

**2010**

**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**

2010

Compiled by C. A. Erickson, [Charles.Erickson@ars.usda.gov](mailto: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:

**2010WRBNREPORT.doc:** WORD<sup>®</sup> 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

**2010WRSBNDATA.xls:** Excel<sup>®</sup> files containing data for the 2010 Western Regional Spring Barley Nursery in both English and metric format.

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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, 2010

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## LOCATION OF EXPERIMENTS AND PERSONNEL

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

Locations are shown on Fig. 1, page 19.

## 2010 WESTERN REGIONAL SPRING BARLEY NURSERY

The **Western Regional Spring Barley Nursery** 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.

2010 nursery sites that were harvested and summarized for yield from 13 locations are:

- |                     |                       |                 |
|---------------------|-----------------------|-----------------|
| (1) Idaho Falls, ID | (7) Langdon, ND       | (13) Powell, WY |
| (2) Bozeman, MT     | (8) Minot, ND         |                 |
| (3) Conrad, MT      | (9) Williston, ND     |                 |
| (4) Fairfield, MT   | (10) Logan, UT        |                 |
| (5) Manhattan, MT   | (11) Mt. Stirling, UT |                 |
| (6) Hettinger, ND   | (12) Pullman, WA      |                 |

Observation nurseries were grown at Moscow, ID, St. Paul, MN, Pullman, WA, and Mt. Vernon, WA. Data was not available from the Aberdeen, ID, Tetonia, ID, and Saskatoon, SK, Canada locations. The Ug99 disease ratings were not available from St. Paul at the time of publication. Observation data from Moscow, ID was received, but one entry was missing and the data is not included in the summaries. The worksheet is included in the Excel file.

### **General Information**

The entry list for the 2010 Western Regional Spring Barley Nursery is shown in Table 1. In 2010, 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 2010. 10 of the 27 entries (besides checks) in the 2009 WRSBN nursery were dropped in 2010. These were: MT010158 and MT010160, all tested 3 years; 2B02-2925, 2B03-3719, and 04WA-122.20, all tested 2 years; and 2B03-3604, 2B05-0672, 2<sup>ND</sup>21867, 04WZN-286, and CDC Reserve, all tested 1 year. New entries in the test were: 2B06-0929, 2B06-0933, 2B07-1562, 2B07-1590, 2ND25276, 2ND26328, ND22421, 05WA-316.K, 05WA-316.99, and 05WA-329.49.

### **Data Analysis**

Computer software, in Excel<sup>®</sup> 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 2010, show that the check's mean grain yield for the 2010 season was higher than average for the years tested and slightly lower (0.34 Mg ha<sup>-1</sup>) than 2009. Test weight was lower than 2009 but higher than average, plant height was taller than the previous three years,

heading date was slightly earlier than average, percent plump barley was second highest recorded at 1.7 percent higher than average, and protein was the highest recorded of the four years.

In 2010 the highest yielding entry over all locations was the 2-rowed feed cultivar CDC Austenson, at 6.97 Mg ha<sup>-1</sup> (Table 3), followed by BZ505-172, a 2-rowed feed cultivar, at 5.85 Mg ha<sup>-1</sup>. The next highest was 05WA-316.K, a 2-rowed feed type, at 5.83 Mg ha<sup>-1</sup>, and the fourth highest was the BZ505.192, a 2-rowed feed type, at 5.78 Mg ha<sup>-1</sup>. The highest yielding malting type barley was 2B05-0811, ranked 5<sup>th</sup> at 5.5.68 Mg ha<sup>-1</sup>. The next highest yielding feed/malting barley was 2B06-0929, ranked 10<sup>th</sup> at 5.85 Mg ha<sup>-1</sup>. The top 12 entries had statistically equal yields at the 95% confidence level. Baronesse was the highest yielding check entry, ranked 11<sup>th</sup> at 5.65 Mg ha<sup>-1</sup>. CDC Austenson had the highest test weight at 677.7 kg m<sup>-3</sup>. 2B03-3719 had the highest percent plump barley at 93.4%.

In the period of years summary for 2007 through 2010 (Table 4), CDC Austenson was the highest yielding entry with at least two years data at 6.09 Mg ha<sup>-1</sup>. BZ505-172 was the next highest yielding entry with 2 years data at 5.94 Mg ha<sup>-1</sup> and Baronesse, the 2-rowed feed check, was next highest at 5.91 Mg ha<sup>-1</sup>. CDC Meredith was the highest yielding malting type with at least two years data at 5.74 Mg ha<sup>-1</sup>. Of the lines tested at least 2 years, MT040073 had the highest test weight at 692.8 kg m<sup>-3</sup>, and 2ND25276 had the highest percent plump barley at 93.4%.

Tables 5 through 12 present the 2010 WRSBN data summarized over locations for grain yield, test weight, height, heading date, plump barley, lodging, percent protein, and disease ratings.



**Table 1: 2010 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	2B04-0175	2B97-4719/2B97-4004	2 row	malting
BARI	6	2B05-0811	2B99-2763/2B00-0719	2 row	malting
BARI	7 *	2B06-0929	2B97-4004//2B00-0784/2B99-2771	2 row	malting
BARI	8 *	2B06-0933	2B97-4004//2B97-4299/2B99-2763	2 row	malting
BARI	9 *	2B07-1562	MERIT 16/2B00-0251	2 row	malting
BARI	10 *	2B07-1590	MERIT 16/2B01-2005	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	MT020155	MT960225/H1851195	2 row	feed/malting
MSU	16	MT020204	MTLB 32/H1851195	2 row	feed/malting
MSU	17	MT030042	MT910189/MT960099	2 row	feed/malting
MSU	18	MT040073	MT960045/Harrington	2 row	feed/malting
NDSU	19 *	2ND25276	ND20802/3/ND1922//ND19929/ND20177	2 row	malting
NDSU	20 *	2ND26328	ND22032-2/ND21972	2 row	malting
NDSU	21 *	ND22421	ND18546/ND19656	6 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-113.22	Camas/Baronesse	2 row	feed
WSU	25	04WZN-124	Farmington/Baronesse	2 row	feed
WSU	26 *	05WA-316.K	Baronesse/PB1-95-2R-522	2 row	feed
WSU	27 *	05WA-316.99	Baronesse/PB1-95-2R-522	2 row	feed
WSU	28 *	05WA-329.49	Bob/Baronesse//85Ab2323	2 row	feed
USASK	29	CDC Meredith		2 row	malting
USASK	30	CDC Coalition		2 row	feed
USASK	31	CDC Austenson		2 row	feed

\* new entries

**Table 2: Check Seasonal Measurements (2007-2010) 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 <sup>-1</sup>	kg m <sup>-3</sup>	From 1/1	cm	%	%
2009						
Number of Locations	16	12	12	14	10	5
Steptoe	5.624	625.6	181.7	73.5	93.9	10.0
Baronesse	6.141	687.0	187.4	72.3	93.5	10.5
Harrington	5.395	672.5	186.5	78.4	93.0	10.8
2009 AVERAGE	5.720	661.7	185.2	74.7	93.5	10.4
2010						
Number of Locations	13	11	12	13	9	2
Steptoe	5.451	623.3	180.2	85.9	85.3	12.6
Baronesse	5.651	669.2	184.0	78.4	85.3	15.1
Harrington	5.042	655.1	184.3	82.2	85.1	15.2
2010 AVERAGE	5.381	649.2	182.8	82.2	85.2	14.3
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	42	33	33	35	27	12
Steptoe	4.866	611.9	180.4	78.4	84.4	11.4
Baronesse	5.153	665.6	185.0	73.6	82.4	13.1
Harrington	4.570	652.0	184.7	79.0	83.6	12.9
BASE AVERAGE	4.863	643.2	183.4	77.0	83.5	12.4



**Table 3: 2010 Western Regional Spring Barley Nursery, Means Summary**

Entry	CULTIVAR/ DESIGNATION	GRAIN YIELD		TEST WEIGHT	HEADING DATE	PLANT HEIGHT	PLUMP BARLEY*	PROTEIN
Number		Mg ha <sup>-1</sup>	Rank	kg m <sup>-3</sup>	From 1/1	cm	%	%
	Number of Locations**	13		11	12	13	9	2
1	Step toe	5.451	23	623.3	180.2	85.9	85.3	12.6
2	Baronesse	5.651	11	669.2	184.0	78.4	85.3	15.1
3	Harrington	5.042	31	655.1	184.3	82.2	85.1	15.2
4	AC Metcalfe	5.068	30	657.2	183.5	84.0	84.2	15.8
5	2B04-0175	5.529	17	665.5	183.0	86.4	86.9	15.3
6	2B05-0811	5.741	5	655.0	183.7	81.8	85.4	14.6
7	2B06-0929	5.676	10	661.8	183.4	79.5	88.3	14.6
8	2B06-0933	5.580	15	659.4	183.6	81.6	84.4	15.2
9	2B07-1562	5.539	16	665.0	183.1	79.1	88.5	14.6
10	2B07-1590	5.492	21	661.2	183.7	81.5	89.9	15.5
11	2Ab04-X00017-4	5.643	12	670.4	183.3	84.4	87.7	14.6
12	02Ab17271	5.491	22	667.7	186.6	81.4	86.5	15.7
13	BZ505-172	5.852	2	686.8	184.6	82.3	86.3	15.1
14	BZ505 192	5.776	4	684.1	185.7	79.6	86.3	15.2
15	MT020155	5.355	26	677.5	180.5	83.9	85.3	15.2
16	MT020204	5.600	14	682.5	182.6	82.6	84.8	16.4
17	MT030042	5.143	28	689.4	182.8	79.0	83.4	13.8
18	MT040073	5.514	18	692.0	183.0	81.8	87.2	15.2
19	2ND25276	5.439	25	677.4	182.3	85.0	93.4	12.9
20	2ND26328	5.440	24	691.0	181.7	74.0	90.4	14.7
21	ND22421	5.260	27	658.6	180.9	77.4	89.4	14.0
22	UT99B1670-3530	5.101	29	650.1	180.9	80.5	86.9	13.4
23	UT04B2041-42	5.703	6	651.6	182.2	84.5	83.1	13.7
24	04WA-113.22	5.701	7	682.8	183.6	80.1	86.6	15.2
25	04WNZ-124	5.701	8	664.0	186.6	70.4	83.9	16.8
26	05WA-316.K	5.830	3	672.2	182.3	77.6	84.9	14.4
27	05WA-316.99	5.680	9	655.8	182.8	82.7	85.8	14.2
28	05WA-329.49	5.493	20	687.5	182.3	85.6	90.2	15.0
29	CDC Meredith	5.506	19	653.7	185.3	80.0	84.8	14.6
30	CDC Coalition	5.639	13	675.7	183.8	78.9	85.2	16.0
31	CDC Austenson	5.967	1	677.7	185.7	83.2	84.2	15.7
<b>MEAN:</b>		5.536		668.43	183.29	81.14	86.44	14.82
<b>CHECK MEAN:</b>		5.303		651.20	183.01	82.60	84.97	14.66
<b>CV %</b>		8.82		2.44	0.98	5.53	5.44	5.68
<b>LSD (.05)</b>		0.325		11.8	1.24	3.0	3.76	1.43

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

**Table 4: Summary Across Locations and Years, Western Regional Spring Barley Nursery, 2007-2010.**

Entry Number	CULTIVAR/ DESIGNATION	Grain Yield			Test Weight	Plant Height	Heading Date	Plump Barley**	Protein
		Station Years	Mg ha <sup>-1</sup>	RANK	kg m <sup>-3</sup>	cm	From 1/1	%	%
1	Steptoe	50	5.527	20	621.0	78.9	177.9	90.8	10.9
2	Baronesse	50	5.908	3	671.0	75.6	182.6	89.6	11.9
3	Harrington	50	5.186	31	657.8	79.5	182.5	90.0	12.2
4	AC Metcalfe	29	5.200	30	668.1	81.9	184.7	88.4	12.4
5	2B04-0175	29	5.703	13	673.7	83.5	184.7	90.2	12.4
6	2B05-0811	29	5.645	16	664.1	77.3	185.2	89.6	11.8
7	2B06-0929	13	5.676	15	661.8	79.5	183.4	88.3	14.6
8	2B06-0933	13	5.580	18	659.4	81.6	183.6	84.4	15.2
9	2B07-1562	13	5.539	19	665.0	79.1	183.1	88.5	14.6
10	2B07-1590	13	5.492	23	661.2	81.5	183.7	89.9	15.5
11	2Ab04-X00017-4	29	5.733	10	671.9	81.9	185.2	90.9	12.0
12	02Ab17271	29	5.591	17	669.4	79.4	188.4	89.3	12.1
13	BZ505-172	29	5.938	2	688.1	79.2	185.7	90.5	11.8
14	BZ505 192	29	5.901	4	685.0	77.3	187.0	89.6	12.1
15	MT020155	50	5.512	21	665.4	80.1	178.1	89.2	12.2
16	MT020204	50	5.716	12	680.9	79.7	180.2	89.6	12.4
17	MT030042	50	5.219	29	686.3	75.2	181.1	87.4	11.3
18	MT040073	39	5.467	24	692.8	78.3	184.0	91.5	12.1
19	2ND25276	13	5.439	26	677.4	85.0	182.3	93.4	12.9
20	2ND26328	13	5.440	25	691.0	74.0	181.7	90.4	14.7
21	ND22421	13	5.260	28	658.6	77.4	180.9	89.4	14.0
22	UT99B1670-3530	29	5.278	27	644.1	77.4	181.4	89.9	11.5
23	UT04B2041-42	39	5.727	11	650.6	80.6	182.4	88.3	11.1
24	04WA-113.22	29	5.898	5	687.2	75.6	184.6	89.7	12.4
25	04WNZ-124	29	5.825	8	668.9	67.2	187.9	88.6	12.7
26	05WA-316.K	13	5.830	7	672.2	77.6	182.3	84.9	14.4
27	05WA-316.99	13	5.680	14	655.8	82.7	182.8	85.8	14.2
28	05WA-329.49	13	5.493	22	687.5	85.6	182.3	90.2	15.0
29	CDC Meredith	29	5.736	9	656.7	79.3	186.4	89.3	11.4
30	CDC Coalition	29	5.876	6	681.0	75.2	184.7	89.4	11.9
31	CDC Austenson	29	6.085	1	685.1	82.3	186.8	89.2	12.3
<b>MEAN:</b>			<b>5.616</b>		<b>669.6</b>	<b>79.0</b>	<b>183.5</b>	<b>89.2</b>	<b>12.8</b>
<b>CHECK MEAN:</b>			<b>5.455</b>		<b>654.5</b>	<b>79.0</b>	<b>181.9</b>	<b>89.7</b>	<b>11.9</b>
<b>CHECK* MEAN:</b>			<b>5.540</b>		<b>649.9</b>	<b>78.0</b>	<b>181.0</b>	<b>90.1</b>	<b>11.7</b>

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

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

**Table 5: 2010 Western Regional Spring Barley Nursery, Grain Yield (Mg ha<sup>-1</sup>)**

Entry NO.	CULTIVAR/ DESIGNATION	AVERAGE		Rank Ave.	Idaho Falls	Bozeman	Manhattan	Conrad	Fairfield	Hettinger	Langdon	Minot	Williston	Logan	Mt. Stirling	Pullman	Powell
		Mg ha <sup>-1</sup>	Rank		ID	MT	MT	MT	MT	MT	MT	ND	ND	ND	UT	UT	WA
1	Steptoe	5.451	23	17.00	7.173	4.890	5.660	3.713	7.052	6.386	5.681	4.241	4.498	6.891	4.257	2.537	7.880
2	Baronesse	5.651	11	13.15	7.047	6.540	6.224	4.652	7.555	6.394	5.982	4.381	4.383	5.063	3.822	2.779	8.643
3	Harrington	5.042	31	24.23	6.660	5.583	6.159	4.048	5.908	5.261	4.682	3.655	4.015	6.058	3.682	2.602	7.235
4	AC Metcalfe	5.068	30	24.38	6.729	5.347	6.137	3.666	5.959	6.430	5.547	3.531	3.831	5.386	3.634	2.688	7.004
5	2B04-0175	5.529	17	16.46	7.788	6.068	6.463	4.533	7.639	6.269	4.666	4.144	3.947	5.757	3.865	2.709	8.030
6	2B05-0811	5.741	5	14.15	8.275	5.949	6.745	4.633	8.224	6.488	5.472	3.988	4.204	5.327	3.714	2.650	8.960
7	2B06-0929	5.676	10	14.77	8.411	6.253	6.007	4.313	7.783	5.892	4.897	4.193	4.229	6.052	3.553	2.811	9.390
8	2B06-0933	5.580	15	16.15	7.646	5.908	6.745	4.227	7.159	6.060	5.483	4.461	3.872	5.778	3.859	2.714	8.632
9	2B07-1562	5.539	16	15.46	7.838	6.260	6.137	4.083	6.942	6.426	5.101	4.047	4.419	5.466	4.246	2.838	8.197
10	2B07-1590	5.492	21	16.08	7.983	6.301	6.224	4.241	6.779	6.207	4.574	3.902	4.348	5.633	4.021	2.886	8.294
11	2Ab04-X00017-4	5.643	12	14.92	8.026	6.233	7.070	4.529	7.197	6.273	5.445	3.736	3.496	5.810	3.617	2.833	9.089
12	02Ab17271	5.491	22	17.92	7.404	6.172	7.265	4.594	6.258	5.734	5.746	4.112	3.893	4.956	3.800	2.779	8.670
13	BZ505-172	5.852	2	11.38	9.496	6.267	6.593	4.448	7.269	6.668	5.542	4.139	4.139	4.934	3.832	2.870	9.879
14	BZ505 192	5.776	4	11.54	8.997	5.382	7.178	4.559	7.007	6.769	6.176	3.956	4.351	5.853	3.472	2.886	8.498
15	MT020155	5.355	26	17.15	7.805	5.350	6.506	3.852	6.230	6.377	4.864	3.746	4.623	5.633	4.123	2.897	7.606
16	MT020204	5.600	14	14.38	7.025	6.518	6.701	4.078	6.336	6.297	5.214	2.833	4.224	6.004	4.241	2.924	10.406
17	MT030042	5.143	28	21.31	7.093	4.947	5.400	3.964	6.075	6.360	5.359	3.639	4.532	5.509	3.940	2.865	7.181
18	MT040073	5.514	18	13.08	7.864	5.920	6.181	4.225	6.945	6.604	5.762	3.741	4.800	5.843	4.080	2.972	6.751
19	2ND25276	5.439	25	16.38	8.197	5.620	5.920	3.728	5.628	6.556	6.240	3.677	4.519	5.526	3.988	2.886	8.224
20	2ND26328	5.440	24	17.92	9.422	5.726	5.812	3.975	6.483	6.211	4.666	3.650	4.170	6.085	3.913	2.967	7.638
21	ND22421	5.260	27	20.62	8.383	4.607	5.812	3.495	6.662	6.243	4.682	3.811	4.559	5.337	3.596	2.881	8.310
22	UT99B1670-3530	5.101	29	24.31	8.853	4.795	5.443	3.309	6.101	6.225	3.967	3.526	4.056	5.585	3.827	2.602	8.025
23	UT04B2041-42	5.703	6	13.92	9.144	5.526	5.877	3.958	7.612	6.774	5.090	3.150	4.469	6.353	4.510	2.736	8.944
24	04WA-113.22	5.701	7	12.38	7.743	6.475	5.986	4.399	6.992	6.124	5.864	4.246	4.741	5.423	3.913	2.956	9.256
25	04WZN-124	5.701	8	14.46	8.792	6.851	6.354	4.682	6.459	5.976	5.144	4.198	4.074	5.644	3.359	2.811	9.772
26	05WA-316.K	5.830	3	10.54	8.239	6.854	5.986	4.629	7.167	6.551	5.961	4.558	4.296	5.284	4.214	2.795	9.256
27	05WA-316.99	5.680	9	13.31	7.693	6.793	6.354	4.434	6.672	6.484	5.440	4.762	4.496	5.375	4.322	2.698	8.321
28	05WA-329.49	5.493	20	15.54	7.671	6.073	5.747	4.344	7.165	5.776	5.574	3.607	4.584	5.864	4.047	2.972	7.987
29	CDC Meredith	5.506	19	17.92	8.005	6.439	6.614	5.034	6.061	5.601	5.418	4.112	4.062	5.165	3.768	2.628	8.675
30	CDC Coalition	5.639	13	16.00	9.440	6.201	6.051	4.450	6.836	5.932	6.412	3.994	3.703	5.601	3.811	2.876	8.003
31	CDC Austenson	5.967	1	9.15	8.924	6.594	7.113	4.701	6.927	6.706	6.950	4.262	4.123	5.746	3.720	2.838	8.971
Location Mean		5.536			8.057	5.950	6.273	4.242	6.809	6.260	5.406	3.935	4.247	5.643	3.895	2.803	8.443
Check Mean		5.303			6.902	5.590	6.045	4.020	6.618	6.118	5.473	3.952	4.182	5.849	3.849	2.651	7.690
C.V. (%)		8.82			6.73	5.88	8.60	5.07	5.47	5.78	10.62	9.96	7.20	NA	NA	2.47	10.70
LSD .05		0.325			0.882	0.485	0.908	0.351	0.610	0.591	0.939	0.640	0.499	NA	NA	0.135	1.484
Replications		13			3	3	3	3	3	3	3	3	3	3	3	3	3

**Table 6: 2010 Western Regional Spring Barley Nursery, Test Weight (kg m<sup>-3</sup>)**

Entry Number	CULTIVAR/ DESIGNATION	Average*		Idaho Falls	Bozeman	Manhattan	Conrad	Fairfield	Hettinger	Williston	Logan	Mt. Stirling	Pullman	Powell
		kg m <sup>-3</sup>	ID	MT	MT	MT	MT	MT	ND	UT	UT	WA	WY	SK
1	Step toe	<b>623.30</b>	<b>31</b>	638.17	616.32	658.30	651.33	631.59	540.41	545.69	661.52	664.09	607.46	641.44
2	Baronesse	<b>669.24</b>	<b>15</b>	690.80	669.22	641.57	703.96	703.96	607.72	625.48	684.68	693.69	665.38	675.16
3	Harrington	<b>655.06</b>	<b>26</b>	651.33	655.22	681.47	697.38	703.96	574.00	612.61	678.25	667.95	622.91	660.62
4	AC Metcalfe	<b>657.17</b>	<b>24</b>	690.80	654.70	638.35	697.38	684.23	596.14	625.48	674.39	664.09	643.50	659.84
5	2B04-0175	<b>665.48</b>	<b>17</b>	690.80	653.92	666.67	697.38	717.12	598.71	615.19	649.94	710.42	648.65	671.43
6	2B05-0811	<b>654.97</b>	<b>27</b>	664.49	619.71	660.23	684.23	697.38	587.77	604.89	688.55	696.27	634.49	666.67
7	2B06-0929	<b>661.79</b>	<b>20</b>	671.07	637.95	731.66	690.80	697.38	572.84	593.31	685.97	679.54	673.10	646.07
8	2B06-0933	<b>659.42</b>	<b>22</b>	677.65	640.06	680.18	690.80	703.96	583.27	595.88	670.53	701.42	649.94	659.97
9	2B07-1562	<b>664.97</b>	<b>18</b>	677.65	644.57	678.89	697.38	703.96	605.28	610.04	673.10	683.40	679.54	660.87
10	2B07-1590	<b>661.22</b>	<b>21</b>	677.65	646.48	643.50	697.38	690.80	594.47	601.03	691.12	683.40	691.12	656.50
11	2Ab04-X00017-4	<b>670.41</b>	<b>14</b>	684.23	652.28	663.45	697.38	710.54	594.59	624.20	694.98	701.42	678.25	673.23
12	02Ab17271	<b>667.72</b>	<b>16</b>	677.65	637.04	670.53	703.96	684.23	606.95	660.23	667.95	706.56	665.38	664.48
13	BZ505-172	<b>686.76</b>	<b>5</b>	703.96	660.00	663.45	710.54	730.28	617.12	648.65	707.85	743.89	687.26	681.34
14	BZ505 192	<b>684.07</b>	<b>6</b>	684.23	639.88	665.38	710.54	723.70	627.93	649.94	703.99	725.87	691.12	702.19
15	MT020155	<b>677.49</b>	<b>10</b>	710.54	645.30	660.87	697.38	703.96	603.86	620.33	720.72	727.16	693.69	668.60
16	MT020204	<b>682.55</b>	<b>8</b>	690.80	667.19	655.73	697.38	723.70	624.32	630.63	718.15	716.86	700.13	683.14
17	MT030042	<b>689.44</b>	<b>3</b>	690.80	656.70	676.96	717.12	723.70	629.60	669.24	685.97	734.88	685.97	712.87
18	MT040073	<b>692.04</b>	<b>1</b>	697.38	682.07	666.67	723.70	723.70	623.68	660.23	705.28	731.02	711.71	687.00
19	2ND25276	<b>677.41</b>	<b>11</b>	710.54	641.85	669.88	671.07	697.38	633.72	655.08	709.14	724.58	691.12	647.10
20	2ND26328	<b>691.04</b>	<b>2</b>	717.12	668.34	633.20	717.12	710.54	636.29	651.22	725.87	749.03	710.42	682.24
21	ND22421	<b>658.56</b>	<b>23</b>	690.80	627.60	652.51	677.65	690.80	583.78	621.62	676.96	687.26	689.83	645.30
22	UT99B1670-3530	<b>650.09</b>	<b>30</b>	677.65	625.37	689.19	671.07	657.91	558.82	588.16	716.86	723.29	622.91	619.82
23	UT04B2041-42	<b>651.60</b>	<b>29</b>	671.07	634.20	680.82	671.07	677.65	593.44	599.74	676.96	653.80	655.08	653.80
24	04WA-113.22	<b>682.76</b>	<b>7</b>	677.65	669.95	657.66	703.96	703.96	620.33	655.08	724.58	715.57	707.85	673.74
25	04WNZ-124	<b>664.03</b>	<b>19</b>	684.23	660.60	662.16	684.23	677.65	581.98	630.63	692.41	697.55	673.10	659.84
26	05WA-316.K	<b>672.20</b>	<b>13</b>	697.38	658.73	667.31	697.38	710.54	599.74	642.21	700.13	680.82	669.24	670.66
27	05WA-316.99	<b>655.84</b>	<b>25</b>	671.07	645.02	618.40	690.80	697.38	578.25	615.19	698.84	710.42	646.07	642.73
28	05WA-329.49	<b>687.55</b>	<b>4</b>	703.96	669.46	645.43	717.12	723.70	612.10	652.51	722.01	722.01	711.71	683.01
29	CDC Meredith	<b>653.69</b>	<b>28</b>	657.91	631.66	690.48	677.65	697.38	576.96	590.73	702.70	714.29	629.34	621.49
30	CDC Coalition	<b>675.66</b>	<b>12</b>	717.12	659.30	667.31	710.54	710.54	592.15	633.20	696.27	707.85	688.55	649.42
31	CDC Austenson	<b>677.75</b>	<b>9</b>	717.12	674.51	658.30	717.12	710.54	614.16	611.33	682.11	713.00	679.54	677.48
<b>Location Mean</b>		<b>668.43</b>		<b>684.88</b>	<b>649.02</b>	<b>664.61</b>	<b>695.19</b>	<b>700.45</b>	<b>598.54</b>	<b>624.28</b>	<b>693.52</b>	<b>703.95</b>	<b>670.83</b>	<b>664.02</b>
<b>Check Mean</b>		<b>651.20</b>		<b>667.78</b>	<b>648.87</b>	<b>654.92</b>	<b>687.52</b>	<b>680.94</b>	<b>579.57</b>	<b>602.32</b>	<b>674.71</b>	<b>672.46</b>	<b>634.81</b>	<b>659.27</b>
<b>C.V. (%)</b>		<b>2.44</b>			<b>1.41</b>				<b>1.68</b>	<b>2.00</b>			<b>2.47</b>	<b>1.74</b>
<b>LSD<sub>.05</sub></b>		<b>11.78</b>			<b>12.68</b>				<b>16.47</b>	<b>24.45</b>			<b>32.3037</b>	<b>18.9189</b>
<b>Replications</b>		<b>11</b>			<b>3</b>				<b>3</b>	<b>2.00</b>			<b>3</b>	<b>3</b>

**Table 7: 2010 Western Regional Spring Barley Nursery, Plant Height (cm)**

Entry Number	CULTIVAR/ DESIGNATION	Average		Idaho Falls	Bozeman	Manhattan	Conrad	Fairfield	Hettinger	Langdon	Minot	Williston	Logan	Mt. Stirling	Pullman	Powell
		cm	RANK	ID	MT	MT	MT	MT	MT	ND	ND	ND	UT	UT	WA	WY
1	Steptoe	85.9	30	106.7	68.7	88.9	64.0	97.0	85.0	76.5	74.3	83.1	76.2	81.3	123.2	91.4
2	Baronesse	78.4	5	96.5	70.7	86.4	69.0	91.0	77.0	73.5	56.7	76.7	63.5	61.0	108.0	89.7
3	Harrington	82.2	19	94.0	71.7	86.4	76.0	89.0	87.7	83.3	72.8	85.1	68.6	55.9	107.2	90.4
4	AC Metcalfe	84.0	25	104.1	76.7	83.8	79.0	97.0	81.3	82.5	70.3	84.6	66.0	63.5	111.0	91.7
5	2B04-0175	86.4	31	109.2	74.0	81.3	81.0	97.0	84.3	82.3	77.8	87.1	71.1	68.6	113.0	96.3
6	2B05-0811	81.8	17	94.0	73.7	83.8	79.0	89.0	80.0	78.2	76.0	80.3	76.2	61.0	104.6	87.6
7	2B06-0929	79.5	9	96.5	70.0	81.3	74.0	91.0	79.0	80.5	71.5	80.0	63.5	55.9	104.6	85.6
8	2B06-0933	81.6	16	101.6	71.7	81.3	76.0	94.0	81.0	78.3	70.8	77.7	68.6	61.0	109.7	89.2
9	2B07-1562	79.1	8	101.6	46.3	76.2	74.0	86.0	81.0	81.5	74.5	81.8	68.6	55.9	109.2	91.4
10	2B07-1590	81.5	15	104.1	74.7	73.7	71.0	89.0	82.0	80.7	73.7	80.3	66.0	63.5	110.5	90.2
11	2Ab04-X00017-4	84.4	26	104.1	71.0	83.8	79.0	97.0	87.0	82.5	73.8	84.3	71.1	61.0	111.3	91.7
12	02Ab17271	81.4	14	109.2	74.7	68.6	74.0	97.0	86.0	82.7	74.5	75.2	61.0	58.4	108.7	88.6
13	BZ505-172	82.3	20	101.6	69.3	78.7	74.0	94.0	83.0	82.2	77.0	84.1	66.0	61.0	112.3	86.4
14	BZ505 192	79.6	10	104.1	66.7	86.4	74.0	86.0	84.0	75.7	69.5	73.7	66.0	61.0	102.4	85.6
15	MT020155	83.9	24	101.6	68.7	81.3	76.0	97.0	84.0	77.2	76.5	85.3	66.0	66.0	116.1	95.5
16	MT020204	82.6	21	99.1	72.0	76.2	79.0	94.0	85.0	78.3	63.7	81.3	71.1	63.5	115.6	95.5
17	MT030042	79.0	7	99.1	70.3	78.7	69.0	86.0	78.0	75.0	69.3	82.8	61.0	66.0	107.2	84.1
18	MT040073	81.8	18	101.6	69.0	81.3	74.0	97.0	87.0	79.2	77.2	79.2	55.9	61.0	112.3	89.2
19	2ND25276	85.0	28	99.1	74.3	78.7	74.0	99.0	85.0	79.3	77.0	82.8	76.2	68.6	114.8	95.8
20	2ND26328	74.0	2	81.3	63.3	86.4	64.0	84.0	74.0	76.3	62.0	75.4	63.5	50.8	99.1	82.0
21	ND22421	77.4	3	88.9	62.7	86.4	64.0	86.0	76.0	74.5	64.3	78.2	63.5	71.1	105.4	84.8
22	UT99B1670-3530	80.5	13	91.4	61.3	81.3	76.0	84.0	81.0	74.8	74.2	83.3	68.6	66.0	118.1	86.4
23	UT04B2041-42	84.5	27	104.1	67.3	81.3	79.0	97.0	82.0	72.5	72.2	80.0	78.7	81.3	111.0	92.5
24	04WA-113.22	80.1	12	99.1	65.7	73.7	74.0	94.0	81.0	77.2	71.8	81.8	63.5	61.0	107.4	91.2
25	04WZN-124	70.4	1	86.4	58.7	83.8	61.0	76.0	77.0	63.5	65.7	71.4	58.4	45.7	94.7	72.6
26	05WA-316.K	77.6	4	83.8	67.0	78.7	69.0	86.0	83.0	72.8	70.0	77.2	61.0	63.5	108.7	88.1
27	05WA-316.99	82.7	22	94.0	74.3	78.7	74.0	94.0	85.0	78.0	71.5	83.1	63.5	71.1	112.5	95.8
28	05WA-329.49	85.6	29	104.1	75.0	73.7	76.0	102.0	86.0	85.5	71.5	86.1	66.0	68.6	119.9	98.3
29	CDC Meredith	80.0	11	101.6	69.7	76.2	69.0	99.0	74.0	76.3	74.0	77.2	61.0	71.1	102.9	88.6
30	CDC Coalition	78.9	6	96.5	68.0	73.7	66.0	91.0	81.0	80.5	70.5	75.7	61.0	61.0	102.9	97.5
31	CDC Austenson	83.2	23	109.2	73.7	76.2	74.0	99.0	84.0	81.3	74.0	81.0	76.2	55.9	109.2	88.1
<b>Location Mean</b>		<b>81.14</b>		<b>98.98</b>	<b>69.05</b>	<b>80.21</b>	<b>72.97</b>	<b>92.23</b>	<b>81.98</b>	<b>78.15</b>	<b>71.57</b>	<b>80.51</b>	<b>66.70</b>	<b>63.25</b>	<b>109.47</b>	<b>89.74</b>
<b>Check Mean</b>		<b>82.60</b>		<b>100.33</b>	<b>71.92</b>	<b>86.36</b>	<b>72.00</b>	<b>93.50</b>	<b>82.75</b>	<b>78.95</b>	<b>68.53</b>	<b>82.36</b>	<b>68.58</b>	<b>65.41</b>	<b>112.33</b>	<b>90.81</b>
<b>C.V. (%)</b>		<b>5.53</b>			<b>12.46</b>				<b>4.00</b>	<b>6.83</b>	<b>6.81</b>	<b>5.10</b>			<b>3.60</b>	<b>3.74</b>
<b>LSD .05</b>		<b>2.99</b>			<b>11.92</b>				<b>12.70</b>	<b>8.72</b>	<b>7.96</b>	<b>6.60</b>			<b>7.62</b>	<b>5.59</b>
<b>Replications</b>		<b>13</b>			<b>3</b>				<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>			<b>3</b>	<b>3</b>

**Table 8: 2010 Western Regional Spring Barley Nursery, Heading Date (Days after Jan. 1)**

Entry Number	CULTIVAR/ DESIGNATION	Average		Idaho Falls	Bozeman	Manhattan	Conrad	Fairfield	Hettinger	Langdon	Minot	Williston	Logan	Mt. Stirling	Pullman	Powell
		From 1/1	RANK	MT	MT	MT	MT	MT	ND	ND	ND	UT	UT	WA	WY	WY
1	Step toe	<b>180.2</b>	<b>1</b>	176.0	187.7	200.5	185.0	184.0	174.0	181.7	176.0	170.0	179.0	175.0	174.0	176.0
2	Baronesse	<b>184.0</b>	<b>24</b>	182.0	189.7	205.0	188.0	187.0	179.0	183.0	180.3	178.3	181.0	178.0	177.0	182.0
3	Harrington	<b>184.3</b>	<b>25</b>	182.0	189.7	204.0	188.0	187.0	181.0	186.7	179.3	176.0	178.0	181.0	179.0	182.0
4	AC Metcalfe	<b>183.5</b>	<b>18</b>	179.0	189.0	203.5	188.0	187.0	179.0	186.0	178.3	176.0	179.0	180.0	177.0	179.0
5	2B04-0175	<b>183.0</b>	<b>14</b>	182.0	189.0	200.0	187.0	186.0	178.0	184.7	178.0	176.7	176.0	180.0	179.0	182.0
6	2B05-0811	<b>183.7</b>	<b>21</b>	183.0	188.7	199.0	188.0	186.0	180.0	186.0	178.7	175.7	181.0	181.0	177.0	183.0
7	2B06-0929	<b>183.4</b>	<b>17</b>	181.0	188.7	199.5	188.0	186.0	179.0	183.0	179.0	175.3	185.0	179.0	177.0	181.0
8	2B06-0933	<b>183.6</b>	<b>20</b>	182.0	188.3	198.0	188.0	186.0	178.0	184.7	178.3	176.0	186.0	181.0	177.0	182.0
9	2B07-1562	<b>183.1</b>	<b>15</b>	180.0	188.3	202.0	187.0	186.0	179.0	183.0	178.0	175.3	184.0	177.0	177.0	180.0
10	2B07-1590	<b>183.7</b>	<b>22</b>	182.0	188.3	200.5	188.0	187.0	179.0	184.7	179.0	175.0	186.0	176.0	179.0	182.0
11	2Ab04-X00017-4	<b>183.3</b>	<b>16</b>	182.0	189.0	198.0	187.0	187.0	178.0	183.0	178.0	175.0	187.0	179.0	177.0	182.0
12	02Ab17271	<b>186.6</b>	<b>30</b>	185.0	192.3	203.5	189.0	191.0	184.0	189.0	181.0	180.0	181.0	182.0	181.0	185.0
13	BZ505-172	<b>184.6</b>	<b>26</b>	183.0	189.7	202.0	188.0	187.0	178.0	184.3	178.7	176.0	190.0	181.0	177.0	183.0
14	BZ505 192	<b>185.7</b>	<b>29</b>	185.0	190.0	200.5	188.0	188.0	182.0	184.7	180.7	179.9	187.0	183.0	180.0	185.0
15	MT020155	<b>180.5</b>	<b>2</b>	177.0	187.0	198.5	185.0	184.0	174.0	182.3	176.0	171.0	183.0	174.0	174.0	177.0
16	MT020204	<b>182.6</b>	<b>10</b>	178.0	188.7	203.5	187.0	186.0	175.0	184.3	178.0	175.3	183.0	176.0	177.0	178.0
17	MT030042	<b>182.8</b>	<b>11</b>	180.0	188.0	201.5	188.0	187.0	177.0	183.0	178.3	174.7	181.0	178.0	177.0	180.0
18	MT040073	<b>183.0</b>	<b>13</b>	181.0	188.7	200.0	187.0	187.0	177.0	182.7	177.7	175.3	183.0	180.0	177.0	181.0
19	2ND25276	<b>182.3</b>	<b>9</b>	178.0	187.3	197.5	188.0	186.0	175.0	183.0	178.3	173.3	189.0	175.0	177.0	178.0
20	2ND26328	<b>181.7</b>	<b>5</b>	178.0	187.0	198.5	187.0	186.0	173.0	181.7	176.3	172.3	188.0	176.0	177.0	178.0
21	ND22421	<b>180.9</b>	<b>4</b>	177.0	186.7	197.5	186.0	186.0	174.0	181.7	175.7	171.3	188.0	173.0	174.0	177.0
22	UT99B1670-3530	<b>180.9</b>	<b>3</b>	177.0	187.0	198.5	186.0	185.0	174.0	182.7	175.3	170.3	186.0	175.0	174.0	177.0
23	UT04B2041-42	<b>182.2</b>	<b>6</b>	176.0	188.0	197.5	186.0	186.0	174.0	185.0	177.7	172.3	190.0	177.0	177.0	176.0
24	04WA-113.22	<b>183.6</b>	<b>19</b>	179.0	189.0	199.0	188.0	186.0	177.0	184.7	178.0	175.3	191.0	179.0	177.0	179.0
25	04WNZ-124	<b>186.6</b>	<b>31</b>	185.0	194.3	197.5	190.0	190.0	181.0	187.0	180.3	179.9	189.0	182.0	183.0	185.0
26	05WA-316.K	<b>182.3</b>	<b>8</b>	178.0	188.7	197.0	187.0	186.0	176.0	183.0	178.7	174.0	183.0	179.0	177.0	178.0
27	05WA-316.99	<b>182.8</b>	<b>12</b>	178.0	188.7	196.5	189.0	186.0	177.0	183.0	179.7	176.7	183.0	179.0	177.0	178.0
28	05WA-329.49	<b>182.3</b>	<b>7</b>	178.0	188.3	196.0	187.0	186.0	176.0	182.7	179.0	175.3	183.0	179.0	177.0	178.0
29	CDC Meredith	<b>185.3</b>	<b>27</b>	183.0	192.3	202.5	188.0	188.0	181.0	187.7	180.3	178.0	182.0	181.0	180.0	183.0
30	CDC Coalition	<b>183.8</b>	<b>23</b>	180.0	191.0	196.5	188.0	187.0	177.0	185.0	178.3	176.3	186.0	181.0	179.0	180.0
31	CDC Austenson	<b>185.7</b>	<b>28</b>	184.0	192.3	199.0	188.0	188.0	181.0	187.3	180.7	178.3	189.0	182.0	179.0	184.0
<b>Location Mean</b>		<b>183.29</b>		<b>180.35</b>	<b>189.08</b>	<b>199.77</b>	<b>187.48</b>	<b>186.61</b>	<b>177.65</b>	<b>184.24</b>	<b>178.44</b>	<b>175.32</b>	<b>184.42</b>	<b>178.68</b>	<b>177.45</b>	<b>180.35</b>
<b>Check Mean</b>		<b>183.01</b>		<b>179.75</b>	<b>189.00</b>	<b>203.25</b>	<b>187.25</b>	<b>186.25</b>	<b>178.25</b>	<b>184.35</b>	<b>178.48</b>	<b>175.08</b>	<b>179.25</b>	<b>178.50</b>	<b>176.75</b>	<b>179.75</b>
<b>C.V. (%)</b>		<b>0.98</b>								<b>5.63</b>	<b>3.22</b>	<b>1.40</b>		<b>0.91</b>		
<b>LSD<sub>.05</sub></b>		<b>1.24</b>								<b>154.05</b>	<b>152.44</b>	<b>1.50</b>		<b>3.17</b>		
<b>Replications</b>		<b>12</b>			<b>1</b>					<b>3</b>	<b>3</b>	<b>3</b>		<b>3</b>	<b>1</b>	

**Table 9: 2010 Western Regional Spring Barley Nursery, Percent Plump Barley\***

Entry Number	CULTIVAR/ DESIGNATION	Average		Idaho Falls	Bozeman	Manhattan	Conrad	Fairfield	Hettinger	Williston	Pullman	Powell
		Percent	RANK	ID	MT	MT	MT	MT	ND	ND	WA	WY
1	Step toe	85.3	18	89.6	98.0	95.3	95.6	96.0	86.6	46.4	61.0	99.3
2	Baronesse	85.3	19	91.1	98.2	91.4	97.6	95.0	86.6	46.8	66.0	94.7
3	Harrington	85.1	22	86.1	97.2	97.6	97.3	94.9	85.0	45.4	65.0	97.5
4	AC Metcalfe	84.2	27	86.9	96.7	94.5	95.9	93.6	87.3	42.5	63.0	97.6
5	2B04-0175	86.9	10	90.0	98.1	92.4	97.7	98.0	87.0	47.5	74.0	97.9
6	2B05-0811	85.4	17	91.1	95.5	92.5	97.3	97.3	86.6	45.1	66.0	97.2
7	2B06-0929	88.3	7	92.5	97.9	95.2	97.3	97.3	89.0	42.0	87.0	96.8
8	2B06-0933	84.4	26	89.7	96.2	95.3	96.0	96.0	87.7	32.5	72.0	94.5
9	2B07-1562	88.5	6	91.2	96.8	96.9	97.0	97.0	88.7	48.1	83.0	97.5
10	2B07-1590	89.9	4	92.5	98.2	96.4	97.3	97.7	90.9	47.9	90.0	98.2
11	2Ab04-X00017-4	87.7	8	89.5	96.1	95.9	96.7	96.0	87.9	50.8	78.0	98.0
12	02Ab17271	86.5	13	90.0	95.4	92.6	96.0	92.2	89.0	54.8	74.0	95.0
13	BZ505-172	86.3	15	94.2	96.9	94.4	97.3	96.3	87.7	39.0	72.0	98.5
14	BZ505 192	86.3	14	89.3	92.0	97.5	96.6	96.0	88.8	45.9	73.0	97.6
15	MT020155	85.3	20	85.3	95.8	94.8	96.3	94.6	87.3	40.0	78.0	95.3
16	MT020204	84.8	24	87.0	96.9	92.5	97.0	95.3	87.3	34.3	80.0	93.3
17	MT030042	83.4	30	83.3	91.0	92.6	96.0	94.9	87.3	48.7	60.0	97.0
18	MT040073	87.2	9	90.5	97.8	95.3	97.0	94.9	84.2	49.1	80.0	96.1
19	2ND25276	93.4	1	94.2	99.2	93.5	97.6	96.6	95.6	77.5	88.0	98.7
20	2ND26328	90.4	2	95.6	98.7	91.7	97.6	96.6	90.6	57.2	87.0	98.9
21	ND22421	89.4	5	97.6	98.8	92.5	96.3	96.0	89.1	45.4	89.0	99.7
22	UT99B1670-3530	86.9	11	95.9	99.1	94.3	96.2	95.6	87.4	45.5	69.0	99.1
23	UT04B2041-42	83.1	31	92.1	96.8	98.3	94.3	93.2	80.1	23.1	70.0	99.6
24	04WA-113.22	86.6	12	80.6	98.0	89.0	97.0	95.3	87.2	47.8	87.0	97.7
25	04WZN-124	83.9	29	90.8	98.7	97.4	97.7	90.3	82.1	32.1	69.0	96.9
26	05WA-316.K	84.9	23	88.7	97.7	87.3	97.6	94.0	81.6	53.0	67.0	97.0
27	05WA-316.99	85.8	16	86.1	95.8	93.1	96.3	93.9	85.3	54.5	72.0	95.6
28	05WA-329.49	90.2	3	91.2	96.9	96.0	98.0	97.7	88.0	58.3	88.0	98.1
29	CDC Meredith	84.8	25	88.8	97.4	97.1	97.6	93.6	86.0	38.5	68.0	96.2
30	CDC Coalition	85.2	21	93.9	97.6	91.4	97.7	96.3	84.3	32.5	76.0	97.5
31	CDC Austenson	84.2	28	93.9	97.4	96.1	97.3	93.9	83.1	26.6	72.0	97.1
<b>Location Mean</b>		<b>86.44</b>		<b>90.29</b>	<b>96.99</b>	<b>94.23</b>	<b>96.87</b>	<b>95.35</b>	<b>86.94</b>	<b>45.12</b>	<b>74.97</b>	<b>97.22</b>
<b>Check Mean</b>		<b>84.97</b>		<b>88.40</b>	<b>97.52</b>	<b>94.68</b>	<b>96.63</b>	<b>94.86</b>	<b>86.37</b>	<b>45.28</b>	<b>63.75</b>	<b>97.28</b>
<b>C.V. (%)</b>		<b>5.44</b>			<b>1.00</b>				<b>3.40</b>	<b>17.70</b>	<b>12.30</b>	<b>0.99</b>
<b>LSD .05</b>		<b>3.76</b>			<b>1.34</b>				<b>4.80</b>	<b>16.50</b>	<b>17.80</b>	<b>1.56</b>
<b>Replications</b>		<b>9</b>			<b>3</b>				<b>3</b>	<b>2</b>	<b>3</b>	<b>3</b>

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

**Table 10: 2010 Western Regional Spring Barley Nursery, Percent Protein**

Entry Number	CULTIVAR/ DESIGNATION	Average		Hettinger	Williston
		Percent	RANK	ND	UT
1	Step toe	12.60	1	12.5	12.7
2	Baronesse	15.10	17	13.7	16.5
3	Harrington	15.15	18	13.6	16.7
4	AC Metcalfe	15.80	28	13.7	17.9
5	2B04-0175	15.25	24	13.6	16.9
6	2B05-0811	14.55	9	13.0	16.1
7	2B06-0929	14.60	12	13.3	15.9
8	2B06-0933	15.20	23	13.3	17.1
9	2B07-1562	14.60	11	13.2	16.0
10	2B07-1590	15.50	25	13.7	17.3
11	2Ab04-X00017-4	14.55	10	13.4	15.7
12	02Ab17271	15.65	27	14.3	17.0
13	BZ505-172	15.05	16	13.3	16.8
14	BZ505 192	15.15	19	13.6	16.7
15	MT020155	15.15	20	13.7	16.6
16	MT020204	16.35	30	14.0	18.7
17	MT030042	13.75	5	12.8	14.7
18	MT040073	15.20	21	14.2	16.2
19	2ND25276	12.85	2	12.3	13.4
20	2ND26328	14.70	14	13.5	15.9
21	ND22421	13.95	6	13.1	14.8
22	UT99B1670-3530	13.35	3	12.3	14.4
23	UT04B2041-42	13.70	4	13.0	14.4
24	04WA-113.22	15.20	22	14.0	16.4
25	04WZN-124	16.80	31	13.8	19.8
26	05WA-316.K	14.35	8	13.5	15.2
27	05WA-316.99	14.15	7	13.3	15.0
28	05WA-329.49	15.00	15	13.8	16.2
29	CDC Meredith	14.60	13	12.9	16.3
30	CDC Coalition	15.95	29	13.7	18.2
31	CDC Austenson	15.65	26	13.4	17.9
<b>Location Mean</b>		14.82		13.40	16.24
<b>Check Mean</b>		14.66		13.38	15.95
<b>C.V. (%)</b>		5.68		2.60	6.50
<b>LSD .05</b>		1.43		0.60	2.10
<b>Replications</b>		2		3	2



**Table 11: 2010 Western Regional Spring Barley Nursery, Lodging, 1-10\***

Entry Number	CULTIVAR/ DESIGNATION	AVERAGE		Idaho Falls ID	Hettinger ND	Langdon ND	Pullman WA	Powell WY
		Rating	Rank					
1	Steptoe	4.12	31	4.0	0.0	5.9	5.7	5.0
2	Baronesse	1.80	16	2.0	0.3	2.1	3.3	1.3
3	Harrington	4.03	29	4.0	3.3	6.6	3.7	2.5
4	AC Metcalfe	3.78	27	6.0	2.2	5.9	2.3	2.5
5	2B04-0175	2.70	23	4.0	1.4	5.0	1.8	1.3
6	2B05-0811	2.64	22	1.0	3.0	4.6	3.3	1.3
7	2B06-0929	1.07	10	0.0	0.3	5.0	0.0	0.0
8	2B06-0933	0.97	6	0.0	1.1	3.8	0.0	0.0
9	2B07-1562	2.51	21	3.0	1.4	5.4	1.5	1.3
10	2B07-1590	1.63	14	0.0	1.9	6.3	0.0	0.0
11	2Ab04-X00017-4	1.32	12	0.0	0.3	5.0	0.0	1.3
12	02Ab17271	1.05	8	0.0	1.1	4.1	0.0	0.0
13	BZ505-172	0.89	5	0.0	0.3	4.1	0.0	0.0
14	BZ505 192	1.05	9	2.0	1.1	2.1	0.0	0.0
15	MT020155	4.10	30	7.0	1.4	4.1	6.7	1.3
16	MT020204	3.83	28	6.0	1.1	6.3	3.3	2.5
17	MT030042	2.04	17	0.0	0.8	4.6	2.3	2.5
18	MT040073	2.92	24	0.0	3.0	5.4	3.7	2.5
19	2ND25276	0.73	3	0.0	0.8	2.9	0.0	0.0
20	2ND26328	0.68	2	0.0	0.0	3.4	0.0	0.0
21	ND22421	1.49	13	0.0	3.3	4.1	0.0	0.0
22	UT99B1670-3530	1.80	15	0.0	1.4	6.3	1.3	0.0
23	UT04B2041-42	2.16	18	0.0	1.4	5.4	4.0	0.0
24	04WA-113.22	1.23	11	3.0	0.3	2.5	0.3	0.0
25	04WVZ-124	0.18	1	0.0	0.0	0.9	0.0	0.0
26	05WA-316.K	2.41	20	0.0	3.3	3.8	3.7	1.3
27	05WA-316.99	3.45	26	4.0	0.8	5.0	3.7	3.8
28	05WA-329.49	2.39	19	5.0	0.0	5.0	0.7	1.3
29	CDC Meredith	3.16	25	4.0	4.4	4.6	1.5	1.3
30	CDC Coalition	0.75	4	0.0	0.0	2.5	0.0	1.3
31	CDC Austenson	1.03	7	1.0	0.8	3.4	0.0	0.0
<b>Location Mean</b>		<b>2.06</b>		1.81	1.20	4.51	1.60	1.09
<b>Check Mean</b>		<b>3.43</b>		4.00	1.47	5.13	3.75	2.81
<b>C.V. (%)</b>		<b>64.57</b>			84.00	27.86	79.90	
<b>LSD .05</b>		<b>1.43</b>			1.60	2.05	25.40	
<b>Replications</b>		<b>5</b>			3	3	3	1

\* The scoring system is 0.0 to 10.0 where 0.0 = no lodging, 10.0 = complete lodging

**Table 12: 2010 Western Regional Spring Barley Nursery, Disease Ratings**

Entry Number	CULTIVAR/ DESIGNATION	Idaho Falls, ID	Fairfield, MT	Langdon, ND		Pullman, WA		Mt. Vernon, WA			
		XTT	SCALD	STEM BREAKAGE	FOLIAR DISEASE	Stripe Rust Soft dough		Stripe Rust			
		1-9	%	1-5**	1-9***	IT*	%	Jointing		Milk	
								IT*	%	IT*	%
1	Stephoe	5	30	2.7	7.0	8	5	8	20	8	90
2	Baronesse	4	40	3.3	7.0	5	1	8	30	8	30
3	Harrington	3	50	4.0	6.7	3	1	8	40	5	50
4	AC Metcalfe	5	40	3.7	6.0	0	0	5	20	3	5
5	2B04-0175	4	0	2.7	5.7	0	0	8	30	5	20
6	2B05-0811	2	0	2.3	5.7	0	0	5	30	5	20
7	2B06-0929	5	0	2.7	6.7	0	0	5	20	3	5
8	2B06-0933	5	0	2.0	5.3	0	0	5	20	3	5
9	2B07-1562	4	0	3.0	6.3	0	0	5	20	5	30
10	2B07-1590	7	0	2.7	5.7	0	0	5	30	8	60
11	2Ab04-X00017-4	2	40	3.0	6.3	0	0	8	30	8	70
12	02Ab17271	6	30	2.0	4.0	0	0	5	20	3	5
13	BZ505-172	2	40	3.3	4.7	0	0	5	40	5	30
14	BZ505 192	2	40	2.0	5.0	0	0	8	30	5	30
15	MT020155	6	40	3.0	6.3	0	0	8	30	8	100
16	MT020204	3	40	3.7	6.7	0	0	5	30	8	90
17	MT030042	8	40	3.3	6.7	0	0	5	20	8	90
18	MT040073	1	30	4.3	6.3	0	0	5	30	5	50
19	2ND25276	3	50	1.7	4.7	0	0	5	40	8	90
20	2ND26328	1	40	2.7	6.7	3	1	5	20	8	70
21	ND22421	1	40	1.7	3.3	3	1	5	20	8	90
22	UT99B1670-3530	7	40	2.3	7.0	0	0	8	20	8	90
23	UT04B2041-42	5	20	2.3	6.7	0	0	5	30	8	90
24	04WA-113.22	6	40	2.3	6.0	0	1	8	20	8	60
25	04WZN-124	4	40	2.7	6.7	0	0	5	30	3	10
26	05WA-316.K	3	40	3.7	6.7	0	0	4	20	5	30
27	05WA-316.99	3	40	3.3	6.3	0	0	5	30	5	30
28	05WA-329.49	1	30	2.7	6.0	0	0	5	40	5	20
29	CDC Meredith	1	40	3.0	6.7	0	0	8	30	5	30
30	CDC Coalition	5	30	1.7	5.7	0	0	5	20	5	30
31	CDC Austenson	4	40	2.7	5.0	0	0	5	20	3	10
	<b>Location Mean</b>	3.8	30.6	2.8	6.0						
	<b>Check Mean</b>	4.3	40.0	3.43	6.68						
	<b>C.V. (%)</b>			32.59	17.01						
	<b>LSD .05</b>			1.5	1.7						
	<b>Replications</b>			3	3						

\* IT = Infection type, %= percent leaf area infected., \*\*stem Breakage - (1=no stem breakage; 5=severe stem breakage), \*\*\* Foliar Disease - Visual estimate of all foliar diseases (1=no disease; 9=severe foliar disease)

Figure 1: Test locations (past and present)

