 WESTERN REGIONAL SPRING BARLEY NURSERY

The **Western Regional Spring Barley Nursery** and the **Western Regional Dryland Spring Barley Nursery** were consolidated into the **Western Regional Spring Barley Nursery** in 2009. It is intended to be grown under all climatic conditions in the Pacific Northwest and Northern Great Plains. It contains both 2- and 6-rowed feed and malting barley.

2009 nursery sites that were harvested and summarized for yield from 16 locations are:

(1) Aberdeen, ID	(7) Manhattan, MT	(13) Mt. Stirling, UT
(2) Idaho Falls, ID	(8) Hettinger, ND	(14) Pullman, WA
(3) Tetonia, ID	(9) Langdon, ND	(15) Powell, WY
(4) Bozeman, MT	(10) Minot, ND	(16) Saskatoon, SK, Canada
(5) Conrad, MT	(11) Williston, ND	
(6) Fairfield, MT	(12) Logan, UT	

Observation nurseries were grown at Tammany, ID, St. Paul, MN, Pullman, WA, and Mt. Vernon, WA.

General Information

The entry list for the 2009 Western Regional Spring Barley Nursery is shown in Table 1. In 2009, commercial cultivars were again entered into the nursery, including those from: Busch Agricultural Resources (6 lines), and Western Plant Breeders (2 lines + 1 check).

There were 31 entries in this nursery in 2009. 12 of the 23 entries (besides checks) in the 2008 WRSBN and WRDSBN nurseries were dropped in 2009. These were: 2ND22927, tested 4 years; UT03B1960-483, tested 3 years; BZ503-097, 2ND22182, all tested 2 years; 01Ab7163, 02Ab17060, PB1 04-2R-4263, BZ504-093, BZ505-187, 02WZN-1095, 02WA-7028.9, and 04WA-101.45, all tested 1 year. New entries in the test were: 2B03-3604, 2B04-0175, 2B05-0672, 2B05-0811, 2Ab04-X00017-4, 02Ab17271, BZ505-172, BZ505 192, UT99B1670-3530, 04WZN-124, 04WA-113.22, 04WZN-286, CDC Austenson, CDC Meredith, CDC Reserve, and CDC Coalition. The last 4 are Canadian cultivars which had not been previously evaluated in the WRSBN or WRDSBN.

Data Analysis

Computer software, in Excel[®] format, was used to obtain the cultivar means and period of years summary for all characteristics. With this software, we were also able to calculate the coefficient of variation (C.V.) and the Least Significant Difference (LSD) at the .05 level for grain yield. These two statistics are included to provide some indication of the variability in the individual test locations and an indication of cultivar rank at each location and the overall average.

Data Highlights

Seasonal measurements for the check cultivars Baronesse, Steptoe, and Harrington (Table 2), for 2007 through 2009, show that the check's mean grain yield for the 2009 season was higher than the two previous years and was higher than average for the years tested. Test weight was higher than the two previous years, plant height was 0.5 cm taller than average, heading date was

1.5 days later than average, percent plump barley was the highest recorded at 6.9 percent higher than average, and protein was the lowest recorded of the three years.

In 2009 the highest yielding entry over all locations was the 2-rowed feed cultivar CDC Austenson (TR06398), at 6.18 Mg ha^{-1} (Table 3), followed by Baronesse, the 2-rowed feed check, at 6.14 Mg ha^{-1} . The next highest was CDC Coalition, a 2-rowed feed type, at 6.07 Mg ha^{-1} , and the fourth highest was the 04WA-113.22, a 2-rowed feed type, at 6.06 Mg ha^{-1} . The highest yielding feed/malting type barley was MT020204, ranked 9th at 5.99 Mg ha^{-1} and the highest malting type was CDC Meredith, ranked 10th at 5.92 Mg ha^{-1} . The next highest yielding feed/malting barley was MT040073, ranked 12th at 5.85 Mg ha^{-1} . The top 12 entries had statistically equal yields at the 95% confidence level. MT040073 had the highest test weight for the second consecutive year at 693.5 kg m^{-3} . 2B03-3719 had the highest percent plump barley at 96.1%.

In the period of years summary for 2007 through 2009 (Table 4), Baronesse was the highest yielding entry with at least two years data at 6.00 Mg ha^{-1} over the last three years. 04WA-122.20, a 2-rowed feed type, was the next highest yielding entry with 2 years data at 5.98 Mg ha^{-1} and UT04B2041-42, a 6-rowed feed type, was next highest at 5.96 Mg ha^{-1} . MT020204 was the highest yielding malting/feed type with at least two years data at 5.76 Mg ha^{-1} . Of the lines tested at least 2 years, MT040073 had the highest test weight at 691.7 kg m^{-3} , and 2B03-3719 had the highest percent plump barley at 96.7%.

Tables 5 through 12 present the 2009 WRSBN data summarized over locations for grain yield, test weight, height, heading date, plump barley, lodging, percent protein, and disease ratings.



Table 1: 2009 Western Regional Spring Barley Nursery, Entry List

Seed Source	Entry Number	Entry	Parentage	TYPE	Grade
WSU	1	Steptoe	CI 15229	6 row	feed
WPB	2	Baronesse	PI 568246	2 row	feed
USDA-ARS	3	Harrington		2 row	malting
USDA-ARS	4	AC Metcalfe		2 row	malting
BARI	5	2B02-2925	MERIT/2B97-4527	2 row	malting
BARI	6	2B03-3719	2B96-5038/2B97-4796	2 row	malting
BARI	7 *	2B03-3604	MERIT/2B97-4832	2 row	malting
BARI	8 *	2B04-0175	2B97-4719/2B97-4004	2 row	malting
BARI	9 *	2B05-0672	2B00-0366/2B99-2763	2 row	malting
BARI	10 *	2B05-0811	2B99-2763/2B00-0719	2 row	malting
USDA-ARS	11 *	2Ab04-X00017-4	97Ab6361/95Ab11469	2 row	feed
USDA-ARS	12 *	02Ab17271	85Ab2323/Merit	2 row	malting
WPB	13 *	BZ505-172	CDC Trey/Xena	2 row	feed
WPB	14 *	BZ505 192	TR 361/Xena	2 row	feed
MSU	15	MT010158	MT920041/Harrington	2 row	feed/malting
MSU	16	MT010160	MT920041/Harrington	2 row	feed/malting
MSU	17	MT020155	MT960225/H1851195	2 row	feed/malting
MSU	18	MT020204	MTLB 32/H1851195	2 row	feed/malting
MSU	19	MT030042	MT910189/MT960099	2 row	feed/malting
MSU	20	MT040073	MT960045/Harrington	2 row	feed/malting
NDSU	21	2ND21867	ND18172/ND19130	2 row	malting
USU	22 *	UT99B1670-3530	UT91B706-A-259/DA587-170	6 row	feed
USU	23	UT04B2041-42	Goldeneye/Columbia	6 row	feed
WSU	24	04WA-122.20	85AB2323/Baronesse	2 row	feed
WSU	25 *	04WZN-124	Farmington/Baronesse	2 row	feed
WSU	26 *	04WA-113.22	Camas/Baronesse	2 row	feed
WSU	27 *	04WZN-286	85AB2323/Baronesse	2 row	feed
USASK	28 *	CDC Meredith		2 row	malting
USASK	29 *	CDC Reserve		2 row	malting
USASK	30 *	CDC Coalition		2 row	feed
USASK	31 *	CDC Austenson (TR06389)		2 row	feed

* new entries

Table 2: Check Seasonal Measurements (2007-2009) of the Western Regional Spring Barley Nursery

Average of adjusted means of checks Baronesse, Steptoe, and Harrington

Variety or Selection	Grain Yield	Test Weight	Heading Date	Plant Height	Plump Barley*	Protein
	Mg ha ⁻¹	kg m ⁻³	From 1/1	cm	%	%
2009 Number of Locations	16	12	12	14	10	5
Steptoe	5.624	625.6	181.68	73.5	93.86	10.03
Baronesse	6.141	687	187.35	72.3	93.51	10.5
Harrington	5.395	672.5	186.48	78.4	93.04	10.81
2009 AVERAGE	5.720	661.7	185.2	74.7	93.5	10.4
2007 Number of Locations	7	5	5	4	4	2
Steptoe	3.523	601.4	174.1	74.6	85.5	12.3
Baronesse	3.438	645.1	178.4	65.2	74.5	13.8
Harrington	3.097	636.6	178.0	73.9	77.4	13.6
2007 AVERAGE	3.353	627.7	176.8	71.2	79.1	13.2
2008 Number of Locations	6	5	4	4	4	3
Steptoe	3.147	564.6	184.9	75.2	57.3	12.3
Baronesse	3.437	626.9	189.4	70.9	55.9	15.6
Harrington	3.063	611.3	188.6	75.5	62.8	14.5
2008 AVERAGE	3.216	600.9	187.6	73.9	58.7	14.1
AVERAGE Number of Locations	29	22	21	22	18	10
Steptoe	4.604	606.2	180.5	74.0	83.9	11.2
Baronesse	4.929	663.8	185.6	70.8	80.9	12.7
Harrington	4.358	650.4	184.9	77.1	82.9	12.5
BASE AVERAGE	4.630	640.2	183.7	73.9	82.6	12.1

Table 3: 2009 Western Regional Spring Barley Nursery, Means Summary

Entry	CULTIVAR/ DESIGNATION	GRAIN YIELD		TEST WEIGHT	HEADING DATE	PLANT HEIGHT	PLUMP BARLEY*	PROTEIN
Number		Mg ha ⁻¹	Rank	kg m ⁻³	From 1/1	cm	%	%
	Number of Locations**	16		12	12	14	10	5
1	Step toe	5.624	23	625.6	181.68	73.5	93.86	10.03
2	Baronesse	6.141	2	687.0	187.35	72.3	93.51	10.50
3	Harrington	5.395	26	672.5	186.48	78.4	93.04	10.81
4	AC Metcalfe	5.307	29	678.1	185.96	80.0	92.97	11.09
5	2B02-2925	5.662	19	677.4	186.36	75.6	93.26	11.21
6	2B03-3719	5.651	22	675.9	185.83	77.2	96.07	10.86
7	2B03-3604	5.734	17	665.7	186.77	80.1	93.22	10.82
8	2B04-0175	5.845	13	681.3	186.35	80.9	93.76	11.19
9	2B05-0672	5.682	18	661.1	188.37	72.2	92.95	10.48
10	2B05-0811	5.568	24	672.4	186.64	73.2	94.37	10.76
11	2Ab04-X00017-4	5.807	15	673.3	187.01	79.5	94.49	10.97
12	02Ab17271	5.672	21	670.9	190.29	77.6	92.34	10.68
13	BZ505-172	6.008	5	689.3	186.83	76.3	95.27	10.51
14	BZ505 192	6.003	8	685.8	188.32	75.1	93.28	10.90
15	MT010158	5.385	28	682.8	186.46	75.8	94.02	10.90
16	MT010160	5.281	30	688.3	186.97	81.1	93.37	10.99
17	MT020155	5.815	14	666.1	182.00	76.3	90.18	10.75
18	MT020204	5.986	9	688.2	184.58	78.1	93.26	10.96
19	MT030042	5.383	27	692.3	185.54	73.2	90.09	9.77
20	MT040073	5.847	12	693.5	185.56	76.2	93.59	10.81
21	2ND21867	5.754	16	684.3	183.80	77.4	95.33	11.00
22	UT99B1670-3530	5.421	25	638.6	181.93	74.6	93.27	10.72
23	UT04B2041-42	6.012	7	650.2	184.36	78.1	88.79	10.12
24	04WA-122.20	6.013	6	680.1	186.70	75.0	93.22	10.38
25	04WNZ-124	5.925	11	673.3	189.20	64.3	93.79	11.04
26	04WA-113.22	6.058	4	691.2	185.69	71.5	93.16	11.23
27	04WNZ-286	5.665	20	686.0	186.29	71.5	92.79	10.63
28	CDC Meredith	5.923	10	659.4	187.57	78.6	94.37	10.06
29	CDC Reserve	5.177	31	665.6	187.30	79.2	95.26	10.20
30	CDC Coalition	6.068	3	685.8	185.70	71.8	94.10	10.29
31	CDC Austenson	6.180	1	691.8	187.98	81.4	94.74	10.98
	MEAN:	5.742		675.3	186.19	76.0	93.41	10.70
	CHECK MEAN:	5.617		665.8	185.4	76.0	93.35	10.61
	CV %	9.50		1.87	0.72	5.84	2.66	4.39
	LSD (.05)	0.327		8.8	0.93	2.8	1.89	0.50

* Percent over sieve, 2-rowed >2.4mm, 6-rowed >2.2mm

Table 4: Summary Across Locations and Years, Western Regional Spring Barley Nursery, 2007-2009.

Entry Number	CULTIVAR/ DESIGNATION	Grain Yield			Test Weight	Plant Height	Heading Date	Plump Barley**	Protein
		Station Years	Mg ha ⁻¹	RANK	kg m ⁻³	cm	From 1/1	%	%
1	Steptoe*	37	5.554	22	620.1	75.8	177.0	93.1	10.6
2	Baronesse*	37	5.998	6	671.6	74.4	182.0	91.4	11.5
3	Harrington *	37	5.236	28	658.8	78.3	181.8	92.0	11.8
4	AC Metcalfe	16	5.307	26	678.1	80.0	186.0	93.0	11.1
5	2B02-2925	26	5.501	23	671.7	76.0	184.9	94.1	11.6
6	2B03-3719	26	5.635	19	667.6	77.7	184.4	96.6	11.3
7	2B03-3604	16	5.734	14	665.7	80.1	186.8	93.2	10.8
8	2B04-0175	16	5.845	11	681.3	80.9	186.4	93.8	11.2
9	2B05-0672	16	5.682	15	661.1	72.2	188.4	93.0	10.5
10	2B05-0811	16	5.568	20	672.4	73.2	186.6	94.4	10.8
11	2Ab04-X00017-4	16	5.807	12	673.3	79.5	187.0	94.5	11.0
12	02Ab17271	16	5.672	16	670.9	77.6	190.3	92.3	10.7
13	BZ505-172	16	6.008	4	689.3	76.3	186.8	95.3	10.5
14	BZ505 192	16	6.003	5	685.8	75.1	188.3	93.3	10.9
15	MT010158	37	5.111	31	672.8	75.6	181.4	93.5	12.0
16	MT010160	37	5.178	29	673.2	80.7	182.0	91.7	11.9
17	MT020155	37	5.567	21	661.2	78.4	177.1	90.7	11.8
18	MT020204	37	5.756	13	680.3	78.4	179.2	91.6	11.9
19	MT030042	37	5.246	27	685.2	73.6	180.4	89.0	11.0
20	MT040073	26	5.653	18	691.7	76.2	184.6	94.2	11.5
21	2ND21867	37	5.412	25	674.7	76.9	178.5	96.2	11.9
22	UT99B1670-3530	16	5.421	24	638.6	74.6	181.9	93.3	10.7
23	UT04B2041-42	26	5.959	8	650.1	78.3	182.5	91.3	10.6
24	04WA-122.20	26	5.979	7	674.7	75.3	185.5	94.0	10.4
25	04WNZ-124	16	5.925	9	673.3	64.3	189.2	93.8	11.6
26	04WA-113.22	16	6.058	3	691.2	71.5	185.7	93.2	11.2
27	04WNZ-286	16	5.665	17	686.0	71.5	186.3	92.8	10.6
28	CDC Meredith	16	5.923	10	659.4	78.6	187.6	94.4	10.1
29	CDC Reserve	16	5.177	30	665.6	79.2	187.3	95.3	10.2
30	CDC Coalition	16	6.068	2	685.8	71.8	185.7	94.1	10.3
31	CDC Austenson	16	6.180	1	691.8	81.4	188.0	94.7	11.0
	MEAN:		5.672		671.7	76.2	184.5	93.3	11.1
	CHECK MEAN:		5.524		657.1	77.1	181.7	92.4	11.3
	CHECK* MEAN:		5.596		650.2	76.2	180.3	92.2	11.3

* Mean of Steptoe, Baronesse, and Harrington (37 station years)

** Percent over sieve, 2-rowed >2.4mm, 6-rowed >2.2mm

Table 5: 2009 Western Regional Spring Barley Nursery, Grain Yield (Mg ha⁻¹)

Entry NO.	CULTIVAR/ DESIGNATION	AVERAGE		Rank Ave.	Aber deen ID	Idaho Falls ID	Tet onia ID	Boze man MT	Manha ttan MT	Con rad MT	Fair field MT	Het tinger ND	Lang don ND	Minot ND	Logan UT	Mt. Sterling UT	Willi ston ND	Pull man WA	Powell WY	Sask atoon SK
		Mg ha ⁻¹	Rank																	
1	Step toe	5.624	23	18.8	6.472	7.249	3.171	5.800	6.827	3.875	6.862	3.757	5.644	7.203	6.023	5.669	3.981	4.300	9.139	4.016
2	Baronesse	6.141	2	8.6	6.568	7.209	3.386	8.087	7.458	4.367	7.329	4.748	6.875	7.633	6.332	5.486	4.669	4.730	8.539	4.844
3	Harrington	5.395	26	23.1	5.139	6.457	2.806	7.783	6.636	3.844	6.842	3.638	6.230	6.579	4.622	5.055	4.352	4.569	7.626	4.138
4	AC Metcalfe	5.307	29	24.6	5.757	6.270	2.607	6.722	7.152	3.234	6.595	3.454	6.020	6.988	4.705	5.105	4.178	4.354	7.459	4.307
5	2B02-2925	5.662	19	18.1	6.246	6.941	3.080	7.531	7.785	2.962	6.508	3.609	6.692	7.358	3.517	6.217	4.363	4.999	8.533	4.254
6	2B03-3719	5.651	22	16.8	6.343	7.405	3.204	8.218	7.854	3.710	6.795	4.074	6.095	6.832	3.830	4.967	4.230	4.515	7.821	4.525
7	2B03-3604	5.734	17	14.9	6.343	7.690	2.913	6.904	7.395	3.892	6.979	3.664	6.660	6.971	4.409	5.005	4.709	5.375	7.922	4.911
8	2B04-0175	5.845	13	14.3	5.526	6.856	3.779	7.824	7.421	4.174	6.617	4.060	6.493	8.111	3.589	5.660	4.514	5.053	9.284	4.557
9	2B05-0672	5.682	18	15.4	5.929	7.063	2.849	6.926	7.466	3.444	7.291	3.428	6.563	7.837	3.252	5.678	4.728	5.053	8.580	4.823
10	2B05-0811	5.568	24	18.3	5.466	6.751	3.897	7.477	7.334	3.651	6.731	3.917	6.810	7.444	2.987	4.526	4.368	4.838	7.816	5.073
11	2Ab04-X00017-4	5.807	15	13.6	5.886	6.900	3.182	8.293	7.848	4.145	6.771	3.669	6.730	7.487	3.732	5.283	4.624	4.891	8.782	4.688
12	02Ab17271	5.672	21	14.4	5.853	7.398	3.042	7.862	7.455	3.040	6.685	4.318	6.386	7.676	2.623	3.801	4.622	5.483	8.969	5.547
13	BZ505-172	6.008	5	11.7	5.106	6.794	3.349	8.311	8.147	4.159	7.627	4.801	6.563	7.837	4.366	5.760	4.391	4.569	10.092	4.261
14	BZ505 192	6.003	8	11.9	6.278	7.296	2.881	7.791	8.188	3.520	7.132	4.213	7.111	8.143	3.713	5.053	4.328	5.375	9.650	5.375
15	MT010158	5.385	28	21.8	5.982	6.646	3.193	7.036	6.647	3.529	6.597	3.080	5.273	5.606	5.286	5.662	4.199	4.193	8.626	4.613
16	MT010160	5.281	30	23.4	4.714	6.957	2.827	6.912	6.738	3.538	7.025	2.886	6.541	6.165	4.767	5.982	4.153	4.139	6.870	4.280
17	MT020155	5.815	14	16.8	5.692	7.141	2.892	7.350	7.234	4.459	7.283	3.317	6.133	7.224	6.078	6.515	4.392	4.784	8.529	4.016
18	MT020204	5.986	9	13.4	5.757	7.375	2.913	7.710	6.976	4.747	6.957	4.292	6.472	7.885	5.872	6.336	4.496	4.730	8.874	4.379
19	MT030042	5.383	27	21.8	5.531	6.522	3.080	6.498	6.465	3.258	6.787	3.531	5.552	7.477	4.176	5.653	4.734	4.300	8.120	4.450
20	MT040073	5.847	12	14.6	5.628	7.338	3.193	7.850	7.061	4.015	7.049	4.394	6.493	7.901	5.279	5.590	4.487	4.623	8.469	4.188
21	2ND21867	5.754	16	16.8	5.526	6.765	2.252	6.861	7.213	2.708	6.770	4.621	7.106	7.600	6.116	6.175	4.506	4.246	8.656	4.948
22	UT99B1670-3530	5.421	25	22.1	4.977	7.010	2.870	6.506	6.974	2.841	7.160	3.296	6.090	7.009	2.915	6.578	3.998	4.354	9.980	4.184
23	UT04B2041-42	6.012	7	11.6	4.746	7.591	3.161	6.578	7.846	3.878	7.532	4.118	5.913	7.385	5.982	7.035	4.727	4.461	10.051	5.197
24	04WA-122.20	6.013	6	11.2	6.407	7.400	3.128	8.207	7.399	2.343	7.514	3.872	6.713	6.859	6.284	6.278	4.547	5.160	9.295	4.806
25	04WNZ-124	5.925	11	13.9	6.015	7.443	3.048	8.356	7.625	2.803	6.554	4.984	6.799	6.945	5.274	5.885	4.288	4.461	9.526	4.797
26	04WA-113.22	6.058	4	11.5	6.439	7.080	3.510	7.918	7.393	4.080	6.838	4.234	6.627	7.547	5.943	6.519	4.456	4.838	9.099	4.407
27	04WNZ-286	5.665	20	16.6	4.977	7.324	3.300	7.585	7.627	4.628	7.129	3.463	5.364	5.961	4.773	6.840	3.710	4.246	9.112	4.592
28	CDC Meredith	5.923	10	13.9	5.660	7.277	3.005	7.957	7.453	4.353	6.390	4.248	7.681	7.272	5.365	5.893	4.597	5.053	8.042	4.526
29	CDC Reserve	5.177	31	22.7	4.193	5.841	3.187	6.724	6.567	3.758	5.741	4.274	6.316	7.525	2.555	4.727	4.413	4.085	8.266	4.661
30	CDC Coalition	6.068	3	11.6	6.504	7.391	3.058	7.969	7.419	3.432	6.595	4.292	7.423	7.885	5.437	6.422	4.169	5.268	8.868	4.952
31	CDC Austenson	6.180	1	7.8	6.665	7.493	3.284	8.453	7.518	3.792	7.077	4.516	7.649	8.310	4.962	5.736	4.392	5.375	8.545	5.107
Location Mean		5.742			5.835	6.981	3.080	7.484	7.326	3.682	6.862	3.966	6.482	7.310	4.670	5.713	4.377	4.732	8.681	4.626
Check Mean		5.617			5.984	6.796	2.993	7.098	7.018	3.830	6.907	3.899	6.192	7.100	5.420	5.329	4.295	4.488	8.191	4.326
C.V. (%)		9.50			16.93	4.96	17.30	0.00	5.60	13.68	4.06	8.23	9.30	8.60	0.00	0.00	4.36	9.08	8.80	6.11
LSD .05		0.327			1.606	0.703	0.871	0.000	0.667	1.024	0.566	0.533	0.822	0.860	0.000	0.000	0.313	0.586	1.253	0.385
Replications		16			3	2	3	2	3	2	2	3	3	3	?	?	3	3	3	3

Table 6: 2009 Western Regional Spring Barley Nursery, Test Weight (kg m⁻³)

Entry Number	CULTIVAR/ DESIGNATION	Average*		Aberdeen	Idaho Falls	Bozeman	Manhattan	Conrad	Fairfield	Hettinger	Williston	Logan	Mt. Sterling	Pullman	Powell	Saskatoon
		kg m ⁻³	RANK	ID	ID	MT	MT	MT	MT	ND	ND	UT	UT	WA	WY	SK
1	Steptoe	625.6	31	657.7	664.6	627.9	605.5	652.0	614.7	552.1	649.9	669.6	669.2	615.2	556.8	630.0
2	Baronesse	687.0	8	711.7	714.5	696.7	706.6	696.5	705.5	624.1	707.9	721.5	704.8	656.4	616.5	693.0
3	Harrington	672.5	21	700.1	697.3	679.0	694.3	683.7	682.9	614.0	716.9	685.2	703.6	658.9	591.8	663.0
4	AC Metcalfe	678.1	16	714.3	700.1	674.6	706.6	684.7	682.9	613.0	725.9	714.1	727.9	658.9	592.0	656.0
5	2B02-2925	677.4	17	707.9	704.5	683.1	702.7	690.1	676.4	604.4	713.0	691.1	732.9	637.1	608.1	685.0
6	2B03-3719	675.9	18	702.7	699.1	681.8	702.1	683.7	683.7	621.7	710.4	697.6	712.5	643.5	615.8	659.0
7	2B03-3604	665.7	25	692.4	691.9	669.3	702.7	665.6	667.4	594.1	710.4	693.3	707.1	644.8	597.6	644.0
8	2B04-0175	681.3	14	701.4	710.9	682.5	714.9	679.3	687.3	623.0	716.9	692.9	719.1	669.2	625.7	654.0
9	2B05-0672	661.1	27		696.5	660.8	686.6	668.2	665.6	592.5	707.9	698.0	673.7	646.1	594.5	643.0
10	2B05-0811	672.4	22	662.8	700.1	672.6	693.0	688.3	662.0	616.7	718.1	732.4	715.0	643.5	579.4	647.0
11	2Ab04-X00017-4	673.3	19	704.0	709.1	686.5	714.3	675.4	680.1	621.9	718.1	674.3	714.2	665.4	568.1	652.0
12	02Ab17271	670.9	23	689.8	691.9	685.6	705.3	686.5	660.0	614.0	723.3	695.7	673.6	661.5	605.8	648.0
13	BZ505-172	689.3	5	701.4	717.4	694.3	707.9	700.9	708.1	633.6	725.9	717.1	734.8	656.4	597.4	678.0
14	BZ505 192	685.8	11	693.7	717.4	690.9	705.3	703.7	709.1	623.0	713.0	688.2	686.9	666.7	648.0	677.0
15	MT010158	682.8	13	697.6	710.9	689.3	697.6	690.9	688.3	631.9	709.1	712.3	731.9	664.1	606.8	661.0
16	MT010160	688.3	6	692.4	713.8	694.9	714.3	698.3	707.3	618.9	714.3	713.3	722.3	679.5	622.7	660.0
17	MT020155	666.1	24	695.0	701.9	671.1	700.8	684.7	681.1	599.6	697.6	722.6	703.9	643.5	512.0	675.0
18	MT020204	688.2	7	704.0	718.1	696.9	713.0	689.1	704.5	619.8	709.1	730.4	732.7	662.8	610.9	671.0
19	MT030042	692.3	2	715.6	721.0	690.4	695.0	712.7	709.1	614.4	729.7	717.1	727.9	686.0	622.1	682.0
20	MT040073	693.5	1	725.9	726.4	697.6	709.1	709.1	708.1	641.1	720.7	718.4	708.1	665.4	636.9	681.0
21	2ND21867	684.3	12	719.4	714.5	680.5	698.2	704.5	694.5	630.8	718.1	703.2	737.4	664.1	585.3	680.0
22	UT99B1670-3530	638.6	30	643.5	675.4	644.3	640.3	652.8	645.6	577.3	670.5	694.8	696.4	629.3	520.7	616.0
23	UT04B2041-42	650.2	29	670.5	678.2	649.1	648.0	657.4	656.4	607.5	688.5	689.6	677.4	628.1	581.6	640.0
24	04WA-122.20	680.1	15	696.3	712.7	695.4	702.8	691.9	688.3	613.1	713.0	714.3	711.8	652.5	585.7	680.0
25	04WZN-124	673.3	20	689.8	703.7	699.9	693.7	683.7	677.2	612.5	714.3	695.3	698.3	639.6	608.9	652.0
26	04WA-113.22	691.2	4	711.7	713.8	691.7	717.5	712.0	697.3	634.7	722.0	731.3	728.3	664.1	608.1	674.0
27	04WZN-286	686.0	9	698.8	721.0	697.0	711.7	706.3	704.5	632.2	715.6	706.6	716.1	660.2	593.6	667.0
28	CDC Meredith	659.4	28	684.7	688.3	671.6	689.2	679.3	660.0	602.7	711.7	708.5	691.1	656.4	527.3	627.0
29	CDC Reserve	665.6	26	655.1	691.9	677.0	692.4	681.9	662.0	619.2	714.3	663.5	699.6	649.9	586.5	649.0
30	CDC Coalition	685.8	10	707.9	712.7	694.0	711.7	698.3	695.5	623.7	718.1	708.6	699.6	675.7	613.4	678.0
31	CDC Austenson	691.8	3	718.1	717.4	705.2	714.9	700.1	698.3	627.4	725.9	696.6	711.4	671.8	647.5	685.0
Location Mean		675.3		695.5	704.4	681.7	696.7	687.5	682.7	614.5	711.7	703.1	708.7	655.6	595.9	661.5
Check Mean		665.8		695.9	694.1	669.5	678.2	679.2	671.5	600.8	700.1	697.6	701.4	647.4	589.3	660.5
C.V. (%)		1.87								1.58	0.50			1.18	5.10	
LSD .05		8.8								15.8	7.7			10.5	49.3	

* does not include data from Aberdeen due to missing entry

Table 7: 2009 Western Regional Spring Barley Nursery, Plant Height (cm)

Entry Number	CULTIVAR/ DESIGNATION	Average		Aberdeen	Idaho Falls	Tetonia	Bozeman	Manhattan	Hettinger	Langdon	Minot	Williston	Logan	Mt. Sterling	Pullman	Powell	Saskatoon
		cm	Rank	ID	ID	ID	MT	MT	ND	ND	ND	ND	UT	UT	WA	WY	SK
1	Steptoe	73.5	23	91.4	90.0	58.4	61.0	78.7	87.0	83.3	64.8	55.6	81.3	71.1	55.1	70.8	80.0
2	Baronesse	72.3	26	83.8	89.0	40.6	77.0	86.4	87.0	73.5	69.8	56.6	73.7	61.0	57.2	84.0	73.0
3	Harrington	78.4	9	96.5	92.0	50.8	78.0	94.0	77.0	87.2	75.1	58.9	73.7	76.2	66.0	91.7	80.0
4	AC Metcalfe	80.0	5	101.6	95.0	58.4	73.0	90.2	88.0	85.5	74.0	57.4	86.4	68.6	70.6	87.4	84.3
5	2B02-2925	75.6	19	101.6	95.0	53.3	72.5	87.6	87.7	79.2	70.9	55.4	61.0	71.1	61.5	83.7	77.3
6	2B03-3719	77.2	14	96.5	96.0	45.7	75.5	90.2	92.3	85.0	68.3	57.9	81.3	68.6	62.2	83.1	77.7
7	2B03-3604	80.1	4	99.1	100.0	61.0	79.5	94.0	82.0	87.8	74.3	58.9	81.3	73.7	62.7	86.4	81.3
8	2B04-0175	80.9	3	101.6	97.0	53.3	78.0	95.3	81.7	93.0	76.1	59.9	78.7	76.2	67.8	89.4	84.0
9	2B05-0672	72.2	27	86.4	90.0	48.3	64.5	81.3	83.3	79.8	66.7	54.4	66.0	73.7	62.7	81.1	73.0
10	2B05-0811	73.2	24	83.8	92.0	50.8	67.5	82.6	79.3	81.7	70.3	57.2	68.6	68.6	62.7	84.0	76.3
11	2Ab04-X00017-4	79.5	6	99.1	99.0	55.9	77.5	91.4	82.3	87.3	75.8	60.7	71.1	71.1	72.4	86.1	83.3
12	02Ab17271	77.6	12	94.0	95.0	48.3	77.5	92.7	80.7	81.3	77.0	61.5	76.2	71.1	68.1	82.7	81.0
13	BZ505-172	76.3	16	94.0	90.0	58.4	73.0	91.4	83.0	82.8	73.6	59.9	71.1	63.5	66.5	81.1	80.0
14	BZ505 192	75.1	20	99.1	85.0	53.3	68.5	87.6	77.0	81.8	73.7	56.9	73.7	66.0	64.8	84.0	79.7
15	MT010158	75.8	18	94.0	86.0	61.0	69.0	90.2	84.3	78.7	65.1	58.4	76.2	71.1	64.0	86.4	76.7
16	MT010160	81.1	2	106.7	100.0	58.4	78.5	94.0	89.3	88.2	74.1	57.4	78.7	73.7	66.8	86.4	83.0
17	MT020155	76.3	15	96.5	95.0	48.3	70.5	90.2	83.0	83.2	68.8	61.7	76.2	73.7	66.0	82.1	73.7
18	MT020204	78.1	11	99.1	100.0	48.3	76.0	88.9	94.3	86.2	69.4	56.6	76.2	73.7	59.2	81.1	84.0
19	MT030042	73.2	25	99.1	92.0	53.3	68.5	83.8	86.0	73.2	62.9	56.4	71.1	68.6	54.6	80.4	75.3
20	MT040073	76.2	17	96.5	92.0	55.9	67.5	92.7	89.3	81.8	69.5	56.6	76.2	66.0	65.3	80.1	77.3
21	2ND21867	77.4	13	99.1	94.0	50.8	65.0	91.4	90.0	85.7	72.3	61.0	73.7	68.6	66.0	87.4	78.0
22	UT99B1670-3530	74.6	22	71.1	91.0	53.3	60.5	83.8	83.0	84.2	64.9	56.9	81.3	91.4	64.3	78.4	80.3
23	UT04B2041-42	78.1	10	109.2	91.0	61.0	64.5	90.2	82.0	82.5	69.8	54.6	81.3	81.3	64.3	80.7	81.3
24	04WA-122.20	75.0	21	94.0	85.0	50.8	71.0	90.2	83.7	85.2	68.2	54.1	76.2	66.0	60.2	85.1	81.0
25	04WNZ-124	64.3	31	88.9	70.0	35.6	62.5	69.9	84.3	66.2	58.8	54.6	63.5	55.9	52.8	73.1	64.3
26	04WA-113.22	71.5	29	91.4	75.0	50.8	74.5	85.1	80.0	76.0	66.6	58.7	68.6	68.6	56.4	74.1	75.7
27	04WNZ-286	71.5	30	96.5	81.0	45.7	70.5	85.1	80.3	70.3	67.4	54.1	66.0	73.7	57.7	79.0	74.0
28	CDC Meredith	78.6	8	99.1	90.0	55.9	76.0	88.9	90.3	89.0	70.3	55.4	78.7	66.0	69.3	90.1	81.0
29	CDC Reserve	79.2	7	109.2	90.0	58.4	79.5	96.5	81.3	85.7	72.2	59.7	68.6	71.1	64.8	87.1	85.0
30	CDC Coalition	71.8	28	94.0	78.0	35.6	69.5	82.6	82.7	81.5	70.6	55.9	71.1	63.5	64.0	83.1	73.7
31	CDC Austenson	81.4	1	104.1	95.0	50.8	77.0	95.3	91.0	89.3	73.4	58.9	78.7	76.2	80.5	88.4	81.3
Location Mean		76.0		95.8	90.6	52.6	71.7	88.4	84.6	82.5	70.2	57.9	74.4	70.6	63.6	83.1	78.6
Check Mean		76.0		93.3	91.5	52.1	72.3	87.3	84.8	82.4	70.9	57.2	78.7	69.2	62.2	83.5	79.3
C.V. (%)		5.84		7.88		11.50			5.30	6.00	5.40	5.30		5.8	5.50	3.86	
LSD .05		2.8		15.3		9.9			7.4	6.8	5.2	5.1		5.1	7.4	4.1	

Table 8: 2009 Western Regional Spring Barley Nursery, Heading Date (Days after Jan. 1)

Entry Number	CULTIVAR/ DESIGNATION	Average		Aberdeen	Idaho Falls	Bozeman	Manhattan	Fairfield	Hettinger	Langdon	Minot	Williston	Pullman	Powell	Saskatoon
		From 1/1	Rank	ID	ID	MT	MT	MT	ND	ND	ND	ND	WA	WY	SK
1	Step toe	181.68	1	171	176	187	184	185	183	195	184	174	170	176	196
2	Baronesse	187.35	25	175	179	192	190	196	189	200	188	181	174	182	203
3	Harrington	186.48	17	175	179	193	189	194	189	197	187	178	174	182	202
4	AC Metcalfe	185.96	12	175	178	192	186	194	188	198	189	179	173	180	200
5	2B02-2925	186.36	15	178	179	192	187	195	187	198	186	179	174	180	202
6	2B03-3719	185.83	11	176	178	191	183	193	189	197	188	180	175	180	200
7	2B03-3604	186.77	20	176	179	192	190	192	188	199	188	179	178	180	202
8	2B04-0175	186.35	14	176	178	192	187	196	187	197	189	179	174	181	201
9	2B05-0672	188.37	29	177	179	192	191	197	189	201	190	182	178	182	203
10	2B05-0811	186.64	18	173	179	192	190	196	189	198	188	180	173	181	201
11	2Ab04-X00017-4	187.01	23	176	179	193	190	199	189	198	187	178	174	180	202
12	02Ab17271	190.29	31	181	182	194	192	201	192	202	189	182	180	184	205
13	BZ505-172	186.83	21	173	179	192	190	199	189	199	186	179	173	181	202
14	BZ505 192	188.32	28	177	179	193	192	199	190	201	183	182	177	184	204
15	MT010158	186.46	16	174	178	191	191	197	188	198	188	180	173	180	200
16	MT010160	186.97	22	174	178	192	190	197	188	199	185	180	177	181	203
17	MT020155	182.00	3	169	176	189	183	188	184	195	184	174	170	176	197
18	MT020204	184.58	6	171	178	191	186	194	186	196	185	177	172	180	200
19	MT030042	185.54	7	171	178	191	190	194	188	198	186	179	172	180	200
20	MT040073	185.56	8	174	179	190	186	194	187	197	186	179	174	181	200
21	2ND21867	183.80	4	173	177	190	184	193	184	195	185	176	172	180	198
22	UT99B1670-3530	181.93	2	172	176	188	183	188	183	195	181	174	169	176	199
23	UT04B2041-42	184.36	5	173	178	190	184	190	183	197	187	177	175	179	201
24	04WA-122.20	186.70	19	176	178	192	188	194	189	197	189	181	174	180	203
25	04WNZ-124	189.20	30	173	181	197	193	199	188	202	192	181	180	183	203
26	04WA-113.22	185.69	9	174	178	191	191	192	188	197	186	179	172	180	200
27	04WNZ-286	186.29	13	173	178	193	189	194	189	198	187	180	173	181	201
28	CDC Meredith	187.57	26	177	179	192	190	198	188	199	188	180	174	183	203
29	CDC Reserve	187.30	24	177	179	193	188	196	187	199	189	180	177	182	202
30	CDC Coalition	185.70	10	174	178	191	188	194	188	196	186	179	174	180	200
31	CDC Austenson	187.98	27	178	180	193	189	198	188	200	188	179	178	182	203
Location Mean		186.19		174.9	178.4	191.4	188.0	194.7	188.0	197.9	152.0	178.5	174.5	180.5	201.1
Check Mean		185.4		174.0	177.8	190.8	187.1	192.3	187.3	197.4	187.0	177.9	172.8	180.0	200.3
C.V. (%)		0.72		1.4					0.5	2.5	6.6	0.5	0.6		0.4
LSD .05		0.93		3.8					2.0	1.6	3.2	1.5	1.4		1.0

Table 9: 2009 Western Regional Spring Barley Nursery, Percent Plump Barley*

Entry Number	CULTIVAR/ DESIGNATION	Average**		Aberdeen	Idaho Falls	Bozeman	Manhattan	Conrad	Fairfield	Hettinger	Williston	Pullman	Powell	Saskatoon
		%*	Rank	ID	ID	MT	MT	MT	MT	ND	ND	WA	WY	SK
1	Step toe	93.86	11	97.0	96.9	84.5	91.5	96.1	95.2	89.6	94.2	95.0	98.3	97.3
2	Baronesse	93.51	15	95.9	96.0	91.4	97.8	94.4	98.3	78.8	98.1	91.0	96.2	93.0
3	Harrington	93.04	24	89.8	96.3	86.5	95.4	94.9	98.6	80.4	97.7	95.0	92.4	93.3
4	AC Metcalfe	92.97	25	95.7	96.0	85.6	96.3	94.9	98.1	80.0	97.7	95.0	93.4	92.7
5	2B02-2925	93.26	19	96.5	96.8	87.3	96.0	95.3	98.4	76.0	97.3	95.0	96.1	94.4
6	2B03-3719	96.07	1	98.7	98.4	93.7	97.3	98.6	98.9	81.6	98.6	98.0	98.5	97.0
7	2B03-3604	93.22	22	93.6	96.5	86.0	95.9	96.6	98.8	77.6	97.4	96.0	93.6	93.8
8	2B04-0175	93.76	13	93.0	98.4	90.0	97.3	97.0	98.7	69.2	97.9	97.0	97.4	94.7
9	2B05-0672	92.95	26		95.7	86.3	97.5	92.1	98.3	80.4	96.0	95.0	94.0	94.3
10	2B05-0811	94.37	8	82.9	96.8	91.4	95.8	96.4	98.3	80.0	97.9	96.0	93.5	97.6
11	2Ab04-X00017-4	94.49	6	93.1	97.4	91.1	97.0	96.8	98.6	80.8	97.4	97.0	94.1	94.7
12	02Ab17271	92.34	28	86.7	95.5	88.3	92.3	91.8	96.3	82.0	95.8	93.0	96.4	91.9
13	BZ505-172	95.27	3	90.0	96.7	91.1	97.2	96.2	98.9	87.6	98.4	97.0	94.8	94.8
14	BZ505 192	93.28	17	84.7	96.1	84.5	95.8	93.5	98.6	80.0	96.3	97.0	95.8	95.1
15	MT010158	94.02	10	91.7	96.2	89.2	96.2	94.6	98.6	88.0	95.9	94.0	94.6	93.0
16	MT010160	93.37	16	81.6	95.8	90.5	96.4	93.8	97.4	84.0	96.8	96.0	93.1	89.8
17	MT020155	90.18	29	81.0	92.3	81.4	92.3	96.5	97.0	74.4	93.5	96.0	84.6	93.8
18	MT020204	93.26	20	87.2	95.1	88.4	95.8	94.0	98.2	84.8	96.7	97.0	92.3	90.2
19	MT030042	90.09	30	90.5	94.3	79.9	91.4	96.1	97.0	70.4	97.1	97.0	91.6	86.1
20	MT040073	93.59	14	96.1	96.2	89.7	96.1	96.3	96.7	83.2	95.5	93.0	93.9	95.4
21	2ND21867	95.33	2	96.1	98.2	90.5	97.5	98.2	98.6	81.2	97.4	98.0	97.4	96.3
22	UT99B1670-3530	93.27	18	82.3	96.7	88.2	94.7	97.0	96.4	72.8	95.2	97.0	98.0	96.7
23	UT04B2041-42	88.79	31	84.6	90.8	84.9	80.8	90.5	95.9	66.8	90.7	94.0	96.5	97.1
24	04WA-122.20	93.22	21	93.7	96.7	88.8	93.7	93.0	97.1	84.0	97.4	92.0	93.5	95.9
25	04WZN-124	93.79	12	95.2	96.9	93.4	95.9	92.7	95.4	79.6	98.1	95.0	97.3	93.6
26	04WA-113.22	93.16	23	93.7	96.0	88.1	94.8	95.6	97.8	76.4	96.9	96.0	97.1	92.9
27	04WZN-286	92.79	27	87.1	96.7	88.0	96.5	94.6	98.4	72.8	98.8	96.0	92.9	93.2
28	CDC Meredith	94.37	7	94.1	96.9	90.6	96.3	97.3	97.9	81.6	97.2	97.0	92.5	96.6
29	CDC Reserve	95.26	4	72.4	96.2	93.4	98.4	96.6	98.2	79.6	98.3	98.0	95.8	98.1
30	CDC Coalition	94.10	9	95.0	96.6	92.8	97.4	96.5	97.6	76.0	98.6	92.0	96.5	96.9
31	CDC Austenson	94.74	5	97.5	96.6	92.0	98.3	93.4	98.1	82.0	97.7	95.0	96.8	97.6
Location Mean		93.41		90.58	96.18	88.64	95.33	95.21	97.75	79.40	97.00	95.49	94.50	94.44
Check Mean		93.35		94.60	96.31	87.02	95.24	95.08	97.56	82.20	96.93	94.00	95.08	94.06
C.V. (%)		2.66									0.80	1.52	2.40	2.73
LSD_{.05}		1.89									1.50	1.98	3.80	0.00

* Percent over sieve, 2-rowed >2.4mm, 6-rowed >2.2mm

** does not include data from Aberdeen due to missing entry.

Table 10: 2009 Western Regional Spring Barley Nursery, Percent Protein

Entry Number	CULTIVAR/ DESIGNATION	Average*		Idaho Falls ID	Bozeman MT	Conrad MT	Fairfield MT	Williston ND	Hettinger ND
		%	RANK						
1	Step toe	10.03	30	10.2	9.9	9.4	9.3	11.4	10.1
2	Baronesse	10.50	23	10.7	10.3	9.8	8.8	12.9	11.8
3	Harrington	10.81	15	10.6	10.0	10.5	9	14.0	12.2
4	AC Metcalfe	11.09	4	11.3	10.7	10.4	9.4	13.7	12.7
5	2B02-2925	11.21	2	11.8	10.7	10	9.7	13.9	13.1
6	2B03-3719	10.86	13	10.9	10.6	10.2	9.4	13.2	13.5
7	2B03-3604	10.82	14	11	10.2	10	9.7	13.2	12.7
8	2B04-0175	11.19	3	11.5	10.6	11.1	9.5	13.3	13.0
9	2B05-0672	10.48	24	10.7	9.7	10.4	9	12.6	12.3
10	2B05-0811	10.76	17	11.2	10.3	10.1	9.1	13.1	
11	2Ab04-X00017-4	10.97	9	11.6	10.1	10.4	9.5	13.3	12.8
12	02Ab17271	10.68	20	11.7	10.0	9.6	8.8	13.3	12.5
13	BZ505-172	10.51	22	10.3	10.6	9.8	8.8	13.1	12.1
14	BZ505 192	10.90	11	10.9	10.2	10.1	9.3	14.0	12.7
15	MT010158	10.90	12	10.5	10.9	10.4	9.3	13.4	12.5
16	MT010160	10.99	7	12.2	10.3	10.1	9	13.4	12.2
17	MT020155	10.75	18	11.4	10.2	9.8	9.6	12.8	12.5
18	MT020204	10.96	10	11.5	10.5	9.8	9.4	13.6	12.6
19	MT030042	9.77	31	9.9	9.6	8.7	8.9	11.8	12.0
20	MT040073	10.81	16	11	11.1	9.9	9.3	12.8	13.1
21	2ND21867	11.00	6	11.9	10.5	10	9.6	13.0	13.1
22	UT99B1670-3530	10.72	19	11.2	10.9	9.5	9.3	12.7	12.0
23	UT04B2041-42	10.12	28	10.9	10.8	8.3	8.4	12.2	13.4
24	04WA-122.20	10.38	25	10.5	10.0	8.7	8.6	14.1	13.8
25	04WNZ-124	11.04	5	10.3	10.5	10.5	9.1	14.8	14.1
26	04WA-113.22	11.23	1	10.8	10.9	10	9.7	14.8	13.6
27	04WNZ-286	10.63	21	10	10.6	9.8	9.2	13.6	14.0
28	CDC Meredith	10.06	29	10.3	10.0	9.3	8.2	12.5	12.9
29	CDC Reserve	10.20	27	10	10.2	9	8.8	13.0	12.5
30	CDC Coalition	10.29	26	10	10.3	9.3	8.6	13.3	13.3
31	CDC Austenson	10.98	8	11.4	10.8	10.5	9.2	13.0	12.1
Location Mean		10.70		10.91	10.36	9.85	9.15	13.2	12.7
Check Mean		10.61		10.70	10.19	10.03	9.13	13.00	11.70
C.V. (%)		4.39						3.4	
LSD .05		0.50						0.9	

* Does not include Hettinger du to missing data.

Table 11: 2009 Western Regional Spring Barley Nursery, Lodging

Entry Number	CULTIVAR/ DESIGNATION	Aberdeen ID 0-10*	Idaho Falls ID 0-10*	Conrad MT 0-10*	Fairfield MT 0-10*	Hettinger ND 0-9	Pullman WA 0-10*	Powell WY 1-9
1	Step toe	0.0	0.0	0.0	0.0	0.0	1.2	3.7
2	Baronesse	0.0	0.0	0.0	0.0	0.3	0.0	3.7
3	Harrington	0.0	0.0	0.0	0.0	0.7	2.7	5.0
4	AC Metcalfe	0.0	0.0	0.0	0.0	1.0	0.7	5.0
5	2B02-2925	0.0	0.0	0.0	0.0	0.0	0.0	3.3
6	2B03-3719	0.0	0.0	0.0	0.0	0.7	0.5	3.7
7	2B03-3604	0.0	0.0	0.0	0.0	0.0	1.4	5.3
8	2B04-0175	0.0	0.0	0.0	0.0	0.3	0.6	2.7
9	2B05-0672	0.0	0.0	0.0	0.0	0.7	1.6	4.0
10	2B05-0811	0.0	0.0	0.0	0.0	0.3	0.8	3.7
11	2Ab04-X00017-4	0.0	0.0	0.0	0.0	1.0	0.0	4.0
12	02Ab17271	0.0	0.0	0.0	0.0	0.7	0.8	1.7
13	BZ505-172	0.0	0.0	0.0	0.0	0.3	0.0	3.0
14	BZ505 192	0.0	0.0	0.0	0.0	0.7	0.0	2.3
15	MT010158	0.0	0.0	0.0	0.0	0.3	0.0	5.3
16	MT010160	0.0	0.0	0.0	0.0	1.3	0.5	5.3
17	MT020155	0.0	0.0	0.0	0.0	0.3	3.5	6.0
18	MT020204	0.0	0.0	0.0	0.0	0.0	0.9	5.3
19	MT030042	0.0	0.0	0.0	0.0	0.7	0.6	6.0
20	MT040073	0.0	0.0	0.0	0.0	0.3	0.0	6.3
21	2ND21867	0.0	0.0	0.0	0.0	0.0	0.0	2.7
22	UT99B1670-3530	0.0	0.0	0.0	0.0	0.0	2.5	3.3
23	UT04B2041-42	0.0	0.0	0.0	0.0	0.0	0.0	2.3
24	04WA-122.20	0.0	0.0	0.0	0.0	0.3	1.5	4.3
25	04WZN-124	0.0	0.0	0.0	0.0	0.7	0.0	2.7
26	04WA-113.22	0.0	0.0	0.0	0.0	0.7	0.0	3.7
27	04WZN-286	0.0	0.0	0.0	0.0	0.3	1.3	6.3
28	CDC Meredith	0.0	0.0	0.0	0.0	2.3	2.7	5.3
29	CDC Reserve	0.0	0.0	0.0	0.0	1.0	2.9	5.0
30	CDC Coalition	0.0	0.0	0.0	0.0	0.3	0.0	2.0
31	CDC Austenson	0.0	0.0	0.0	0.0	1.0	0.8	3.0
Location Mean		0.00**	0.00**	0.00**	0.00**	0.50	0.87	4.10
Check Mean		0.00	0.00	0.00	0.00	0.50	1.15	4.35
C.V. (%)		0	0	0	0	121.00	117.65	29.00
LSD .05		0	0	0	0	1.00	1.39	1.90

* The preferred scoring system is 0.0 to 10.0 where 0.0 = no lodging, 10.0 = complete lodging, calculated as $((\% \text{ of plot area lodged})/100) * ((\% \text{ lodged [lean]})/100) * 10$; i.e. $((90/100) * (90/100)) * 10 = (.9 * .9) * 10 = 8.1$. This calculation does not have to be done but can be scored visually as overall % lodging x 10. Other scoring methods can be reported such as 0-9, 1-9 or %.

** The location was scored for lodging but not lodging occurred.

Table 12: 2009 Western Regional Spring Barley Nursery, Disease Ratings

Entry	CULTIVAR/	Fairfield, MT		Minot, ND	Pullman, WA		Mt. Vernon, WA				St. Paul, MN	
Number	DESIGNATION	Net Blotch	Scald	Foliar Disease	Stripe Rust		Stripe Rust				Stem Rust, Ug99	
		% leaf area	% leaf area	1-9	Soft dough		Jointing		Soft dough		Seedling reaction	
					IT*	%	IT*	%	IT*	%	Rep 1	Rep 2
1	Step toe	30	70	5.0	8	50	8	30	8	100	3	3
2	Baronesse	30	70	4.0	5	10	8	40	8	100	3-	3
3	Harrington	40	70	4.3	3	10	8	30	8	100	3-	2
4	AC Metcalfe	30	40	2.7	3	5	2	2	8	80	0;	2pl=0;/1pl=3-
5	2B02-2925	30	60	2.3	5	5	8	20	8	90	3-	3
6	2B03-3719	30	50	3.0	2	5	8	30	8	90	3	3
7	2B03-3604	30	40	2.3	3	5	8	20	8	100	3-	3
8	2B04-0175	30	30	4.0	8	20	2	2	8	100	3	2
9	2B05-0672	30	20	3.7	8	10	8	20	8	80	3-	3
10	2B05-0811	30	20	1.7	5	10	8	20	8	100	3	3
11	2Ab04-X00017-4	30	60	4.0	3	5	8	30	8	80	3	3
12	02Ab17271	30	40	1.3	5	10	2	10	8	90	3	3
13	BZ505-172	30	40	2.0	5	10	8	30	8	90	3	3
14	BZ505 192	30	60	2.3	8	15	8	20	8	100	3-	3
15	MT010158	30	60	7.0	2	5	2	2	8	80	3-	3-
16	MT010160	30	50	5.7	8	40	8	20	8	90	3-	3
17	MT020155	30	80	4.3	8	40	8	5	8	100	3	3-
18	MT020204	30	70	4.0	8	40	8	20	8	100	3	3
19	MT030042	30	85	5.0	8	60	8	5	8	100	3	3
20	MT040073	30	60	2.3	5	20	8	10	8	90	2	2
21	2ND21867	30	60	3.3	8	20	8	20	8	60	3	3-
22	UT99B1670-3530	30	70	4.3	8	80	8	40	8	100	3-	3
23	UT04B2041-42	30	60	4.3	8	80	2	2	8	100	3	3
24	04WA-122.20	30	60	5.7	5	15	8	50	8	90	3	3-
25	04WNZ-124	30	50	3.3	8	5	8	20	8	90	3	3
26	04WA-113.22	30	70	3.3	8	10	8	10	8	90	3	3
27	04WNZ-286	30	50	7.3	8	30	8	20	8	90	3	3
28	CDC Meredith	30	55	2.0	8	60	8	10	8	100	3-	3
29	CDC Reserve	30	40	2.3	8	50	8	20	8	100	3	3
30	CDC Coalition	30	60	3.7	8	50	8	20	8	100	3-	3
31	CDC Austenson	30	60	2.7	8	40	8	30	8	100	2	3
Location Mean		30.3	55.2	3.7	6.3	26.29	7.0	19.61	8.0	92.90		
Check Mean		32.5	62.5	4.0	4.8	18.75	6.5	25.50	8.0	95.0		
C.V. (%)				16.5								
LSD .05				0.8								

* IT = Infection type, %= percent leaf area infected.

Figure 1: Test locations (past and present)

