

# **MISSISSIPPI VALLEY UNIFORM REGIONAL BARLEY NURSERY**

**2010**

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

**MISSISSIPPI VALLEY UNIFORM REGIONAL BARLEY NURSERY 2010**

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.

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List of Stations and Cooperators

2010 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	D.B. Cooper, S. Askelson, C. Allen, Busch Agricultural Resources
Sidney, Montana	D.B. Cooper, 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	Bryan Rossnagel, B. L. Harvey, Tom Zatorski University of Saskatchewan
Madison, Wisconsin	H. Kaeppler, J. Mochon, University of Wisconsin

## 2010 Mississippi Valley Barley Nursery

### Summary

Eight locations contributed useable data for this year's report. The reader is referred to the "Nursery Conditions" section immediately following this summary for other comments concerning specific locations.

Average planting date was April 22<sup>nd</sup>, 5 days earlier than the 30-year average, while average heading date was 4 days later than the average. Average planting date was 10 days earlier than last year. Heading date (June 29<sup>th</sup>) was 11 days earlier than last year.

Average yield (5116 kg/ha or 95 bu/a) was well above the 30-year average, but less than last year's average of 5978 kg/ha. Entries with the best yields were SR424, 2ND24388, ND22421, 2ND24238, and Pinnacle.

Three stations reported test weight; the average of 63.1 kg/hl was lower than that of last year, but slightly higher than the 30 year average (61.2). Entries with the greatest test weights were 2ND26333, 2ND26328, 2ND24238, Lacey, and M145. The latter was best among experimental six-rows.

Most locations did not report lodging data. Only Madison provided percent lodging data. Average plant height was 85.1 cm – a bit taller than the 30 year average. Shortest entries were 2ND26328, 2ND26333, ND26249, ND22421, and 2ND24238.

Kernel plumpness data were reported from Bottineau and Sidney. Please refer to Table 18 for further information.

Disease data from the Cereal Research Centre in Winnipeg are posted in Table 19. The Brandon location also reported disease data that can be found in Tables 20 and 21.

## NURSERY CONDITIONS

### MANITOBA:

BRANDON:	Previous crop:	RR canola
	Soil type:	Pipestone clay, heavy textured
	Fertilizer available:	40 kg/ha N; 40 kg/ha P; >100 kg/ha K.
	added:	40 kg/ha N
	Remarks:	Data not used. The growing season was extremely wet in May and June; wet in July and August. Emergence was sporadic and incomplete owing to flooding debris. Heading and maturity notes were not taken as unique weather conditions caused all plots to head/mature within a 36 hr period. Onset of physiological maturity was sudden (all plots ripe within 48 hrs). There was sporadic grazing damage from deer. All in all, a very difficult growing season.

### 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:	.

MORRIS:	Previous crop:	soybeans.
	Soil type:	Nutley clay.
	Fertilizer available:	pH 6.4; Bray P 23 ppm; K 135 ppm.
	added:	none.
	Remarks:	.

### NORTH DAKOTA:

CARRINGTON:	Previous crop:	soybeans.
	Soil type:	Heimdahl loam, sandy loam
	Fertilizer available:	25 lbs/a N; 14 lbs/a P; 203 lbs/a K
	added:	125 lbs/a N
	Remarks:	Planting moisture was adequate at planting. Crop emergence was excellent. No disease or lodging problems were noted. Grain protein was high at this location.

FARGO:	Previous crop:	soybeans
	Soil type:	Fargo, silty clay loam
	Fertilizer available:	11 lbs/a N; 34 lbs/a P; 464 lbs/a K
	added:	110 lbs/a N; lbs/a P.

	Remarks:	Planting moisture was adequate this spring. Crop emergence was excellent. Powdery mildew was prevalent this year at Fargo. Lodging and stem breakage were also noted at this location.
OSNABROCK:	Previous crop: Soil type: Fertilizer available: added: Remarks:	Canola Barnes-Svea loam, loam.  25 lbs/a N; . lbs/a P; lbs/a K. 85 lbs/a N; lbs/a P; lbs/a K. Soil moisture at planting was adequate. Crop emergence was delayed due to soil crusting. After light harrowing, the crop emerged with minimal damage and developed nicely. Yields were above average at this location.
BOTTINEAU:	Previous crop: Soil type: Fertilizer available: added: Remarks:	canola. . . . The nursery was seeded into a good seedbed with excellent moisture. The early summer progressed normally and the nursery had good plant development. Harvest was delayed more than a week due to rains. Harvest went well once we started with good yields.
MONTANA:		
SIDNEY:	Previous crop: Soil type: Fertilizer available: added: Remarks:	Sugarbeets. . . . 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: Soil type: Fertilizer available: added: Remarks:	soybeans St. Charles, loam . none Everything was early in 2010. Planting was done on 4-15. Mean temperature in April was 52.4 F with 4.5 inches of total rainfall. May, June, July and August warmed up faster and sooner, and the rainfall kept the plots unusually wet for most of the summer. May's mean temperature was 60.1 F and June had a mean temperature of 68.0 F. Total rainfall for May and June combined was 13.8 inches.

July and August were also hot and wet with combined rainfall of 8.9 inches, and a combined mean temperature of 72.8 F. The MVBN was harvested on July 21. Although we had more than adequate rainfall, the high temperatures and disease pressure, combined with the "shortening up" of the season caused yields and test weights to be low. Lodging pressure was typical for the number of storms we had. Levels of powdery mildew were moderate to heavy.

SASKATCHEWAN:

KERNEN:	Previous crop:	.
	Soil type:	.
	Fertilizer	
	available:	.
	added:	
	Remarks:	Nursery lost.



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	4301.0	61.0	93.6	12.0	27.8	no data
ROBUST	4566.1	62.8	92.3	.0	29.1	
LEGACY	5145.3	62.5	87.8	.0	29.9	
LACEY	5101.6	64.3	83.2	.0	29.0	
TRADITION	4967.7	63.1	86.8	.0	28.9	
PINNACLE	5396.9	63.9	82.8	.0	29.6	
ND22421	5416.4	61.7	77.1	.0	28.3	
2ND24388	5419.1	63.1	83.0	.0	26.9	
SR424	5676.8	62.3	82.4	.0	30.2	
SR425	5160.8	63.6	87.2	2.0	29.3	
M135	5249.6	63.1	87.2	.0	29.5	
M139	4918.6	62.7	86.5	.0	28.9	
M140	4960.3	62.5	89.6	.0	28.9	
M141	4936.1	63.6	90.6	.0	28.8	
ND24906	4679.8	63.6	85.8	.0	28.6	
ND25160	5019.5	62.3	86.9	.0	28.1	
ND25161	4787.4	61.9	88.7	.0	28.6	
2ND25276	5219.3	62.8	86.2	25.0	29.4	
6B05-0572	5187.0	63.4	80.9	.0	28.4	
6B05-0717	5035.0	62.1	86.2	.0	28.1	
SR432	5356.6	62.7	84.7	.0	28.5	
M143	5077.4	63.0	89.4	.0	29.6	
M145	5040.4	64.2	93.2	.0	29.3	
ND26249	5364.6	62.8	77.0	.0	28.6	
2ND24238	5401.6	65.2	79.5	.0	29.0	
2ND26328	5232.8	66.2	76.6	.0	28.4	
2ND26333	5304.1	66.5	76.9	.0	29.6	
6B07-1684	4939.5	63.2	82.9	2.0	29.0	
6B07-1753	5347.1	63.6	88.1	.0	28.4	
6B07-1819	5185.0	61.4	82.0	.0	28.8	
6B07-1825	5203.8	63.2	86.4	.0	28.9	
SR433	4952.9	61.1	81.2	.0	29.6	
SR434	5277.9	61.9	85.6	.0	30.1	
HIGH MEAN	5676.8	66.5	93.6	25.0	30.2	
LOW MEAN	4301.0	61.0	76.6	.0	26.9	
EXP MEAN	5116.0	63.1	85.1	1.2	28.9	
C. V. %	8.2	1.6	4.3		2.8	
LSD 5%	413.5	1.6	3.6		.9	
LSD 1%	543.4	2.2	4.7		1.1	
# of Loc	8	3	8	1	7	

1 All

2 Bottineau, Sidney, Madison

3 All

4 limited data only from Madison

5 All except Sidney

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	Heading <sup>4</sup> 5/31=0
MOREX	4226.8	60.4	90.7	30.8
ROBUST	4518.3	63.3	89.1	32.0
LEGACY	5102.3	61.4	85.5	33.1
LACEY	5088.8	63.9	81.4	32.0
TRADITION	4922.0	63.2	84.4	31.8
PINNACLE	5479.9	65.0	80.8	32.6
ND22421	5514.0	62.2	75.6	31.3
2ND24388	5522.1	64.6	81.2	29.9
SR424	5568.7	61.0	81.2	33.2
SR425	5008.1	61.9	84.5	32.5
M135	5147.1	63.7	84.6	32.4
M139	4981.2	62.7	84.6	31.9
M140	4922.0	63.5	86.9	31.8
M141	4982.1	64.4	88.7	31.9
ND24906	4587.4	63.7	83.0	31.4
ND25160	4847.5	62.3	85.5	31.1
ND25161	4644.8	61.7	86.6	31.5
2ND25276	5287.9	64.0	83.4	32.4
6B05-0572	5183.9	63.5	80.0	31.3
6B05-0717	4908.5	62.0	84.8	31.1
SR432	5301.4	62.7	82.8	31.6
M143	5081.6	62.7	87.2	32.6
M145	5057.4	64.6	91.7	32.3
ND26249	5388.4	63.0	76.1	31.8
2ND24238	5510.4	66.4	77.6	32.1
2ND26328	5293.3	66.9	75.7	31.6
2ND26333	5495.2	67.5	75.9	32.5
6B07-1684	4753.3	63.5	80.6	32.0
6B07-1753	5337.3	63.0	86.4	31.3
6B07-1819	5175.8	61.9	81.5	31.8
6B07-1825	5232.3	63.0	84.7	31.9
SR433	4991.9	60.8	80.6	32.5
SR434	5314.9	63.2	84.4	33.1
HIGH MEAN	5568.7	67.5	91.7	33.2
LOW MEAN	4226.8	60.4	75.6	29.9
EXP MEAN	5102.3	63.3	83.3	31.9
C. V. %	8.3		4.5	2.7
LSD 5%	477.9		4.3	1.0
LSD 1%	628.1		5.6	1.3
# of Loc	6	1	6	6

1 All

2 Bottineau

3 All

4 All

TABLE 3. 1981-2010 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	1.2	2010
5978	2009	66.5	1998	16-Apr	1981	15-Jun	1988	73.2	1987	2.7	1987
5385	1992	66.1	1999	19-Apr	1985	16-Jun	1987	76.1	2006	7.5	1988
5191	2006	65.4	2003	19-Apr	1987	20-Jun	2006	76.4	1995	8.4	2007
5116	2010	65.4	2001	20-Apr	1992	20-Jun	1998	76.7	1991	13.2	2000
5058	2008	64.0	2002	22-Apr	2010	21-Jun	1982	77.4	1997	14.2	1992
4911	1985	63.2	2006	23-Apr	1989	21-Jun	1994	77.8	2002	14.6	2008
4799	1986	63.1	1997	23-Apr	2004	22-Jun	1991	77.9	2003	15.6	1983
4710	2003	63.1	2010	24-Apr	2006	23-Jun	1992	79.0	1994	17.1	1984
4655	2007	62.7	1984	24-Apr	1998	24-Jun	1989	79.1	2007	17.8	1981
4502	1994	62.4	1985	25-Apr	1990	24-Jun	1990	79.5	1996	19.0	1994
4402	2001	61.7	2005	25-Apr	1991	24-Jun	1981	80.7	1989	21.1	1989
4390	2005	61.7	1996	25-Apr	2005	25-Jun	2000	81.9	1999	23.9	1986
4337	1993	61.6	1995	26-Apr	2000	25-Jun	1984	81.6	2001	24.0	2004
4274	1990	61.2	1986	26-Apr	1982	26-Jun	1986	83.7	2009	24.2	1985
4255	1995	61.1	2007	27-Apr	1994	26-Jun	2007	84.5	2005	24.8	2009
4251	1984	61.0	1988	29-Apr	1993	27-Jun	2005	85.1	2008	25.4	2001
4105	2000	60.2	1989	29-Apr	2003	27-Jun	2008	85.1	2010	27.7	1995
4056	1989	60.1	1981	30-Apr	2008	28-Jun	1999	86.8	1990	28.1	1997
4046	1997	59.9	1994	30-Apr	1983	28-Jun	2003	87.7	1984	29.0	2002
4021	1999	59.4	1983	30-Apr	1986	29-Jun	1993	88.6	1993	29.2	1990
4017	1998	59.2	2008	30-Apr	2002	29-Jun	2010	89.1	1986	29.3	1991
3986	1981	59.2	1992	1-May	1984	30-Jun	2004	89.3	1998	31.0	1999
3884	1982	59.2	1982	2-May	2009	1-Jul	1983	89.4	1992	33.2	2005
3882	1987	59.2	1987	3-May	2007	2-Jul	1997	90.5	1981	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). 2010 MISSISSIPPI VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	AVERAGE RANK	8 STA. STA.	CROOKSTN MINN	MORRIS MINN	FARGO ND	CARRNGTN ND	OSNABRCK ND	BOTTNEAU ND	SIDNEY MT
1	MOREX	33	4301.0	5010.8	4278.8	4128.1	3320.8	4623.3	3998.9	5398.3
2	ROBUST	32	4566.1	5000.0	4289.6	4348.8	4386.4	4650.2	4434.9	5941.9
3	LEGACY (6B93-2978)	18	5145.3	5898.8	4488.7	4704.0	5005.4	5640.5	4876.2	6776.1
4	LACEY (M98)	19	5101.6	5936.5	4106.6	4477.9	4865.4	6679.2	4467.2	6194.8
5	TRADITION(6B95-2482)	24	4967.7	5705.1	3277.7	5290.6	4483.3	6017.2	4757.8	6523.1
6	PINNACLE (2ND21863)	5	5396.9	6157.2	3686.8	5882.7	5694.3	5823.5	5635.1	6673.8
7	ND22421	3	5416.4	6356.3	3805.2	5489.8	5452.1	7050.6	4930.0	6749.2
8	2ND24388	2	5419.1	6017.2	4424.1	5113.0	5640.5	6695.4	5242.2	6722.3
9	SR424	1	5676.8	6485.5	4515.6	5479.0	5602.8	6334.8	4994.6	7621.1
10	SR425	17	5160.8	6087.2	4036.6	4257.3	4682.5	6038.8	4946.2	7158.2
11	MI35	11	5249.6	5936.5	4585.6	4510.2	4413.3	6211.0	5226.0	7481.2
12	MI39	29	4918.6	5629.7	4757.8	4919.3	4601.7	5414.4	4564.0	6167.9
13	MI40	25	4960.3	5409.0	4058.1	4542.5	4843.9	5618.9	5059.2	6307.9
14	MI41	28	4936.1	5258.3	4359.5	4757.8	5183.0	5624.3	4709.4	6076.4
15	ND24906	31	4679.8	5419.8	3627.6	5048.4	4068.9	5016.1	4343.4	6254.0
16	ND25160	23	5019.5	6017.2	3380.0	4531.8	4709.4	5430.6	5016.1	7271.3
17	ND25161	30	4787.4	5209.9	3460.7	4203.4	5597.4	4348.8	5048.4	6889.1
18	2ND25276	13	5219.3	5726.6	3509.1	6178.7	5608.2	5543.6	5161.5	6803.0
19	6B05-0572	15	5187.0	5732.0	3638.3	5317.5	4865.4	6415.5	5134.6	6770.7
20	6B05-0717	22	5035.0	5861.1	3875.1	4983.9	4251.9	5775.0	4704.0	7066.7
21	SR432	7	5356.6	6098.0	4219.6	4978.5	5016.1	6254.0	5242.2	6969.9
22	MI43	20	5077.4	5645.9	3509.1	5021.5	5532.8	6087.2	4693.2	6297.1
23	MI45	21	5040.4	5360.6	4203.4	4924.6	4989.2	5958.0	4908.5	6157.2
24	ND26249	6	5364.6	6442.4	4122.7	4849.3	5667.4	6577.0	4671.7	6356.3
25	2ND24238	4	5401.6	5904.2	3735.2	5801.9	6065.7	6259.4	5296.0	6646.9
26	2ND26328	12	5232.8	6146.4	3885.9	5419.8	5048.4	6291.7	4967.7	6399.4
27	2ND26333	9	5304.1	6221.7	4327.2	5107.6	5828.8	6232.5	5253.0	6986.0
28	6B07-1684	27	4939.5	5489.8	4042.0	4558.7	4079.7	5893.4	4456.4	6706.1
29	6B07-1753	8	5347.1	5877.3	4262.6	5317.5	5129.2	6754.6	4682.5	6630.8
30	6B07-1819	16	5185.0	6560.8	4074.3	5489.8	4564.0	5635.1	4730.9	6765.3
31	6B07-1825	14	5203.8	5796.6	3638.3	5732.0	4978.5	6517.8	4730.9	6356.3
32	SR433	26	4952.9	6237.9	4381.1	4031.2	4752.4	6211.0	4338.0	5850.4
33	SR434	10	5277.9	6420.9	3961.2	4397.2	5441.3	6383.2	5285.3	6550.1
AVERAGE			5116.0	5850.2	4015.9	4963.5	4980.9	5939.6	4863.8	6591.5

TABLE 4. AVE. STA. YIELD (KG/HA). 2010 MISSISSIPPI VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	AVERAGE RANK	8 STA.	MADISON WI
1	MOREX	33	4301.0	3649.1
2	ROBUST	32	4566.1	3476.9
3	LEGACY (6B93-2978)	18	5145.3	3772.9
4	LACEY (M98)	19	5101.6	4085.0
5	TRADITION(6B95-2482)	24	4967.7	3686.8
6	PINNACLE (2ND21863)	5	5396.9	3622.2
7	ND22421	3	5416.4	3498.4
8	2ND24388	2	5419.1	3498.4
9	SR424	1	5676.8	4381.1
10	SR425	17	5160.8	4079.7
11	MI35	11	5249.6	3632.9
12	MI39	29	4918.6	3293.9
13	MI40	25	4960.3	3842.8
14	MI41	28	4936.1	3519.9
15	ND24906	31	4679.8	3659.8
16	ND25160	23	5019.5	3799.8
17	ND25161	30	4787.4	3541.4
18	2ND25276	13	5219.3	3223.9
19	6B05-0572	15	5187.0	3622.2
20	6B05-0717	22	5035.0	3762.1
21	SR432	7	5356.6	4074.3
22	MI43	20	5077.4	3832.1
23	MI45	21	5040.4	3821.3
24	ND26249	6	5364.6	4230.4
25	2ND24238	4	5401.6	3503.8
26	2ND26328	12	5232.8	3702.9
27	2ND26333	9	5304.1	2475.8
28	6B07-1684	27	4939.5	4289.6
29	6B07-1753	8	5347.1	4122.7
30	6B07-1819	16	5185.0	3659.8
31	6B07-1825	14	5203.8	3880.5
32	SR433	26	4952.9	3821.3
33	SR434	10	5277.9	3783.6
AVERAGE			5116.0	3722.6

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	5/13	not used		5.68 m <sup>2</sup>	23.5	8/18
BOTTINEAU	3	4/24	441.2	8.2	3.35	21.6	8/16
CARRINGTON	4	4/22	742.4	13.8	3.72 m <sup>2</sup>	19	8/17
FARGO	3	4/23	559.5	10.4	3.72 m <sup>2</sup>	19	8/6
SIDNEY	3	4/21	446.5	8.3	3.35	21.6	8/6
OSNABROCK	4	4/28	871.6	16.2	3.72 m <sup>2</sup>	19	8/23
CROOKSTON	3	4/19	489.6	9.1	2.8 m <sup>2</sup>	19	7/29
MADISON	3	4/15	455.2	8.46	4.87	30.5	7/21
MORRIS	3	4/19	790.9	14.7	3.72 m <sup>2</sup>	18	7/26
KERNEN		nursery lost.					

TABLE 6. PERIOD OF YEARS SUMMARY - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	STA YR	YRS	ADJ. MEAN	RANK
YIELD (AVERAGE KILOGRAMS PER HECTARE)															
1	MOREX	3884	3398	4013	5329	3644	4547	4149	4180	5511	4301	10	90	4271.0	33
2	ROBUST	4269	3666	4377	5687	4075	5092	4262	4768	5537	4566	10	90	4612.1	31
BASE AVERAGES		4076	3532	4195	5508	3860	4819	4205	4474	5524	4434				
3	LEGACY (6B93-2978)	4201	3864	4739	6199	4190	5142	4751	5061	6351	5145	10	90	4936.5	25
4	LACEY (M98)	4584	3919	4770	6183	4483	5357	4712	5323	6132	5102	10	90	5031.7	19
5	TRADITION	4532	4115	4743	5924	4435	5392	4732	5090	6127	4968	10	90	4981.9	22
6	PINNACLE (2ND21863)					4658	5584	4596	5397	6185	5397	6	50	5175.5	12
7	ND22421							4613	5245	6166	5416	4	33	5111.2	13
8	2ND24388								4944	5856	5419	3	24	5002.2	21
9	SR424								5270	6363	5677	3	24	5334.0	4
10	SR425								5273	6379	5161	3	24	5179.0	11
11	M135									6139	5250	2	15	5090.5	14
12	M139									5686	4919	2	15	4741.9	28
13	M140									5562	4960	2	15	4710.0	30
14	M141									5668	4936	2	15	4742.9	27
15	ND24906									5488	4680	2	15	4544.6	32
16	ND25160									6264	5020	2	15	5032.7	18
17	ND25161									5814	4787	2	15	4732.6	29
18	2ND25276									6041	5219	2	15	5035.0	17
19	6B05-0572									6043	5187	2	15	5020.5	20
20	6B05-0717									5832	5035	2	15	4859.0	26
21	SR432									6316	5357	2	15	5216.2	8
22	M143										5077	1	8	5086.5	15
23	M145										5040	1	8	5049.5	16
24	ND26249										5365	1	8	5374.3	2
25	2ND24238										5402	1	8	5411.4	1
26	2ND26328										5233	1	8	5242.2	7
27	2ND26333										5304	1	8	5313.7	5
28	6B07-1684										4939	1	8	4948.4	24
29	6B07-1753										5347	1	8	5356.8	3
30	6B07-1819										5185	1	8	5194.4	10
31	6B07-1825										5204	1	8	5213.2	9
32	SR433										4953	1	8	4961.9	23
33	SR434										5278	1	8	5287.4	6
NO. OF STATIONS		9	10	11	10	8	9	9	9	7	8				

ADJ. MEAN = VARIETY TOTAL FOR YEARS GROWN X 4441.5 /BASE AVERAGE FOR SAME YEARS

TABLE 7. AVE. STA. TEST WEIGHT (KG/HL). 2010 MISS. VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	AVERAGE RANK	3 STA.	BOTTNEAU ND	SIDNEY MT	MADISON WI
1	MOREX	33	61.0	60.4	65.3	57.4
2	ROBUST	18	62.8	63.3	66.9	58.2
3	LEGACY (6B93-2978)	23	62.5	61.4	65.8	60.4
4	LACEY (M98)	4	64.3	63.9	68.5	60.5
5	TRADITION(6B95-2482)	16	63.1	63.2	67.1	59.0
6	PINNACLE (2ND21863)	6	63.9	65.0	67.1	59.7
7	ND22421	30	61.7	62.2	66.3	56.8
8	2ND24388	16	63.1	64.6	65.0	59.6
9	SR424	26	62.3	61.0	65.8	60.1
10	SR425	9	63.6	61.9	67.6	61.3
11	MI35	16	63.1	63.7	65.3	60.2
12	MI39	21	62.7	62.7	67.1	58.3
13	MI40	24	62.5	63.5	66.2	57.9
14	MI41	8	63.6	64.4	66.7	59.9
15	ND24906	8	63.6	63.7	66.3	60.9
16	ND25160	26	62.3	62.3	66.2	58.4
17	ND25161	29	61.9	61.7	66.7	57.3
18	2ND25276	19	62.8	64.0	66.2	58.3
19	6B05-0572	11	63.4	63.5	66.9	59.9
20	6B05-0717	27	62.1	62.0	66.4	57.8
21	SR432	22	62.6	62.7	66.7	58.6
22	MI43	17	63.0	62.7	65.9	60.4
23	MI45	5	64.2	64.6	67.1	60.8
24	ND26249	20	62.8	62.9	67.1	58.3
25	2ND24238	3	65.2	66.4	68.9	60.2
26	2ND26328	2	66.2	66.9	69.3	62.3
27	2ND26333	1	66.5	67.5	69.4	62.7
28	6B07-1684	13	63.2	63.5	65.5	60.5
29	6B07-1753	10	63.6	62.9	66.4	61.3
30	6B07-1819	31	61.4	61.9	64.4	58.1
31	6B07-1825	13	63.2	62.9	65.3	61.3
32	SR433	32	61.1	60.8	63.3	59.3
33	SR434	28	61.9	63.2	64.9	57.7
AVERAGE			63.1	63.3	66.5	59.5



TABLE 8 . PERIOD OF YEARS SUMMARY - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	STA YR	YRS	ADJ. MEAN	RANK
TEST WEIGHT (KILOGRAMS PER HECTOLITER)															
1	MOREX	62.6	62.5	64.2	48.0	59.6	62.2	59.7	58.0	69.5	61.0	10	34	61.0	31
2	ROBUST	64.5	65.0	65.1	52.2	62.4	64.1	55.6	60.6	71.7	62.8	10	34	62.3	21
BASE AVERAGES		63.5	63.7	64.6	50.1	61.0	63.1	57.6	59.3	70.6	61.9				
3	LEGACY (6B93-2978)	63.1	62.7	63.3	50.0	61.2	62.5	53.3	58.5	72.1	62.5	10	34	60.8	33
4	LACEY (M98)	65.4	65.0	67.6	54.6	63.0	64.5	62.3	64.0	72.6	64.3	10	34	64.5	5
5	TRADITION	66.0	64.9	65.2	53.4	62.1	64.2	61.5	59.3	73.0	63.1	10	34	63.3	7
6	PINNACLE (2ND21863)					63.4	64.9	64.3	62.8	74.7	63.9	6	22	65.3	3
7	ND22421							60.4	57.4	69.9	61.7	4	15	61.9	23
8	2ND24388								59.1	72.4	63.1	3	10	62.5	18
9	SR424								57.7	72.0	62.3	3	10	61.6	27
10	SR425								59.9	71.0	63.6	3	10	62.5	17
11	M135									71.1	63.1	2	6	62.5	19
12	M139									70.2	62.7	2	6	61.9	24
13	M140									71.5	62.5	2	6	62.4	20
14	M141									71.1	63.6	2	6	62.7	14
15	ND24906									71.4	63.6	2	6	62.9	12
16	ND25160									70.0	62.3	2	6	61.6	26
17	ND25161									69.8	61.9	2	6	61.3	29
18	2ND25276									71.7	62.8	2	6	62.6	15
19	6B05-0572									71.7	63.4	2	6	62.9	11
20	6B05-0717									70.0	62.1	2	6	61.5	28
21	SR432									70.9	62.6	2	6	62.2	22
22	M143										63.0	1	3	62.8	13
23	M145										64.2	1	3	63.9	6
24	ND26249										62.8	1	3	62.5	16
25	2ND24238										65.2	1	3	64.9	4
26	2ND26328										66.2	1	3	65.9	2
27	2ND26333										66.5	1	3	66.3	1
28	6B07-1684										63.2	1	3	62.9	10
29	6B07-1753										63.6	1	3	63.3	8
30	6B07-1819										61.4	1	3	61.2	30
31	6B07-1825										63.2	1	3	62.9	10
32	SR433										61.1	1	3	60.9	32
33	SR434										61.9	1	3	61.7	25
NO. OF STATIONS		2	4	4	2	4	3	5	4	3	3				

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

TABLE 9. AVE. STA. HEIGHT (CM). 2010 MISSISSIPPI VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	AVERAGE RANK	8 STA.	CROOKSTN MINN	MORRIS MINN	FARGO ND	CARRNGTN ND	OSNABRCK ND	BOTTNEAU ND	SIDNEY MT
1	MOREX	33	93.6	101.3	65.7	81.9	83.0	104.3	108.0	115.0
2	ROBUST	31	92.3	96.3	73.7	82.6	78.0	100.0	104.0	115.0
3	LEGACY (6B93-2978)	25	87.8	93.3	70.0	78.1	76.5	98.0	97.0	105.0
4	LACEY (M98)	13	83.2	90.0	59.7	77.4	74.4	94.9	92.0	99.0
5	TRADITION(6B95-2482)	21	86.8	93.3	61.3	78.3	79.0	99.5	95.0	105.0
6	PINNACLE (2ND21863)	10	82.8	91.7	65.7	75.4	69.1	94.9	88.0	93.0
7	ND22421	4	77.1	79.3	68.3	66.6	65.3	86.1	88.0	91.0
8	2ND24388	12	83.0	93.0	68.0	76.4	71.3	87.6	91.0	95.0
9	SR424	9	82.4	86.7	69.7	75.8	72.4	94.5	88.0	92.0
10	SR425	23	87.2	92.3	69.7	77.3	76.5	98.1	93.0	106.0
11	MI35	24	87.2	88.7	74.0	79.6	69.6	96.8	99.0	107.0
12	MI39	20	86.4	92.7	72.7	79.8	70.3	99.3	93.0	100.0
13	MI40	29	89.6	93.3	73.0	81.6	76.1	102.5	95.0	109.0
14	MI41	30	90.6	91.7	72.7	84.4	81.8	100.3	101.0	104.0
15	ND24906	16	85.8	90.0	67.7	79.8	66.8	98.6	95.0	102.0
16	ND25160	22	86.9	91.7	73.3	76.1	74.9	94.9	102.0	101.0
17	ND25161	27	88.7	93.3	72.3	78.9	80.1	96.9	98.0	107.0
18	2ND25276	18	86.2	87.3	69.0	82.5	74.0	97.4	90.0	103.0
19	6B05-0572	6	80.9	83.7	74.7	70.4	71.6	89.6	90.0	93.0
20	6B05-0717	17	86.2	88.0	79.3	78.4	72.1	96.1	95.0	101.0
21	SR432	14	84.7	91.3	64.7	78.4	73.9	96.3	92.0	100.0
22	MI43	28	89.4	93.3	68.7	83.6	81.9	102.4	93.0	102.0
23	MI45	32	93.2	96.7	72.7	90.4	82.8	104.5	103.0	104.0
24	ND26249	3	77.0	80.0	68.0	68.8	69.5	85.4	85.0	85.0
25	2ND24238	5	79.5	86.0	59.3	75.1	73.6	88.6	83.0	91.0
26	2ND26328	1	76.6	81.7	72.3	70.6	65.1	85.4	79.0	86.0
27	2ND26333	2	76.9	78.0	79.0	70.3	65.8	80.0	82.0	87.0
28	6B07-1684	11	82.9	86.3	64.7	76.3	72.9	93.4	90.0	100.0
29	6B07-1753	26	88.1	93.0	73.7	79.5	80.1	98.8	93.0	102.0
30	6B07-1819	8	82.0	87.7	69.0	73.6	71.1	94.3	93.0	92.0
31	6B07-1825	19	86.4	91.3	61.3	83.0	78.4	96.9	97.0	98.0
32	SR433	7	81.2	82.7	71.7	76.0	68.8	95.1	89.0	89.0
33	SR434	15	85.6	90.3	72.7	80.6	76.0	93.0	94.0	96.0
AVERAGE			85.1	89.6	69.6	77.8	74.0	95.3	93.2	99.2

TABLE 9. AVE. STA. HEIGHT (CM). 2010 MISSISSIPPI VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	AVERAGE RANK	8 STA.	MADISON WI
1	MOREX	33	93.6	89.7
2	ROBUST	31	92.3	88.9
3	LEGACY (6B93-2978)	25	87.8	84.7
4	LACEY (M98)	13	83.2	77.9
5	TRADITION(6B95-2482)	21	86.8	83.0
6	PINNACLE (2ND21863)	10	82.8	84.7
7	ND22421	4	77.1	72.0
8	2ND24388	12	83.0	81.3
9	SR424	9	82.4	80.4
10	SR425	23	87.2	84.7
11	MI35	24	87.2	83.0
12	MI39	20	86.4	83.8
13	MI40	29	89.6	86.4
14	MI41	30	90.6	88.9
15	ND24906	16	85.8	86.4
16	ND25160	22	86.9	81.3
17	ND25161	27	88.7	83.0
18	2ND25276	18	86.2	86.4
19	6B05-0572	6	80.9	74.5
20	6B05-0717	17	86.2	79.6
21	SR432	14	84.7	81.3
22	MI43	28	89.4	90.6
23	MI45	32	93.2	91.4
24	ND26249	3	77.0	74.5
25	2ND24238	5	79.5	79.6
26	2ND26328	1	76.6	72.8
27	2ND26333	2	76.9	72.8
28	6B07-1684	11	82.9	79.6
29	6B07-1753	26	88.1	84.7
30	6B07-1819	8	82.0	75.4
31	6B07-1825	19	86.4	85.5
32	SR433	7	81.2	77.0
33	SR434	15	85.6	82.1
AVERAGE			85.1	82.1

TABLE 10 . PERIOD OF YEARS SUMMARY - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	STA YR	YRS	ADJ. MEAN	RANK
HEIGHT (CENTIMETERS)															
1	MOREX	87.1	84.7	82.6	102.5	91.2	81.7	86.8	91.8	94.2	93.6	10	79	89.6	33
2	ROBUST	86.0	81.9	83.3	100.8	89.4	80.3	85.2	90.3	90.8	92.3	10	79	88.1	31
BASE AVERAGES		86.5	83.3	82.9	101.	90.3	81.0	86.0	91.0	92.5	92.9				
3	LEGACY (6B93-2978)	83.1	77.6	80.8	95.1	85.7	78.2	82.7	88.5	87.7	87.8	10	79	84.9	27
4	LACEY (M98)	79.7	75.5	76.1	92.4	85.2	74.7	77.8	83.4	82.7	83.2	10	79	81.1	15
5	TRADITION	78.2	74.6	78.6	92.8	82.8	74.7	79.7	85.9	84.4	86.8	10	79	82.0	21
6	PINNACLE (2ND21863)					86.0	75.1	76.4	84.1	80.9	82.8	6	47	80.8	14
7	ND22421							70.8	74.6	71.5	77.1	4	32	72.2	1
8	2ND24388								85.0	81.4	83.0	3	24	80.4	13
9	SR424								81.8	81.1	82.4	3	24	79.0	9
10	SR425								85.6	85.3	87.2	3	24	83.0	23
11	M135									87.1	87.2	2	15	83.5	25
12	M139									84.4	86.4	2	15	81.9	20
13	M140									88.2	89.6	2	15	85.3	28
14	M141									87.4	90.6	2	15	85.4	29
15	ND24906									83.3	85.8	2	15	81.1	16
16	ND25160									83.1	86.9	2	15	81.6	17
17	ND25161									85.4	88.7	2	15	83.5	24
18	2ND25276									84.5	86.2	2	15	81.9	19
19	6B05-0572									76.0	80.9	2	15	75.4	5
20	6B05-0717									80.6	86.2	2	15	80.1	12
21	SR432									81.2	84.7	2	15	79.6	11
22	M143										89.4	1	8	85.5	30
23	M145										93.2	1	8	89.1	32
24	ND26249										77.0	1	8	73.7	4
25	2ND24238										79.5	1	8	76.0	6
26	2ND26328										76.6	1	8	73.3	2
27	2ND26333										76.9	1	8	73.5	3
28	6B07-1684										82.9	1	8	79.3	10
29	6B07-1753										88.1	1	8	84.2	26
30	6B07-1819										82.0	1	8	78.4	8
31	6B07-1825										86.4	1	8	82.6	22
32	SR433										81.2	1	8	77.6	7
33	SR434										85.6	1	8	81.8	18
NO. OF STATIONS		8	6	9	9	6	9	8	9	7	8				

ADJ. MEAN = VARIETY TOTAL FOR YEARS GROWN X 88.9 /BASE AVERAGE FOR SAME YEARS

TABLE 11. AVE. STA. LODGING (IN %). 2010 MISSISSIPPI VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	AVERAGE RANK	1 STA.	MADISON WI
1	MOREX	32	12.0	12.0
2	ROBUST	29	0.0	0.0
3	LEGACY (6B93-2978)	29	0.0	0.0
4	LACEY (M98)	29	0.0	0.0
5	TRADITION(6B95-2482)	29	0.0	0.0
6	PINNACLE (2ND21863)	29	0.0	0.0
7	ND22421	29	0.0	0.0
8	2ND24388	29	0.0	0.0
9	SR424	29	0.0	0.0
10	SR425	31	2.0	2.0
11	MI35	29	0.0	0.0
12	MI39	29	0.0	0.0
13	MI40	29	0.0	0.0
14	MI41	29	0.0	0.0
15	ND24906	29	0.0	0.0
16	ND25160	29	0.0	0.0
17	ND25161	29	0.0	0.0
18	2ND25276	33	25.0	25.0
19	6B05-0572	29	0.0	0.0
20	6B05-0717	29	0.0	0.0
21	SR432	29	0.0	0.0
22	MI43	29	0.0	0.0
23	MI45	29	0.0	0.0
24	ND26249	29	0.0	0.0
25	2ND24238	29	0.0	0.0
26	2ND26328	29	0.0	0.0
27	2ND26333	29	0.0	0.0
28	6B07-1684	31	2.0	2.0
29	6B07-1753	29	0.0	0.0
30	6B07-1819	29	0.0	0.0
31	6B07-1825	29	0.0	0.0
32	SR433	29	0.0	0.0
33	SR434	29	0.0	0.0
AVERAGE			1.2	1.2

TABLE 12 . PERIOD OF YEARS SUMMARY - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	STA YR	YRS	ADJ. MEAN	RANK
LODGING (PERCENT)															
1	MOREX	33.3	48.8	56.1	44.3	63.3	54.0	16.9	24.6	32.5	12.0	10	30	39.9	31
2	ROBUST	22.4	38.8	48.9	34.8	43.3	38.0	9.7	24.4	24.9	0.0	10	30	30.8	29
BASE AVERAGES		27.8	43.8	52.5	39.5	53.3	46.0	13.3	24.5	28.7	6.00				
3	LEGACY (6B93-2978)	18.5	26.7	36.5	30.4	25.6	45.5	5.9	19.9	29.8	0.0	10	30	25.1	24
4	LACEY (M98)	21.9	26.0	35.4	16.8	32.2	29.0	5.8	16.9	29.4	0.0	10	30	21.5	21
5	TRADITION	21.1	30.0	29.9	18.2	23.3	31.5	6.5	9.7	23.3	0.0	10	30	19.3	18
6	PINNACLE (2ND21863)					24.4	21.5	4.5	11.8	37.9	0.0	6	16	19.6	19
7	ND22421							5.3	12.1	9.4	0.0	4	11	14.9	14
8	2ND24388								16.3	27.3	0.0	3	8	25.9	25
9	SR424								27.0	34.5	0.0	3	8	38.8	30
10	SR425								27.4	37.8	2.0	3	8	40.8	32
11	M135									19.8	0.0	2	3	22.1	22
12	M139									26.3	0.0	2	3	29.3	27
13	M140									17.9	0.0	2	3	19.9	20
14	M141									23.3	0.0	2	3	26.0	26
15	ND24906									11.0	0.0	2	3	12.3	13
16	ND25160									16.5	0.0	2	3	18.4	17
17	ND25161									26.5	0.0	2	3	29.5	28
18	2ND25276									33.7	25.0	2	3	51.5	33
19	6B05-0572									15.9	0.0	2	3	17.7	16
20	6B05-0717									14.9	0.0	2	3	16.6	15
21	SR432									21.0	0.0	2	3	23.4	23
22	M143										0.0	1	1	0.0	11
23	M145										0.0	1	1	0.0	11
24	ND26249										0.0	1	1	0.0	11
25	2ND24238										0.0	1	1	0.0	11
26	2ND26328										0.0	1	1	0.0	11
27	2ND26333										0.0	1	1	0.0	11
28	6B07-1684										2.0	1	1	11.8	12
29	6B07-1753										0.0	1	1	0.0	11
30	6B07-1819										0.0	1	1	0.0	11
31	6B07-1825										0.0	1	1	0.0	11
32	SR433										0.0	1	1	0.0	11
33	SR434										0.0	1	1	0.0	11
NO. OF STATIONS		2	3	3	6	3	2	3	5	2	1				

ADJ. MEAN = VARIETY TOTAL FOR YEARS GROWN X 35.3 /BASE AVERAGE FOR SAME YEARS

TABLE 13. AVE. STA. HEADING (FROM MAY 31). 2010 MISS. VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	AVERAGE RANK	7 STA.	CROOKSTN MINN	MORRIS MINN	FARGO ND	CARRNGTN ND	OSNABRCK ND	BOTTNEAU ND	MADISON WI
1	MOREX	2	27.8	20.3	61.7	21.0	27.5	29.3	25.0	9.7
2	ROBUST	22	29.1	20.7	59.3	22.8	29.3	32.0	28.0	11.3
3	LEGACY (6B93-2978)	31	29.9	20.7	62.3	22.8	29.8	33.0	30.0	11.0
4	LACEY (M98)	19	29.0	19.7	61.3	22.5	28.5	30.8	29.0	11.0
5	TRADITION(6B95-2482)	17	28.9	21.0	62.0	21.8	27.8	31.0	27.0	11.7
6	PINNACLE (2ND21863)	30	29.6	22.0	60.3	23.3	29.0	31.0	30.0	11.7
7	ND22421	5	28.3	20.0	60.3	21.8	28.8	30.0	27.0	10.0
8	2ND24388	1	26.9	19.3	60.3	20.5	26.0	29.3	24.0	8.7
9	SR424	33	30.2	22.0	60.0	23.8	29.8	32.8	31.0	12.0
10	SR425	24	29.3	21.3	60.0	22.8	28.8	32.8	29.0	10.7
11	MI35	26	29.5	21.3	60.3	22.3	29.3	31.3	30.0	11.7
12	MI39	17	28.9	20.7	59.0	22.3	29.3	31.3	29.0	10.7
13	MI40	15	28.9	20.7	60.0	22.0	28.5	30.8	29.0	11.0
14	MI41	13	28.8	19.7	60.7	22.0	28.3	31.5	29.0	10.7
15	ND24906	10	28.6	19.3	60.3	21.5	29.3	30.8	27.0	11.7
16	ND25160	3	28.1	19.3	60.3	22.5	27.8	30.5	26.0	10.0
17	ND25161	12	28.6	19.7	60.3	21.8	27.8	31.5	28.0	11.0
18	2ND25276	25	29.4	20.7	60.3	24.3	28.8	31.0	29.0	11.7
19	6B05-0572	7	28.4	21.3	60.0	21.0	27.8	30.5	27.0	11.0
20	6B05-0717	4	28.1	20.7	58.3	21.5	28.0	30.8	27.0	10.7
21	SR432	9	28.5	20.3	59.0	22.3	28.8	31.0	28.0	10.3
22	MI43	27	29.6	20.7	60.3	23.3	29.0	31.3	31.0	11.3
23	MI45	23	29.3	20.0	59.7	23.3	29.0	31.0	31.0	11.3
24	ND26249	11	28.6	19.7	59.3	22.3	28.8	31.5	29.0	9.3
25	2ND24238	21	29.0	20.0	61.0	22.8	28.8	30.0	30.0	10.3
26	2ND26328	7	28.4	19.0	61.0	22.3	28.5	29.5	29.0	9.3
27	2ND26333	29	29.6	20.7	60.7	24.5	28.5	30.5	30.0	12.3
28	6B07-1684	21	29.0	19.3	61.3	21.5	29.0	30.8	30.0	11.0
29	6B07-1753	8	28.4	20.3	60.3	21.0	27.3	30.8	28.0	11.0
30	6B07-1819	14	28.8	20.0	60.0	22.3	28.8	30.8	29.0	11.0
31	6B07-1825	18	28.9	19.3	60.3	22.3	29.3	31.3	29.0	11.0
32	SR433	28	29.6	20.3	62.0	22.5	29.0	31.3	30.0	12.0
33	SR434	32	30.1	22.0	60.3	22.8	29.3	33.0	31.0	12.0
AVERAGE			28.9	20.4	60.4	22.3	28.6	31.1	28.7	10.9

TABLE 14 . PERIOD OF YEARS SUMMARY - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	STA YR	YRS	ADJ. MEAN	RANK
DATE HEADED (FROM MAY 31)															
1	MOREX	30.8	31.1	27.5	28.8	25.8	17.8	25.0	25.9	38.7	27.8	10	85	27.7	2
2	ROBUST	32.0	32.2	28.7	29.6	27.2	19.4	26.5	27.4	39.8	29.1	10	85	29.0	22
BASE AVERAGES		31.4	31.6	28.1	29.2	26.5	18.6	25.7	26.6	39.2	28.4				
3	LEGACY (6B93-2978)	33.2	33.4	29.0	30.6	27.9	21.0	27.4	27.9	40.7	29.9	10	85	29.9	31
4	LACEY (M98)	31.8	31.6	28.0	29.1	26.9	19.3	26.2	27.0	39.3	29.0	10	85	28.6	15
5	TRADITION	31.4	31.9	28.0	30.2	26.8	19.9	26.4	27.7	40.1	28.9	10	85	28.9	21
6	PINNACLE (2ND21863)					27.9	20.0	26.7	27.6	40.2	29.6	6	50	29.5	30
7	ND22421							25.5	26.9	39.3	28.3	4	33	28.3	6
8	2ND24388								24.4	37.5	26.9	3	24	26.7	1
9	SR424								28.3	41.3	30.2	3	24	30.0	33
10	SR425								27.3	40.6	29.3	3	24	29.2	23
11	M135									40.4	29.5	2	15	29.3	25
12	M139									39.4	28.9	2	15	28.6	14
13	M140									39.1	28.9	2	15	28.5	10
14	M141									39.0	28.8	2	15	28.4	8
15	ND24906									39.4	28.6	2	15	28.5	11
16	ND25160									39.7	28.1	2	15	28.4	9
17	ND25161									39.4	28.6	2	15	28.5	12
18	2ND25276									41.0	29.4	2	15	29.5	27
19	6B05-0572									40.2	28.4	2	15	28.8	16
20	6B05-0717									39.5	28.1	2	15	28.4	7
21	SR432									38.6	28.5	2	15	28.1	3
22	M143										29.6	1	7	29.5	26
23	M145										29.3	1	7	29.3	24
24	ND26249										28.6	1	7	28.5	13
25	2ND24238										29.0	1	7	28.9	20
26	2ND26328										28.4	1	7	28.3	4
27	2ND26333										29.6	1	7	29.5	29
28	6B07-1684										29.0	1	7	28.9	20
29	6B07-1753										28.4	1	7	28.3	5
30	6B07-1819										28.8	1	7	28.8	17
31	6B07-1825										28.9	1	7	28.9	18
32	SR433										29.6	1	7	29.5	28
33	SR434										30.1	1	7	30.0	32
NO. OF STATIONS		8	8	11	8	8	9	9	9	8	7				

ADJ. MEAN = VARIETY TOTAL FOR YEARS GROWN X 28.4 /BASE AVERAGE FOR SAME YEARS



TABLE 15. AVE. STA. RIPE (FROM MAY 31). 2010 MISSISSIPPI VALLEY BARLEY NURSERY

NO DATA SUBMITTED

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

ENT. NO.	VARIETY OR SELECTION	AVERAGE RANK	6 STA.	CROOKSTN MINN	MORRIS MINN	FARGO ND	CARRNGTN ND	OSNABRCK ND	BOTTNEAU ND
1	MOREX	33	4226.8	5010.8	4278.8	4128.1	3320.8	4623.3	3998.9
2	ROBUST	32	4518.3	5000.0	4289.6	4348.8	4386.4	4650.2	4434.9
3	LEGACY (6B93-2978)	17	5102.3	5898.8	4488.7	4704.0	5005.4	5640.5	4876.2
4	LACEY (M98)	18	5088.8	5936.5	4106.6	4477.9	4865.4	6679.2	4467.2
5	TRADITION(6B95-2482)	26	4922.0	5705.1	3277.7	5290.6	4483.3	6017.2	4757.8
6	PINNACLE (2ND21863)	6	5479.9	6157.2	3686.8	5882.7	5694.3	5823.5	5635.1
7	ND22421	3	5514.0	6356.3	3805.2	5489.8	5452.1	7050.6	4930.0
8	2ND24388	2	5522.1	6017.2	4424.1	5113.0	5640.5	6695.4	5242.2
9	SR424	1	5568.7	6485.5	4515.6	5479.0	5602.8	6334.8	4994.6
10	SR425	21	5008.1	6087.2	4036.6	4257.3	4682.5	6038.8	4946.2
11	MI35	16	5147.1	5936.5	4585.6	4510.2	4413.3	6211.0	5226.0
12	MI39	24	4981.2	5629.7	4757.8	4919.3	4601.7	5414.4	4564.0
13	MI40	26	4922.0	5409.0	4058.1	4542.5	4843.9	5618.9	5059.2
14	MI41	23	4982.1	5258.3	4359.5	4757.8	5183.0	5624.3	4709.4
15	ND24906	31	4587.4	5419.8	3627.6	5048.4	4068.9	5016.1	4343.4
16	ND25160	28	4847.5	6017.2	3380.0	4531.8	4709.4	5430.6	5016.1
17	ND25161	30	4644.8	5209.9	3460.7	4203.4	5597.4	4348.8	5048.4
18	2ND25276	12	5287.9	5726.6	3509.1	6178.7	5608.2	5543.6	5161.5
19	6B05-0572	14	5183.9	5732.0	3638.3	5317.5	4865.4	6415.5	5134.6
20	6B05-0717	27	4908.5	5861.1	3875.1	4983.9	4251.9	5775.0	4704.0
21	SR432	10	5301.4	6098.0	4219.6	4978.5	5016.1	6254.0	5242.2
22	MI43	19	5081.6	5645.9	3509.1	5021.5	5532.8	6087.2	4693.2
23	MI45	20	5057.4	5360.6	4203.4	4924.6	4989.2	5958.0	4908.5
24	ND26249	7	5388.4	6442.4	4122.7	4849.3	5667.4	6577.0	4671.7
25	2ND24238	4	5510.4	5904.2	3735.2	5801.9	6065.7	6259.4	5296.0
26	2ND26328	11	5293.3	6146.4	3885.9	5419.8	5048.4	6291.7	4967.7
27	2ND26333	5	5495.2	6221.7	4327.2	5107.6	5828.8	6232.5	5253.0
28	6B07-1684	29	4753.3	5489.8	4042.0	4558.7	4079.7	5893.4	4456.4
29	6B07-1753	8	5337.3	5877.3	4262.6	5317.5	5129.2	6754.6	4682.5
30	6B07-1819	15	5175.8	6560.8	4074.3	5489.8	4564.0	5635.1	4730.9
31	6B07-1825	13	5232.3	5796.6	3638.3	5732.0	4978.5	6517.8	4730.9
32	SR433	22	4991.9	6237.9	4381.1	4031.2	4752.4	6211.0	4338.0
33	SR434	9	5314.9	6420.9	3961.2	4397.2	5441.3	6383.2	5285.3
AVERAGE			5102.3	5850.2	4015.9	4963.5	4980.9	5939.6	4863.8

TABLE 17. PERIOD OF YEARS SUMMARY - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	STA YR	YRS	ADJ. MEAN	RANK
AVE. YIELD (KG/HA) - MANITOBA, MINN, ND, AND SD															
1	MOREX	3818	3034	3960	4953	3305	4477	4437	4197	5982	4227	10	59	4207.6	33
2	ROBUST	4343	3568	4247	5438	3889	5031	4545	5121	6168	4518	10	59	4648.4	31
BASE AVERAGES		4080	3301	4104	5196	3597	4754	4491	4659	6075	4373				
3	LEGACY (6B93-2978)	4316	3687	4626	5980	4193	5106	5253	5576	7021	5102	10	59	5028.7	23
4	LACEY (M98)	4592	3819	4627	5959	4321	5352	5049	5716	6717	5089	10	59	5075.4	18
5	TRADITION	4529	4151	4711	5688	4315	5320	5142	5553	6755	4922	10	59	5058.8	19
6	PINNACLE (2ND21863)					4666	5814	5076	5798	6402	5480	6	31	5284.5	9
7	ND22421							5067	5923	6725	5514	4	21	5272.7	10
8	2ND24388								5332	6340	5522	3	15	5107.0	17
9	SR424								5694	6900	5569	3	15	5366.9	6
10	SR425								5541	7024	5008	3	15	5149.0	13
11	M135									6660	5147	2	10	5040.4	21
12	M139									6128	4981	2	10	4766.4	27
13	M140									5900	4922	2	10	4655.6	30
14	M141									6068	4982	2	10	4746.1	28
15	ND24906									5794	4587	2	10	4442.4	32
16	ND25160									6885	4848	2	10	4961.6	24
17	ND25161									6389	4645	2	10	4681.0	29
18	2ND25276									6737	5288	2	10	5141.3	15
19	6B05-0572									6603	5184	2	10	5039.4	22
20	6B05-0717									6305	4909	2	10	4790.4	26
21	SR432									6952	5301	2	10	5223.8	12
22	M143										5082	1	6	5146.1	14
23	M145										5057	1	6	5121.6	16
24	ND26249										5388	1	6	5456.8	3
25	2ND24238										5510	1	6	5580.3	1
26	2ND26328										5293	1	6	5360.5	7
27	2ND26333										5495	1	6	5564.9	2
28	6B07-1684										4753	1	6	4813.6	25
29	6B07-1753										5337	1	6	5405.0	4
30	6B07-1819										5176	1	6	5241.5	11
31	6B07-1825										5232	1	6	5298.7	8
32	SR433										4992	1	6	5055.2	20
33	SR434										5315	1	6	5382.3	5
NO. OF STATIONS		7	6	8	7	4	6	6	5	4	6				

ADJ. MEAN = VARIETY TOTAL FOR YEARS GROWN X 4428 /BASE AVERAGE FOR SAME YEARS

TABLE 18. Percent plump.

ENTRY	NAME	BOTTINEAU			SIDNEY		
		PLUMP	MID	THIN	PLUMP	MID	THIN
		Over 6/64th	Over 5/64th	Thru 5/64th	Over 6/64th	Over 5/64th	Thru 5/64th
1	MOREX	84.44	11.94	3.61	87.53	8.94	3.52
2	ROBUST	93.80	4.85	1.35	90.54	7.03	2.43
3	LEGACY	92.95	5.69	1.36	88.04	8.97	2.99
4	LACEY	96.26	2.94	0.80	93.28	5.11	1.61
5	TRADITION	95.98	3.22	0.80	94.89	4.03	1.08
6	PINNACLE	98.66	0.81	0.54	96.48	2.17	1.36
7	ND22421	97.86	1.60	0.53	95.70	3.23	1.08
8	2ND24388	98.39	1.08	0.54	96.21	2.44	1.36
9	SR424	95.97	3.23	0.81	89.37	8.45	2.18
10	SR425	93.53	5.39	1.08	85.33	10.87	3.80
11	M135	97.59	1.87	0.53	95.15	3.77	1.08
12	M139	92.18	6.20	1.62	88.11	8.65	3.24
13	M140	95.43	3.76	0.81	92.16	5.68	2.16
14	M141	94.88	4.04	1.08	91.64	6.47	1.89
15	ND24906	97.04	2.15	0.81	95.96	2.96	1.08
16	ND25160	97.59	1.88	0.54	95.96	2.96	1.08
17	ND25161	97.04	2.15	0.81	95.68	3.24	1.08
18	2ND25276	98.12	1.34	0.54	96.50	2.43	1.08
19	6B05-0572	96.51	2.96	0.54	94.34	4.31	1.35
20	6B05-0717	97.59	1.88	0.54	94.88	4.04	1.08
21	SR432	98.12	1.61	0.27	94.34	4.31	1.35
22	M143	95.42	3.77	0.81	92.43	5.95	1.62
23	M145	95.70	3.49	0.81	92.18	5.93	1.89
24	ND26249	97.04	2.42	0.54	94.86	3.78	1.35
25	2ND24238	98.39	1.07	0.54	95.12	2.98	1.90
26	2ND26328	98.13	1.34	0.53	96.22	2.43	1.35
27	2ND26333	98.93	0.80	0.27	97.04	1.89	1.08
28	6B07-1684	94.62	4.57	0.81	84.86	11.62	3.51
29	6B07-1753	95.43	3.76	0.81	92.99	5.39	1.62
30	6B07-1819	90.19	7.63	2.18	86.85	9.32	3.84
31	6B07-1825	92.16	6.49	1.35	89.65	8.17	2.18
32	SR433	95.10	4.09	0.82	89.81	7.44	2.75
33	SR434	98.39	1.34	0.27	96.23	2.96	0.81

TABLE 19. 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	10	9	7		S <sup>h</sup>	6,5 <sup>f</sup>
ROBUST	10	9	3		S	5,4
LEGACY	9	9	3		S	3,4
LACEY	10	9	3		S	3
TRADITION	10	9	5		S	4
PINNACLE	10	10	7		S	6,5
ND22421	9	9	3		S	3
2ND24388	8	7	2		S	2,3
SR424	6	8	2		S	3
SR425	5	8	2		S	4
M135	9	8	3		S	2,3
M139	10	8	7		S	7
M140	9	8	5		S	4
M141	9	8	5		S	5,4
ND24906	9	8	5		S	4
ND25160	7	9	7		S	4,5
ND25161	7	7	5		S	3,2
2ND25276	4	9	3		S	3
6B05-0572	9	9	3		S	5
6B05-0717	9	8	5		S	6
SR432	9	8	5		S	4,5
M143	9	9	5		S	6
M145	9	8	2		S	5,6
ND26249	10	8	2		S	3
2ND24238	8	9	2/7		S	3,4
2ND26328	9	9	2		S	2,3
2ND26333	9	9	1		S	2,3
6B07-1684	10	9	5		S	3,4
6B07-1753	9	9	3		S	5,6
6B07-1819	9	9	5		S	6,5
6B07-1825	9	9	2		S	2
SR433 (SM071392)	9	8	3		S	2
SR434 (SM071487)	9	7	3		S	2

see footnotes  
next page:

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 20. Leaf Disease data from Brandon, Manitoba.

Leaf Disease Nursery - Brandon, MB (n=2)

		<u>Spot Blotch</u>	
<u>Checks:</u>		Rating 1	Rating 2
ARGYLE		4	5
Cerveza		2	2
Norman		6	8
Major		3	4

  

		<u>Spot Blotch</u>	
ENTRY	CODE	Rating 1	Rating 2
1	Morex	3.0	3.0
2	Robust	5.0	6.0
3	Legacy(6B93-2978)	6.0	7.5
4	Lacey (M98)	5.0	5.5
5	Tradition(6B95-2482)	4.5	4.5
6	Pinnacle (2ND21863)	4.5	4.5
7	ND22421	5.0	5.0
8	2ND24388	6.0	7.5
9	SR424 (SM05109)	6.0	7.5
10	SR425 (SM05198)	5.0	6.5
11	M135	6.0	7.0
12	M139	4.0	4.5
13	M140	4.0	5.0
14	M141	5.0	5.5
15	ND24906	5.0	6.0
16	ND25160	4.5	4.5
17	ND25161	5.0	5.5
18	2ND25276	4.0	4.5
19	6B05-0572	4.0	5.0
20	6B05-0717	4.5	5.5
21	SR432 (SM061377)	5.5	6.5
22	M143	4.0	4.0
23	M145	6.0	7.0
24	ND26249	4.5	5.5
25	2ND24238	4.5	5.0
26	2ND26328	5.0	5.5
27	2ND26333	6.5	8.0
28	6B07-1684	7.5	8.5
29	6B07-1753	5.5	6.5
30	6B07-1819	5.0	5.5
31	6B07-1825	4.5	4.5
32	SR433 (SM071392)	4.5	5.0
33	SR434 (SM071487)	4.5	5.0

Net Blotch = *Pyrenophora teres*, rating scale 1-9 where 9 is susceptible.  
 Net blotch was only rated if significantly present.

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

TABLE 21. FHB Nursery data from Brandon, Manitoba.

FHB Nursery - Brandon, MB (n=3)

Checks:	Brandon			
	HEAD	FHB	DON	
Quest (M122)	56	3.5	24.3	
Chevron	56	2	28.6	
Stander	56	5	30.5	
AC Metcalfe	58	2.5	26.5	
CDC Mindon	56	2.5	23.8	
CDC Bold	56	4.5	73.3	

  

ENTRY	NAME	HEAD	FHB	DON
1	Morex	56.0	4.3	36.8
2	Robust	56.7	2.8	48.2
3	Legacy(6B93-2978)	58.0	3.8	38.4
4	Lacey (M98)	56.7	5.0	48.4
5	Tradition(6B95-2482)	54.7	3.7	50.1
6	Pinnacle (2ND21863)	56.0	3.8	37.2
7	ND22421	54.0	3.2	52.3
8	2ND24388	56.0	4.3	22.0
9	SR424 (SM05109)	54.0	3.8	63.2
10	SR425 (SM05198)	56.7	4.7	69.7
11	M135	54.0	2.5	45.1
12	M139	53.3	3.2	43.6
13	M140	56.0	3.8	48.6
14	M141	56.0	3.7	29.3
15	ND24906	56.0	3.7	44.1
16	ND25160	56.0	3.3	34.1
17	ND25161	54.0	3.2	30.9
18	2ND25276	53.3	4.0	32.9
19	6B05-0572	48.7	3.3	35.0
20	6B05-0717	50.7	2.8	26.2
21	SR432 (SM061377)	56.0	3.3	55.5
22	M143	53.3	3.8	35.2
23	M145	53.3	4.3	38.5
24	ND26249	54.0	3.5	41.6
25	2ND24238	55.3	3.3	28.2
26	2ND26328	56.7	3.5	44.0
27	2ND26333	54.0	4.2	58.7
28	6B07-1684	56.0	3.5	29.8
29	6B07-1753	56.7	3.0	49.7
30	6B07-1819	58.0	2.3	34.6
31	6B07-1825	56.7	4.2	38.3
32	SR433 (SM071392)	52.0	3.0	54.6
33	SR434 (SM071487)	53.3	4.0	47.9

see notes next page



Fusarium Head Blight

**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 22. Parentage and origin of entries in the 2010 Mississippi Valley Uniform Regional Barley Nursery.

Entry	Cl# 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	PI613603	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	Saskatchewan	SR424	SM01262/SM01147
10	Saskatchewan	SR425	SM00207/SM00150
11	Minnesota	M135	FEG97-44 / M118
12	Minnesota	M139	M00-33 / M122 (FEG65-02)
13	Minnesota	M140	M00-33 / FEG66-08
14	Minnesota	M141	M122 / M123 MAS
15	North Dakota	ND24906	ND20508/ND20492
16	North Dakota	ND25160	ND19557/ND19491
17	North Dakota	ND25161	ND19557/ND19491
18	North Dakota	2ND25276	ND20802/3/ND19922//ND19929/ND20177
19	Busch Ag. Res.	6B05-0572	6B95-2482-1 / 6B98-9852
20	Busch Ag. Res.	6B05-0717	6B98-9814 / TRADITION
21	Saskatchewan	SR432	SM01778/BT485
22	Minnesota	M143	M129 / FEG100-41
23	Minnesota	M145	FEG144-17 / Quest (M122)
24	North Dakota	ND26249	ND19655/FEG65-02
25	North Dakota	2ND24238	ND19854//ND20028/ND19119-1
26	North Dakota	2ND26328	ND22032-2/ND21972
27	North Dakota	2ND26333	ND22032-2/ND21972
28	Busch Ag. Res.	6B07-1684	6B00-0949 / ND18803
29	Busch Ag. Res.	6B07-1753	6B00-1328 / ND18659
30	Busch Ag. Res.	6B07-1819	CELEBRATION / ND18579
31	Busch Ag. Res.	6B07-1825	CELEBRATION / TRADITION
32	Saskatchewan	SR433	SM02160/SM02747
33	Saskatchewan	SR434	SM01777/BT392

Entries 22-33 are new for 2010