



2002

THE WESTERN REGIONAL
SPRING BARLEY
AND
WESTERN DRYLAND SPRING
BARLEY NURSERIES



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



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AGRICULTURAL RESEARCH SERVICE

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WESTERN REGIONAL SPRING BARLEY NURSERY
and the
WESTERN REGIONAL DRYLAND SPRING BARLEY NURSERY

2002

Compiled by C. A. Erickson, 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:

02WRBNREPORT.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
- Western Regional Dryland Spring Barley Nursery Narrative
 - Nursery contents and locations
 - General Information
 - Data Analysis
 - Data Highlights
 - Data Tables

2002WRSBN-English.xls, 2002WRSBN-Metric.xls: Excel[®] files containing data for the 2002 Western Regional Spring Barley Nursery in both English and metric format.

2002WRDSN-English.xls, 2002WRDSN-Metric.xls: Excel[®] files containing data for the 2002 Western Regional Dryland 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, 2003

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WESTERN REGIONAL SPRING BARLEY NURSERY, 2002

This nursery is intended to be grown under irrigation, or in areas of high rainfall. It contains both 2- and 6-rowed feed and malting barley.

2002 nursery sites that were harvested and summarized for yield from 11 locations are:

- | | | |
|-----------------------|-------------------|-----------------------|
| (1) Tulalake, CA | (5) Bozeman, MT | (9) Klamath Falls, OR |
| (2) Aberdeen, ID | (6) Fargo, ND | (10) Logan, UT |
| (3) Bonners Ferry, ID | (7) Minot, ND | (11) Pullman, WA |
| (4) Moscow, ID | (8) Williston, ND | |

Additional data is summarized from 5 other locations:

- | | | |
|----------------------|-------------------------------|------------------|
| (12) Idaho Falls, ID | (14) Powell, WY | (16) Tammany, ID |
| (13) Fairfield, MT | (15) Saskatoon, Sask., Canada | |

General Information

The entry list for the 2002 Western Regional Spring Barley Nursery is shown in Table 1. In 2002, commercial cultivars were again entered into the nursery, including those from: Busch Agricultural Resources (5 lines); Plant Breeders 1 (2 lines); and Western Plant Breeders (2 lines).

There were 37 entries in this nursery in 2002. Entries in the 2001 test that were dropped in 2002 were: CDC Bold, CDC Helgason (TR346), Creel (93Ab688), Drummond (ND15477), Legacy (6B93-2978), PB1-95-2R-517, PB1-95-2R-A629, UT003757, and UT004467, all tested 3 years; 2B96-5057, 2B97-4077, 6B95-2089, 6B95-2482, 92Ab5180, TR 167, and WA10138-96, all tested 1 year. New entries in the test were: 2B97-4004, 2B98-5312, 6B98-9339, 6B98-9940, 94Ab13449, 98Ab12362, 98Ab12905, 97ID1269B, 981D242, 98-NZ 015, 98-NZ 223, PB1-95-2R-522, TR166 (SM97179), TR169 (SM98014), and WA8792-96.

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 Baroness, Morex, Stander, and Steptoe (Table 2), for 1999 through 2002, show that the check mean yield value for the 2002 season was lower than the previous three years. Test weight was lower than average, plant height was 4.2 cm lower than average, heading date was slightly earlier than average, and percent plump barley was 3.1% higher than average.

In 2002 the highest yielding line over all locations was PB1-95-2R-522, a two-rowed feed barley, at 5.10 Mg ha⁻¹ (Table 3). The six highest yielding lines were feed types. The top 14 lines were statistically equal, of which five were malting barley cultivars. 98Ab12906 was the highest yielding malting barley, ranked seventh at 4.75 Mg ha⁻¹.

Tables 4 through 12 present the 2002 data for individual locations for grain yield, test weight, height, heading date, plumps, thins, lodging, protein, and disease ratings, respectively.

Table 1: 2002 Western Regional Spring Barley Nursery, Entry List

Seed Source	Entry Number	Entry	Type	Parentage	Grade
	1	Steptoe	6 row	CI 15229	feed
	2	Baronesse	2 row	PI 568246	feed
	3	Morex	6 row	CI 15773	malting
	4	Stander	6 row	PI 564743	malting
	5	Harrington	2 row		malting
OSU	6	BCD 47 (OR2967102)	2 row	Harr/Orca//D172(Shyri/Galena)	malting
WPB	7	BZ594-20	2 row	Stark/Baronesse	feed
WPB	8	BZ596-117	2 row		feed
MSU	9	MT960099	2 row	Manley/Baronesse	feed/malting
MSU	10	MT960228	2 row	Stark/ Baronesse	feed
MSU	11	MT970116	2 row	Klages/Baronesse	feed/malting
NDSU	12	ND15422	6 row		malting
PB1	13 *	PB1-95-2R-522	2 row	PB1-88-2R-801/VD403582	feed
PB1	14	PB1-97-2R-7090	2 row		feed
CDC	15	CDC Copeland (TR150)	2 row	WM861-5/TR118	malting
CDC	16	CDC Select	2 row		malting
CDC	17 *	TR166 (SM97179)	2 row	BM8802-78/SM92252	malting
CDC	18 *	TR169 (SM98014)	2 row	TR247/SM93085	malting
USU	19	UT95B1216-4087	6 row	UT84B427-250/OR3	feed
USU	20	UT97B1480-1632	6 row	UT89B747-1263/UT90B774-2467	feed
WSU	21	WA8682-96	2 row	A308/Baronesse	malting
WSU	22 *	WA8792-96	2 row		feed/malting
WSU	23	WA10147-96	2 row	WA7758-89/Baronesse	feed
BARI	24 *	2B97-4004	2 row	2B91-4947/TR129	malting
BARI	25	2B97-4299	2 row	2B91-4947/2B91-4450	malting
BARI	26 *	2B98-5312	2 row	B1215/TR226/Baronesse	malting
BARI	27 *	6B98-9339	6 row	B1614/B1614/M75	malting
BARI	28 *	6B98-9940	6 row	6B92-7166/Stander	malting
USDA-ARS	29 *	94Ab13449	6 row	Russell/M64	malting
USDA-ARS	30 *	98Ab12362	6 row	90Ab852/Excel	malting
USDA-ARS	31 *	98Ab12905	6 row	88Y315/82Ab519//M64	malting
USDA-ARS	32	95SR149C	2 row	Bancroft/Harrington	malting
USDA-ARS	33	95SR316A	2 row	Bancroft/Crystal	malting
USDA-ARS	34 *	971D1269B	6 row	Stander*4/PI366450	malting
USDA-ARS	35 *	981D242	2 row	Baronesse/3/Crystal/Klages*3/PI366450	malting
Wettstein	36 *	98-NZ 015	2 row	Caminant{ant28-484(Grit)/Blenheim}/Baronesse	feed
Wettstein	37 *	98-NZ 223	2 row	Mut. Pant-667 in Harrington/Baronesse	feed

*New entries

Table 2: Check Seasonal Measurements (1999-2002) of the Western Regional Spring Barley Nursery

Average of adjusted means of checks Baronesse, Morex, Stander, and Steptoe

Yield		
Year	Station Years	Mg ha ⁻¹
1999	12	6.2
2000	12	6.1
2001	13	5.3
2002	11	4.5
Adj. Mean	48	5.5

Test Weight		
Year	Station Years	kg m ³
1999	12	647.5
2000	12	668.6
2001	13	653.8
2002	11	651.9
Adj. Mean	48	655.5

Plant Height		
Year	Station Years	cm
1999	12	85.2
2000	12	82.3
2001	14	76.6
2002	11	75.8
Adj. Mean	49	80.0

Heading Date		
Year	Station Years	Julian
1999	12	182.4
2000	12	173.9
2001	9	175.8
2002	10	176.6
Adj. Mean	43	177.2

Percent Plump Barley		
Year	Station Years	%
1999	12	90.1
2000	10	89.8
2001	10	88.1
2002	10	93.5
Adj. Mean	42	90.4

Table 3: 2002 Western Regional Spring Barley Nursery, Means Summary

Entry Number	Variety or Selection	Grain Yield		Test Weight	Plant Height	Heading Date	Plump Barley*	Thin Barley**	Protein
		Mg ha ⁻¹	Rank						
	Number of Locations	11		11	11	10	10	10	2
1	Stepto	5.03	(02)	631.2	76.3	174.7	94.5	4.2	11.8
2	Baronesse	4.76	(06)	666.8	69.0	179.7	89.5	3.6	14.4
3	Morex	3.95	(37)	647.1	82.1	175.5	93.2	4.5	14.0
4	Stander	4.31	(30)	662.4	75.7	176.6	96.7	2.2	12.9
5	Harrington	4.12	(35)	658.1	72.0	179.9	83.2	5.9	14.4
6	BCD 47 (OR2967102)	4.51	(17)	667.7	62.3	179.7	87.5	3.6	13.8
7	BZ594-20	4.70	(09)	681.7	68.6	177.0	92.3	2.0	12.7
8	BZ596-117	4.69	(11)	682.6	70.6	178.7	92.6	2.6	13.7
9	MT960099	4.64	(14)	674.1	65.1	181.8	79.2	7.1	13.4
10	MT960228	4.88	(04)	684.4	71.2	179.6	89.1	3.0	12.6
11	MT970116	4.36	(28)	678.7	77.2	177.9	86.7	5.0	13.8
12	ND15422	4.31	(31)	650.6	75.8	177.5	95.1	3.6	14.0
13	PB1-95-2R-522	5.10	(01)	692.8	72.3	179.0	86.1	3.6	13.0
14	PB1-97-2R-7090	4.19	(29)	691.5	71.1	179.8	89.1	2.9	13.5
15	CDC Copeland (TR150)	4.63	(13)	666.3	80.3	181.3	87.8	3.5	14.0
16	CDC Select	4.51	(18)	670.4	76.2	179.9	86.6	3.5	14.1
17	TR166 (SM97179)	4.39	(25)	672.2	77.2	180.4	91.8	2.0	13.9
18	TR169 (SM98014)	4.39	(26)	672.1	76.2	181.0	86.4	3.1	14.2
19	UT95B1216-4087	4.81	(05)	652.4	72.4	177.1	93.9	4.4	13.5
20	UT97B1480-1632	4.71	(10)	669.7	75.5	173.7	95.0	3.5	12.8
21	WA8682-96	4.41	(23)	679.1	73.7	179.2	85.6	4.8	14.1
22	WA8792-96	4.47	(19)	676.0	72.0	179.0	91.2	2.7	13.4
23	WA10147-96	4.64	(12)	661.8	68.3	180.5	88.7	3.4	13.2
24	2B97-4004	4.42	(21)	657.8	74.9	181.0	82.0	5.4	13.4
25	2B97-4299	4.60	(15)	665.2	72.9	181.8	85.3	3.8	12.7
26	2B98-5312	4.69	(08)	659.7	72.7	181.2	75.4	6.0	12.9
27	6B98-9339	4.43	(27)	659.4	73.0	178.2	95.0	3.5	13.4
28	6B98-9940	4.51	(22)	654.9	75.9	175.4	96.3	2.8	12.7
29	94Ab13449	4.24	(33)	662.9	70.9	175.6	96.0	2.9	10.9
30	98Ab12362	4.06	(36)	657.2	74.2	176.7	96.8	1.8	12.6
31	98Ab12905	4.75	(07)	651.1	74.4	174.6	96.6	2.3	10.8
32	95SR149C	4.39	(20)	645.9	75.5	183.1	69.7	11.2	13.3
33	95SR316A	4.37	(24)	672.2	76.5	182.6	79.2	6.1	13.5
34	971D1269B	4.26	(32)	648.0	74.3	178.0	95.7	3.1	13.0
35	981D242	4.55	(16)	678.1	73.7	180.7	89.9	2.0	13.3
36	98-NZ 015	4.10	(34)	657.7	65.8	181.7	86.8	3.7	13.4
37	98-NZ 223	4.95	(03)	671.4	67.0	180.2	77.1	6.8	12.9
	Entry Mean	4.51		665.7	73.1	178.9	88.7	4.0	13.2
	Check Mean	4.51		651.9	75.8	176.6	93.5	3.6	13.3
	LSD .05	0.49		11.4	3.8	1.3	6.9	2.6	
	C.V.	14.28		2.3	6.8	0.9	9.7	82.1	

* Percent over sieve, 2-rowed 6/64, 6-rowed 5.5/64

** Percent through 5.5/64 screen

Table 4: 2002 Western Regional Spring Barley Nursery, Grain Yield (Mg ha⁻¹)

Entry Number	Selection or Variety	Tulelake	Aberdeen	Bonnars	Moscow	Bozeman	Fargo	Minot	Williston	Klamath	Logan	Pullman	Idaho	Fairfield	Powell	Saskatoon	Regional	
		CA	ID	Ferry	ID	ID	MT	ND	ND	ND	OR	UT	WA	Falls	MT	WY	CANADA	Average
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Average	
1	Steploe	9.7	5.3	6.0	5.7	6.0	5.7	3.2	3.3	6.6	1.7	4.7	7.1	6.4	5.3	2.0	5.0	(02)
2	Baronesse	6.9	6.0	4.9	6.1	5.7	6.1	4.5	3.0	6.4	2.1	4.4	6.6	6.5	5.1	1.9	4.8	(06)
3	Morex	7.6	4.9	2.8	5.3	3.5	5.3	3.2	3.3	4.8	1.6	3.6			3.9	2.6	3.9	(37)
4	Stander	8.4	5.1	3.6	5.6	5.1	5.6	3.7	3.2	4.1	1.6	4.3	6.4	5.7	3.8	2.8	4.3	(30)
5	Harrington	6.0	5.6	3.4	5.7	4.8	5.7	4.0	2.7	5.6	1.3	4.1	6.2	5.9	5.5	3.3	4.1	(35)
6	BCD 47 (OR2967102)	7.4	4.8	5.6	5.2	6.2	5.2	4.7	2.5	4.6	1.5	4.9	5.5	4.2	4.4		4.5	(17)
7	BZ594-20	9.8	6.1	5.2	5.7	6.3	5.7	4.1	3.4	4.8	1.4	2.8	6.0	6.0	5.2		4.7	(09)
8	BZ596-117	7.2	5.4	5.9	5.9	6.6	5.9	4.1	3.2	5.2	1.8	4.0	6.7	6.6	5.0		4.7	(11)
9	MT960099	6.0	5.8	5.1	6.0	6.3	6.0	4.9	3.2	5.3	2.8	3.1	6.7	6.6	4.0		4.6	(14)
10	MT960228	7.5	5.3	5.3	6.5	5.9	6.5	4.2	3.6	6.3	2.1	4.0	6.5	6.4	5.9		4.9	(04)
11	MT970116	9.0	5.8	1.8	5.5	5.2	5.5	3.8	3.1	5.0	2.2	3.9	6.4	6.1	4.7		4.4	(28)
12	ND15422	7.8	5.2	4.2	5.4	4.3	5.4	3.5	3.5	4.2	2.2	4.4	5.9	4.6	4.9		4.3	(31)
13	PB1-95-2R-522	8.6	7.4	4.9	6.0	6.5	6.0	4.8	3.3	5.7	1.7	4.6	6.8	6.3	4.8	3.1	5.1	(01)
14	PB1-97-2R-7090	7.5	4.3	4.9	5.6	6.6	5.6	3.6	2.2	4.7	2.1	3.5	6.9	5.1	4.2		4.2	(29)
15	CDC Copeland (TR150)	7.7	5.2	5.0	6.2	6.5	6.2	5.0	1.9	4.9	1.4	4.8	5.5	5.8	5.0	2.6	4.6	(13)
16	CDC Select	7.9	6.1	4.2	5.6	5.5	5.6	4.2	2.7	4.8	1.1	5.1	6.2	5.5	5.0	2.5	4.5	(18)
17	TR166 (SM97179)	7.5	5.8	4.3	5.8	5.2	5.8	3.3	3.2	5.6	1.5	4.1	5.6	5.2	4.4	3.2	4.4	(25)
18	TR169 (SM98014)	7.7	5.4	4.6	5.4	5.7	5.4	3.9	2.7	5.7	0.9	4.1	6.2	5.8	4.1	2.9	4.4	(26)
19	UT95B1216-4087	9.1	6.1	5.0	6.2	4.6	6.2	3.4	2.9	6.2	2.8	4.6	8.3	7.5	4.9		4.8	(05)
20	UT97B1480-1632	8.3	6.2	5.7	5.2	4.2	5.7	4.0	3.7	5.5	2.1	4.5	6.9	6.3	4.6		4.7	(20)
21	WA8682-96	6.0	5.4	4.3	5.7	5.4	5.7	4.4	3.4	5.5	1.4	4.9	6.7	5.9	4.6		4.4	(13)
22	WA8792-96	7.1	6.0	4.4	5.6	5.2	5.6	4.2	2.6	6.0	1.2	4.9	6.4	6.0	5.2	2.3	4.5	(19)
23	WA10147-96	6.9	5.8	4.9	5.9	6.0	5.9	3.9	3.0	5.5	1.6	5.3	6.1	5.8	5.2		4.6	(12)
24	2B97-4004	8.0	5.7	4.0	5.6	5.4	5.6	4.1	2.7	4.9	2.1	4.2	6.3	5.8	5.4	2.8	4.4	(21)
25	2B97-4299	7.4	5.5	3.9	6.2	6.6	6.2	4.3	3.0	5.7	1.0	4.7	7.3	6.2	4.6		4.6	(15)
26	2B98-5312	7.8	6.3	3.5	5.8	5.6	5.8	4.1	3.0	6.2	3.3	4.1	6.4	6.0	5.8	3.5	4.7	(08)
27	6B98-9339	8.2	4.9	4.3	5.4	5.4	5.4	3.6	3.2	4.3	2.0	4.3	6.8	5.5	4.5	2.1	4.4	(27)
28	6B98-9940	8.7	5.8	3.9	5.3	4.9	5.3	3.8	3.7	5.0	1.4	4.1	6.1	5.4	4.6	2.6	4.5	(22)
29	94Ab13449	8.4	5.6	3.6	5.4	5.4	4.9	3.5	3.3	3.7	1.7	4.1	7.2	6.3	4.5	2.4	4.2	(33)
30	98Ab12362	8.4	4.4	3.2	5.7	5.3	5.7	2.9	2.4	4.9	1.0	5.0	6.3	5.4	4.7	3.1	4.1	(36)
31	98Ab12905	9.0	5.4	4.0	5.4	6.3	5.4	3.6	3.3	5.5	1.8	5.8	7.1	6.1	4.3	2.2	4.8	(07)
32	95SR149C	7.1	5.9	2.8	5.9	6.0	5.9	3.4	2.9	6.3	2.2	4.3	6.6	4.8	4.2	2.6	4.4	(20)
33	95SR316A	7.0	5.7	3.0	6.0	6.6	6.0	3.4	2.7	5.5	1.9	4.7	7.1	5.1	5.2	2.8	4.4	(24)
34	971D1269B	9.1	4.9	3.6	5.3	5.2	5.3	4.0	3.2	4.5	1.0	3.8	7.1	6.7	5.0	2.7	4.3	(32)
35	981D242	7.8	5.1	4.2	5.6	6.7	5.6	4.1	2.8	5.7	1.5	4.7	7.0	5.6	5.2	2.9	4.6	(16)
36	98-NZ 015	6.5	6.0	4.6	5.5	6.4	5.5	3.2	1.4	5.0	0.6	5.0	6.4	5.4	5.1	1.6	4.1	(34)
37	98-NZ 223	6.4	7.1	3.4	6.1	6.5	6.1	4.8	2.9	6.9	3.0	5.3	6.8	5.1	5.2	2.4	5.0	(03)
	Average	7.8	5.6	4.3	5.6	5.5	5.6	3.9	3.0	5.3	1.7	4.4	6.6	5.8	4.8	2.6	4.5	
	LSD .05	1.4	1.0	0.9	0.4	0.9	0.4	0.9	0.3	1.0	0.5	0.9	0.9	1.0	0.9		0.5	
	C.V.	11.0	13.5	15.3	5.7	9.4	5.7	16.1	6.3	13.7	22.4	15.8	7.9	10.3	11.8		14.3	

Table 5: 2002 Western Regional Spring Barley Nursery, Test Weight (kg m³)

Entry Number	Selection or Variety	Tulelake CA 1	Aberdeen ID 2	Bonnets Ferry ID 3	Moscow ID 4	Bozeman MT 5	Fargo ND 6	Minot ND 7	Williston ND 8	Klamath Falls OR 9	Logan UT 10	Pullman WA 11	Idaho Falls ID 12	Fairfield MT 13	Powell WY 14	Saskatoon CAN 15	Average Loc 1-11
1	Steptoe	630.8	668.2	642.4	641.1	633.4	593.4	645.0	541.8	692.3	650.7	604.6	700.5	663.9	637.1	594.9	631.2
2	Baronesse	659.2	712.7	687.6	704.3	683.7	606.3	645.0	633.4	696.6	676.1	630.4	728.9	765.0	685.0	663.9	666.8
3	Morex	651.5	673.4	655.3	677.3	663.1	593.4	651.5	611.5	667.6	649.9	624.4	735.3	740.9	667.4	603.0	647.1
4	Stander	663.1	705.6	677.3	690.2	699.2	606.3	645.0	620.5	696.6	649.6	633.0	749.9	740.9	671.6	631.9	662.4
5	Harrington	656.6	703.1	652.7	706.9	668.9	580.5	651.5	624.4	706.3	671.2	617.5	722.8	747.3	677.6	674.6	658.1
6	BCD 47 (OR2967102)	652.7	691.4	676.0	704.3	712.1	580.5	670.8	639.8	703.1	659.2	655.3	748.6	756.4	670.4		667.7
7	BZ594-20	699.2	712.7	686.3	710.8	713.4	632.1	651.5	656.6	699.8	670.1	666.1	755.5	761.1	700.7		681.7
8	BZ596-117	691.4	705.0	694.0	719.8	716.6	619.2	696.6	637.3	709.5	655.2	663.5	765.4	780.0	712.9		682.6
9	MT960099	665.6	700.5	677.3	699.2	717.2	606.3	683.7	630.8	709.5	684.8	639.8	746.9	759.4	671.1		674.1
10	MT960228	679.8	705.6	695.3	717.2	712.1	606.3	696.6	638.6	712.7	695.5	668.6	739.6	761.1	692.9		684.4
11	MT970116	699.2	725.6	659.2	716.0	711.4	632.1	703.1	645.0	683.7	618.7	671.2	765.0	783.5	674.7		678.7
12	ND15422	651.5	676.6	665.6	686.3	680.5	593.4	645.0	605.0	693.4	639.2	619.6	716.0	723.7	648.6		650.6
13	PB1-95-2R-522	678.5	739.2	697.9	722.4	714.0	632.1	696.6	643.7	696.6	716.1	683.7	772.7	771.0	699.6	693.9	692.8
14	PB1-97-2R-7090	699.2	737.2	695.3	728.9	726.3	606.3	690.2	629.5	722.4	696.6	674.2	763.3	782.6	706.8		691.5
15	CDC Copeland (TR150)	674.7	706.3	676.0	709.5	703.1	580.5	651.5	581.8	709.5	685.1	651.0	704.3	762.4	697.1	658.4	666.3
16	CDC Select	665.6	706.3	692.7	701.8	699.8	593.4	670.8	629.5	696.6	673.7	644.6	730.6	757.2	675.8	661.9	670.4
17	TR166 (SM97179)	669.5	696.0	692.7	706.9	714.0	593.4	683.7	628.2	713.8	682.8	612.8	724.1	773.1	669.3	649.9	672.2
18	TR169 (SM98014)	663.1	701.8	682.4	705.6	709.5	593.4	683.7	639.8	696.6	685.6	631.2	735.3	762.0	654.7	663.1	672.1
19	UT95B1216-4087	668.2	670.2	670.8	683.7	685.0	580.5	645.0	603.7	703.1	647.6	612.3	702.6	724.6	643.7		652.4
20	UT97B1480-1632	678.5	690.2	677.3	697.9	719.2	619.2	645.0	628.2	703.1	675.4	655.3	731.4	743.0	662.9		669.7
21	WA8682-96	657.9	736.6	683.7	719.8	702.4	606.3	696.6	636.0	706.3	678.6	645.9	741.8	775.7	694.0	653.7	679.1
22	WA8792-96	676.0	722.4	670.8	712.1	711.4	619.2	645.0	637.3	709.5	677.1	655.3	762.8	764.1	702.5		676.0
23	WA10147-96	664.4	703.1	674.7	695.3	708.9	567.6	677.3	599.9	677.3	665.4	646.7	717.7	764.1	684.3	666.2	661.8
24	2B97-4004	661.8	721.1	673.4	690.2	678.5	580.5	645.0	599.9	664.4	686.9	634.3	697.5	748.2	670.4		657.8
25	2B97-4299	657.9	707.6	677.3	697.9	719.2	580.5	670.8	607.6	690.2	676.9	631.7	714.7	742.2	652.9		665.2
26	2B98-5312	661.8	701.1	664.4	695.3	706.3	567.6	657.9	602.4	696.6	691.6	611.9	727.1	753.8	692.9	670.8	659.7
27	6B98-9339	665.6	689.5	664.4	685.0	693.4	606.3	657.9	611.5	709.5	645.5	625.2	735.7	728.4	668.0	604.9	659.4
28	6B98-9940	661.8	691.4	683.7	679.8	696.6	593.4	645.0	620.5	696.6	624.4	610.2	728.9	717.2	672.9	620.2	654.9
29	94Ab13449	656.6	714.7	679.8	691.4	701.1	580.5	683.7	611.5	657.9	681.8	633.4	723.3	740.5	672.9	623.7	662.9
30	98Ab12362	660.5	697.9	679.8	685.0	701.1	593.4	664.4	607.6	664.4	663.3	611.5	712.9	728.9	641.4	640.1	657.2
31	98Ab12905	647.6	708.2	679.8	686.3	682.4	567.6	645.0	588.2	651.5	667.9	637.3	702.6	721.1	643.2	604.8	651.1
32	95SR149C	659.2	705.6	590.8	688.9	696.0	528.9	645.0	599.9	683.7	697.0	609.7	716.4	729.3	635.3	670.1	645.9
33	95SR316A	666.9	721.8	652.7	710.8	727.6	580.5	670.8	616.6	709.5	690.6	646.7	758.1	760.7	700.1	691.5	672.2
34	971D1269B	656.6	699.8	685.0	681.1	700.5	580.5	645.0	584.4	619.2	665.4	610.6	724.1	735.7	667.4	616.7	648.0
35	981D242	668.2	719.8	682.4	710.8	725.0	606.3	677.3	639.8	709.5	683.6	636.0	731.4	765.4	687.4	680.3	678.1
36	98-NZ 015	650.2	710.1	666.9	696.6	710.1	567.6	696.6	572.8	693.4	652.1	618.8	733.2	743.5	670.4	647.2	657.7
37	98-NZ 223	664.4	710.1	666.9	697.9	717.2	593.4	664.4	637.3	722.4	677.0	634.7	739.6	752.9	713.5	664.2	671.4
	Entry Mean	665.6	705.1	670.3	693.4	701.1	593.7	666.1	617.9	693.9	670.5	636.7	732.1	749.7	675.7	647.9	665.7
	LSD .05	11.6	11.0	16.0	11.0	11.0	11.6	11.6	11.6	11.6	11.6	23.2	18.5	16.4	32.6	16.4	11.4
	C.V.	0.9	0.8	1.2	0.8	0.8	0.8	0.9	0.9	0.9	0.9	2.7	1.5	1.3	3.0	1.3	2.3

Table 6: 2002 Western Regional Spring Barley Nursery, Plant Height (cm)

Entry Number	Variety or Selection	Tulelake CA 1	Aberdeen ID 2	Bonniers Ferry ID 3	Moscow ID 4	Tammany ID 16	Bozeman MT 5	Fargo ND 6	Minot ND 7	Williston ND 8	Klamath Falls OR 9	Pullman WA 11	Idaho Falls ID 12	Fairfield MT 13	Powell WY 14	Average Loc 1-9, 11,16
1	Stephoe	104.1	64.1	83.8	71.1	66.0	101.6	63.7	57.7	56.4	97.5	73.7	86.4	83.8	61.3	77.6
2	Baronesse	83.8	72.4	78.7	71.1	61.0	83.8	64.3	51.0	48.0	75.0	70.3	83.8	94.0	60.7	69.5
3	Morex	109.2	74.9	76.2	88.9	68.6	104.1	66.0	62.0	54.6	110.0	88.1	96.5	77.3	77.3	83.7
4	Stander	106.7	75.6	78.7	78.7	66.0	94.0	60.3	52.3	51.3	85.0	83.8	96.5	99.1	64.7	77.2
5	Harrington	99.1	69.9	76.2	76.2	63.5	82.6	67.3	52.7	48.0	82.5	74.5	83.8	99.1	68.0	72.5
6	BCD 47 (OR2967102)	83.8	51.4	68.6	61.0	58.4	77.5	59.0	49.0	43.4	67.5	66.0	61.0	78.7	53.3	62.7
7	BZ594-20	88.9	69.9	73.7	71.1	61.0	81.3	59.0	53.3	51.1	80.0	65.2	73.7	78.7	64.3	69.5
8	BZ596-117	106.7	73.7	76.2	71.1	61.0	83.8	64.0	50.0	47.0	75.0	67.7	86.4	91.4	62.7	71.2
9	MT960099	91.4	67.9	66.0	61.0	61.0	77.5	62.3	51.7	42.7	77.5	57.6	76.2	86.4	53.3	65.4
10	MT960228	96.5	71.1	76.2	71.1	61.0	87.6	66.3	56.0	53.6	75.0	80.4	86.4	96.5	67.3	71.7
11	MT970116	99.1	74.9	73.7	81.3	71.1	95.3	69.0	56.7	52.3	95.0	80.4	94.0	101.6	72.0	78.0
12	ND15422	104.1	71.8	78.7	76.2	66.0	100.3	58.0	57.3	47.8	87.5	86.4	96.5	99.1	72.0	77.6
13	PB1-95-2R-522	94.0	74.3	78.7	68.6	66.0	86.4	64.3	58.3	53.1	77.5	73.7	83.8	91.4	60.7	73.1
14	PB1-97-2R-7090	99.1	68.6	76.2	71.1	61.0	92.7	59.0	51.7	47.2	82.5	72.8	88.9	81.3	58.0	72.3
15	CDC Copeland (TR150)	106.7	80.6	88.9	83.8	68.6	92.7	71.0	60.0	51.3	92.5	87.2	99.1	99.1	70.0	81.2
16	CDC Select	104.1	78.7	76.2	81.3	66.0	87.6	68.7	59.0	52.1	82.5	82.1	86.4	96.5	72.0	77.0
17	TR166 (SM97179)	109.2	77.5	78.7	81.3	61.0	90.2	75.7	55.0	50.3	92.5	77.9	91.4	96.5	64.7	77.4
18	TR169 (SM98014)	99.1	79.4	78.7	78.7	66.0	91.4	74.0	58.0	54.6	82.5	75.4	83.8	99.1	63.3	76.4
19	UT95B1216-4087	94.0	73.0	76.2	71.1	63.5	92.7	59.7	53.3	46.7	87.5	78.7	96.5	91.4	63.3	73.7
20	UT97B1480-1632	101.6	74.9	78.7	76.2	66.0	96.5	60.7	51.7	57.4	82.5	84.7	83.8	88.9	60.3	77.0
21	WA8682-96	96.5	72.4	78.7	81.3	63.5	86.4	68.3	57.3	49.0	80.0	77.0	88.9	88.9	63.7	74.2
22	WA8792-96	88.9	76.8	76.2	78.7	63.5	80.0	61.0	55.7	52.1	77.5	81.3	86.4	88.9	63.7	73.1
23	WA10147-96	91.4	69.9	76.2	68.6	58.4	77.5	62.3	53.3	46.2	75.0	72.8	81.3	71.1	59.0	68.9
24	2B97-4004	101.6	77.5	78.7	73.7	66.0	82.6	73.7	58.3	51.1	90.0	70.3	88.9	91.4	69.0	75.0
25	2B97-4299	101.6	70.5	76.2	78.7	68.6	81.3	68.7	53.3	47.2	80.0	75.4	88.9	88.9	60.7	73.3
26	2B98-5312	94.0	74.9	73.7	76.2	63.5	85.1	68.0	53.3	50.5	90.0	70.3	83.8	78.7	63.7	73.1
27	6B98-9339	104.1	74.3	73.7	76.2	66.0	86.4	61.0	52.0	45.0	80.0	84.7	88.9	81.3	65.0	74.2
28	6B98-9940	99.1	74.3	78.7	76.2	66.0	100.3	58.3	57.3	51.1	90.0	83.8	94.0	96.5	70.7	77.7
29	94Ab13449	99.1	73.0	76.2	66.0	58.4	94.0	57.0	49.7	49.3	80.0	77.0	86.4	94.0	64.3	72.3
30	98Ab12362	101.6	72.4	71.1	71.1	63.5	94.0	59.7	52.7	50.5	90.0	89.7	91.4	88.9	69.7	75.7
31	98Ab12905	94.0	79.4	76.2	71.1	61.0	95.3	60.3	54.3	50.5	85.0	91.4	91.4	86.4	66.7	75.8
32	95SR149C	106.7	76.8	73.7	78.7	63.5	80.0	69.7	54.7	48.3	97.5	81.3	99.1	91.4	64.7	76.1
33	95SR316A	106.7	79.4	81.3	78.7	61.0	86.4	70.0	61.3	49.8	90.0	77.0	94.0	86.4	68.3	77.2
34	971D1269B	101.6	72.4	73.7	73.7	63.5	97.8	60.3	55.0	48.8	85.0	85.5	96.5	91.4	71.3	75.7
35	981D242	99.1	76.8	78.7	68.6	68.6	83.8	65.0	57.3	50.3	82.5	80.4	88.9	94.0	66.7	74.6
36	98-NZ 015	88.9	64.1	68.6	68.6	58.4	69.9	59.7	52.3	46.7	70.0	77.0	81.3	81.3	53.0	66.5
37	98-NZ 223	88.9	78.7	66.0	71.1	63.5	44.5	66.3	54.3	48.3	77.5	77.9	88.9	81.3	64.3	67.1
	Average	99.1	73.2	75.7	73.4	63.8	87.1	64.4	54.8	50.0	84.0	77.5	87.9	89.8	64.7	73.9
	LSD .05	12.7	6.8	7.0	6.1	10.2	10.2	10.2	6.6	5.1	9.8	10.0	10.0	9.2	9.2	4.0
	C.V.	6.0	6.7	6.6	5.9	1.4	1.4	1.4	16.1	6.2	8.4	9.4	9.4	7.0	7.0	6.7

Table 7: 2002 Western Regional Spring Barley Nursery, Heading Date (Julian)

Entry Number	Selection or Variety	Tulelake CA 1	Aberdeen ID 2	Bonnets Ferry ID 3	Moscow ID 4	Tammany ID 16	Bozeman MT 5	Fargo ND 6	Williston ND 8	Klamath Falls OR 9	Pullman WA 11	Idaho Falls ID 12	Fairfield MT 13	Powell WY 14	Saskatoon CAN 15	Average Loc. 1-6 8,9,11,16
1	Steploe	173	168	176	168	159	186	183	181	176	177	176	187	177	197	174.7
2	Baronesse	173	176	184	174	160	192	188	190	181	179	180	190	182	198	179.7
3	Morex	173	171	177	168	160	187	183	181	179	176	177	189	178	200	175.5
4	Stander	171	173	181	169	160	190	185	182	181	174	177	187	179	199	176.6
5	Harrington	174	174	184	173	160	193	191	187	181	181	180	190	180	200	179.9
6	BCD 47 (OR2967102)	176	170	183	170	159	194	191	189	181	181	180	192	181		179.7
7	BZ594-20	169	169	184	173	159	190	184	186	181	178	178	189	179		177.0
8	BZ596-117	173	171	181	172	163	192	187	189	180	179	177	189	179		178.7
9	MT960099	176	177	186	176	165	195	190	190	181	182	179	191	183		181.8
10	MT960228	173	175	185	172	164	192	188	187	181	179	178	190	181		179.6
11	MT970116	171	171	186	169	159	191	188	188	180	177	176	191	178		177.9
12	ND15422	173	172	180	172	160	190	185	185	180	178	176	188	178		177.5
13	PB1-95-2R-522	173	175	184	174	160	191	187	188	181	177	180	189	180	199	179.0
14	PB1-97-2R-7090	174	175	184	175	160	192	189	189	181	179	178	190	180		179.8
15	CDC Copeland (TR150)	175	175	185	175	166	192	192	189	181	183	179	191	183	200	181.3
16	CDC Select	174	174	183	173	163	192	190	190	181	180	178	191	180	200	179.9
17	TR166 (SM97179)	173	174	185	173	164	192	192	187	181	184	176	191	181	200	180.4
18	TR169 (SM98014)	176	176	187	173	166	192	192	187	181	180	178	191	182	203	181.0
19	UT95B1216-4087	171	172	178	169	164	189	186	187	177	179	175	188	179		177.1
20	UT97B1480-1632	169	167	176	167	159	186	182	180	178	173	175	188	182		173.7
21	WA8682-96	174	173	184	173	160	191	189	188	181	179	179	190	184		179.2
22	WA8792-96	171	174	183	173	164	191	188	187	181	178	178	191	181	198	179.0
23	WA10147-96	175	176	184	174	165	192	189	189	182	179	179	191	184		180.5
24	2B97-4004	173	176	188	173	166	192	191	188	181	183	177	191	184	200	181.0
25	2B97-4299	174	176	188	174	165	195	192	190	181	183	179	191	182		181.8
26	2B98-5312	172	176	189	174	160	195	192	190	181	183	179	193	181	200	181.2
27	6B98-9339	172	173	182	173	160	190	187	185	181	179	178	188	179	200	178.2
28	6B98-9940	171	172	176	169	159	188	184	182	178	176	175	188	178	198	175.4
29	94Ab13449	168	169	178	169	164	188	184	181	180	176	175	188	176	200	175.6
30	98Ab12362	171	172	180	169	164	190	185	184	178	175	176	188	178	199	176.7
31	98Ab12905	167	170	178	168	160	187	183	181	179	173	175	188	177	199	174.6
32	95SR149C	177	177	188	176	168	196	194	191	181	184	181	193	184	205	183.1
33	95SR316A	176	176	188	176	168	195	193	191	182	182	181	193	184	200	182.6
34	971D1269B	171	174	181	171	164	190	185	186	181	178	180	188	178	198	178.0
35	981D242	173	177	183	175	165	195	189	189	181	179	180	192	180	200	180.7
36	98-NZ 015	176	176	186	176	166	196	190	188	182	181	180	192	181	200	181.7
37	98-NZ 223	175	173	185	175	160	192	190	190	181	181	179	191	180	200	180.2
	Average	173	173	182	171	162	191	188	187	180	179	178	190	180	200	178.9
	LSD .05	2.0	1.6	2.8	1.0	1.4	2.8	1.4	1.3	1.6	1.4	1.4	1.3	1.3	1.3	1.3
	C.V.	1.7	0.7	1.1	0.4	2.8	0.4	2.8	0.4	0.6	0.6	0.6	0.4	0.4	0.6	0.9

Table 8: 2002 Western Regional Spring Barley Nursery, Percent Plump Barley*

Entry Number	Variety or Selection	Tulelake CA 1	Aberdeen ID 2	Bonners Ferry ID 3	Moscow ID 4	Bozeman MT 5	Fargo ND 6	Minot ND 7	Williston ND 8	Klamath Falls OR 9	Pullman WA 11	Idaho Falls ID 12	Fairfield MT 13	Powell WY 14	Saskatoon CA 15	Average Loc 1-9,11
1	Stephoe	98.4	97.5	89.0	92.0	86.8	96.0	98.0	91.5	99.3	97.0	90.9	98.3	98.9	94.0	94.5
2	Baronesse	96.6	96.6	93.0	95.0	87.2	63.0	89.0	91.2	96.6	87.0	83.3	96.9	97.3	89.7	89.5
3	Morex	96.0	95.0	78.0	92.0	89.1	97.0	99.0	91.9	98.7	95.0	94.2	98.7	98.1	90.3	93.2
4	Stander	98.9	97.0	89.0	96.0	96.5	98.0	99.0	96.4	99.2	97.0	94.2	98.7	98.1	93.2	96.7
5	Harrington	97.6	97.6	76.0	96.0	81.0	44.0	83.0	86.8	97.6	73.0	91.3	97.1	97.2	94.4	83.2
6	BCD 47 (OR2967102)	97.2	97.2	93.0	92.0	92.8	46.0	87.0	86.3	97.2	86.0	90.4	96.8	96.4	96.4	87.5
7	BZ594-20	97.1	97.1	94.0	97.0	97.5	68.0	89.0	92.5	97.1	94.0	90.7	96.5	98.0	96.0	92.3
8	BZ596-117	96.7	96.7	97.0	98.0	96.4	69.0	91.0	87.9	96.7	96.0	90.0	97.5	96.7	96.7	92.6
9	MT960099	93.4	93.4	83.0	90.0	90.9	28.0	72.0	67.3	93.4	81.0	79.0	94.1	86.4	86.4	79.2
10	MT960228	97.2	97.2	95.0	97.0	92.1	50.0	88.0	85.6	97.2	92.0	81.5	96.7	96.7	96.7	89.1
11	MT970116	95.8	95.8	51.0	98.0	92.4	63.0	90.0	90.3	95.8	95.0	92.0	96.9	96.5	96.5	86.7
12	ND15422	98.0	95.5	90.0	94.0	89.3	96.0	99.0	94.4	98.7	96.0	93.9	97.1	98.8	96.8	95.1
13	PB1-95-2R-522	90.2	93.5	89.0	93.0	89.8	48.0	86.0	86.1	95.5	90.0	90.6	95.3	95.5	91.8	86.1
14	PB1-97-2R-7090	93.2	97.0	88.0	97.0	96.8	59.0	88.0	90.5	98.3	83.0	91.7	96.9	96.9	96.9	89.1
15	CDC Copeland (TR150)	86.3	96.0	91.0	94.0	88.8	55.0	87.0	93.9	97.4	89.0	84.5	96.4	97.7	95.5	87.8
16	CDC Select	79.1	92.5	95.0	94.0	83.8	56.0	89.0	91.0	97.1	88.0	90.6	97.6	96.7	74.4	86.6
17	TR166 (SM97179)	92.7	96.5	96.0	95.0	96.4	68.0	94.0	93.6	98.3	87.0	91.1	98.3	97.0	96.5	91.8
18	TR169 (SM98014)	86.7	95.0	93.0	92.0	93.0	50.0	82.0	90.5	97.4	84.0	88.0	97.9	94.8	81.2	86.4
19	UT95B1216-4087	98.0	97.5	85.0	92.0	91.2	94.0	98.0	91.7	98.6	93.0	85.8	98.5	98.3	98.3	93.9
20	UT97B1480-1632	97.7	97.5	89.0	93.0	93.5	96.0	96.0	91.8	99.3	96.0	90.3	98.6	96.2	96.2	95.0
21	WA8682-96	76.5	95.0	84.0	96.0	83.8	62.0	90.0	90.3	96.1	82.0	87.5	97.5	96.0	96.0	85.6
22	WA8792-96	88.4	96.5	89.0	97.0	96.3	74.0	87.0	93.9	97.7	92.0	93.1	97.3	98.6	93.7	91.2
23	WA10147-96	84.7	94.0	87.0	96.0	97.5	69.0	88.0	90.1	95.9	85.0	79.9	98.3	97.3	88.7	88.7
24	2B97-4004	86.2	92.0	78.0	87.0	84.6	42.0	81.0	85.3	94.7	89.0	78.7	94.9	93.0	83.2	82.0
25	2B97-4299	88.6	88.5	83.0	94.0	97.6	41.0	88.0	85.5	95.7	91.0	89.9	97.6	96.2	96.2	85.3
26	2B98-5312	72.7	86.5	77.0	85.0	94.0	30.0	71.0	81.3	95.1	61.0	80.0	96.1	93.8	91.9	75.4
27	6B98-9339	98.1	96.0	92.0	88.0	95.7	93.0	98.0	94.0	99.3	96.0	94.4	99.1	98.3	88.3	95.0
28	6B98-9940	99.0	96.5	95.0	95.0	98.0	95.0	99.0	94.9	99.1	92.0	89.2	99.3	98.8	95.9	96.3
29	94Ab13449	97.6	97.0	92.0	94.0	94.3	96.0	99.0	95.7	98.8	96.0	94.8	98.9	98.4	86.2	96.0
30	98Ab12362	98.2	98.5	87.0	94.0	97.2	98.0	99.0	97.7	99.0	99.0	87.9	98.2	97.9	93.6	96.8
31	98Ab12905	98.4	98.0	89.0	97.0	93.2	98.0	99.0	96.5	98.9	98.0	88.4	98.8	98.8	85.8	96.6
32	95SR149C	87.5	85.0	27.0	91.0	88.2	11.0	67.0	78.6	95.0	67.0	90.0	91.3	92.6	83.9	69.7
33	95SR316A	91.9	90.0	54.0	91.0	97.8	30.0	70.0	82.0	96.5	89.0	94.4	93.4	96.6	68.2	79.2
34	971D1269B	99.1	97.0	93.0	92.0	96.6	97.0	99.0	96.9	98.9	88.0	93.6	99.3	99.2	93.7	95.7
35	981D242	93.0	93.5	89.0	91.0	97.8	66.0	90.0	89.1	98.4	91.0	93.5	98.1	96.7	62.8	89.9
36	98-NZ 015	83.0	90.5	84.0	92.0	94.4	60.0	89.0	88.8	95.7	91.0	85.4	97.5	97.5	85.0	86.8
37	98-NZ 223	72.9	80.0	70.0	82.0	93.9	50.0	81.0	79.8	94.1	67.0	79.1	94.5	91.1	92.8	77.1
	Average	92.0	94.5	83.2	91.9	92.6	66.4	89.2	89.5	97.2	88.5	86.4	94.5	96.6	87.7	88.7
	LSD .05			11.5	6.7			0.9	0.9			7.6	2.0			6.9
	C.V.			6.9	3.6			0.9	0.9			5.2	1.3			9.7

* Percent over sieve, 2-rowed 6/64, 6-rowed 5.5/64

Table 9: 2002 Western Regional Spring Barley Nursery, Percent Thin Barley*

Entry Number	Variety or Selection	Tulelake CA 1	Aberdeen ID 2	Bonniers Ferry ID 3	Moscow ID 4	Bozeman MT 5	Fargo ND 6	Minot ND 7	Williston ND 8	Klamath Falls OR 9	Pullman WA 11	Idaho Falls ID 12	Fairfield MT 13	Powell WY 14	Average Loc 1-9,11
1	Steptoe	1.6	2.5	3.0	3.0	13.2	4.0	2.0	8.5	0.7	3.0	9.1	1.7	1.1	4.2
2	Baronesse	8.2	2.5	2.0	1.0	7.5	7.0	1.0	3.4	0.9	3.0	11.7	1.3	1.4	3.6
3	Morex	4.2	5.0	6.0	1.0	10.9	3.0	1.0	8.1	1.3	5.0	5.8	1.3	2.0	4.5
4	Stander	1.3	3.0	3.0	1.0	3.5	2.0	1.0	3.6	0.8	3.0	5.8	1.3	1.9	2.2
5	Harrington	7.2	5.0	6.0	1.0	12.6	12.0	2.0	4.5	0.7	8.0	5.5	1.3	0.7	5.9
6	BCD 47 (OR2967102)	5.7	2.5	2.0	2.0	5.4	9.0	1.0	5.7	0.8	2.0	5.9	1.3	1.3	3.6
7	BZ594-20	0.9	1.5	2.0	1.0	1.8	5.0	2.0	3.0	0.8	2.0	6.3	1.3	0.7	2.0
8	BZ596-117	6.8	0.5	1.0	1.0	2.8	6.0	1.0	4.7	1.0	1.0	6.9	1.2	2.1	2.6
9	MT960099	14.0	3.5	4.0	3.0	6.3	20.0	3.0	9.5	2.1	6.0	14.9	3.2	2.0	7.1
10	MT960228	4.6	2.0	1.0	0.0	6.3	9.0	1.0	3.8	1.2	2.0	13.5	1.5	1.1	3.0
11	MT970116	1.3	2.5	24.0	1.0	5.9	7.0	2.0	3.7	0.7	1.0	5.2	1.3	1.5	5.0
12	ND15422	2.3	4.5	2.0	1.0	10.7	4.0	1.0	5.6	1.3	4.0	6.1	2.9	1.2	3.6
13	PB1-95-2R-522	3.5	1.5	2.0	2.0	7.5	9.0	2.0	5.4	1.4	2.0	6.4	2.3	1.0	3.6
14	PB1-97-2R-7090	2.5	0.5	3.0	1.0	2.0	10.0	2.0	3.8	0.4	4.0	5.6	1.1	0.9	2.9
15	CDC Copeland (TR150)	5.1	0.5	3.0	1.0	7.6	10.0	2.0	2.5	0.9	2.0	10.7	1.6	0.8	3.5
16	CDC Select	6.8	1.5	1.0	1.0	11.4	6.0	1.0	3.0	0.7	3.0	6.0	0.9	0.7	3.5
17	TR166 (SM97179)	2.7	1.0	1.0	1.0	3.2	5.0	1.0	2.4	0.5	2.0	5.7	0.6	0.8	2.0
18	TR169 (SM98014)	4.4	1.0	1.0	2.0	5.2	6.0	3.0	3.3	0.6	4.0	8.1	0.9	1.2	3.1
19	UT95B1216-4087	2.0	2.5	4.0	2.0	8.8	6.0	2.0	8.3	1.4	7.0	14.2	1.5	1.7	4.4
20	UT97B1480-1632	2.3	2.5	2.0	1.0	6.5	4.0	4.0	8.2	0.7	4.0	9.7	1.4	1.2	3.5
21	WA8682-96	10.0	0.0	6.0	1.0	12.1	8.0	2.0	3.4	0.9	5.0	8.9	1.1	1.2	4.8
22	WA8792-96	5.1	1.0	3.0	1.0	3.0	5.0	4.0	2.5	0.7	2.0	4.3	1.1	0.6	2.7
23	WA10147-96	9.6	1.0	4.0	1.0	1.9	6.0	2.0	4.0	1.2	3.0	14.3	0.7	0.8	3.4
24	2B97-4004	5.2	2.5	6.0	3.0	9.9	14.0	3.0	5.5	1.3	4.0	14.1	2.3	1.6	5.4
25	2B97-4299	3.5	4.0	5.0	1.0	2.0	14.0	1.0	4.4	1.3	2.0	6.4	1.1	1.2	3.8
26	2B98-5312	12.0	2.5	7.0	2.0	4.3	14.0	3.0	5.2	1.5	9.0	14.9	1.9	1.3	6.0
27	6B98-9339	1.9	4.0	2.0	3.0	4.3	7.0	2.0	6.0	0.7	4.0	5.6	0.9	1.7	3.5
28	6B98-9940	1.0	3.5	1.0	1.0	2.0	5.0	1.0	5.1	0.9	8.0	10.8	0.7	1.2	2.8
29	94Ab13449	2.5	3.0	2.0	1.0	5.7	4.0	1.0	4.3	1.2	4.0	5.2	1.1	1.6	2.9
30	98Ab12362	1.8	1.5	4.0	1.0	2.8	2.0	1.0	2.3	1.0	1.0	12.1	1.8	2.1	1.8
31	98Ab12905	1.6	2.0	3.0	0.0	6.8	2.0	1.0	3.5	1.1	2.0	11.6	1.2	1.2	2.3
32	95SR149C	4.3	4.0	41.0	2.0	8.4	28.0	4.0	8.5	1.2	11.0	6.7	4.5	2.0	11.2
33	95SR316A	3.3	2.0	20.0	2.0	1.7	17.0	5.0	7.0	1.1	2.0	3.6	3.3	1.2	6.1
34	971D1269B	0.9	3.0	1.0	2.0	3.4	3.0	1.0	3.1	1.1	12.0	6.4	0.7	0.8	3.1
35	981D242	1.9	2.0	3.0	1.0	1.9	3.0	1.0	4.1	0.5	2.0	3.5	0.7	1.2	2.0
36	98-NZ 015	6.6	2.5	5.0	2.0	4.6	7.0	2.0	4.1	1.4	2.0	9.9	0.9	1.1	3.7
37	98-NZ 223	10.2	8.5	10.0	4.0	5.1	9.0	3.0	6.2	1.4	11.0	15.5	2.6	1.5	6.8
	Average	4.6	2.5	6.2	1.8	5.9	7.9	1.9	4.7	1.0	4.1	8.6	1.5	1.3	4.0
	LSD .05			4.8	1.8				1.3			6.3	1.5		2.6
	C.V.			38.5	50.3				13.3			43.0	58.4		82.1

* Percent through 5.5/64 screen

Table 10: 2002 Western Regional Spring Barley Nursery, Lodging

Entry Number	Selection or Variety	Tulelake CA (1-8)	Bonnors Ferry ID (1-9)	Idaho Falls ID (0-9)	Moscow ID (1-9)	Tammany ID %	Bozeman MT %	Fairfield MT (0-9)	Williston ND %
1	Stephoe	1.3	4.0	3.0	1.0	40	89	5.3	10
2	Baronesse	4.7	6.0	0.0	1.0	15	47	4.3	0
3	Morex	2.3	7.0	0.0	3.0	30	48	4.0	5
4	Stander	1.3	6.0	0.0	1.0	20	5	4.0	0
5	Harrington	4.7	7.0	0.0	2.0	15	70	5.3	0
6	BCD 47 (OR2967102)	1.3	5.0	0.0	1.0	15	0	1.3	0
7	BZ594-20	2.0	4.0	0.0	1.0	5	0	2.3	0
8	BZ596-117	4.0	4.0	0.0	2.0	8	35	3.7	0
9	MT960099	6.0	6.0	0.0	1.0	8	5	4.0	0
10	MT960228	4.7	5.0	0.0	2.0	5	35	4.7	0
11	MT970116	2.7	9.0	0.0	1.0	3	15	3.7	0
12	ND15422	2.7	5.0	0.0	2.0	5	50	4.3	0
13	PB1-95-2R-522	1.7	4.0	0.0	1.0	8	8	2.7	1
14	PB1-97-2R-7090	3.0	4.0	0.0	1.0	8	0	4.0	0
15	CDC Copeland (TR150)	4.3	7.0	0.0	2.0	8	53	5.7	0
16	CDC Select	3.3	4.0	0.0	2.0	8	48	4.0	0
17	TR166 (SM97179)	4.3	5.0	0.0	2.0	10	50	5.0	0
18	TR169 (SM98014)	3.7	4.0	0.0	2.0	8	60	4.7	0
19	UT95B1216-4087	1.0	4.0	0.0	1.0	40	5	3.7	15
20	UT97B1480-1632	1.7	3.0	0.0	1.0	25	5	4.3	5
21	WA8682-96	5.3	6.0	4.0	2.0	12	85	4.8	1
22	WA8792-96	3.0	5.0	1.0	2.0	8	3	3.7	5
23	WA10147-96	5.0	6.0	0.0	2.0	8	0	4.0	0
24	2B97-4004	3.7	7.0	1.0	1.0	8	40	5.3	5
25	2B97-4299	3.3	6.0	0.0	1.0	5	0	2.7	0
26	2B98-5312	4.3	6.0	0.0	1.0	12	8	5.3	0
27	6B98-9339	1.7	5.0	0.0	2.0	12	0	2.7	0
28	6B98-9940	1.3	4.0	0.0	1.0	8	0	3.7	5
29	94Ab13449	1.0	2.0	0.0	1.0	3	0	2.3	0
30	98Ab12362	1.0	8.0	0.0	1.0	8	5	5.3	0
31	98Ab12905	1.0	4.0	0.0	1.0	5	45	5.0	5
32	95SR149C	3.0	8.0	0.0	1.0	5	38	5.0	0
33	95SR316A	4.3	8.0	0.0	1.0	8	0	5.0	0
34	971D1269B	1.0	4.0	0.0	1.0	5	0	4.3	0
35	981D242	3.0	5.0	0.0	2.0	15	0	3.3	0
36	98-NZ 015	5.0	7.0	0.0	2.0	8	0	1.7	0
37	98-NZ 223	4.7	8.0	0.0	2.0	15	0	5.0	0
	Average	3.0	5.4	0.3	1.3	12	23	4.1	1.6
	LSD .05	1.4	1.8		0.5				
	C.V.	27.9	23.8		27.5				

Table 11: 2002 Western Regional Spring Barley Nursery, Percent Protein

Entry Number	Selection or Variety	Bozeman MT	Williston ND	Average
1	Steptoe	11.6	12.0	11.8
2	Baronesse	12.8	16.0	14.4
3	Morex	13.3	14.7	14.0
4	Stander	11.8	13.9	12.9
5	Harrington	12.6	16.2	14.4
6	BCD 47 (OR2967102)	11.3	16.3	13.8
7	BZ594-20	11.6	13.8	12.7
8	BZ596-117	12.1	15.3	13.7
9	MT960099	11.6	15.1	13.4
10	MT960228	10.7	14.4	12.6
11	MT970116	11.8	15.8	13.8
12	ND15422	12.9	15.1	14.0
13	PB1-95-2R-522	12.0	13.9	13.0
14	PB1-97-2R-7090	11.7	15.2	13.5
15	CDC Copeland (TR150)	12.6	15.4	14.0
16	CDC Select	12.6	15.6	14.1
17	TR166 (SM97179)	12.5	15.2	13.9
18	TR169 (SM98014)	12.4	15.9	14.2
19	UT95B1216-4087	11.9	15.1	13.5
20	UT97B1480-1632	11.0	14.5	12.8
21	WA8682-96	12.9	15.2	14.1
22	WA8792-96	10.8	15.9	13.4
23	WA10147-96	11.0	15.4	13.2
24	2B97-4004	11.0	15.7	13.4
25	2B97-4299	10.7	14.6	12.7
26	2B98-5312	10.4	15.4	12.9
27	6B98-9339	11.4	15.3	13.4
28	6B98-9940	11.6	13.8	12.7
29	94Ab13449	10.3	11.5	10.9
30	98Ab12362	10.8	14.3	12.6
31	98Ab12905	10.3	11.3	10.8
32	95SR149C	11.2	15.4	13.3
33	95SR316A	11.6	15.4	13.5
34	971D1269B	11.6	14.3	13.0
35	981D242	11.6	15.0	13.3
36	98-NZ 015	10.7	16.1	13.4
37	98-NZ 223	10.2	15.5	12.9
	Average	11.6	14.8	13.2
	LSD .05		0.7	
	C.V.		2.2	

Table 12: 2002 Western Regional Spring Barley Nursery, Disease Ratings

Entry Number	Variety or Selection	Fargo ND Spot Blotch (1-9)	Minot ND Ned Blotch (1-9)
1	Steptoe	4.0	5.0
2	Baronesse	5.0	2.7
3	Morex	4.0	5.7
4	Stander	2.7	4.0
5	Harrington	5.3	4.0
6	BCD 47 (OR2967102)	7.0	4.0
7	BZ594-20	5.3	2.7
8	BZ596-117	5.7	3.0
9	MT960099	4.7	3.3
10	MT960228	4.7	3.3
11	MT970116	5.0	3.7
12	ND15422	3.3	4.7
13	PB 1-95-2R-522	3.7	2.7
14	PB 1-97-2R-7090	5.3	4.3
15	CDC Copeland (TR150)	3.3	2.0
16	CDC Select	3.3	2.0
17	TR166 (SM97179)	3.0	2.3
18	TR169 (SM98014)	3.3	2.3
19	UT95B1216-4087	4.0	3.7
20	UT97B1480-1632	3.7	2.7
21	WA8682-96	4.3	3.7
22	WA8792-96	4.3	3.7
23	WA10147-96	5.0	2.7
24	2B97-4004	4.0	3.3
25	2B97-4299	4.3	2.7
26	2B98-5312	5.0	4.7
27	6B98-9339	4.0	4.3
28	6B98-9940	3.7	4.7
29	94Ab13449	3.7	3.3
30	98Ab12362	3.3	3.0
31	98Ab12905	4.0	3.3
32	95SR149C	5.0	5.3
33	95SR316A	5.0	5.7
34	971D1269B	3.0	3.0
35	981D242	5.3	2.7
36	98-NZ 015	4.7	2.0
37	98-NZ 223	4.7	2.0
	Average	4.3	3.5
	LSD .05	1.1	1.1
	C.V.	14.5	18.1

WESTERN REGIONAL SPRING DRYLAND BARLEY NURSERY, 2002

This nursery is intended to be grown under dryland conditions. It contains both 2- and 6-rowed feed and malting barley. Locations in the 2002 nursery that were harvested and summarized for yield from 9 locations are:

Moscow, ID	Bozeman, MT	Langdon, ND
Soda Springs, ID	Fargo, ND	Williston, ND
Tetonia, ID	Hettinger, ND	Bluecreek, UT

Data from the new entries in the test at Saskatoon, Saskatchewan, Canada also were included in the tables but not in the test averages.

General Information

The entry list for the 2002 Western Regional Dryland Spring Barley Nursery is shown in Table 13. In 2002, commercial cultivars were again entered into the nursery, including those from: Busch Agricultural Resources (5 lines).

There were 25 entries in this nursery in 2002. Entries in the 2001 test that were dropped in 2002 were: CDC Bold, CDC Helgason, Creel (93Ab688), Criton (91Ab3148), and Legacy, all tested 3 years; 2B96-5057, 2B97-4077, 6B95-2089, 6B95-2482, and 95SR7A, all tested 1 year. New entries in the 2002 test were: 2B97-4004, 2B98-5312, 6B98-9339, 6B98-9940, 95SR149C, 95SR316A, 97ID1269A, and 98ID242.

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 Munsing, Clark, and Steptoe (Table 12), for 1980 through 2002, show that the check mean grain yield value for the 2002 season was lower than average. Test weight and plant height were lower than average; heading date was 1.8 days earlier than average; and percent plump barley was higher than average.

In 2002 the highest yielding line over locations was MT960228, a two-rowed feed barley, at 3.52 Mg ha⁻¹ (Table 15). UT4990 and UT4988 were the second and third highest yielding lines over all locations; both are six-rowed feed barley cultivars. . The top 11 lines were statistically equal, of which three were malting barley cultivars. 98Ab11993 was the highest yielding malting barley, ranked fourth at 3.43 Mg ha⁻¹.

Tables 14 through 20 present the 2001 data for individual locations for grain yield, test weight, height, heading date, plumps, thins, and lodging, respectively.

Table 13: 2002 Western Regional Dryland Spring Barley Nursery, Entry List

Seed Source	Entry Number	Entry	Parentage	Type	Grade
Check	1	Munsing	CI 6009	2 row	feed
Check	2	Steptoe	CI 15229	6 row	feed
Check	3	Clark	CI 15857	2 row	feed
Check	4	Hector	CI 15514	2 row	feed
BARI	5 *	2B97-4004	2B91-4947/TR129	2 row	malting
BARI	6	2B97-4299	2B91-4947/2B91-4450	2 row	malting
BARI	7 *	2B98-5312	B1215/TR226/Baronesse	2 row	malting
BARI	8 *	6B98-9339	B1614/B1614/M75	6 row	malting
BARI	9 *	6B98-9940	6B92-7166/Stander	6 row	malting
USDA-ARS	10	95Ab11469	87Ab9561/ND9870	2 row	feed
USDA-ARS	11	95M4623	91Ab3074/85Ab2323	2 row	malting
USDA-ARS	12	97Ab7973	90Ab241/Baronesse	2 row	malting
USDA-ARS	13	98Ab11993	90Ab241/Baronesse	2 row	malting
USDA-ARS	14 *	95SR149C	Bancroft/Harrington	2 row	malting
USDA-ARS	15 *	95SR316A	Bancroft/Crystal	2 row	malting
USDA-ARS	16 *	97ID1269B	Stander*4/PI366450	6 row	malting
USDA-ARS	17 *	98ID242	Baronesse/3/Crystal/Klages*3/PI366450	2 row	malting
MSU	18	MT960099	Manley/Baronesse	2 row	feed/malting
MSU	19	MT960228	Stark/ Baronesse	2 row	feed
MSU	20	MT970116	Klages/Baronesse	2 row	feed/malting
USU	21	UT4087	UT84B427-2507/OR3	6 row	feed
USU	22	UT4938	Century/Medallion	6 row	feed
USU	23	UT4988	Century/Medallion	6 row	feed
USU	24	UT4990	Century/Medallion	6 row	feed
USU	25	UT5828	UT87B604-1705/OR2	6 row	feed

* new entries

Table 14: Check Seasonal Measurements (1980-2002) of the Western Regional Dryland Spring Barley Nursery

Average of Cultivars Munsing, Steptoe, Clark

Yield		Test Weight		Plant Height		Heading date		Plump			
Year	Station Years	Mg ha ⁻¹	Year	Station Years	cm	Year	Station Years	Julian	Year	Station Years	%
1997	8	4.63	1980	15	665	1998	9	78.9	1987	11	89.7
1996	9	4.56	1987	12	664	1981	13	73.3	1997	5	86.6
1998	10	4.44	1982	13	658	1993	6	72.8	1996	6	85.1
1995	9	4.33	1996	7	656	1991	9	72.5	1995	5	84.6
2000	7	4.22	1988	11	654	1994	9	72.3	1993	3	84.5
2001	6	4.11	1990	10	653	1999	8	70.5	1986	12	83.1
1982	14	4.02	1983	14	652	1982	9	69.9	2000	5	82.1
1987	13	4.02	1986	13	648	1997	7	69.3	1980	9	82.1
1999	9	3.94	2000	6	646	2001	5	68.8	1982	10	80.3
1993	7	3.90	1992	8	643	1983	10	65.8	2001	5	79.7
1980	15	3.78	1989	10	642	1995	8	65.7	2002	7	79.5
1994	9	3.77	1984	14	638	1980	10	64.9	1983	12	77.3
1991	9	3.73	1997	6	635	1984	13	64.9	1998	7	76.9
1981	17	3.61	1998	9	634	1990	9	64.6	1999	7	73.2
1986	14	3.58	1995	9	631	1996	8	64.6	1998	8	71.8
1992	8	3.42	2001	6	630	2000	6	62.7	1992	7	70.5
1983	14	3.15	1993	4	625	1987	13	62.2	1981	11	64.4
1990	10	3.13	1994	9	624	2002	8	61.6	1989	8	59.9
2002	9	3.12	2002	9	623	1986	11	61.2	1994	8	59.8
1984	16	3.09	1985	16	622	1992	8	60.5	1990	8	59.5
1989	10	2.75	1999	8	622	1989	9	59.0	1991	7	59.1
1988	11	2.39	1981	16	621	1985	17	53.0	1984	11	58.9
1985	18	2.19	1991	9	616	1988	11	51.6	1985	13	44.9
Ave	252	3.56	Ave	234	640	Ave	218	65.0	Ave	185	72.1

Table 15: 2002 Western Regional Dryland Spring Barley Nursery, Means Summary of All Locations Except Saskatoon

Entry No.	Variety or Selection	Grain Yield		Test Weight kg m ³	Plant Height cm	Heading Date Julian	Plump Barley* %	Thin Barley** %	Protein %
		Mg ha ⁻¹	Rank						
	Number of Locations	9		9	8	8	7	7	2
1	Munsing	2.98	(19)	633.1	56	184	70	11	16.0
2	Stephoe	3.40	(05)	601.0	64	183	89	6	12.6
3	Clark	2.99	(16)	633.4	65	188	79	7	16.5
4	Hector	2.96	(21)	634.2	67	188	69	12	16.4
5	2B97-4004	2.95	(23)	633.3	60	188	76	9	16.6
6	2B97-4299	2.96	(20)	632.9	60	189	81	8	15.3
7	2B98-5312	3.10	(15)	623.2	61	189	67	13	15.5
8	6B98-9339	2.98	(18)	622.3	59	186	84	10	15.9
9	6B98-9940	3.13	(13)	622.7	63	183	86	8	15.1
10	95Ab11469	3.31	(08)	637.4	67	184	89	3	14.8
11	95M4623	3.15	(12)	644.2	65	189	84	5	16.5
12	97Ab7973	3.19	(11)	631.4	60	189	88	4	16.2
13	98Ab11993	3.43	(04)	630.7	58	189	84	6	16.0
14	95SR149C	2.82	(25)	616.2	62	190	61	20	15.7
15	95SR316A	2.98	(17)	635.3	64	191	74	11	16.3
16	97ID1269B	2.95	(22)	612.1	62	184	85	10	15.1
17	98ID242	2.94	(24)	642.4	64	189	85	4	15.8
18	MT960099	3.28	(10)	632.9	56	189	64	15	16.0
19	MT960228	3.52	(01)	645.3	62	187	82	6	15.3
20	MT970116	3.29	(09)	661.3	68	186	87	6	15.9
21	UT4087	3.39	(07)	612.8	60	185	84	10	15.6
22	UT4938	3.39	(06)	604.7	63	182	83	9	15.1
23	UT4988	3.50	(03)	606.1	63	183	83	9	15.0
24	UT4990	3.52	(02)	609.2	65	182	83	10	14.3
25	UT5828	3.11	(14)	591.9	64	183	89	5	15.0
	Test Average	3.17		626.0	62	186	80	9	15.5
	Check Average	3.12		622.5	62	185	80	8	15.0
	LSD .05	0.37		14.28	3.2	1.3	11.4	5.9	
	C.V.	13.5		2.67	5.9	0.8	15.6	74.1	

* Percent over sieve, 2-rowed 6/64, 6-rowed 5.5/64

** Percent through 5.5/64 screen

Table 16: 2002 Western Regional Dryland Spring Barley Nursery, Grain Yield (Mg ha⁻¹)

Entry Number	Selection or Variety	Moscow		Soda Springs		Tetonia		Bozeman		Fargo		Hettinger		Langdon		Williston		Bluecreek		Saskatoon		Saskatoon		RANK AVERAGE	
		ID		ID		ID		MT		ND		ND		ND		UT		CANADA	AVERAGE*	RANK			RANK AVERAGE		
1	Munsing	5.26		2.05		3.13		4.37		2.02		2.00		3.41		3.17		1.42					2.98	(19)	15.8
2	Steploe	6.24		2.44		3.33		5.04		3.00		1.52		4.54		3.22		1.28					3.40	(05)	9.3
3	Clark	5.63		2.36		3.33		3.60		2.16		1.47		3.95		3.00		1.38					2.99	(16)	15.6
4	Hector	5.70		2.16		3.19		3.46		2.56		1.55		3.45		3.21		1.35					2.96	(21)	15.8
5	2B97-4004	6.80		2.41		2.73		3.79		1.96		1.26		4.11		2.43		1.02		2.81			2.95	(23)	18.0
6	2B97-4299	5.84		2.01		2.52		4.26		2.20		0.89		5.34		2.62		0.98					2.96	(20)	19.1
7	2B98-5312	6.46		2.41		3.20		4.23		1.69		1.18		4.84		2.85		1.03		3.51			3.10	(15)	15.8
8	6B98-9339	5.47		1.87		3.19		2.90		3.17		1.47		4.32		3.11		1.32		2.10			2.98	(18)	16.2
9	6B98-9940	5.46		2.33		2.91		3.01		3.05		1.56		4.82		3.57		1.41		2.62			3.13	(13)	12.8
10	95Ab11469	5.55		2.91		3.57		4.93		2.82		1.73		3.47		3.42		1.43					3.31	(08)	8.1
11	95M4623	5.95		2.17		3.37		4.85		2.42		1.55		3.52		3.09		1.46					3.15	(12)	12.1
12	97Ab7973	6.52		2.28		2.72		4.32		2.32		1.67		4.52		3.12		1.29					3.19	(11)	13.7
13	98Ab11993	6.31		2.50		3.50		4.36		2.53		1.79		5.10		3.32		1.44					3.43	(04)	7.3
14	95SR149C	6.60		2.54		3.17		3.25		1.18		1.15		3.59		2.81		1.07		2.65			2.82	(25)	17.6
15	95SR316A	6.65		2.52		3.00		3.90		1.77		0.99		4.26		2.66		1.07		2.84			2.98	(17)	17.4
16	97ID1269B	5.82		2.20		3.15		2.62		2.28		1.47		4.57		3.03		1.42		2.66			2.95	(22)	15.8
17	98ID242	5.97		2.14		3.48		3.97		1.98		1.30		3.63		2.80		1.17		2.94			2.94	(24)	17.4
18	MT960099	6.04		2.51		3.33		4.38		2.40		1.56		5.19		2.90		1.21					3.28	(10)	11.4
19	MT960228	6.55		2.57		3.25		4.41		2.85		2.13		5.41		3.28		1.27					3.52	(01)	6.8
20	MT970116	6.19		2.37		3.60		4.41		2.64		2.02		4.27		3.00		1.15					3.29	(09)	11.0
21	UT4087	6.79		2.37		3.94		4.41		1.91		2.09		4.70		2.92		1.36					3.39	(07)	9.8
22	UT4938	5.55		2.20		3.28		4.69		3.38		1.98		4.83		3.41		1.21					3.39	(06)	10.6
23	UT4988	5.63		2.36		3.32		5.32		3.34		1.52		5.04		3.42		1.54					3.50	(03)	8.0
24	UT4990	5.31		2.56		3.61		4.89		3.43		1.67		5.40		3.43		1.37					3.52	(02)	6.2
25	UT5828	4.88		2.68		3.10		4.50		2.68		1.04		4.54		3.30		1.26					3.11	(14)	13.4
Average		6.11		2.36		3.24		4.15		2.47		1.53		4.43		3.09		1.28		2.77			3.17		
LSD .05		0.71		0.23		0.56		0.70		0.34		0.33		0.69		0.26		0.39					0.37		
C.V.		8.3		10.5		12.3		10.1		10.0		13.1		9.1		5.1		22.0					13.5		

* All locations except Saskatoon

Table 17: 2002 Western Regional Dryland Spring Barley Nursery, Test Weight (kg m³)

Entry Number	Selection or Variety	Moscow ID	Soda Springs ID	Tetonia ID	Bozeman MT	Fargo ND	Hettinger ND	Langdon ND	Williston ND	Bluecreek UT	Saskatoon CANADA	AVERAGE*
1	Munasing	692.7	693.1	627.6	629.5	593.4	559.9	651.5	593.4	656.6		633.07
2	Stephoe	645.0	639.4	625.7	571.5	606.3	508.3	651.5	562.4	598.7		600.96
3	Clark	687.6	677.9	661.1	611.5	606.3	534.1	683.7	612.8	625.9		633.42
4	Hector	696.6	684.5	671.4	610.2	619.2	540.5	645.0	633.4	607.3		634.24
5	2B97-4004	700.5	690.9	670.8	568.9	593.4	523.7	696.6	612.8	642.4	666.2	633.33
6	2B97-4299	696.6	693.5	664.4	598.6	593.4	528.9	670.8	610.2	640.1		632.93
7	2B98-5312	682.4	686.5	649.5	594.7	567.6	539.2	670.8	601.1	617.3	670.8	623.24
8	6B98-9339	682.4	669.6	642.4	610.2	606.3	503.1	645.0	621.8	620.2	604.9	622.33
9	6B98-9940	676.0	669.5	641.8	617.9	593.4	516.0	645.0	620.5	624.2	620.2	622.70
10	95Ab11469	709.5	686.0	669.5	659.2	632.1	500.5	645.0	632.1	602.4		637.37
11	95M4623	709.5	689.0	665.6	650.2	606.3	562.4	645.0	637.3	632.1		644.15
12	97Ab7973	688.9	687.7	665.0	599.9	606.3	541.8	683.7	620.5	588.8		631.38
13	98Ab11993	682.4	680.4	659.8	575.3	619.2	544.4	677.3	632.1	605.3		630.69
14	95SR149C	682.4	685.1	675.3	554.7	541.8	540.5	645.0	597.3	623.7	670.1	616.20
15	95SR316A	710.8	691.1	671.4	611.5	580.5	543.1	696.6	615.3	597.1	691.5	635.27
16	97ID1269B	682.4	670.4	624.4	571.5	593.4	507.0	664.4	590.8	604.9	616.7	612.12
17	98ID242	710.8	695.9	656.6	630.8	619.2	539.2	696.6	638.6	593.5	680.3	642.35
18	MT960099	687.6	701.3	651.5	620.5	606.3	537.9	690.2	624.4	576.5		632.90
19	MT960228	710.8	717.3	674.0	606.3	619.2	556.0	696.6	642.4	584.8		645.26
20	MT970116	718.5	719.6	686.9	654.0	632.1	575.3	696.6	646.3	622.2		661.29
21	UT4087	682.4	688.4	639.8	585.7	580.5	503.1	651.5	611.5	572.4		612.80
22	UT4938	670.8	660.2	616.0	608.9	580.5	516.0	651.5	583.1	555.1		604.66
23	UT4988	670.8	661.6	608.2	597.3	567.6	536.6	651.5	579.2	582.2		606.11
24	UT4990	673.4	664.7	620.5	601.1	580.5	518.6	651.5	588.2	584.1		609.18
25	UT5828	643.7	645.0	594.7	593.4	567.6	479.9	645.0	576.6	580.8		591.85
	Average	696.1	681.9	649.4	605.3	596.5	530.2	665.9	612.8	605.5	652.6	625.99
	LSD .05	11.7	12.9	12.9	23.2	23.2	2.7		10.3			14.28
	C.V.	0.8	1.2						0.8			2.67

Table 18: 2002 Western Regional Dryland Spring Barley Nursery, Plant Height (cm)

Entry Number	Selection or Variety	Moscow ID	Soda Springs ID	Tetonia ID	Bozeman MT	Fargo ND	Langdon ND	Williston ND	Bluecreek UT	AVERAGE
1	Munising	64	45	52	79	51	58	54	48	56.4
2	Steptoe	71	46	58	83	63	79	54	56	63.8
3	Clark	76	50	60	85	70	74	52	51	64.6
4	Hector	79	54	48	86	74	80	58	58	67.0
5	2B97-4004	71	48	46	77	72	72	48	43	59.6
6	2B97-4299	71	46	47	76	66	71	51	53	60.2
7	2B98-5312	71	46	51	82	66	74	52	48	61.2
8	6B98-9339	69	43	47	84	61	74	42	51	58.8
9	6B98-9940	76	53	60	85	60	69	50	51	62.9
10	95Ab11469	76	59	58	85	67	80	55	56	67.0
11	95M4623	74	51	56	87	73	78	54	48	65.1
12	97Ab7973	74	45	50	81	67	71	51	38	59.6
13	98Ab11993	66	47	51	77	62	67	48	51	58.5
14	95SR149C	76	49	50	83	66	74	50	51	62.4
15	95SR316A	76	50	51	85	70	72	48	58	63.8
16	97ID1269B	74	58	52	85	61	73	46	51	62.3
17	98ID242	74	50	58	84	66	75	51	51	63.5
18	MT960099	64	48	46	74	60	67	44	48	56.2
19	MT960228	71	51	53	78	68	77	50	46	61.8
20	MT970116	79	59	57	89	70	78	57	53	67.8
21	UT4087	74	49	52	80	59	71	50	43	59.8
22	UT4938	69	51	60	87	61	70	52	51	62.5
23	UT4988	71	54	58	86	63	73	53	48	63.3
24	UT4990	74	53	64	87	62	72	54	53	64.9
25	UT5828	79	54	58	89	64	63	57	48	64.1
	Average	72	50	54	83	65	72	51	50	62.3
	LSD .05	6.2	3.0		5.1	2.6	6.2	5.3		3.16
	C.V.	6.1	6.4		3.7	2.8	5.0	6.2		5.94

Table 19: 2002 Western Regional Dryland Spring Barley Nursery, Heading Date (Julian)

Entry Number	Selection or Variety	Moscow ID	Soda Springs ID	Tetonia ID	Bozeman MT	Fargo ND	Hettinger ND	Langdon ND	Williston ND	Saskatoon CANADA	AVERAGE*
1	Munising	169	197	195	179	181	181	184	183		183.6
2	Steptoe	169	196	189	180	184	178	186	181		182.8
3	Clark	176	204	197	184	187	182	187	190		188.4
4	Hector	176	203	196	184	189	182	190	187		188.2
5	2B97-4004	172	199	196	184	190	182	191	187	200	187.5
6	2B97-4299	176	202	197	185	191	185	191	189		189.5
7	2B98-5312	175	201	197	184	192	183	190	190	200	189.0
8	6B98-9339	173	197	194	183	185	179	190	185	200	185.7
9	6B98-9940	169	196	189	181	184	177	185	182	198	182.9
10	95Ab11469	169	198	191	182	186	176	187	184		184.2
11	95M4623	174	205	197	182	192	182	190	190		189.0
12	97Ab7973	173	203	198	183	190	183	189	190		188.7
13	98Ab11993	174	202	198	184	189	184	189	190		188.7
14	95SR149C	176	205	199	185	192	182	192	191	205	190.3
15	95SR316A	176	205	198	185	193	185	192	191	200	190.6
16	97ID1269B	171	196	191	182	185	177	187	185	198	184.2
17	98ID242	175	205	196	184	189	182	190	190	200	188.9
18	MT960099	176	201	197	184	193	184	190	190		189.3
19	MT960228	173	199	196	183	187	182	189	187		186.9
20	MT970116	169	198	192	182	188	182	187	187		185.6
21	UT4087	169	197	193	182	186	178	187	190		185.2
22	UT4938	168	196	189	179	183	175	186	181		182.1
23	UT4988	168	196	189	179	183	184	185	182		183.4
24	UT4990	168	196	189	179	183	175	185	182		182.3
25	UT5828	168	197	190	180	184	177	186	185		183.3
	Average	173	200	194	180	187	181	188	186	200	186.4
	LSD .05	1.5	1.3		0.8	1.6	3.0	1.1	1.3		1.28
	C.V.	0.6	1.0		0.3	3.1	1.1	0.3	0.4		0.80

* All locations except Saskatoon

Table 20: 2002 Western Regional Dryland Spring Barley Nursery, Percent Plump Barley*

Entry Number	Selection or Variety	Moscow ID	Soda Springs ID	Tetonia ID	Bozeman MT	Fargo ND	Langdon ND	Williston ND	AVERAGE
1	Munasing	90	88	71	68	45	79	48	69.8
2	Step toe	91	91	89	85	91	99	80	89.3
3	Clark	92	86	86	51	70	90	80	79.4
4	Hector	90	85	88	40	59	47	77	69.2
5	2B97-4004	93	91	92	46	44	81	85	75.8
6	2B97-4299	96	94	95	65	42	89	87	81.1
7	2B98-5312	81	80	90	31	27	79	81	66.9
8	6B98-9339	92	78	85	69	83	99	85	84.3
9	6B98-9940	96	83	87	76	85	99	76	85.8
10	95Ab11469	98	96	95	89	81	76	89	89.1
11	95M4623	96	96	97	83	64	63	88	83.8
12	97Ab7973	94	94	93	70	76	94	96	88.1
13	98Ab11993	93	90	92	52	74	96	90	83.9
14	95SR149C	89	91	96	18	15	40	80	61.3
15	95SR316A	96	93	95	37	44	76	81	74.5
16	97ID1269B	95	83	85	56	93	99	86	85.2
17	98ID242	94	90	93	73	68	88	89	85.1
18	MT960099	85	79	79	35	32	85	56	64.4
19	MT960228	96	90	91	50	62	95	86	81.6
20	MT970116	98	95	95	71	66	93	91	86.9
21	UT4087	94	89	84	61	85	98	80	84.4
22	UT4938	90	81	84	89	80	98	59	82.9
23	UT4988	90	84	87	85	83	99	56	83.4
24	UT4990	92	83	85	83	80	97	59	82.7
25	UT5828	96	85	86	91	92	99	75	89.3
	Average	94	88	89	63	66	86	79	80.3
	LSD .05	4.8						4.0	11.43
	C.V.	2.6						2.4	15.59

* Percent over sieve, 2-rowed 6/64, 6-rowed 5.5/64

Table 21: 2002 Western Regional Dryland Spring Barley Nursery, Percent Thin Barley*

Entry Number	Selection or Variety	Moscow ID	Soda Springs ID	Tetonia ID	Bozeman MT	Fargo ND	Langdon ND	Williston ND	AVERAGE
1	Munising	3	4	11	11	25	2	22	11.0
2	Step toe	3	3	3	15	9	1	8	5.9
3	Clark	1	4	4	23	12	2	6	7.4
4	Hector	2	5	3	34	17	12	8	11.6
5	2B97-4004	2	2	2	23	25	3	6	9.0
6	2B97-4299	1	2	2	16	28	2	5	7.9
7	2B98-5312	3	6	3	35	36	3	5	13.0
8	6B98-9339	2	6	6	31	17	1	4	9.5
9	6B98-9940	1	5	5	24	15	1	8	8.4
10	95Ab11469	0	1	2	4	8	4	4	3.2
11	95M4623	1	1	1	7	14	7	4	5.1
12	97Ab7973	2	2	2	12	9	1	2	4.2
13	98Ab11993	2	3	2	20	10	1	3	5.9
14	95SR149C	3	3	1	55	56	15	8	20.0
15	95SR316A	1	2	2	35	27	4	7	11.0
16	97ID1269B	1	5	6	44	13	1	4	10.5
17	98ID242	1	2	2	8	9	1	4	3.8
18	MT960099	4	6	7	39	35	2	14	15.2
19	MT960228	1	2	2	19	13	1	4	6.0
20	MT970116	0	1	2	13	23	1	3	6.1
21	UT4087	2	3	5	39	15	2	7	10.4
22	UT4938	2	5	5	11	20	2	17	8.9
23	UT4988	2	4	4	15	17	1	20	8.9
24	UT4990	2	4	4	17	20	3	16	9.5
25	UT5828	1	3	3	9	8	1	8	4.6
	Average	1	3	3	22	19	3	7	8.7
	LSD .05	1.1						2.1	5.9
	C.V.	41.1						13.8	74.1

* Percent through 5.5/64 screen

Table 22: 2002 Western Regional Dryland Spring Barley Nursery, Lodging

Entry Number	Selection or Variety	Moscow ID	Bozeman MT	Williston ND
		(1-9)	(0-9)	%
1	Munsing	5	8	0
2	Steptoe	1	2	1
3	Clark	2	5	0
4	Hector	1	4	1
5	2B97-4004	1	2	0
6	2B97-4299	1	2	0
7	2B98-5312	1	1	0
8	6B98-9339	1	7	0
9	6B98-9940	1	7	1
10	95Ab11469	1	2	1
11	95M4623	1	3	0
12	97Ab7973	2	3	0
13	98Ab11993	1	3	0
14	95SR149C	1	3	0
15	95SR316A	1	2	0
16	97ID1269B	1	7	0
17	98ID242	2	2	0
18	MT960099	1	2	0
19	MT960228	1	3	0
20	MT970116	1	3	0
21	UT4087	1	3	0
22	UT4938	2	4	5
23	UT4988	2	4	5
24	UT4990	2	4	1
25	UT5828	1	4	1
	Average	1.3	3.6	0.6
	LSD .05	0.5	1.5	
	C.V.	29.0	24.6	

Table 23: 2002 Western Regional Dryland Spring Barley Nursery, Percent Protein

Entry Number	Selection or Variety	Hettinger ND	Williston ND	AVERAGE
1	Munsing	16.3	15.7	16.00
2	Steptoe	13.0	12.2	12.60
3	Clark	16.7	16.2	16.45
4	Hector	16.8	15.9	16.35
5	2B97-4004	17.4	15.7	16.55
6	2B97-4299	15.7	14.8	15.25
7	2B98-5312	15.7	15.3	15.50
8	6B98-9339	16.4	15.3	15.85
9	6B98-9940	16.0	14.2	15.10
10	95Ab11469	15.0	14.5	14.75
11	95M4623	16.3	16.6	16.45
12	97Ab7973	16.5	15.8	16.15
13	98Ab11993	16.1	15.8	15.95
14	95SR149C	15.7	15.7	15.70
15	95SR316A	16.7	15.8	16.25
16	97ID1269B	15.8	14.3	15.05
17	98ID242	15.6	15.9	15.75
18	MT960099	16.7	15.3	16.00
19	MT960228	15.8	14.7	15.25
20	MT970116	16.3	15.5	15.90
21	UT4087	15.1	16.0	15.55
22	UT4938	15.6	14.6	15.10
23	UT4988	15.7	14.2	14.95
24	UT4990	14.8	13.8	14.30
25	UT5828	15.2	14.7	14.95
	Average	15.9	15.0	15.51
	LSD .05	1.0	0.9	
	C.V.	3.9	3.0	

Table 24: 2002 Western Regional Dryland Spring Barley Nursery, Disease Ratings

Entry Number	Selection or Variety	Fargo ND SPOT*	Langdon ND LFDIS**
		(1-9)	(1-9)
1	Munsing	5.3	8.3
2	Steptoe	4.0	5.7
3	Clark	5.0	7.0
4	Hector	5.3	7.7
5	2B97-4004	4.3	3.0
6	2B97-4299	4.3	3.3
7	2B98-5312	5.0	5.0
8	6B98-9339	3.7	3.0
9	6B98-9940	3.7	4.0
10	95Ab11469	5.0	8.3
11	95M4623	5.3	7.3
12	97Ab7973	5.0	5.0
13	98Ab11993	4.3	4.0
14	95SR149C	7.0	7.0
15	95SR316A	4.7	6.0
16	97ID1269B	3.3	3.0
17	98ID242	4.7	5.0
18	MT960099	4.7	5.0
19	MT960228	5.0	5.0
20	MT970116	5.7	7.0
21	UT4087	4.0	4.7
22	UT4938	4.0	4.7
23	UT4988	4.0	5.0
24	UT4990	4.3	5.7
25	UT5828	4.3	5.0
	Average	4.6	5.4
	LSD .05	0.9	1.3
	C.V.	14.0	14.2

* SPOT = spot blotch symptoms on a 1-9 scale for data taken at Fargo. Readings are relatively low because they were taken early in the disease cycle. The pathotype of spot blotch at Fargo and Langdon is apparently a new. It was first observed in Casselton nurseries late in 2000 and in most of eastern North Dakota in 2001 and 2002.

** LFDIS = Leaf disease symptoms (an estimate of percentage leaf blade loss based on a 1-9 scale) at Langdon. When the readings were taken at Langdon both net blotch and spot blotch were present in the nursery. Individual cultivars were near defoliation by either net or spot blotch, but not both. Most six-rowed cultivars and some two-rowed cultivars showed low reactions to the pathotype of net blotch present in the nursery.