

# **MISSISSIPPI VALLEY UNIFORM REGIONAL BARLEY NURSERY**

**2011**

FOR OFFICIAL USE ONLY

UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL RESEARCH SERVICE  
NORTHERN PLAINS AREA  
AND  
COOPERATING STATE AGRICULTURAL EXPERIMENT STATIONS

**MISSISSIPPI VALLEY UNIFORM REGIONAL BARLEY NURSERY 2011**

Compiled by Michael C. Edwards

This is a joint progress report of cooperative investigations underway in the State Agricultural Experiment Stations and the Agricultural Research Service of the United States Department of Agriculture containing preliminary data that have not been sufficiently confirmed to justify general release; interpretations may be modified with additional experimentation. Confirmed results will be published through established channels. The report is primarily a tool for use of cooperators and their official staffs and to 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, the provinces of Manitoba and Saskatchewan, Agriculture and Agri-Food Canada, and the Agricultural Research Service, and was compiled in the USDA-ARS Cereal Crops Research Unit at North Dakota State University. 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.

ACKNOWLEDGEMENT: Dr. James Hammond [Department of Plant Sciences, North Dakota State University] developed the computer program used to evaluate and compile the data for most of this report.

***Mailing address:***

**Michael C. Edwards  
USDA-ARS Cereal Crops Research Unit  
Northern Crop Science Laboratory  
1605 Albrecht Blvd. North  
Fargo, ND 58102-2765**

**Michael.Edwards@ars.usda.gov  
voice: 701-239-1341  
fax: 701-239-1369**

## CONTENTS

Stations and Cooperators.....	1
Summary.....	2
Nursery Conditions.....	3
Table 1. Average over all stations for the indicated variables.....	6
Table 2. Average for the indicated variables at stations in Manitoba, Minnesota, North Dakota and South Dakota.....	7
Table 3. Seasonal measurements 1982-2011.....	8
Table 4. Average station yield (all stations).....	9
Table 5. Information on plot type.....	10
Table 6. Period of years summary for yield.....	11
Table 7. Test weight.....	12
Table 8. Period of years summary for test weight.....	13
Table 9. Plant height.....	14
Table 10. Period of years summary for plant height.....	15
Table 11. Average station lodging.....	16
Table 12. Period of years summary for lodging.....	17
Table 13. Date headed.....	18
Table 14. Period of years summary for date headed.....	19
Table 15. Date ripe.....	20
Table 16. Average station yield for Manitoba, Minnesota, North Dakota, & South Dakota.....	21
Table 17. Period of years summary for yield (Manitoba, Minnesota, North Dakota, South Dakota).....	22
Table 18. Disease data from Winnipeg.....	23
Table 19. FHB data from Brandon.....	24
Table 20. Leaf disease data from Brandon.....	25
Table 21. Summary of data for the nursery grown at Aberdeen.....	26
Table 22. Parentage and origin of entries in the 2010 nursery.....	27

List of Stations and Cooperators

2011 Mississippi Valley Uniform Regional Barley Nursery

<u>Stations</u>	<u>Cooperators</u>
Aberdeen, Idaho	Don Obert, Chris Evans, USDA, Agricultural Research Service
Brandon, Manitoba	M. C. Therrien, Bill Legge, Agriculture Canada
Winnipeg, Manitoba	J. Gilbert, T. Fetch, A. Tekauz, Agriculture Canada
Crookston, Minnesota	Kevin Smith, University of Minnesota
Morris, Minnesota	Kevin Smith, University of Minnesota
Bottineau, North Dakota	J. Butler, S. Askelson, C. Allen, Busch Agricultural Resources
Sidney, Montana	J. Butler, S. Askelson, C. Allen, Busch Agricultural Resources
Carrington, North Dakota	R. D. Horsley, North Dakota State University
Fargo, North Dakota	R. D. Horsley, North Dakota State University
Osnabrock, North Dakota	R. D. Horsley, North Dakota State University
Saskatoon, Saskatchewan	A. Beattie, B. Rossnagel, B. L. Harvey, T. Zatorski University of Saskatchewan
Madison, Wisconsin	H. Kaeppler, J. Mochon, University of Wisconsin

## 2011 Mississippi Valley Barley Nursery

### Summary

It was not a good year for the barley nursery, as only four locations were able to contribute useable data for this year's report. Wet weather throughout the region either prevented planting or caused nurseries to be abandoned due to water damage. The reader is referred to the "Nursery Conditions" section immediately following this summary for comments concerning specific locations.

Average planting date was May 2<sup>nd</sup>, 5 days later than the 30-year average, while average heading date was 4 days later than the average. Average planting date was 10 days later than last year. Heading date (June 29<sup>th</sup>) was the same as last year.

Average yield (4555 kg/ha or 85 bu/a) was well above the 30-year average, but less than last year's average of 5116 kg/ha. Entries with the best yields were 2ND25272, 6B08-3428, 6B07-1770, 6B07-1825, and ND26249.

Test weight was not reported. The average of 63.1 kg/hl from 2010 was used for the ten year summary calculations as missing data is not allowed by the program used to calculate these values.

Lodging data was not reported. Average plant height was 76.9 cm – shorter than the 30 year average and 6<sup>th</sup> shortest over 30 years. Shortest entries were 2ND27421, ND22421, 2ND26333, ND26249, and SR432.

Disease data from the Cereal Research Centre in Winnipeg are posted in Table 18. The Brandon location also reported disease data that can be found in Tables 19 and 20.

A summary of data from the nursery grown at Aberdeen is in Table 21. Finally, a list of entries and their parentage is in Table 22.

## NURSERY CONDITIONS

### MANITOBA:

BRANDON: Previous crop: .  
Soil type: .  
Fertilizer  
available: .  
added: .  
Remarks: Data were not used. CV > 15 due to growing conditions. Late spring, wet June, dry August.

### MINNESOTA:

CROOKSTON: Previous crop: soybeans  
Soil type: Wheatville, silt-loam.  
Fertilizer  
available: 19 lbs/a N; 16 lbs/a P; 306 lbs/a K.  
added: 208 lbs/A of 46-0-0 and 85 lbs/A of 11-52-0.  
Remarks: The nursery had wet conditions early, but good growing conditions through harvest. Minor lodging occurred this year.

MORRIS: Previous crop: soybeans.  
Soil type: Nutley clay.  
Fertilizer  
available: pH 6.4; Bray P 23 ppm; K 135 ppm.  
added: none.  
Remarks: The nursery had favorable planting and early growing conditions, but May was cold and wet, June was dry, and July was wet again. No lodging occurred this year.

### NORTH DAKOTA:

CARRINGTON: Previous crop: soybeans.  
Soil type: Heimdahl loam, sandy loam  
Fertilizer  
available: 32 lbs/a N; 22 lbs/a P; 299 lbs/a K  
added: 110 lbs/a N  
Remarks: Planting date was later than usual. There was a surplus of moisture during most of the growing season. Plot emergence and plant stands were excellent. A hail storm destroyed these plots before the barley matured and the plots were abandoned.

FARGO: Previous crop: soybeans  
Soil type: Fargo, silty clay loam  
Fertilizer  
available: .  
added: .  
Remarks: Drowned out.

OSNABROCK:	Previous crop:	Canola
	Soil type:	Barnes-Svea loam, loam.
	Fertilizer	
	available:	.
	added:	.
	Remarks:	Too wet to plant.
BOTTINEAU:	Previous crop:	canola.
	Soil type:	.
	Fertilizer	
	available:	.
	added:	.
	Remarks:	Abandoned due to water damage.
MONTANA:		
SIDNEY:	Previous crop:	Sugarbeets.
	Soil type:	.
	Fertilizer	
	available:	.
	added:	.
	Remarks:	The nursery was seeded into a nice seedbed with good moisture. The growing season progressed normally with timely rains. The cooperators only had to irrigate once during the growing season. The nursery had excellent plant development and little disease or lodging. Harvest went well, with dry conditions, good yields and acceptable statistics.
WISCONSIN:		
MADISON:	Previous crop:	soybeans
	Soil type:	St. Charles, loam
	Fertilizer	
	available:	.
	added:	none
	Remarks:	Data were not used (CV>15). 2011 started out as a very late season, but due to much hot dry weather, harvest came at a more typical time. Planting was done on May 6. Mean temperature for May was 57.4 F and we had 2.5 inches of rainfall. June had a mean temperature of 70.9 F with 4.4 inches of rain. High temperatures began in June, but rainfall was still adequate. July and August stayed hot with less than adequate rainfall. July's mean temperature was 76.0 F (high mean 93.6 F) and August had a mean temperature of 70.4 F (high mean 92.3 F). Total rainfall for July and August combined was 5.5 inches. The MVBN was harvested on August 1st. The high temperatures and disease pressure, combined with the lateness of planting caused yields and bushel weights to be on the low side. Lodging pressure was low and levels of Powdery mildew were low.

SASKATCHEWAN:

KERNEN:	Previous crop:	.
	Soil type:	.
	Fertilizer	
	available:	.
	added:	
	Remarks:	Flooding affected parts of the nursery – not a reliable test for yield.



TABLE 1. AVERAGE OVER ALL STATIONS FOR THE INDICATED VARIABLES.

Variety/ Entry	Yield <sup>1</sup> kg/ha	Test Wt <sup>2</sup> kg/hl	Height <sup>3</sup> cm	Lodging <sup>4</sup> %	Heading <sup>5</sup> 5/31=0	Ripe <sup>6</sup> 5/31=0
MOREX	4106.6		88.7	.0	27.2	
ROBUST	4250.1		83.5	.0	29.7	
LEGACY	4637.6		81.0	.0	29.9	
LACEY	4782.9		78.7	.0	28.9	
TRADITION	4594.5		77.3	.0	29.1	
PINNACLE	4682.5		74.2	.0	30.3	
ND22421	4565.8		65.4	.0	28.4	
2ND24388	4293.1		76.4	.0	25.9	
2ND25276	4474.3		74.8	.0	30.0	
SR432	4675.3		69.8	.0	29.0	
M143	4546.1		82.0	.0	29.2	
M145	4402.6		83.7	.0	29.3	
ND26249	4795.5		69.4	.0	28.8	
2ND26333	4479.7		66.4	.0	30.7	
6B07- 1753	4623.3		74.9	.0	29.0	
6B07- 1819	4739.9		72.4	.0	29.7	
6B07- 1825	4809.8		76.3	.0	30.2	
SR434	4772.2		75.5	.0	31.4	
M144	4574.8		82.7	.0	30.0	
M147	4659.1		81.5	.0	29.9	
M149	4533.5		83.5	.0	29.8	
M150	4768.6		82.2	.0	29.8	
ND23898	4352.4		78.7	.0	28.6	
ND25652	4476.1		78.3	.0	29.7	
ND26036	4083.2		86.5	.0	28.3	
ND27245	4287.8		81.0	.0	30.9	
2ND25272	5116.6		70.9	.0	27.7	
2ND27421	4320.1		65.0	.0	28.3	
2ND27440	4061.7		75.2	.0	32.2	
6B07- 1613	4653.8		80.0	.0	29.3	
6B07- 1770	4815.2		76.5	.0	28.1	
6B08- 3428	4953.4		71.5	.0	29.7	
SR440	4574.8		73.3	.0	29.5	
SR444	4395.4		78.7	.0	31.5	
HIGH MEAN	5116.6		88.7	.0	32.2	
LOW MEAN	4061.7		65.0	.0	25.9	
EXP MEAN	4554.7		76.9	.0	29.4	
C. V. %	6.2		3.9	.0	2.8	
LSD 5%	460.5		6.1	NS	1.3	
LSD 1%	611.6		8.2	NS	1.8	
# of Loc	3		2	4	3	

1 Crookston, Morris, Sidney

2 none

3 Crookston, Morris

4 none

5 Crookston, Morris, Carrington

6 None

TABLE 2. AVERAGE OVER STATIONS AT MANITOBA, MINNESOTA, AND NORTH DAKOTA.

Variety/ Entry	Yield <sup>1</sup> kg/ha	Test Wt <sup>2</sup> kg/hl	Height <sup>3</sup> cm	Lodging <sup>4</sup> %	Heading <sup>5</sup> 5/31=0	Ripe <sup>6</sup>
MOREX	4023.1		88.7	.0	27.2	
ROBUST	4007.0		83.5	.0	29.7	
LEGACY	4268.0		81.0	.0	29.9	
LACEY	4443.0		78.7	.0	28.9	
TRADITION	4141.6		77.3	.0	29.1	
PINNACLE	4268.0		74.2	.0	30.3	
ND22421	4233.0		65.4	.0	28.4	
2ND24388	4068.9		76.4	.0	25.9	
2ND25276	4265.3		74.8	.0	30.0	
SR432	4443.0		69.8	.0	29.0	
M143	4399.9		82.0	.0	29.2	
M145	4106.6		83.7	.0	29.3	
ND26249	4577.5		69.4	.0	28.8	
2ND26333	4077.0		66.4	.0	30.7	
6B07-1753	4394.5		74.9	.0	29.0	
6B07-1819	4706.7		72.4	.0	29.7	
6B07-1825	4749.7		76.3	.0	30.2	
SR434	4599.0		75.5	.0	31.4	
M144	4370.3		82.7	.0	30.0	
M147	4405.3		81.5	.0	29.9	
M149	4356.8		83.5	.0	29.8	
M150	4580.2		82.2	.0	29.8	
ND23898	4036.6		78.7	.0	28.6	
ND25652	4321.9		78.3	.0	29.7	
ND26036	4028.5		86.5	.0	28.3	
ND27245	3920.9		81.0	.0	30.9	
2ND25272	4857.4		70.9	.0	27.7	
2ND27421	4017.8		65.0	.0	28.3	
2ND27440	3651.8		75.2	.0	32.2	
6B07-1613	4335.3		80.0	.0	29.3	
6B07-1770	4553.3		76.5	.0	28.1	
6B08-3428	4663.6		71.5	.0	29.7	
SR440	4550.6		73.3	.0	29.5	
SR444	4222.3		78.7	.0	31.5	
HIGH MEAN	4857.4		88.7	.0	32.2	
LOW MEAN	3651.8		65.0	.0	25.9	
EXP MEAN	4313.1		76.9	.0	29.4	
C. V. %	6.7		3.9	.0	2.8	
LSD 5%	NS		6.1	NS	1.3	
LSD 1%	NS		8.2	NS	1.8	
# of Loc	2		2	3	3	

1 Crookston, Morris

2 none

3 Crookston, Morris

4 none

5 Crookston, Morris, Carrington

6 none

TABLE 3. 1982-2011 SEASONAL MEASUREMENTS - MISSISSIPPI VALLEY BARLEY NURSERY

YIELD		TEST WEIGHT		DATE SOWN		DATE HEADED		PLANT HEIGHT		LODGING	
KG/HA	YEAR	KG/HL	YEAR	DATE	YEAR	DATE	YEAR	CM.	YEAR	%	YEAR
6032	2004	71.8	2009	15-Apr	1988	13-Jun	1985	67.0	1988	NA	2011
5978	2009	66.5	1998	19-Apr	1985	15-Jun	1988	73.2	1987	1.2	2010
5385	1992	66.1	1999	19-Apr	1987	16-Jun	1987	76.1	2006	2.7	1987
5191	2006	65.4	2003	20-Apr	1992	20-Jun	2006	76.4	1995	7.5	1988
5116	2010	65.4	2001	22-Apr	2010	20-Jun	1998	76.7	1991	8.4	2007
5058	2008	64.0	2002	23-Apr	1989	21-Jun	1982	76.9	2011	13.2	2000
4911	1985	63.2	2006	23-Apr	2004	21-Jun	1994	77.4	1997	14.2	1992
4799	1986	63.1	1997	24-Apr	2006	22-Jun	1991	77.8	2002	14.6	2008
4710	2003	63.1	2010	24-Apr	1998	23-Jun	1992	77.9	2003	15.6	1983
4655	2007	NA	2011	25-Apr	1990	24-Jun	1989	79.0	1994	17.1	1984
4555	2011	62.7	1984	25-Apr	1991	24-Jun	1990	79.1	2007	19.0	1994
4502	1994	62.4	1985	25-Apr	2005	25-Jun	2000	79.5	1996	21.1	1989
4402	2001	61.7	2005	26-Apr	2000	25-Jun	1984	80.7	1989	23.9	1986
4390	2005	61.7	1996	26-Apr	1982	26-Jun	1986	81.9	1999	24.0	2004
4337	1993	61.6	1995	27-Apr	1994	26-Jun	2007	81.6	2001	24.2	1985
4274	1990	61.2	1986	29-Apr	1993	27-Jun	2005	83.7	2009	24.8	2009
4255	1995	61.1	2007	29-Apr	2003	27-Jun	2008	84.5	2005	25.4	2001
4251	1984	61.0	1988	30-Apr	2008	28-Jun	1999	85.1	2008	27.7	1995
4105	2000	60.2	1989	30-Apr	1983	28-Jun	2003	85.1	2010	28.1	1997
4056	1989	59.9	1994	30-Apr	1986	29-Jun	1993	86.8	1990	29.0	2002
4046	1997	59.4	1983	30-Apr	2002	29-Jun	2010	87.7	1984	29.2	1990
4021	1999	59.2	2008	1-May	1984	29-Jun	2011	88.6	1993	29.3	1991
4017	1998	59.2	1992	2-May	2011	30-Jun	2004	89.1	1986	31.0	1999
3884	1982	59.2	1982	2-May	2009	1-Jul	1983	89.3	1998	33.2	2005
3882	1987	59.2	1987	3-May	2007	2-Jul	1997	89.4	1992	33.3	2006
3832	2002	57.5	1993	4-May	2001	2-Jul	2001	90.6	2000	36.3	2003
3566	1996	57.5	1990	4-May	1995	3-Jul	2002	91.5	1982	38.6	1998
3136	1988	54.3	2000	7-May	1996	4-Jul	1995	92.3	1983	42.6	1993
3113	1983	54.3	1991	7-May	1999	4-Jul	1996	93.0	1985	48.2	1982
3064	1991	53.0	2004	11-May	1997	10-Jul	2009	93.0	2004	0.0	1996
4365	AVE.	61.2	AVE.	27-Apr	AVE.	25-Jun	AVE.	83.5	AVE.	22.7	AVE.

CONVERSION FACTORS: KG/HA TO BU/A x .018587  
KG/HL TO LB/BU x .776815

TABLE 4. AVE. STA. YIELD (KG/HA). 2011 MISSISSIPPI VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	AVERAGE RANK	3 STA.	CROOKSTN MINN	MORRIS MINN	SIDNEY MT
1	MOREX	32	4106.6	5446.7	2599.6	4273.4
2	ROBUST	31	4250.1	4919.3	3094.7	4736.3
3	LEGACY (6B93-2978)	14	4637.6	5371.4	3164.7	5376.7
4	LACEY (M98)	6	4782.9	5635.1	3250.8	5462.9
5	TRADITION(6B95-2482)	16	4594.5	5349.8	2933.3	5500.5
6	PINNACLE (2ND21863)	10	4682.5	5608.2	2927.9	5511.3
7	ND22421	19	4565.8	5715.8	2750.3	5231.4
8	2ND24388	29	4293.1	5468.2	2669.5	4741.7
9	2ND25276	24	4474.3	5694.3	2836.4	4892.4
10	SR432	11	4675.3	5871.9	3014.0	5139.9
11	MI43	20	4546.1	5678.1	3121.6	4838.5
12	MI45	25	4402.6	5274.5	2938.6	4994.6
13	ND26249	5	4795.5	6157.2	2997.8	5231.4
14	2ND26333	22	4479.7	5683.5	2470.4	5285.3
15	6B07-1753	15	4623.3	5931.1	2857.9	5080.7
16	6B07-1819	9	4739.9	6501.6	2911.7	4806.2
17	6B07-1825	4	4809.8	6259.4	3240.0	4930.0
18	SR434	7	4772.2	6087.2	3110.9	5118.4
19	MI44	18	4574.8	5500.5	3240.0	4983.9
20	MI47	12	4659.1	5500.5	3310.0	5166.8
21	MI49	21	4533.5	5608.2	3105.5	4887.0
22	MI50	8	4768.6	5984.9	3175.5	5145.3
23	ND23898	27	4352.3	5043.1	3030.1	4983.9
24	ND25652	23	4476.1	5796.6	2847.1	4784.7
25	ND26036	33	4083.2	5134.6	2922.5	4192.7
26	ND27245	30	4287.8	5134.6	2707.2	5021.5
27	2ND25272	1	5116.6	6302.5	3412.3	5635.1
28	2ND27421	28	4320.1	5489.8	2545.7	4924.6
29	2ND27440	34	4061.7	4956.9	2346.6	4881.6
30	6B07-1613	13	4653.7	5742.7	2927.9	5290.6
31	6B07-1770	3	4815.2	5974.2	3132.4	5339.1
32	6B08-3428	2	4953.4	6200.2	3127.0	5532.8
33	SR440	18	4574.8	5904.2	3197.0	4623.3
34	SR444	26	4395.4	6028.0	2416.6	4741.7
AVERAGE			4554.7	5675.1	2951.0	5037.8

TABLE 5. INFORMATION ON PLOT TYPE.

LOCATION	# REPS	DATE SOWN	<u>LSD 5%</u> <u>KG/HA BU/A</u>		METERS HARVESTED	CM. BET. ROWS	DATE HARVESTED
BRANDON	3	CV > 15	not used				
BOTTINEAU	3	abandoned (water damage)					
CARRINGTON	4	hailed out					
FARGO	3	drowned out					
SIDNEY	3	4/27	398.1	7.4	3.35	21.6	8/9
OSNABROCK	4	too wet to plant					
CROOKSTON	3	5/9	780.1	14.5	2.8 m <sup>2</sup>	19	8/3
MADISON	3	CV > 15	not used				
MORRIS	3	4/25	511.1	9.5	3.72 m <sup>2</sup>	18	8/3
KERNEN	3	not used – partial flooding.					

TABLE 6. PERIOD OF YEARS SUMMARY - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	STA YR	YRS	ADJ. MEAN	RANK
YIELD (AVERAGE KILOGRAMS PER HECTARE)															
1	MOREX	3398	4013	5329	3644	4547	4149	4180	5511	4301	4107	10	84	4306.6	34
2	ROBUST	3666	4377	5687	4075	5092	4262	4768	5537	4566	4250	10	84	4635.9	29
BASE AVERAGES		3532	4195	5508	3860	4819	4205	4474	5524	4434	4178				
3	LEGACY (6B93-2978)	3864	4739	6199	4190	5142	4751	5061	6351	5145	4638	10	84	5004.7	18
4	LACEY (M98)	3919	4770	6183	4483	5357	4712	5323	6132	5102	4783	10	84	5070.9	14
5	TRADITION	4115	4743	5924	4435	5392	4732	5090	6127	4968	4595	10	84	5016.3	17
6	PINNACLE (2ND21863)				4658	5584	4596	5397	6185	5397	4682	7	53	5199.6	9
7	ND22421						4613	5245	6166	5416	4566	5	36	5125.7	12
8	2ND24388							4944	5856	5419	4293	4	27	4992.1	19
9	2ND25276								6041	5219	4474	3	18	5028.1	16
10	SR432								6316	5357	4675	3	18	5215.3	7
11	M143									5077	4546	2	11	5053.8	15
12	M145									5040	4403	2	11	4986.1	20
13	ND26249									5365	4795	2	11	5337.5	2
14	2ND26333									5304	4480	2	11	5204.2	8
15	6B07-1753									5347	4623	2	11	5276.3	4
16	6B07-1819									5185	4740	2	11	5188.1	10
17	6B07-1825									5204	4810	2	11	5221.7	6
18	SR434									5278	4772	2	11	5266.4	5
19	M144										4575	1	3	4895.5	24
20	M147										4659	1	3	4985.8	21
21	M149										4534	1	3	4851.4	25
22	M150										4769	1	3	5102.9	13
23	ND23898										4352	1	3	4657.5	28
24	ND25652										4476	1	3	4790.0	26
25	ND26036										4083	1	3	4369.5	32
26	ND27245										4288	1	3	4588.4	31
27	2ND25272										5117	1	3	5475.3	1
28	2ND27421										4320	1	3	4622.9	30
29	2ND27440										4062	1	3	4346.5	33
30	6B07-1613										4654	1	3	4980.0	22
31	6B07-1770										4815	1	3	5152.8	11
32	6B08-3428										4953	1	3	5300.6	3
33	SR440										4575	1	3	4895.5	24
34	SR444										4395	1	3	4703.6	27
NO. OF STATIONS		10	11	10	8	9	9	9	7	8	3				

ADJ. MEAN = VARIETY TOTAL FOR YEARS GROWN X 4471.3 /BASE AVERAGE FOR SAME YEARS

TABLE 7. AVE. STA. TEST WEIGHT (KG/HL). 2011 MISS. VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	AVERAGE RANK	4 STA.	CROOKSTN MI NN	MORRIS MI NN	CARRNGTN ND	SIDNEY MT
-------------	-------------------------	-----------------	--------	-------------------	-----------------	----------------	--------------

NO DATA PROVIDED

TABLE 8. PERIOD OF YEARS SUMMARY - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	STA YR	YRS	ADJ. MEAN	RANK
TEST WEIGHT (KILOGRAMS PER HECTOLITER)															
1	MOREX	62.5	64.2	48.0	59.6	62.2	59.7	58.0	69.5	61.0	63.1	10	36	61.2	33
2	ROBUST	65.0	65.1	52.2	62.4	64.1	55.6	60.6	71.7	62.8	63.1	10	36	62.3	9
BASE AVERAGES		63.7	64.6	50.1	61.0	63.1	57.6	59.3	70.6	61.9	63.0				
3	LEGACY (6B93-2978)	62.7	63.3	50.0	61.2	62.5	53.3	58.5	72.1	62.5	63.1	10	36	60.9	34
4	LACEY (M98)	65.0	67.6	54.6	63.0	64.5	62.3	64.0	72.6	64.3	63.1	10	36	64.3	2
5	TRADITION	64.9	65.2	53.4	62.1	64.2	61.5	59.3	73.0	63.1	63.1	10	36	63.2	4
6	PINNACLE (2ND21863)				63.4	64.9	64.3	62.8	74.7	63.9	63.1	7	26	64.8	1
7	ND22421						60.4	57.4	69.9	61.7	63.1	5	19	61.9	14
8	2ND24388							59.1	72.4	63.1	63.1	4	14	62.3	7
9	2ND25276								71.7	62.8	63.1	3	10	62.3	8
10	SR432								70.9	62.6	63.1	3	10	62.0	13
11	M143									63.0	63.1	2	7	62.2	11
12	M145									64.2	63.1	2	7	62.7	5
13	ND26249									62.8	63.1	2	7	62.1	12
14	2ND26333									66.5	63.1	2	7	63.7	3
15	6B07-1753									63.6	63.1	2	7	62.5	6
16	6B07-1819									61.4	63.1	2	7	61.5	32
17	6B07-1825									63.2	63.1	2	7	62.3	10
18	SR434									61.9	63.1	2	7	61.7	31
19	M144										63.1	1	4	61.7	31
20	M147										63.1	1	4	61.7	31
21	M149										63.1	1	4	61.7	31
22	M150										63.1	1	4	61.7	31
23	ND23898										63.1	1	4	61.7	31
24	ND25652										63.1	1	4	61.7	31
25	ND26036										63.1	1	4	61.7	31
26	ND27245										63.1	1	4	61.7	31
27	2ND25272										63.1	1	4	61.7	31
28	2ND27421										63.1	1	4	61.7	31
29	2ND27440										63.1	1	4	61.7	31
30	6B07-1613										63.1	1	4	61.7	31
31	6B07-1770										63.1	1	4	61.7	31
32	6B08-3428										63.1	1	4	61.7	31
33	SR440										63.1	1	4	61.7	31
34	SR444										63.1	1	4	61.7	31
NO. OF STATIONS		4	4	2	4	3	5	4	3	3	4				

ADJ. MEAN = VARIETY TOTAL FOR YEARS GROWN X 61.7 /BASE AVERAGE FOR SAME YEARS

\*\*\*NO DATA WAS PROVIDED IN 2011. THE OVERALL AVERAGE FOR 2010 WAS USED FOR ALL ENTRIES, AS MISSING DATA IS NOT PERMITTED BY THE PROGRAM \*\*\*



TABLE 9. AVE. STA. HEIGHT (CM). 2011 MISSISSIPPI VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	RANK	AVERAGE 2 STA.	CROOKSTN MINN	MORRIS MINN
1	MOREX	34	88.7	98.7	78.7
2	ROBUST	31	83.5	95.3	71.7
3	LEGACY (6B93-2978)	25	81.0	89.0	73.0
4	LACEY (M98)	22	78.7	87.0	70.3
5	TRADITION(6B95-2482)	18	77.3	88.3	66.3
6	PINNACLE (2ND21863)	10	74.2	81.3	67.0
7	ND22421	2	65.3	76.0	54.7
8	2ND24388	16	76.3	85.0	67.7
9	2ND25276	11	74.8	79.3	70.3
10	SR432	5	69.8	78.3	61.3
11	MI43	27	82.0	87.7	76.3
12	MI45	32	83.7	92.3	75.0
13	ND26249	4	69.3	76.0	62.7
14	2ND26333	3	66.3	73.0	59.7
15	6B07-1753	12	74.8	88.0	61.7
16	6B07-1819	8	72.3	80.7	64.0
17	6B07-1825	15	76.3	86.3	66.3
18	SR434	14	75.5	83.0	68.0
19	MI44	29	82.7	90.7	74.7
20	MI47	26	81.5	87.7	75.3
21	MI49	31	83.5	92.7	74.3
22	MI50	28	82.2	93.0	71.3
23	ND23898	22	78.7	90.0	67.3
24	ND25652	19	78.3	89.3	67.3
25	ND26036	33	86.5	99.7	73.3
26	ND27245	25	81.0	93.0	69.0
27	2ND25272	6	70.8	81.0	60.7
28	2ND27421	1	65.0	72.0	58.0
29	2ND27440	13	75.2	84.3	66.0
30	6B07-1613	23	80.0	90.0	70.0
31	6B07-1770	17	76.5	87.0	66.0
32	6B08-3428	7	71.5	82.3	60.7
33	SR440	9	73.3	83.3	63.3
34	SR444	22	78.7	90.0	67.3
AVERAGE			76.9	86.2	67.6

TABLE 10. PERIOD OF YEARS SUMMARY - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	STA YR	YRS	ADJ. MEAN	RANK
HEIGHT (CENTIMETERS)															
1	MOREX	84.7	82.6	102.5	91.2	81.7	86.8	91.8	94.2	93.6	88.7	10	73	89.9	34
2	ROBUST	81.9	83.3	100.8	89.4	80.3	85.2	90.3	90.8	92.3	83.5	10	73	88.3	31
BASE AVERAGES		83.3	82.9	101.	90.3	81.0	86.0	91.0	92.5	92.9	86.1				
3	LEGACY (6B93-2978)	77.6	80.8	95.1	85.7	78.2	82.7	88.5	87.7	87.8	81.0	10	73	85.0	26
4	LACEY (M98)	75.5	76.1	92.4	85.2	74.7	77.8	83.4	82.7	83.2	78.7	10	73	81.2	15
5	TRADITION	74.6	78.6	92.8	82.8	74.7	79.7	85.9	84.4	86.8	77.3	10	73	82.3	21
6	PINNACLE (2ND21863)				86.0	75.1	76.4	84.1	80.9	82.8	74.2	7	49	80.8	13
7	ND22421						70.8	74.6	71.5	77.1	65.3	5	34	72.1	2
8	2ND24388							85.0	81.4	83.0	76.3	4	26	80.4	12
9	2ND25276								84.5	86.2	74.8	3	17	81.5	19
10	SR432								81.2	84.7	69.8	3	17	79.0	10
11	M143									89.4	82.0	2	10	85.5	28
12	M145									93.2	83.7	2	10	88.8	32
13	ND26249									77.0	69.3	2	10	73.4	5
14	2ND26333									76.9	66.3	2	10	72.7	3
15	6B07-1753									88.1	74.8	2	10	83.1	23
16	6B07-1819									82.0	72.3	2	10	77.9	9
17	6B07-1825									86.4	76.3	2	10	82.1	20
18	SR434									85.6	75.5	2	10	81.3	16
19	M144										82.7	1	2	85.6	29
20	M147										81.5	1	2	84.3	25
21	M149										83.5	1	2	86.4	30
22	M150										82.2	1	2	85.0	27
23	ND23898										78.7	1	2	81.4	18
24	ND25652										78.3	1	2	81.0	14
25	ND26036										86.5	1	2	89.5	33
26	ND27245										81.0	1	2	83.8	24
27	2ND25272										70.8	1	2	73.3	4
28	2ND27421										65.0	1	2	67.2	1
29	2ND27440										75.2	1	2	77.7	8
30	6B07-1613										80.0	1	2	82.8	22
31	6B07-1770										76.5	1	2	79.1	11
32	6B08-3428										71.5	1	2	74.0	6
33	SR440										73.3	1	2	75.8	7
34	SR444										78.7	1	2	81.4	18
NO. OF STATIONS		6	9	9	6	9	8	9	7	8	2				

ADJ. MEAN = VARIETY TOTAL FOR YEARS GROWN X 89.1 /BASE AVERAGE FOR SAME YEARS

TABLE 11. AVE. STA. LODGING (IN %). 2011 MISSISSIPPI VALLEY BARLEY NURSERY

NO DATA PROVIDED.

TABLE 12. PERIOD OF YEARS SUMMARY - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	STA YR	YRS	ADJ. MEAN	RANK
LODGING (PERCENT)															
1	MOREX	48.8	56.1	44.3	63.3	54.0	16.9	24.6	32.5	12.0	0.0	10	32	35.3	33
2	ROBUST	38.8	48.9	34.8	43.3	38.0	9.7	24.4	24.9	0.0	0.0	10	32	27.5	16
BASE AVERAGES		43.8	52.5	39.5	53.3	46.0	13.3	24.5	28.7	6.00	.000				
3	LEGACY (6B93-2978)	26.7	36.5	30.4	25.6	45.5	5.9	19.9	29.8	0.0	0.0	10	32	22.4	14
4	LACEY (M98)	26.0	35.4	16.8	32.2	29.0	5.8	16.9	29.4	0.0	0.0	10	32	18.8	12
5	TRADITION	30.0	29.9	18.2	23.3	31.5	6.5	9.7	23.3	0.0	0.0	10	32	16.8	10
6	PINNACLE (2ND21863)				24.4	21.5	4.5	11.8	37.9	0.0	0.0	7	20	17.4	11
7	ND22421						5.3	12.1	9.4	0.0	0.0	5	15	13.2	9
8	2ND24388							16.3	27.3	0.0	0.0	4	12	23.0	15
9	2ND25276								33.7	25.0	0.0	3	7	45.7	34
10	SR432								21.0	0.0	0.0	3	7	20.8	13
11	M143									0.0	0.0	2	5	0.0	8
12	M145									0.0	0.0	2	5	0.0	8
13	ND26249									0.0	0.0	2	5	0.0	8
14	2ND26333									0.0	0.0	2	5	0.0	8
15	6B07-1753									0.0	0.0	2	5	0.0	8
16	6B07-1819									0.0	0.0	2	5	0.0	8
17	6B07-1825									0.0	0.0	2	5	0.0	8
18	SR434									0.0	0.0	2	5	0.0	8
19	M144										0.0	1	4	31.4	32
20	M147										0.0	1	4	31.4	32
21	M149										0.0	1	4	31.4	32
22	M150										0.0	1	4	31.4	32
23	ND23898										0.0	1	4	31.4	32
24	ND25652										0.0	1	4	31.4	32
25	ND26036										0.0	1	4	31.4	32
26	ND27245										0.0	1	4	31.4	32
27	2ND25272										0.0	1	4	31.4	32
28	2ND27421										0.0	1	4	31.4	32
29	2ND27440										0.0	1	4	31.4	32
30	6B07-1613										0.0	1	4	31.4	32
31	6B07-1770										0.0	1	4	31.4	32
32	6B08-3428										0.0	1	4	31.4	32
33	SR440										0.0	1	4	31.4	32
34	SR444										0.0	1	4	31.4	32
NO. OF STATIONS		3	3	6	3	2	3	5	2	1	4				

ADJ. MEAN = VARIETY TOTAL FOR YEARS GROWN X 31.4 /BASE AVERAGE FOR SAME YEARS

TABLE 13. AVE. STA. HEADING (FROM MAY 31). 2011 MISS. VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	AVERAGE RANK	3 STA.	CROOKSTN MINN	MORRIS MINN	CARRNGTN ND
1	MOREX	2	27.2	27.3	22.7	31.7
2	ROBUST	20	29.7	30.0	25.7	33.3
3	LEGACY (6B93-2978)	25	29.9	30.0	26.0	33.7
4	LACEY (M98)	10	28.9	29.3	25.3	32.0
5	TRADITION(6B95-2482)	13	29.1	29.3	24.7	33.3
6	PINNACLE (2ND21863)	29	30.3	32.0	25.3	33.7
7	ND22421	7	28.4	28.7	24.3	32.3
8	2ND24388	1	25.9	26.7	22.7	28.3
9	2ND25276	27	30.0	30.0	26.3	33.7
10	SR432	12	29.0	29.0	25.3	32.7
11	M143	14	29.2	29.0	26.0	32.7
12	M145	16	29.3	28.7	26.0	33.3
13	ND26249	9	28.8	28.7	25.0	32.7
14	2ND26333	30	30.7	32.7	25.0	34.3
15	6B07-1753	11	29.0	29.3	25.3	32.3
16	6B07-1819	20	29.7	30.0	26.3	32.7
17	6B07-1825	28	30.2	31.0	26.7	33.0
18	SR434	32	31.4	31.7	28.3	34.3
19	M144	27	30.0	29.3	26.7	34.0
20	M147	25	29.9	30.3	25.7	33.7
21	M149	22	29.8	30.0	26.0	33.3
22	M150	23	29.8	29.7	26.7	33.0
23	ND23898	8	28.6	28.7	23.3	33.7
24	ND25652	21	29.7	28.7	25.7	34.7
25	ND26036	6	28.3	28.0	25.7	31.3
26	ND27245	31	30.9	30.3	28.3	34.0
27	2ND25272	3	27.7	28.0	24.3	30.7
28	2ND27421	6	28.3	28.0	26.0	31.0
29	2ND27440	34	32.2	32.7	28.7	35.3
30	6B07-1613	16	29.3	29.7	25.3	33.0
31	6B07-1770	4	28.1	28.7	24.3	31.3
32	6B08-3428	20	29.7	30.0	26.7	32.3
33	SR440	17	29.5	29.7	25.7	33.0
34	SR444	33	31.5	31.3	29.3	34.0
AVERAGE			29.4	29.6	25.7	32.9

TABLE 14. PERIOD OF YEARS SUMMARY - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	STA YR	YRS	ADJ. MEAN	RANK
DATE HEADED (FROM MAY 31)															
1	MOREX	31.1	27.5	28.8	25.8	17.8	25.0	25.9	38.7	27.8	27.2	10	80	27.4	3
2	ROBUST	32.2	28.7	29.6	27.2	19.4	26.5	27.4	39.8	29.1	29.7	10	80	28.7	15
BASE AVERAGES		31.6	28.1	29.2	26.5	18.6	25.7	26.6	39.2	28.4	28.4				
3	LEGACY (6B93-2978)	33.4	29.0	30.6	27.9	21.0	27.4	27.9	40.7	29.9	29.9	10	80	29.6	29
4	LACEY (M98)	31.6	28.0	29.1	26.9	19.3	26.2	27.0	39.3	29.0	28.9	10	80	28.3	12
5	TRADITION	31.9	28.0	30.2	26.8	19.9	26.4	27.7	40.1	28.9	29.1	10	80	28.7	14
6	PINNACLE (2ND21863)				27.9	20.0	26.7	27.6	40.2	29.6	30.3	7	53	29.3	23
7	ND22421						25.5	26.9	39.3	28.3	28.4	5	36	28.0	8
8	2ND24388							24.4	37.5	26.9	25.9	4	27	26.3	1
9	2ND25276								41.0	29.4	30.0	3	18	29.3	21
10	SR432								38.6	28.5	29.0	3	18	27.9	5
11	M143									29.6	29.2	2	10	29.1	20
12	M145									29.3	29.3	2	10	28.9	17
13	ND26249									28.6	28.8	2	10	28.3	11
14	2ND26333									29.6	30.7	2	10	29.5	28
15	6B07-1753									28.4	29.0	2	10	28.2	10
16	6B07-1819									28.8	29.7	2	10	28.7	13
17	6B07-1825									28.9	30.2	2	10	28.9	16
18	SR434									30.1	31.4	2	10	30.1	31
19	M144										30.0	1	3	29.6	30
20	M147										29.9	1	3	29.5	27
21	M149										29.8	1	3	29.4	25
22	M150										29.8	1	3	29.4	26
23	ND23898										28.6	1	3	28.2	9
24	ND25652										29.7	1	3	29.3	24
25	ND26036										28.3	1	3	28.0	7
26	ND27245										30.9	1	3	30.5	32
27	2ND25272										27.7	1	3	27.3	2
28	2ND27421										28.3	1	3	28.0	7
29	2ND27440										32.2	1	3	31.8	34
30	6B07-1613										29.3	1	3	28.9	18
31	6B07-1770										28.1	1	3	27.7	4
32	6B08-3428										29.7	1	3	29.3	22
33	SR440										29.5	1	3	29.1	19
34	SR444										31.5	1	3	31.1	33
NO. OF STATIONS		8	11	8	8	9	9	9	8	7	3				

ADJ. MEAN = VARIETY TOTAL FOR YEARS GROWN X 28.1 /BASE AVERAGE FOR SAME YEARS

TABLE 15. AVE. STA. RIPE (FROM MAY 31). 2011 MISSISSIPPI VALLEY BARLEY NURSERY

NO DATA PROVIDED.

TABLE 16. AVE. STA. YIELD - MANITOBA, MINNESOTA, NORTH DAKOTA, SOUTH DAKOTA

ENT. NO.	VARIETY OR SELECTION	AVERAGE RANK	2 STA.	CROOKSTN MINN	MORRIS MINN
1	MOREX	30	4023. 1	5446. 7	2599. 6
2	ROBUST	32	4007. 0	4919. 3	3094. 7
3	LEGACY (6B93-2978)	19	4268. 0	5371. 4	3164. 7
4	LACEY (M98)	11	4442. 9	5635. 1	3250. 8
5	TRADITION(6B95-2482)	24	4141. 5	5349. 8	2933. 3
6	PINNACLE (2ND21863)	20	4268. 0	5608. 2	2927. 9
7	ND22421	22	4233. 0	5715. 8	2750. 3
8	2ND24388	27	4068. 9	5468. 2	2669. 5
9	2ND25276	21	4265. 3	5694. 3	2836. 4
10	SR432	11	4442. 9	5871. 9	3014. 0
11	MI43	13	4399. 9	5678. 1	3121. 6
12	MI45	25	4106. 6	5274. 5	2938. 6
13	ND26249	7	4577. 5	6157. 2	2997. 8
14	2ND26333	26	4077. 0	5683. 5	2470. 4
15	6B07- 1753	14	4394. 5	5931. 1	2857. 9
16	6B07- 1819	3	4706. 7	6501. 6	2911. 7
17	6B07- 1825	2	4749. 7	6259. 4	3240. 0
18	SR434	5	4599. 0	6087. 2	3110. 9
19	MI44	15	4370. 3	5500. 5	3240. 0
20	MI47	12	4405. 3	5500. 5	3310. 0
21	MI49	16	4356. 8	5608. 2	3105. 5
22	MI50	6	4580. 2	5984. 9	3175. 5
23	ND23898	28	4036. 6	5043. 1	3030. 1
24	ND25652	18	4321. 9	5796. 6	2847. 1
25	ND26036	29	4028. 5	5134. 6	2922. 5
26	ND27245	33	3920. 9	5134. 6	2707. 2
27	2ND25272	1	4857. 4	6302. 5	3412. 3
28	2ND27421	31	4017. 8	5489. 8	2545. 7
29	2ND27440	34	3651. 8	4956. 9	2346. 6
30	6B07- 1613	17	4335. 3	5742. 7	2927. 9
31	6B07- 1770	8	4553. 3	5974. 2	3132. 4
32	6B08- 3428	4	4663. 6	6200. 2	3127. 0
33	SR440	9	4550. 6	5904. 2	3197. 0
34	SR444	23	4222. 3	6028. 0	2416. 6
AVERAGE			4313. 1	5675. 1	2951. 0



TABLE 17 . PERIOD OF YEARS SUMMARY - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	STA YR	ADJ. YRS	MEAN	RANK
AVE. YIELD (KG/HA) - MANITOBA, MINN, ND, AND SD															
1	MOREX	3034	3960	4953	3305	4477	4437	4197	5982	4227	4023	10	54	4251.4	33
2	ROBUST	3568	4247	5438	3889	5031	4545	5121	6168	4518	4007	10	54	4664.1	28
BASE AVERAGES		3301	4104	5196	3597	4754	4491	4659	6075	4373	4015				
3	LEGACY (6B93-2978)	3687	4626	5980	4193	5106	5253	5576	7021	5102	4268	10	54	5093.0	16
4	LACEY (M98)	3819	4627	5959	4321	5352	5049	5716	6717	5089	4443	10	54	5114.7	13
5	TRADITION	4151	4711	5688	4315	5320	5142	5553	6755	4922	4142	10	54	5093.5	15
6	PINNACLE (2ND21863)				4666	5814	5076	5798	6402	5480	4268	7	33	5289.2	7
7	ND22421						5067	5923	6725	5514	4233	5	23	5263.3	9
8	2ND24388							5332	6340	5522	4069	4	17	5080.1	18
9	2ND25276								6737	5288	4265	3	12	5115.5	12
10	SR432								6952	5301	4443	3	12	5214.2	10
11	M143									5082	4400	2	8	5111.3	14
12	M145									5057	4107	2	8	5016.1	21
13	ND26249									5388	4578	2	8	5397.0	1
14	2ND26333									5495	4077	2	8	5350.2	3
15	6B07-1753									5337	4395	2	8	5309.5	6
16	6B07-1819									5176	4707	2	8	5264.7	8
17	6B07-1825									5232	4750	2	8	5320.0	5
18	SR434									5315	4599	2	8	5345.3	4
19	M144										4370	1	2	4852.1	23
20	M147										4405	1	2	4891.0	22
21	M149										4357	1	2	4837.2	24
22	M150										4580	1	2	5085.2	17
23	ND23898										4037	1	2	4481.7	29
24	ND25652										4322	1	2	4798.4	26
25	ND26036										4029	1	2	4472.7	30
26	ND27245										3921	1	2	4353.2	32
27	2ND25272										4857	1	2	5392.9	2
28	2ND27421										4018	1	2	4460.7	31
29	2ND27440										3652	1	2	4054.4	34
30	6B07-1613										4335	1	2	4813.3	25
31	6B07-1770										4553	1	2	5055.3	19
32	6B08-3428										4664	1	2	5177.8	11
33	SR440										4551	1	2	5052.3	20
34	SR444										4222	1	2	4687.8	27
NO. OF STATIONS		6	8	7	4	6	6	5	4	6	2				

ADJ. MEAN = VARIETY TOTAL FOR YEARS GROWN X 4457.8 /BASE AVERAGE FOR SAME YEARS

TABLE 18. Disease data from A. Tekauz, Cereal Research Centre, Agriculture and Agri-Food Canada, Winnipeg MB

Entry	Net Blotch			Scald	Septoria	Spot Blotch
	102 <sup>a</sup>	858 <sup>a</sup>	857 <sup>b</sup>			
MOREX	9		7			6
ROBUST	9		3			5, 6
LEGACY	9		3			4, 5
LACEY	8		3			4, 5
TRADITION	8		3?			4, 5
PINNACLE	7		7			4
ND22421	8		3			4, 6
2ND24388	6		3			4, 5
2ND25276	9		2			4, 3
SR432	8		3			5, 4
M143	8		3			7
M145	9		3			7
ND26249	8		3			4, 5
2ND26333	9		2			5, 6
6B07-1753	7		3			6
6B07-1819	8		5			7
6B07-1825	8		3			4
SR434	9		3			5
M144	9		3			4
M147	8		5			4, 5
M149	7		3			6
M150	8		3			6
ND23898	9		5			7, 8
ND25652	8		5			6, 7
ND26036	9		3			7
ND27245	9		5			7
2ND25272	7		7			5, 4
2ND27421	7		7			6
2ND27440	7		5			5
6B07-1613	7		3			7
6B07-1770	10		3			5, 4
6B08-3428	4/8		3			4
SR440	9		3			4, 5
SR444	9		3			4, 5

a *Pyrenophora teres* net-form isolates

b *Pyrenophora teres* spot-form isolate

c *Rhynchosporium secalis* isolate

d *Septoria passerinii* isolate

e *Cochliobolus sativus* isolate

f Reaction categories: 10=VS, 9=S, 7=MS, 5=MR-MS, 3=MR, 1=R; x,y main and secondary reactions

g Reaction categories: R, MR, MS, S

h Reaction categories: R, (MR), (MS), S; ( ) rarely-used categories

i Reaction categories: 0-9 scale: 0=no visible lesions; 4= small; 9= very large, coalescing

x/y = segregating; x(y)= one plant only segregating or seed mix; "-" = no reading (poor or no growth);

B= blotchy symptoms;

? = equivocal, based on one plant only, or plants small and difficult to read;

TABLE 19. FHB Nursery, Brandon, MB (n=3; outside the flooded area)

ENTRY	NAME	FHB	DON	Checks:	FHB	DON
1	MOREX	4.0	4.9	<b>Quest (M122)</b>	2.3	1.5
2	ROBUST	3.3	4.8	<b>Chevron</b>	1.0	0.4
3	LEGACY	2.8	2.3	<b>Stander</b>	4.0	2.8
4	LACEY	5.0	2.9	<b>AC Metcalfe</b>	1.3	4.8
5	TRADITION	4.0	4.0	<b>CDC Mindon</b>	1.7	5.2
6	PINNACLE	2.3	1.9	<b>CDC Bold</b>	3.5	4.9
7	ND22421	5.0	4.5			
8	2ND24388	2.0	2.2			
9	2ND25276	2.0	1.1			
10	SR432	3.5	4.2			
11	M143	2.8	1.6			
12	M145	2.5	2.2			
13	ND26249	4.3	3.4			
14	2ND26333	1.5	0.9			
15	6B07-1753	1.0	4.1			
16	6B07-1819	3.8	6.2			
17	6B07-1825	2.5	3.8			
18	SR434	2.0	1.9			
19	M144	3.0	4.0			
20	M147	2.8	2.0			
21	M149	3.3	3.6			
22	M150	2.8	2.2			
23	ND23898	1.0	3.4			
24	ND25652	3.5	4.6			
25	ND26036	3.5	3.7			
26	ND27245	2.5	2.2			
27	2ND25272	3.3	3.1			
28	2ND27421	2.0	2.6			
29	2ND27440	3.0	1.2			
30	6B07-1613	2.5	5.5			
31	6B07-1770	3.0	4.5			
32	6B08-3428	2.5	4.5			
33	SR440	3.5	7.1			
34	SR444	2.0	2.2			

**FHB** = FHB visual score (0-5)

**0** = no infection

**1** = incidence low, up to 5% of spikes;

severity low, 1 or 2 kernels per spike affected (up to 7% of head)

**2** = incidence low to moderate, 5 to 15% of spikes infected;

severity low to moderate, 1 to 4 kernels (up to 15% of head)

**3** = incidence moderate, 15 to 30% of heads;

severity moderate, 2 to 8 kernels (up to 25% of head)

**4** = incidence moderate to high, 30 to 50% of spikes infected;

severity moderate to high, 4 to 12 kernels (up to 40% of head)

**5** = incidence high, 50% or more spikes affected;

severity high, 5 to 15+ kernels (up to 50%+ of head diseased)

**DON** = deoxynivalenol content, as determined by ELISA technique at AAFC-ECORC, Ottawa.

TABLE 20. Leaf disease nursery, Brandon, MB (n=2; outside the flooded area)

ENTRY	NAME	Spot Blotch	Checks	Spot Blotch
1	MOREX	4.5	ARGYLE	3.2
2	ROBUST	3.5	Cerveza	2.2
3	LEGACY	2.5	Norman	7.4
4	LACEY	2.0	Major	3.6
5	TRADITION	2.5		
6	PINNACLE	7.5		
7	ND22421	2.5		
8	2ND24388	6.5		
9	2ND25276	6.5		
10	SR432	4.0		
11	M143	3.5		
12	M145	3.5		
13	ND26249	4.5		
14	2ND26333	4.5		
15	6B07-1753	3.5		
16	6B07-1819	5.0		
17	6B07-1825	4.0		
18	SR434	5.0		
19	M144	3.5		
20	M147	3.0		
21	M149	3.5		
22	M150	4.0		
23	ND23898	3.0		
24	ND25652	3.5		
25	ND26036	3.5		
26	ND27245	3.5		
27	2ND25272	8.0		
28	2ND27421	8.5		
29	2ND27440	7.5		
30	6B07-1613	4.0		
31	6B07-1770	4.0		
32	6B08-3428	3.5		
33	SR440	4.0		
34	SR444	3.5		

Spot Blotch = *Cochliobolus sativus*, rating scale 1-9 where 9 is susceptible.

TABLE 21. Summary of data for the nursery grown at Aberdeen, ID.

Entry	Name	Yield	Heading	Height	Lodging
1	Morex	125.3	179	37	3
2	Robust	131.0	181	36	2
3	Legacy	142.2	182	35	1
4	Lacey	134.9	179	31	0
5	Tradition	138.7	181	35	0
6	Pinnacle	142.4	181	34	1
7	ND22421	140.3	180	30	0
8	2ND24388	133.3	175	32	1
9	2ND25276	131.8	181	30	0
10	SR432	141.5	182	32	0
11	M144	134.3	181	40	1
12	M147	133.8	181	36	0
13	M149	126.9	181	37	3
14	M150	136.0	181	33	2
15	ND23898	133.5	178	34	0
16	ND25652	131.9	178	35	0
17	ND26036	134.8	177	39	0
18	ND27245	130.6	180	37	2
19	2ND25272	144.7	179	31	0
20	2ND27421	133.4	176	29	0
21	2ND27440	141.8	182	36	1
22	6B07-1613	148.0	180	38	1
23	6B07-1770	154.3	180	35	2
24	6B08-3428	154.7	180	34	0
25	SR440	140.2	179	31	0
26	SR444	152.8	182	39	0
GRAND MEAN		140.7	179.8	34.8	0.7
Max. Mean		164.8	182.0	40.0	3.0
Min. Mean		125.3	174.5	29.0	0.0
CV		4.6			
LSD		8.8			

Table 22. Parentage and origin of entries in the 2011 Mississippi Valley Uniform Regional Barley Nursery.

Entry	CI# or Contributor	Name	Pedigree
1	15773	MOREX	Cree/Bonanza
2	476976	ROBUST	MOREX/MANKER
3	Busch Ag.Res.	LEGACY	BUM/KARL//BUM/MAN/3/BUM/KARL/4/EXCEL
4	PI 613603	LACEY	M78/M79
5	Busch Ag.Res.	TRADITION	6B89-2126/ND10981
6	North Dakota	PINNACLE	ND18172/ND19130
7	North Dakota	ND22421	ND18546/ND19656
8	North Dakota	2ND24388	2ND17274/Rawson//2ND19854
9	North Dakota	2ND25276	ND20802/3/ND19922//ND19929/ND20177
10	Saskatchewan	SR432	SM01778/BT485
11	Minnesota	M143	M129 / FEG100-41
12	Minnesota	M145	FEG144-17 / Quest (M122)
13	North Dakota	ND26249	ND19655/FEG65-02
14	North Dakota	2ND26333	ND22032-2/ND21972
15	Busch Ag.Res.	6B07-1753	6B00-1328 / ND18659
16	Busch Ag.Res.	6B07-1819	CELEBRATION / ND18579
17	Busch Ag.Res.	6B07-1825	CELEBRATION / TRADITION
18	Saskatchewan	SR434	SM01777/BT392
19	Minnesota	M144	FEG109-44 / FEG100-41
20	Minnesota	M147	FEG148-56 / Rasmusson
21	Minnesota	M149	ND23657 / M132
22	Minnesota	M150	M01-65 / Quest
23	North Dakota	ND23898	Drummond/ND17643
24	North Dakota	ND25652	Stellar-ND/ND20477
25	North Dakota	ND26036	ND20448/ND20603
26	North Dakota	ND27245	M122/ND23497
27	North Dakota	2ND25272	ND20802/3/ND19922//ND19929/ND20177
28	North Dakota	2ND27421	2ND24253/2ND24519
29	North Dakota	2ND27440	2ND24190/2ND22895
30	Busch Ag.Res.	6B07-1613	TRADITION / 00NZ-042
31	Busch Ag.Res.	6B07-1770	6B00-1348 / TRADITION
32	Busch Ag.Res.	6B08-3428	6B02-3295 / CDC CLYDE
33	Saskatchewan	SR440	SM03760/SM03191
34	Saskatchewan	SR444	SM03271/SM03148

Additional pedigree info:

FEG109-44 = FEG43-47 / FEG59-36

FEG43-47 = MAS2-54 / Lacey

FEG59-36 = FEG14-119 / FEG10-16

FEG148-56 = FEG96-22 / Rasmusson

FEG96-22 = FEG59-09 / M110

M01-65 = M99-02 / M111

M99-02 = BT459 / M105

