

**MISSISSIPPI VALLEY UNIFORM REGIONAL
BARLEY NURSERY**

2001

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 2001

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

Michael C. Edwards
USDA-ARS Cereal Crops Research Unit
Northern Crop Science Laboratory
1307 18TH Street North
Fargo, ND 58105-5677
edwardsm@fargo.ars.usda.gov
Michael.Edwards@ndsu.nodak.edu

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 1972-2001.....	8
Table 4. Average station yield (all stations).....	9
Table 5. Information on plot type.....	11
Table 6. Period of years summary for yield.....	12
Table 7. Test weight.....	13
Table 8. Period of years summary for test weight.....	14
Table 9. Plant height.....	15
Table 10. Period of years summary for plant height.....	17
Table 11. Lodging.....	18
Table 12. Period of years summary for lodging.....	19
Table 13. Date headed.....	20
Table 14. Period of years summary for date headed.....	22
Table 15. Date ripe.....	23
Table 16. Average station yield for Manitoba, Minnesota, North Dakota, and South Dakota.....	24
Table 17. Period of years summary for yield (Manitoba, Minnesota, North Dakota, South Dakota).....	25
Table 18. Percent plump (over 6/64).....	26
Table 19. Fusarium head blight ratings and DON values.....	27
Table 20. Parentage and origin of entries in the 2001 nursery.....	28
Table 21. Agronomic data for entries grown under irrigation at Aberdeen, Idaho.....	29

List of Stations and Cooperators

2001 Mississippi Valley Uniform Regional Barley Nursery

<u>Stations</u>	<u>Cooperators</u>
Aberdeen, Idaho	D. Wesenberg, USDA, Agricultural Research Service
Brandon, Manitoba	M. C. Therrien, Agriculture Canada
Winnipeg, Manitoba	J. Gilbert, A. Tekauz, Agriculture Canada
Caro, Michigan	R. D. Freed, Michigan State University
Crookston, Minnesota	Kevin Smith, D. C. Rasmusson, University of Minnesota
Morris, Minnesota	Kevin Smith, D. C. Rasmusson, University of Minnesota
Mead, Nebraska	P.S. Baenziger, University of Nebraska
Bottineau, North Dakota	R. Heilman, Busch Agricultural Resources
Williston, North Dakota	Busch Agricultural Resources, Williston Experiment Station
Carrington, North Dakota	R. D. Horsley, J. D. Franckowiak, North Dakota State University
Fargo, North Dakota	R. D. Horsley, J. D. Franckowiak, North Dakota State University
Osnabrock, North Dakota	R. D. Horsley, J. D. Franckowiak, North Dakota State University
Kernen, Saskatchewan	B. L. Harvey, Clayton Wiebe, University of Saskatchewan
Madison, Wisconsin	H. Kaeppler, R. D. Duerst, University of Wisconsin

2001 Mississippi Valley Barley Nursery

Summary

Nine locations contributed useable data for this year's report. The Busch Agricultural Resources site was grown in both Bottineau and Williston rather than Minot ND (last year's site). Planting of nurseries at Saskatoon, Brandon, and Winnipeg continued. Data from Mead (Nebraska) and Caro (Michigan) were not submitted. All other data were used. Because of difficulties in obtaining reliable data from the Langdon site in recent years, the Langdon nursery was moved about 12 miles east near the town of Osnabrock, ND. This is the third year that the nursery has been grown near Osnabrock. The reader is referred to the "Nursery Conditions" section immediately following this summary for other comments concerning specific locations. The nurseries at Nebraska and South Dakota will be discontinued next year.

Average planting date was May 4th, slightly later than the 30-year average and 8 days later than last year. Average heading date was July 2nd, nine days later than the 30-year average.

Average yield (4402 kg/ha or 81.8 bu/a) was about 7% higher than that of last year. Entries with the best yields were M110, M108, BT484, M109, and Drummond.

Only two stations reported test weight; the average of 65.4 kg/hl was considerably higher than that of last year. However, last year's average test weight was the poorest since 1991 and ranked last over the past thirty years. The greatest test weights were recorded for 6B97-2195, MNBrite, 6B97-2245, 6B95-2482, and M109.

Lodging data were reported from only two locations, Crookston and Brandon. Very little lodging was observed at Crookston, possibly masking differences among the entries. The five entries with the least lodging were Drummond, Stander, ND16301, M109, and M106. Average plant height was 81.6 cm. Shortest entries were M110, M106, M109, 6B95-2482, and 6B97-2245.

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

An estimation of *Fusarium* head blight severity was made at the Carrington and Osnabrock locations. These notes appear in Table 19. The last table provides data on the agronomic performance of entries grown under irrigation at Aberdeen Idaho.

NURSERY CONDITIONS

MANITOBA:

BRANDON: Previous crop: summer fallow
Soil type: Glacial till; Chernozemic. Medium Newdale Clay loam.
Fertilizer
available: 40 lbs/a N; 10 P lbs/a; >300 lbs/a K.
added: 70 N -30 P - 0 K lbs/ac.
Remarks: Moisture was adequate. Low levels of Fusarium. No insect pests. Some wind damage and some salinity damage (less than 10%).

MICHIGAN:

CARO: Previous crop: .
Soil type: .
Fertilizer
available: .
added: .
Remarks: No data submitted.

MINNESOTA:

CROOKSTON: Previous crop: oats.
Soil type: Wheatville, silt-loam.
Fertilizer
available: 41 lbs/a N; 26 lbs/a P; 280 lbs/a K.
added: 100 lbs/a 46-0-0.
Remarks: The nursery was attractive early in the season. There was little rainfall early, but heavy rains and wind after heading. Lodging occurred late in the season.

MORRIS: Previous crop: soybeans.
Soil type: Hamerly clay loam - Flom loam soil complex.
Fertilizer
available: 30 lbs/a N; 16 lbs/a P; 233 lbs/a K.
added: 88 - 46 - 60 (NPK).
Remarks: The nursery was attractive and growing conditions were generally favorable. Lodging was not a factor, nor were diseases.

NEBRASKA:

MEAD: Previous crop: .
Soil type: . Fertilizer
available: .
added: .
Remarks: no data submitted.

NORTH DAKOTA:

CARRINGTON: Previous crop: soybeans.
Soil type: Heimdahl loam, silty
Fertilizer
available: 69 lbs/a N; 13 lbs/a P; 160 lbs/a K
added: 100 lbs/a N
Remarks: Sewing date was within a week of the average and early season plant growth was

excellent. Fenoxaprop-p + safener (Puma), applied at Haun stage 4.4 for foxtail and wild oat control, caused significant injury to certain lines in the trial. Total precipitation for the season was 12.9" with an additional 2.5" of water added via sprinkler irrigation. Average high and low temperatures were 74 and 52 F, respectively. Foliar and leaf disease levels were low to moderate. During the period of 11 July to 31 July, 5.8" of precipitation occurred. This precipitation, combined with strong winds and relatively high levels of available N, contributed to severe lodging. Since lodging occurred during the later stages of crop maturity, grain yields were not severely reduced. Mechanical harvest was possible and the experimental error associated with yield data was within an acceptable range.

FARGO: Previous crop: soybeans
Soil type: Fargo, silty clay loam
Fertilizer
available: 40 lbs/a N; 26 lbs/a P; 400 lbs/a K
added: 100 lbs/a N.
Remarks: Wet soil conditions caused sowing to be delayed by nearly two weeks compared to the average sowing date. Seed to soil contact was difficult to obtain at sowing and stand establishment was variable. Early season growth was excellent and a dense plant canopy. Total precipitation for the growing season was 9.29" and average high and low temperatures were 78 and 56 F, respectively. Lack of significant precipitation between 15 June and 18 July contributed to very low levels of head and foliar diseases, but also may have reduced yields.

OSNABROCK: Previous crop: canola.
Soil type: Cresbard-Svea, loam.
Fertilizer
available: 25 lbs/a N; 30 lbs/a P; 380 lbs/a K.
added: 100 lbs/a N.
Remarks: Early season rainfall delayed sowing to nearly three weeks later than average. Stand establishment was uniform and early season plant growth was excellent. Precipitation total for the season was 9.57" and average high and low temps were 74 and 53 F, respectively. Severity of Fusarium head blight and net blotch were light to moderate while Septoria leaf blotch levels were moderate to severe. Heavy precipitation (0.91") and strong winds on 16 July caused lodging throughout the trial. On 26 July, 1.68" of precipitation and strong winds caused already weakened plants to lodge severely. This severe lodging prohibited an effective harvest and the location was abandoned.

BOTTINEAU: Previous crop: cranby.
Soil type: .
Fertilizer
available: .
added: .
Remarks: The nursery had good moisture at planting and uniform stands were established. The early growing conditions were favorable through heading. A period of dry weather in mid July caused some premature ripening. No lodging was noted and harvest was timely.

WILLISTON: Previous crop: winter wheat.
Soil type: .
Fertilizer
available: .
added: .
Remarks: This location was planted on winter wheat ground that had winter killed out. The

location was severely affected by Puma herbicide and should not be included in historical averages.

WISCONSIN:

MADISON: Previous crop: alfalfa
Soil type: St. Charles, loam
Fertilizer
available: .
added: none
Remarks: Timely planting into a good seedbed resulted in uniform germination and emergence. Heavier than normal early season rainfall led to thick stands and vigorous plants. Yields were much higher than normal and test weights were excellent. Even with the wet growing conditions, little foliar disease was present. Small amounts of smut were observed scattered throughout the nursery.

SASKATCHEWAN:

KERNEN: Previous crop: .
Soil type: .
Fertilizer
available: .
added: .
Remarks: Buctril M applied June 12 at a rate of .405 L/ac. Rainfall received: April 14.6mm, May 23.7mm, June 39.9mm, July 59.0mm, Aug 8.2mm, Sept 1-20 9.0mm (total rainfall 154.4mm).

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

Variety/ Selection	Yield¹ (Kg/ha)	Test Wt² (kg/hl)	Height³ (cm)	Lodging⁴ (%)	Heading⁵ (5/31=0)
BARBLESS	3787.2	64.0	88.3	37.2	32.2
LARKER	3997.7	64.0	84.6	46.7	30.7
MOREX	3884.1	62.6	87.1	33.4	30.8
ROBUST	4268.6	64.5	86.0	22.4	32.0
STANDER	4546.1	64.5	80.3	12.5	32.3
FOSTER	4329.6	63.6	83.7	31.5	31.7
LEGACY	4200.5	63.1	83.1	18.5	33.2
MNBRITE	4140.7	66.2	84.3	31.0	32.2
DRUMMOND	4615.5	65.3	82.6	11.2	30.8
LACEY	4583.8	65.4	79.7	21.9	31.8
M103	4457.6	65.2	79.2	19.7	31.7
ND16301	4397.2	65.1	80.2	13.0	31.5
6B95-2482	4531.8	66.0	78.2	21.2	31.4
6B96-3733	4299.1	64.2	81.3	23.2	31.3
M106	4556.3	65.1	76.7	17.8	31.6
M108	4827.8	64.9	79.0	20.4	32.2
6B95-2089	4374.5	65.3	80.2	28.7	32.0
M109	4671.7	65.9	77.0	16.0	31.6
M110	4833.8	65.5	74.7	21.4	32.0
ND16318	4445.6	63.7	84.5	30.7	31.8
ND16903	4445.6	65.7	82.2	18.8	31.7
ND16922	4547.9	65.0	80.1	28.4	31.8
6B97-2037	4390.0	64.4	82.9	30.4	30.7
6B97-2195	4344.0	86.5	79.4	21.7	29.9
6B97-2245	4187.3	66.1	78.4	29.2	30.4
BT386	4361.3	62.6	87.7	33.5	31.9
BT484	4704.0	64.6	80.5	30.7	31.9
Battleford	4513.8	63.3	81.8	41.0	33.7
HIGH MEAN	4833.8	86.5	88.3	46.7	33.7
LOW MEAN	3787.2	62.6	74.7	11.2	29.9
EXP MEAN	4401.5	65.4	81.6	25.4	31.7
C.V. %	9.4	8.0	3.6	43.6	2.3
LSD 5%	380.4	NS	2.8	NS	.7
LSD 1%	500.0	NS	3.7	NS	.9
# of Loc	9	2	8	2	8

¹Fargo, Carrington, Bottineau, Williston, Crookston, Morris, Madison, Brandon, Saskatoon

²Madison, Brandon

³Fargo, Carrington, Osnabrock, Crookston, Morris, Madison, Brandon, Saskatoon

⁴Crookston, Brandon

⁵Fargo, Carrington, Osnabrock, Bottineau, Crookston, Madison, Brandon, Saskatoon

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

Variety/ Selection	Yield ¹ (Kg/ha)	Test Wt ² (kg/hl)	Height ³ (cm)	Lodging ⁴ (%)	Heading ⁵ (5/31=0)
BARBLESS	3885.1	62.8	92.4	37.2	33.7
LARKER	4137.3	63.1	89.5	46.7	32.1
MOREX	3817.5	61.1	90.8	33.4	31.7
ROBUST	4343.4	63.7	89.9	22.4	33.2
STANDER	4543.3	63.9	83.3	12.5	33.5
FOSTER	4436.4	61.9	87.2	31.5	33.0
LEGACY	4315.7	62.2	85.6	18.5	34.3
MNBRITE	4181.9	64.2	88.3	31.0	33.3
DRUMMOND	4567.1	63.5	85.3	11.2	32.0
LACEY	4591.7	63.9	83.5	21.9	33.0
M103	4457.2	63.3	81.8	19.7	32.9
ND16301	4481.0	63.5	82.6	13.0	32.5
6B95-2482	4529.4	64.9	81.3	21.2	32.6
6B96-3733	4421.8	62.7	84.1	23.2	32.4
M106	4550.2	63.5	79.3	17.8	32.6
M108	4869.3	63.0	82.8	20.4	33.4
6B95-2089	4347.2	64.8	82.4	28.7	33.3
M109	4698.6	63.9	80.6	16.0	32.9
M110	4767.0	63.5	77.9	21.4	33.3
ND16318	4674.0	62.6	88.4	30.7	32.9
ND16903	4481.8	64.4	85.7	18.8	32.9
ND16922	4614.0	62.8	83.5	28.4	32.9
6B97-2037	4534.8	61.7	87.1	30.4	31.7
6B97-2195	4390.3	65.7	81.8	21.7	31.0
6B97-2245	4151.9	64.2	81.4	29.2	31.4
BT386	4377.2	60.0	92.3	33.5	33.1
BT484	4695.5	63.0	83.7	30.7	33.1
Battleford	4630.2	61.9	86.4	41.0	34.8
HIGH MEAN	4869.3	65.7	92.4	46.7	34.8
LOW MEAN	3817.5	60.0	77.9	11.2	31.0
EXP MEAN	4446.1	63.2	84.9	25.4	32.8
C.V. %	8.4		3.0	43.6	2.3
LSD 5%	389.8		2.9	NS	.9
LSD 1%	512.2		3.8	NS	1.1
# of Loc	7	1	6	2	6

¹Fargo, Carrington, Bottineau, Williston, Crookston, Morris, Madison, Brandon

²Madison, Brandon

³Fargo, Carrington, Osnabrock, Crookston, Morris, Madison, Brandon

⁴Crookston, Brandon

⁵Fargo, Carrington, Osnabrock, Bottineau, Crookston, Madison, Brandon

TABLE 3. 1972-2001 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
5385	1992	66.5	1998	4-12	1976	6-13	1985	67.0	1988	2.7	1987
4911	1985	66.1	1999	15	1988	13	1977	73.2	1987	7.5	1988
4799	1986	65.5	1979	16	1981	14	1976	74.6	1979	13.2	2000
4502	1994	65.4	2001	19	1985	15	1988	76.3	1974	14.2	1992
4402	2001	63.1	1997	19	1987	16	1980	76.4	1995	15.6	1983
4337	1993	63.0	1977	20	1992	16	1987	76.6	1978	16.2	1980
4274	1990	62.7	1984	21	1980	20	1998	76.7	1991	17.1	1984
4255	1995	62.4	1985	23	1989	21	1982	77.4	1997	17.8	1981
4251	1984	62.0	1976	23	1973	21	1994	77.5	1977	18.4	1975
4105	2000	61.7	1996	23	1977	22	1973	78.5	1976	19.0	1994
4056	1989	61.6	1995	24	1998	22	1991	79.0	1994	21.1	1989
4046	1997	61.2	1986	25	1990	23	1992	79.5	1996	21.3	1979
4021	1999	61.0	1988	25	1991	23	1978	80.7	1989	21.8	1976
4017	1998	60.6	1980	26	2000	24	1989	81.9	1999	21.8	1978
3986	1981	60.2	1989	26	1982	24	1990	81.6	2001	23.9	1986
3884	1982	60.1	1981	27	1994	24	1981	83.1	1972	24.2	1985
3882	1987	59.9	1994	29	1972	25	2000	83.9	1980	25.4	2001
3806	1980	59.7	1974	29	1993	25	1972	84.1	1973	26.6	1973
3728	1977	59.7	1978	30	1978	25	1975	85.3	1975	27.1	1977
3566	1996	59.4	1983	30	1983	25	1984	86.8	1990	27.2	1974
3519	1973	59.2	1992	30	1986	26	1986	87.7	1984	27.7	1995
3492	1979	59.2	1973	5-1	1984	27	1974	88.6	1993	28.1	1997
3432	1976	59.2	1982	2	1974	28	1999	89.1	1986	29.2	1990
3370	1978	59.2	1987	2	1975	29	1993	89.3	1998	29.3	1991
3363	1972	58.9	1975	4	2001	30	1979	89.4	1992	31.0	1999
3136	1988	58.6	1972	4	1995	7-1	1983	90.5	1981	35.0	1972
3113	1983	57.5	1993	7	1996	7-2	1997	90.6	2000	38.6	1998
3094	1975	57.5	1990	5-7	1999	7-2	2001	91.5	1982	42.6	1993
3064	1991	54.3	2000	7	1979	7-4	1995	92.3	1983	48.2	1982
2792	1974	54.3	1991	11	1997	7-4	1996	93.0	1985	0.0	1996
3886 AVE.		60.7 AVE.		4-26 AVE.		6-23 AVE.		82.7 AVE.		23.1 AVE.	

CONVERSION FACTORS:

KG/HA TO BU/A x .018587

KG/HL TO LB/BU x .776815

TABLE 4. AVE. STA. YIELD (KG/HA). 2001 MISSISSIPPI VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	AVERAGE RANK	9 STA. 9	FARGO ND	CARRNGTN ND	BOTTNEAU ND	WILLISTN ND	CROOKSTN MINN	MORRIS MINN	MADISON WISC
1	BARBLESS	28	3787.2	2626.5	3864.4	3654.5	3702.9	5010.8	3810.5	4515.6
2	LARKER	26	3997.7	3541.4	3751.3	3848.2	4020.5	5010.8	4149.6	4294.9
3	MOREX	27	3884.1	3347.7	3417.7	3320.8	3778.3	4553.3	4198.1	4930.0
4	ROBUST	22	4268.6	4036.6	4628.6	3439.2	3654.5	5484.4	4843.9	5172.2
5	STANDER (M64)	9	4546.1	3444.6	4897.7	3859.0	4246.5	5263.7	5253.0	6178.7
6	FOSTER (ND11055)	20	4329.6	3751.3	4370.3	3869.8	4149.6	5915.0	4004.3	4940.8
7	LEGACY (6B93-2978)	23	4200.5	3487.6	3993.5	3864.4	3966.6	5366.0	4294.9	4526.4
8	MNBRITE (MNS85)	25	4140.7	3363.8	3880.5	3557.6	3702.9	4666.3	4989.2	5409.0
9	DRUMMOND (ND15477)	5	4615.5	3659.8	4574.8	3530.7	4079.7	5764.3	5360.6	6652.3
10	LACEY (M98)	6	4583.8	4483.3	4278.8	3783.6	3476.9	6087.2	4752.4	5845.0
11	M103	12	4457.6	4278.8	3848.2	3654.5	2965.6	5425.2	5166.8	6259.4
12	ND16301	15	4397.2	3945.1	4757.8	3713.7	3859.0	5322.9	4165.8	5990.3
13	6B95-2482	10	4531.8	3762.1	4305.7	3923.6	3746.0	5618.9	4870.8	6178.7
14	6B96-3733	21	4299.1	3708.3	3821.3	3993.5	3902.0	5737.4	4424.1	4806.2
15	M106	7	4556.3	3934.3	4887.0	3713.7	3832.1	5274.5	5705.1	6270.2
16	M108	2	4827.8	4364.9	4585.6	3961.2	4262.6	5866.5	5753.5	6001.1
17	6B95-2089	17	4374.5	3536.1	4305.7	3740.6	3805.2	5253.0	4542.5	6108.7
18	M109	4	4671.7	4230.4	4095.8	4085.0	3977.4	5398.3	5376.7	6550.1
19	M110	1	4833.8	3885.9	4639.4	4128.1	3735.2	6076.4	5602.8	6722.3
20	ND16318	13	4445.6	4095.8	5312.2	3972.0	4332.6	5145.3	4919.3	4709.4
21	ND16903	14	4445.6	3902.0	4031.2	4031.2	3982.8	5339.1	4994.6	5936.5
22	ND16922	8	4547.9	3735.2	4607.1	3869.8	4682.5	5139.9	5398.3	6135.6
23	6B97-2037	16	4390.0	4219.6	3848.2	3982.8	3864.4	5554.4	5177.6	5000.0
24	6B97-2195	19	4344.0	4321.9	3234.7	4020.5	2884.8	5915.0	5113.0	5828.8
25	6B97-2245	24	4187.3	3821.3	3918.2	3579.1	2911.7	5554.4	4241.1	6560.8
26	BT386	18	4361.3	3046.3	4251.9	3966.6	4370.3	5532.8	4219.6	5737.4
27	BT484	3	4704.0	3934.3	4693.2	3778.3	4241.1	5705.1	5129.2	6480.1
28	CDC Battleford	11	4513.8	4025.8	4693.2	4203.4	4074.3	5968.8	4757.8	4725.5
AVERAGE			4401.5	3803.2	4267.6	3823.0	3864.6	5462.5	4829.1	5659.5

TABLE 4. AVE. STA. YIELD (KG/HA). 2001 MISSISSIPPI VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	AVERAGE RANK	9 STA.	BRANDON MANITOBA	SASKTOON SASK
1	BARBLESS	28	3787.2	4526.4	2373.5
2	LARKER	26	3997.7	4639.4	2723.4
3	MOREX	27	3884.1	4106.6	3304.6
4	ROBUST	22	4268.6	4316.5	2841.8
5	STANDER (M64)	9	4546.1	4838.5	2933.3
6	FOSTER (ND11055)	20	4329.6	4994.6	2970.9
7	LEGACY (6B93-2978)	23	4200.5	5236.8	3067.8
8	MNBRITE (MNS85)	25	4140.7	5113.0	2583.4
9	DRUMMOND (ND15477)	5	4615.5	5000.0	2917.1
10	LACEY (M98)	6	4583.8	5279.9	3267.0
11	M103	12	4457.6	5861.1	2658.8
12	ND16301	15	4397.2	5602.8	2217.4
13	6B95-2482	10	4531.8	5479.0	2901.0
14	6B96-3733	21	4299.1	5366.0	2933.3
15	M106	7	4556.3	4504.8	2884.8
16	M108	2	4827.8	5290.6	3363.8
17	6B95-2089	17	4374.5	5247.6	2831.0
18	M109	4	4671.7	5726.6	2605.0
19	M110	1	4833.8	5301.4	3412.3
20	ND16318	13	4445.6	4940.8	2583.4
21	ND16903	14	4445.6	5091.5	2701.8
22	ND16922	8	4547.9	4865.4	2497.3
23	6B97-2037	16	4390.0	5096.9	2766.4
24	6B97-2195	19	4344.0	5242.2	2535.0
25	6B97-2245	24	4187.3	5037.7	2061.4
26	BT386	18	4361.3	5253.0	2874.1
27	BT484	3	4704.0	5387.5	2987.1
28	CDC Battleford	11	4513.8	4687.8	3487.6
AVERAGE			4401.5	5072.7	2831.6

TABLE 5. INFORMATION ON PLOT TYPE.

LOCATION	# REPS	DATE SOWN	LSD 5%		METERS HARVESTED	CM. BET. ROWS	DATE HARVESTED
BRANDON	3	5/24	-	-	5	23.5	8/26
CARO		DATA NOT SUBMITTED					
BOTTINEAU	3	5/2	265.8	4.94	3.35	20	8/9
CARRINGTON	3	4/27	527.2	9.8	3	30.5	8/2
FARGO	3	5/2	607.9.	11.3	3	30.5	8/10
WILLISTON	3	4/27	206.1	3.83	3.35	20	8/16
OSNABROCK	3	5/17	-	-	3	30.5	Abandoned
CROOKSTON	3		1016.8	18.9	2.4	19	
MADISON	3	4/25	536.9	9.98	4.9	30.5	7/24
MEAD		DATA NOT SUBMITTED					
MORRIS	3		570.3	10.6	1.4	18	
KERNEN	3	5/17	-	-			8/21

TABLE 6 . PERIOD OF YEARS SUMMARY FOR YIELD (AVERAGE KILOGRAMS PER HECTARE) - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	STA YR	ADJ. YRS	MEAN	RANK
1	BARBLESS	4509	3818	3823	3596	3072	3455	3328	3217	3341	3787	10	85	3597.7	28
2	LARKER	4702	3654	3829	3710	3073	3638	3561	3375	3617	3998	10	85	3719.1	27
3	MOREX	4922	3702	4070	3747	3319	3778	3400	3881	3562	3884	10	85	3820.0	26
BASE AVERAGES		4711	3725	3907	3684	3155	3624	3429	3491	3507	3890				
4	ROBUST	5457	4328	4573	4161	3437	3940	3793	3846	4092	4269	10	85	4188.8	21
5	STANDER (M64)	5682	4395	4800	4465	3592	3999	4220	4008	4196	4546	10	85	4386.0	8
6	FOSTER (ND11055)	5524	4685	4750	4407	3396	4080	3872	4255	4385	4330	10	85	4366.7	10
7	LEGACY (6B93-2978)					3752	4166	3986	4129	4279	4200	6	51	4307.8	16
8	MNBRITE (MNS85)						3913	3823	3658	3968	4141	5	43	4039.0	24
9	DRUMMOND (ND15477)						3870	4206	4048	3966	4615	5	43	4269.8	17
10	LACEY (M98)							4175	4369	4418	4584	4	33	4544.6	3
11	M103								4170	4394	4458	3	25	4440.4	7
12	ND16301								3924	4416	4397	3	25	4356.2	11
13	6B95-2482								4011	4294	4532	3	25	4385.4	9
14	6B96-3733								4177	4245	4299	3	25	4329.5	14
15	M106									4371	4556	2	18	4480.5	5
16	M108									4409	4828	2	18	4636.0	1
17	6B95-2089									4257	4374	2	18	4332.3	13
18	M109										4672	1	9	4458.6	6
19	M110										4834	1	9	4613.3	2
20	ND16318										4446	1	9	4242.9	18
21	ND16903										4446	1	9	4242.9	19
22	ND16922										4548	1	9	4340.5	12
23	6B97-2037										4390	1	9	4189.8	20
24	6B97-2195										4344	1	9	4145.8	23
25	6B97-2245										4187	1	9	3996.3	25
26	BT386										4361	1	9	4162.4	22
27	BT484										4704	1	9	4489.4	4
28	CDC Battleford										4514	1	9	4307.9	15
NO. OF STATIONS		8	9	8	9	8	10	8	7	9	9				

ADJ. MEAN = VARIETY TOTAL FOR YEARS GROWN X 3712.3 /BASE AVERAGE FOR SAME YEARS

TABLE 7. AVE. STA. TEST WEIGHT (KG/HL). 2001 MISS. VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	AVERAGE RANK	2 STA. WISC	MADISON WISC	BRANDON MANITOBA
1	BARBLESS	22	64.0	65.1	62.8
2	LARKER	21	64.0	64.9	63.1
3	MOREX	27	62.6	64.1	61.1
4	ROBUST	17	64.5	65.3	63.7
5	STANDER (M64)	18	64.5	65.1	63.9
6	FOSTER (ND11055)	24	63.6	65.3	61.9
7	LEGACY (6B93-2978)	26	63.1	64.1	62.2
8	MNBRITE (MNS85)	2	66.2	68.1	64.2
9	DRUMMOND (ND15477)	10	65.3	67.1	63.5
10	LACEY (M98)	8	65.4	66.9	63.9
11	M103	11	65.2	67.1	63.3
12	ND16301	13	65.1	66.8	63.5
13	6B95-2482	4	66.0	67.2	64.9
14	6B96-3733	20	64.2	65.8	62.7
15	M106	13	65.1	66.8	63.5
16	M108	15	64.9	66.9	62.9
17	6B95-2089	10	65.3	65.8	64.8
18	M109	5	65.9	68.0	63.9
19	M110	7	65.5	67.5	63.5
20	ND16318	23	63.7	64.8	62.6
21	ND16903	6	65.7	67.1	64.4
22	ND16922	14	65.0	67.2	62.8
23	6B97-2037	19	64.4	67.1	61.7
24	6B97-2195	1	86.5	107.4	65.7
25	6B97-2245	3	66.1	68.0	64.2
26	BT386	28	62.6	65.1	60.0
27	BT484	16	64.6	66.3	62.9
28	CDC Battleford	25	63.3	64.6	61.9
AVERAGE			65.4	67.7	63.2

TABLE 8 . PERIOD OF YEARS SUMMARY FOR TEST WEIGHT (KILOGRAMS PER HECTOLITER) - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	STA YR	ADJ. YRS	MEAN	RANK
1	BARBLESS	55.1	56.7	59.6	60.0	62.0	62.4	61.8	65.2	54.7	64.0	10	42	60.4	26
2	LARKER	56.1	57.7	60.5	61.0	61.8	62.8	66.3	66.0	55.4	64.0	10	42	61.6	19
3	MOREX	59.0	55.5	58.8	60.7	62.1	61.8	63.8	64.3	54.5	62.6	10	42	60.6	24
BASE AVERAGES		56.7	56.6	59.6	60.5	61.9	62.3	63.9	65.1	54.8	63.5				
4	ROBUST	59.3	57.7	60.7	61.9	61.8	64.2	66.5	66.8	56.6	64.5	10	42	62.3	8
5	STANDER (M64)	60.0	58.2	59.1	61.8	60.6	62.8	66.1	65.6	55.2	64.5	10	42	61.7	16
6	FOSTER (ND11055)	59.8	57.1	59.0	61.1	61.2	61.8	64.3	65.2	45.6	63.6	10	42	60.4	27
7	LEGACY (6B93-2978)					61.7	62.1	65.5	66.3	48.2	63.1	6	25	60.5	25
8	MNBRITE (MNS85)						63.9	65.2	67.0	56.4	66.2	5	21	62.4	7
9	DRUMMOND (ND15477)						62.4	66.3	66.1	55.7	65.3	5	21	62.0	13
10	LACEY (M98)						67.0	67.9	56.9	65.4		4	16	63.4	2
11	M103							65.9	55.2	65.2		3	10	61.6	18
12	ND16301							65.5	55.2	65.1		3	10	61.4	20
13	6B95-2482							65.8	55.2	66.0		3	10	61.8	15
14	6B96-3733							64.2	56.1	64.2		3	10	60.9	22
15	M106								56.1	65.1		2	5	62.3	9
16	M108								56.2	64.9		2	5	62.3	11
17	6B95-2089								56.0	65.3		2	5	62.3	10
18	M109									65.9		1	2	63.1	4
19	M110									65.5		1	2	62.7	6
20	ND16318									63.7		1	2	61.0	21
21	ND16903									65.7		1	2	62.9	5
22	ND16922									65.0		1	2	62.3	12
23	6B97-2037									64.4		1	2	61.6	17
24	6B97-2195									86.5		1	2	82.9	1
25	6B97-2245									66.1		1	2	63.3	3
26	BT386									62.6		1	2	59.9	28
27	BT484									64.6		1	2	61.9	14
28	CDC Battleford									63.3		1	2	60.6	23
NO. OF STATIONS		3	5	4	5	4	5	6	5	3	2				

ADJ. MEAN = VARIETY TOTAL FOR YEARS GROWN X 60.8 /BASE AVERAGE FOR SAME YEARS

TABLE 9. AVE. STA. HEIGHT (CM). 2001 MISSISSIPPI VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	AVERAGE RANK	8 STA. 8	FARGO ND	CARRNGTN ND	OSNABRCK ND	CROOKSTN MINN	MORRIS MINN	MADISON WISC	BRANDON MANITOBA
1	BARBLESS	28	88.3	88.5	94.6	102.4	89.7	76.2	91.0	103.0
2	LARKER	24	84.6	85.4	86.6	97.1	82.3	80.4	88.0	105.0
3	MOREX	26	87.1	88.8	89.6	98.0	89.7	78.7	94.0	100.0
4	ROBUST	25	86.0	87.4	92.3	95.8	88.7	77.0	97.0	98.0
5	STANDER (M64)	13	80.3	75.8	86.5	92.6	78.7	72.0	97.0	94.0
6	FOSTER (ND11055)	21	83.7	82.6	86.6	94.9	84.0	77.0	90.0	98.0
7	LEGACY (6B93-2978)	20	83.1	79.3	88.1	94.5	84.0	74.5	97.0	93.0
8	MNBRITE (MNS85)	22	84.3	85.1	88.8	96.3	84.3	76.2	94.0	99.0
9	DRUMMOND (ND15477)	18	82.6	79.5	86.4	94.5	82.3	71.1	97.0	98.0
10	LACEY (M98)	9	79.7	77.1	84.1	89.8	80.3	74.5	90.0	95.0
11	M103	7	79.2	78.1	82.3	88.4	77.7	72.0	92.0	92.0
12	ND16301	11	80.1	77.4	85.4	89.3	76.0	74.5	92.0	93.0
13	6B95-2482	4	78.2	78.0	81.0	90.3	77.7	68.6	91.0	92.0
14	6B96-3733	15	81.3	86.6	85.4	95.5	78.0	71.1	91.0	88.0
15	M106	2	76.7	73.4	79.8	83.6	74.7	75.4	91.0	89.0
16	M108	6	79.0	77.0	82.4	90.0	79.3	77.0	90.0	91.0
17	6B95-2089	12	80.2	77.8	84.0	88.3	76.0	75.4	94.0	93.0
18	M109	3	76.9	75.3	80.3	89.9	78.0	72.8	85.0	87.0
19	M110	1	74.7	73.9	76.3	84.8	73.0	74.5	88.0	85.0
20	ND16318	23	84.4	85.1	89.1	96.0	84.0	80.4	88.0	96.0
21	ND16903	17	82.2	79.0	83.6	93.1	83.3	76.2	95.0	99.0
22	ND16922	10	80.1	80.9	86.4	90.8	75.0	72.8	93.0	95.0
23	6B97-2037	19	82.9	83.1	87.6	94.4	81.7	77.9	89.0	98.0
24	6B97-2195	8	79.4	78.8	77.9	89.1	75.7	72.0	91.0	97.0
25	6B97-2245	5	78.4	77.0	81.1	87.1	80.7	70.3	88.0	92.0
26	BT386	27	87.6	87.3	90.6	106.4	89.3	81.3	96.0	99.0
27	BT484	14	80.5	79.3	86.3	88.5	81.3	73.7	89.0	93.0
28	CDC Battleford	16	81.8	78.4	85.1	101.4	83.3	77.0	91.0	93.0
AVERAGE			81.6	80.6	85.3	93.0	81.0	75.0	91.8	94.8

TABLE 9. AVE. STA. HEIGHT (CM). 2001 MISSISSIPPI VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	RANK	AVERAGE	SASKT00N
			8 STA.	SASK
1	BARBLESS	28	88.3	61.1
2	LARKER	24	84.6	52.3
3	MOREX	26	87.1	58.1
4	ROBUST	25	86.0	51.7
5	STANDER (M64)	13	80.3	46.0
6	FOSTER (ND11055)	21	83.7	56.2
7	LEGACY (6B93-2978)	20	83.1	54.4
8	MNBRITE (MNS85)	22	84.3	50.8
9	DRUMMOND (ND15477)	18	82.6	51.9
10	LACEY (M98)	9	79.7	46.4
11	M103	7	79.2	51.2
12	ND16301	11	80.1	53.6
13	6B95-2482	4	78.2	47.0
14	6B96-3733	15	81.3	55.0
15	M106	2	76.7	47.0
16	M108	6	79.0	45.3
17	6B95-2089	12	80.2	53.3
18	M109	3	76.9	47.3
19	M110	1	74.7	42.1
20	ND16318	23	84.4	57.0
21	ND16903	17	82.2	48.7
22	ND16922	10	80.1	46.8
23	6B97-2037	19	82.9	51.4
24	6B97-2195	8	79.4	53.8
25	6B97-2245	5	78.4	51.2
26	BT386	27	87.6	51.3
27	BT484	14	80.5	52.5
28	CDC Battleford	16	81.8	45.1
AVERAGE			81.6	51.0

TABLE 10 . PERIOD OF YEARS SUMMARY FOR HEIGHT (CENTIMETERS) - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	STA YR	ADJ. YRS	MEAN	RANK
1	BARBLESS	01.8	96.8	83.7	85.2	90.1	88.1	96.2	90.3	100.8	88.3	10	73	92.1	28
2	LARKER	91.2	90.3	82.5	81.1	82.4	80.6	91.3	83.5	93.9	84.6	10	73	86.2	23
3	MOREX	94.0	94.3	84.5	81.6	85.4	81.8	93.9	88.5	96.0	87.1	10	73	88.7	26
BASE AVERAGES		95.6	93.8	83.5	82.6	85.9	83.5	93.8	87.4	96.9	86.6				
4	ROBUST	92.2	91.6	82.5	81.0	82.1	79.8	93.8	86.4	94.3	86.0	10	73	87.0	25
5	STANDER (M64)	88.0	85.8	73.4	73.8	76.0	74.2	86.7	77.7	88.3	80.3	10	73	80.4	5
6	FOSTER (ND11055)	87.4	88.0	78.7	75.4	77.9	75.8	90.3	81.5	91.1	83.7	10	73	83.0	15
7	LEGACY (6B93-2978)					80.0	77.5	90.3	81.8	92.2	83.1	6	42	84.1	18
8	MNBRITE (MNS85)						79.7	92.4	84.5	93.1	84.3	5	36	86.1	22
9	DRUMMOND (ND15477)						75.2	89.3	81.8	92.5	82.6	5	36	83.7	16
10	LACEY (M98)							86.2	80.1	88.9	79.7	4	29	81.7	11
11	M103								80.5	88.2	79.2	3	23	81.4	8
12	ND16301								79.1	88.8	80.1	3	23	81.5	9
13	6B95-2482								78.5	86.8	78.2	3	23	79.9	4
14	6B96-3733								83.9	91.7	81.3	3	23	84.3	19
15	M106									85.0	76.7	2	16	78.4	2
16	M108									88.2	79.0	2	16	81.0	7
17	6B95-2089									90.5	80.2	2	16	82.7	14
18	M109										76.9	1	8	79.0	3
19	M110										74.7	1	8	76.7	1
20	ND16318										84.4	1	8	86.7	24
21	ND16903										82.2	1	8	84.4	20
22	ND16922										80.1	1	8	82.2	12
23	6B97-2037										82.9	1	8	85.1	21
24	6B97-2195										79.4	1	8	81.5	10
25	6B97-2245										78.4	1	8	80.5	6
26	BT386										87.6	1	8	90.0	27
27	BT484										80.5	1	8	82.6	13
28	CDC Battleford										81.8	1	8	83.9	17
NO. OF STATIONS		8	7	8	8	6	7	6	7	8	8				

ADJ. MEAN = VARIETY TOTAL FOR YEARS GROWN X 89 /BASE AVERAGE FOR SAME YEARS

TABLE 11. AVE. STA. LODGING (IN %). 2001 MISSISSIPPI VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	RANK	AVERAGE 2 STA.	CROOKSTN MINN	BRANDON MANITOBA
1	BARBLESS	26	37.2	6.0	68.3
2	LARKER	28	46.7	6.7	86.7
3	MOREX	24	33.3	6.7	60.0
4	ROBUST	14	22.4	4.7	40.0
5	STANDER (M64)	2	12.5	1.7	23.3
6	FOSTER (ND11055)	23	31.5	3.0	60.0
7	LEGACY (6B93-2978)	6	18.5	3.7	33.3
8	MNBRITE (MNS85)	22	31.0	3.7	58.3
9	DRUMMOND (ND15477)	1	11.1	2.3	20.0
10	LACEY (M98)	13	21.9	3.7	40.0
11	M103	8	19.7	2.7	36.7
12	ND16301	3	13.0	2.7	23.3
13	6B95-2482	10	21.1	2.3	40.0
14	6B96-3733	15	23.1	3.0	43.3
15	M106	5	17.8	2.3	33.3
16	M108	9	20.4	4.0	36.7
17	6B95-2089	17	28.6	2.3	55.0
18	M109	4	16.0	2.0	30.0
19	M110	11	21.4	2.7	40.0
20	ND16318	21	30.6	3.0	58.3
21	ND16903	7	18.8	4.3	33.3
22	ND16922	16	28.4	1.7	55.0
23	6B97-2037	19	30.4	4.0	56.7
24	6B97-2195	12	21.6	3.3	40.0
25	6B97-2245	18	29.1	5.0	53.3
26	BT386	25	33.5	3.7	63.3
27	BT484	21	30.6	3.0	58.3
28	CDC Battleford	27	41.0	5.3	76.7
AVERAGE			25.4	3.6	47.3

TABLE 12 . PERIOD OF YEARS SUMMARY FOR LODGING (PERCENT) - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	STA YR	ADJ. YRS	MEAN	RANK
1	BARBLESS	31.8	62.1	48.4	40.0	0.0	64.8	52.7	46.9	31.5	37.2	10	32	46.4	27
2	LARKER	29.8	63.5	51.4	45.0	0.0	58.8	54.3	43.0	24.0	46.7	10	32	46.1	26
3	MOREX	26.3	60.6	41.3	37.5	0.0	44.0	54.0	46.9	25.5	33.3	10	32	41.2	25
BASE AVERAGES		29.3	62.0	47.0	40.8	.000	55.8	53.6	45.6	27.0	39.0				
4	ROBUST	14.1	44.2	25.1	32.5	0.0	24.0	35.3	37.9	16.0	22.4	10	32	27.7	16
5	STANDER (M64)	10.6	44.5	14.0	17.5	0.0	16.0	32.0	30.7	9.0	12.5	10	32	21.6	8
6	FOSTER (ND11055)	11.1	38.0	15.5	37.5	0.0	20.5	40.7	31.9	14.0	31.5	10	32	25.2	13
7	LEGACY (6B93-2978)					0.0	32.0	39.7	31.5	14.5	18.5	6	16	28.0	18
8	MNBRITE (MNS85)						22.8	38.3	34.6	15.5	31.0	5	15	27.9	17
9	DRUMMOND (ND15477)						13.3	23.7	17.8	5.5	11.1	5	15	14.6	1
10	LACEY (M98)						34.3	29.2	11.5	21.9		4	11	26.8	14
11	M103							29.5	9.5	19.7		3	8	25.0	11
12	ND16301							22.5	12.0	13.0		3	8	19.8	4
13	6B95-2482							21.9	7.5	21.1		3	8	20.5	5
14	6B96-3733							32.1	10.5	23.1		3	8	27.7	15
15	M106								7.5	17.8		2	4	17.1	2
16	M108								11.5	20.4		2	4	21.5	7
17	6B95-2089								8.5	28.6		2	4	25.1	12
18	M109									16.0		1	2	18.2	3
19	M110									21.4		1	2	24.3	9
20	ND16318									30.6		1	2	35.0	23
21	ND16903									18.8		1	2	21.4	6
22	ND16922									28.4		1	2	32.3	19
23	6B97-2037									30.4		1	2	34.6	21
24	6B97-2195									21.6		1	2	24.7	10
25	6B97-2245									29.1		1	2	33.2	20
26	BT386									33.5		1	2	38.2	24
27	BT484									30.6		1	2	35.0	23
28	CDC Battleford									41.0		1	2	46.8	28
NO. OF STATIONS		5	5	4	2	1	4	3	4	2	2				

ADJ. MEAN = VARIETY TOTAL FOR YEARS GROWN X 44.6 /BASE AVERAGE FOR SAME YEARS

TABLE 13. AVE. STA. HEADING (FROM MAY 31). 2001 MISS. VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	RANK	AVERAGE 8 STA.	FARGO ND	CARRNGTN ND	OSNABRCK ND	BOTTNEAU ND	CROOKSTN MINN	MADISON WISC	BRANDON MANITOBA
1	BARBLESS	25	32.2	29.5	25.8	43.5	31.0	32.0	18.7	40.3
2	LARKER	3	30.7	26.5	23.5	39.3	33.0	31.3	18.0	38.7
3	MOREX	5	30.8	26.8	23.0	39.3	30.0	30.3	18.0	40.7
4	ROBUST	21	32.0	27.3	24.3	41.0	32.0	32.0	19.3	42.7
5	STANDER (M64)	26	32.3	27.0	24.8	42.0	32.0	31.7	19.3	43.7
6	FOSTER (ND11055)	13	31.7	26.3	23.3	41.0	34.0	31.0	18.7	42.3
7	LEGACY (6B93-2978)	27	33.2	27.8	25.5	43.0	33.0	33.7	20.7	42.7
8	MNBRITE (MNS85)	24	32.2	27.0	24.0	40.8	33.0	32.0	19.0	42.7
9	DRUMMOND (ND15477)	6	30.8	26.3	23.5	40.0	31.0	30.3	18.0	41.0
10	LACEY (M98)	15	31.8	27.3	23.5	40.5	32.0	32.0	19.0	42.7
11	M103	12	31.7	26.8	24.3	40.8	32.0	31.0	19.0	42.7
12	ND16301	9	31.5	27.0	23.0	40.3	31.0	30.7	19.0	43.0
13	6B95-2482	8	31.4	27.5	24.5	40.5	30.0	31.0	18.0	42.3
14	6B96-3733	7	31.3	26.5	23.8	40.0	31.0	30.7	19.0	42.3
15	M106	10	31.6	26.8	24.0	40.0	31.0	30.7	18.7	43.3
16	M108	23	32.2	27.3	24.8	41.8	32.0	32.0	18.7	42.7
17	6B95-2089	20	31.9	27.8	24.3	40.8	32.0	31.7	19.0	43.0
18	M109	11	31.6	27.0	23.8	40.3	31.0	31.7	18.3	43.7
19	M110	22	32.0	27.5	23.5	41.0	32.0	32.0	18.3	43.7
20	ND16318	16	31.8	27.0	23.8	40.5	32.0	31.7	19.0	42.3
21	ND16903	14	31.7	27.3	23.8	41.0	32.0	31.3	18.3	42.0
22	ND16922	17	31.8	26.3	23.8	40.5	32.0	32.3	19.0	42.7
23	6B97-2037	4	30.7	26.8	24.3	39.0	30.0	30.0	18.3	40.0
24	6B97-2195	1	29.9	25.5	23.5	39.5	29.0	29.0	18.0	39.7
25	6B97-2245	2	30.4	25.8	23.8	39.5	29.0	29.7	17.3	40.7
26	BT386	19	31.9	27.0	23.8	42.3	32.0	32.0	18.7	41.3
27	BT484	19	31.9	27.0	23.8	41.0	32.0	32.0	18.3	43.0
28	CDC Battleford	28	33.7	29.0	25.5	43.3	33.0	34.0	21.0	43.7
AVERAGE			31.7	27.1	24.0	40.8	31.6	31.4	18.7	42.1

TABLE 13. AVE. STA. HEADING (FROM MAY 31). 2001 MISS. VALLEY BARLEY NURSERY

ENT. NO.	VARIETY OR SELECTION	RANK	AVERAGE 8 STA.	SASKT00N SASK
1	BARBLESS	25	32.2	37.0
2	LARKER	3	30.7	35.0
3	MOREX	5	30.8	38.0
4	ROBUST	21	32.0	37.0
5	STANDER (M64)	26	32.3	38.0
6	FOSTER (ND11055)	13	31.7	37.0
7	LEGACY (6B93-2978)	27	33.2	39.0
8	MNBRITE (MNS85)	24	32.2	39.0
9	DRUMMOND (ND15477)	6	30.8	36.0
10	LACEY (M98)	15	31.8	37.0
11	M103	12	31.7	37.0
12	ND16301	9	31.5	38.0
13	6B95-2482	8	31.4	37.0
14	6B96-3733	7	31.3	37.0
15	M106	10	31.6	38.0
16	M108	23	32.2	38.0
17	6B95-2089	20	31.9	37.0
18	M109	11	31.6	37.0
19	M110	22	32.0	38.0
20	ND16318	16	31.8	38.0
21	ND16903	14	31.7	38.0
22	ND16922	17	31.8	38.0
23	6B97-2037	4	30.7	37.0
24	6B97-2195	1	29.9	35.0
25	6B97-2245	2	30.4	37.0
26	BT386	19	31.9	38.0
27	BT484	19	31.9	38.0
28	CDC Battleford	28	33.7	40.0
AVERAGE			31.7	37.5

TABLE 14 . PERIOD OF YEARS SUMMARY FOR DATE HEADED (FROM MAY 31) - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	STA YR	ADJ. YRS	MEAN	RANK
1	BARBLESS	24.6	29.6	21.6	34.8	35.8	33.8	21.3	28.9	26.1	32.2	10	66	29.1	26
2	LARKER	22.0	28.6	20.9	32.9	33.0	30.3	19.1	27.2	24.1	30.7	10	66	27.2	4
3	MOREX	22.2	28.9	19.5	32.8	32.5	30.3	18.9	26.5	23.8	30.8	10	66	27.0	2
BASE AVERAGES		22.9	29.0	20.6	33.5	33.7	31.4	19.7	27.5	24.6	31.2				
4	ROBUST	23.5	29.5	21.7	34.4	34.1	31.7	19.9	28.5	25.0	32.0	10	66	28.3	19
5	STANDER (M64)	24.1	30.1	21.8	34.7	34.2	32.6	20.1	28.7	25.9	32.3	10	66	28.8	24
6	FOSTER (ND11055)	22.7	28.6	20.3	33.3	33.8	30.8	19.4	27.7	24.5	31.7	10	66	27.6	7
7	LEGACY (6B93-2978)					33.9	33.4	21.1	29.4	26.6	33.2	6	38	29.3	27
8	MNBRITE (MNS85)						32.8	20.7	29.1	25.7	32.2	5	32	28.9	25
9	DRUMMOND (ND15477)						31.3	19.8	27.6	24.3	30.8	5	32	27.5	6
10	LACEY (M98)							19.7	27.6	24.5	31.8	4	25	27.9	11
11	M103								27.8	25.6	31.7	3	20	28.3	17
12	ND16301								27.8	24.4	31.5	3	20	27.9	10
13	6B95-2482								27.5	24.5	31.4	3	20	27.7	8
14	6B96-3733								28.2	24.6	31.3	3	20	28.0	12
15	M106									24.3	31.6	2	14	27.8	9
16	M108									25.2	32.2	2	14	28.5	23
17	6B95-2089									25.0	31.9	2	14	28.3	18
18	M109										31.6	1	8	28.1	13
19	M110										32.0	1	8	28.4	22
20	ND16318										31.8	1	8	28.3	15
21	ND16903										31.7	1	8	28.2	14
22	ND16922										31.8	1	8	28.3	16
23	6B97-2037										30.7	1	8	27.3	5
24	6B97-2195										29.9	1	8	26.6	1
25	6B97-2245										30.4	1	8	27.0	3
26	BT386										31.9	1	8	28.3	21
27	BT484										31.9	1	8	28.3	21
28	CDC Battleford										33.7	1	8	29.9	28
NO. OF STATIONS		7	9	6	6	6	7	5	6	6	8				

ADJ. MEAN = VARIETY TOTAL FOR YEARS GROWN X 27.7 /BASE AVERAGE FOR SAME YEARS

TABLE 15. AVE. STA. RIPE (FROM MAY 31). 2001 MISSISSIPPI VALLEY BARLEY NURSERY

NO DATA SUBMITTED

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

ENT. NO.	VARIETY OR SELECTION	RANK	AVERAGE 7 STA.	FARGO ND	CARRNGTN ND	BOTTNEAU ND	WILLISTN ND	CROOKSTN MINN	MORRIS MINN	BRANDON MANITOBA
1	BARBLESS	27	3885.1	2626.5	3864.4	3654.5	3702.9	5010.8	3810.5	4526.4
2	LARKER	26	4137.3	3541.4	3751.3	3848.2	4020.5	5010.8	4149.6	4639.4
3	MOREX	28	3817.5	3347.7	3417.7	3320.8	3778.3	4553.3	4198.1	4106.6
4	ROBUST	22	4343.4	4036.6	4628.6	3439.2	3654.5	5484.4	4843.9	4316.5
5	STANDER (M64)	11	4543.3	3444.6	4897.7	3859.0	4246.5	5263.7	5253.0	4838.5
6	FOSTER (ND11055)	17	4436.4	3751.3	4370.3	3869.8	4149.6	5915.0	4004.3	4994.6
7	LEGACY (6B93-2978)	23	4315.7	3487.6	3993.5	3864.4	3966.6	5366.0	4294.9	5236.8
8	MNBRITE (MNS85)	24	4181.9	3363.8	3880.5	3557.6	3702.9	4666.3	4989.2	5113.0
9	DRUMMOND (ND15477)	9	4567.1	3659.8	4574.8	3530.7	4079.7	5764.3	5360.6	5000.0
10	LACEY (M98)	8	4591.7	4483.3	4278.8	3783.6	3476.9	6087.2	4752.4	5279.9
11	M103	16	4457.2	4278.8	3848.2	3654.5	2965.6	5425.2	5166.8	5861.1
12	ND16301	15	4481.0	3945.1	4757.8	3713.7	3859.0	5322.9	4165.8	5602.8
13	6B95-2482	13	4529.4	3762.1	4305.7	3923.6	3746.0	5618.9	4870.8	5479.0
14	6B96-3733	18	4421.8	3708.3	3821.3	3993.5	3902.0	5737.4	4424.1	5366.0
15	M106	10	4550.2	3934.3	4887.0	3713.7	3832.1	5274.5	5705.1	4504.8
16	M108	1	4869.3	4364.9	4585.6	3961.2	4262.6	5866.5	5753.5	5290.6
17	6B95-2089	21	4347.2	3536.1	4305.7	3740.6	3805.2	5253.0	4542.5	5247.6
18	M109	3	4698.6	4230.4	4095.8	4085.0	3977.4	5398.3	5376.7	5726.6
19	M110	2	4767.0	3885.9	4639.4	4128.1	3735.2	6076.4	5602.8	5301.4
20	ND16318	5	4674.0	4095.8	5312.2	3972.0	4332.6	5145.3	4919.3	4940.8
21	ND16903	14	4481.8	3902.0	4031.2	4031.2	3982.8	5339.1	4994.6	5091.5
22	ND16922	7	4614.0	3735.2	4607.1	3869.8	4682.5	5139.9	5398.3	4865.4
23	6B97-2037	12	4534.8	4219.6	3848.2	3982.8	3864.4	5554.4	5177.6	5096.9
24	6B97-2195	19	4390.3	4321.9	3234.7	4020.5	2884.8	5915.0	5113.0	5242.2
25	6B97-2245	25	4151.9	3821.3	3918.2	3579.1	2911.7	5554.4	4241.1	5037.7
26	BT386	20	4377.2	3046.3	4251.9	3966.6	4370.3	5532.8	4219.6	5253.0
27	BT484	4	4695.5	3934.3	4693.2	3778.3	4241.1	5705.1	5129.2	5387.5
28	CDC Battleford	6	4630.2	4025.8	4693.2	4203.4	4074.3	5968.8	4757.8	4687.8
AVERAGE			4446.1	3803.2	4267.6	3823.0	3864.6	5462.5	4829.1	5072.7

TABLE 17 . PERIOD OF YEARS SUMMARY FOR AVE. YIELD (KG/HA) OVER MANITOBA, MINN, ND, AND SD - MISSISSIPPI VALLEY.

ENT NO.	VARIETY/ SELECTION	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	STA YR	ADJ. YRS	MEAN	RANK
1	BARBLESS	4616	4111	4034	3472	3209	3505	3497	3269	3329	3885	10	67	3689.9	28
2	LARKER	4867	3989	4168	3434	3365	3559	3705	3616	3632	4137	10	67	3849.6	27
3	MOREX	4980	3949	4335	3629	3475	3646	3552	4109	3538	3817	10	67	3894.2	26
BASE AVERAGES		4821	4016	4179	3512	3349	3570	3585	3665	3500	3947				
4	ROBUST	5577	4721	4796	4021	3745	3929	3984	4134	4094	4343	10	67	4328.5	20
5	STANDER (M64)	5853	4954	5261	4316	3990	3949	4500	4395	4345	4543	10	67	4598.7	5
6	FOSTER (ND11055)	5602	5189	5111	4203	3630	3929	4095	4583	4438	4436	10	67	4509.9	13
7	LEGACY (6B93-2978)					4003	4097	4230	4412	4413	4316	6	42	4491.7	14
8	MNBRITE (MNS85)						3794	4032	3949	4057	4182	5	36	4180.9	24
9	DRUMMOND (ND15477)						3848	4416	4306	3972	4567	5	36	4392.2	18
10	LACEY (M98)							4431	4523	4379	4592	4	28	4650.7	2
11	M103								4601	4467	4457	3	21	4642.3	3
12	ND16301								4227	4482	4481	3	21	4546.4	8
13	6B95-2482								4348	4388	4529	3	21	4561.7	7
14	6B96-3733								4497	4329	4422	3	21	4545.6	9
15	M106									4391	4550	2	15	4589.0	6
16	M108									4419	4869	2	15	4757.8	1
17	6B95-2089									4321	4347	2	15	4453.6	17
18	M109										4699	1	7	4537.4	10
19	M110										4767	1	7	4603.5	4
20	ND16318										4674	1	7	4513.6	12
21	ND16903										4482	1	7	4328.0	21
22	ND16922										4614	1	7	4455.7	16
23	6B97-2037										4535	1	7	4379.2	19
24	6B97-2195										4390	1	7	4239.6	22
25	6B97-2245										4152	1	7	4009.5	25
26	BT386										4377	1	7	4227.0	23
27	BT484										4696	1	7	4534.4	11
28	CDC Battleford										4630	1	7	4471.3	15
NO. OF STATIONS		7	6	6	6	6	8	7	6	8	7				

ADJ. MEAN = VARIETY TOTAL FOR YEARS GROWN X 3811.2 /BASE AVERAGE FOR SAME YEARS

Table 18. Percent plump (over 6/64) for entries grown in Bottineau, ND and Kernen, Saskatchewan.

Entry Name	Bottineau	Kernen
1 Barbless	59.5	85
2 Larker	74.3	90
3 Morex	46.1	87
4 Robust	63.4	94
5 Stander	79.1	97
6 Foster	61.3	96
7 Legacy	59.5	96
8 MNBrite	71.7	95
9 Drummond	81.9	97
10 Lacey	73.1	96
11 M103	79.3	97
12 ND16301	80.6	96
13 6B95-2482	77.7	95
14 6B96-3733	89.1	98
15 M106	80.4	95
16 M108	80.8	94
17 6B95-2089	71.7	96
18 M109	68.4	96
19 M110	73.1	97
20 ND16318	85.4	98
21 ND16903	83.5	97
22 ND16922	80.2	98
23 6B97-2037	85.1	98
24 6B97-2195	72.4	95
25 6B97-2245	70.8	95
26 BT386	67.5	97
27 BT484	82.2	94
28 CDC Battleford	58.1	93

Table 19. Fusarium head blight severities for entries grown at Carrington and Osnabrock (1 = no disease, 5 = severe)

Entry	Osnabrock	Carrington
Barbless	3	2
Larker	2.5	1.8
Morex	2.5	1.8
Robust	2.8	2.5
Stander (M64)	3	2
Foster (ND11055)	2.3	1.3
Legacy(6B93-2978)	2.5	1.3
MNBrite (MNS85)	2	1.5
Drummond (ND15477)	2.3	1.3
Lacey (M98)	2.5	1.5
M103	2.3	1
ND16301	3	1.8
6B95-2482	2.5	1.5
6B96-3733	2	1.3
M106	2.8	1.3
M108	3	1.5
6B95-2089	3	1.8
M109	3	1.5
M110	2.5	1.8
ND16318	2.8	1.5
ND16903	2.5	1
ND16922	2.8	1.5
6B97-2037	2.5	1.5
6B97-2195	2.8	1.8
6B97-2245	3	1.3
BT386	3	1.3
BT484	2.5	1.8
CDC Battleford	2.8	2.3

TABLE 20: Parentage and origin of entries in the 2001 Mississippi Valley Uniform Regional Barley Nursery.

Entry #	Cl# or Contributor	Name	Parentage
1.	5105	Barbless	Oderbrucker/Lion
2.	10648	Larker	Titan/Kindred/3/Newal/Peatland//Montcalm
3.	15773	Morex	Cree/Bonanza
4.	476976	Robust	Morex/Manker
5.	Minnesota	Stander (M64)	Robust 2*/3/Cree/Bonanza//Manker/4/Robust/Bumper
6.	PI 592758	Foster (ND11055)	Robust/3/ND5570//Glenn/Karl
7.	Busch Ag. Res.	Legacy(6B93-2978)	Bumper/Karl//Bumper/Manker/3/Bumper/Karl/4/Excel
8.	PI 603050	MNBrite (MNS85)	M90-89/M69
9.	North Dakota	Drummond (ND15477)	ND9712//Stander/ND12200
10.	Minnesota	Lacey (M98)	M78/M79
11.	Minnesota	M103	M84/M81
12.	North Dakota	ND16301	Foster//ND12200/6B88-3213
13.	Busch Ag.	6B95-2482	6B89-2126/ND10981
14.	Busch Ag.	6B96-3733	6B8-3312//6B89-2126/Foster
15.	Minnesota	M106	M92-334/M81
16.	Minnesota	M108	M92-395/M83
17.	Busch Ag.	6B95-2089	6B84-2912/B1601//6B88-3213
18.	Minnesota	M109	Lacey/M95
19.	Minnesota	M110	M93-117/M95
20.	North Dakota	ND16318	ND13063//ND12200/6B88-3213
21.	North Dakota	ND16903	ND14156/ND14296
22.	North Dakota	ND16922	ND14161/ND14296
23.	Busch Ag.	6B97-2037	6B92-7098/6B91-6086
24.	Busch Ag.	6B97-2195	6B92-7098/M75
25.	Busch Ag.	6B97-2245	6B92-7098/M75
26.	Manitoba	BT386	CDC Sisler/M75
27.	Saskatchewan	BT484	Stander/SM93464
28.	Saskatchewan	CDC Battleford	M67/BT411

*Entries 18-28 are new for 2001.

Minnesota parents:

M69 = M44/Excel

M78 = M66/M55

M79 = M66/Stander

M84 = Cheri/M66//Excel/3/Stander

M92-334 = M89-376/Stander

M92-395 = M81/M76

North Dakota 6-row:

ND9712 = Hazen*2/WPG821

ND12200 = ND9256/Azure

Table 21. Agronomic data for varieties and selections grown in the 2001 Mississippi Valley Barley Nursery under irrigation at Aberdeen, Idaho.

No.	Entry	Parentage	Heading	Height	Lodging	Yield		Test	Plump		pan
			from Jan 1			bu/a	Rank	Weight	6/64	5.5/64	
1	Barbless		184	41	84	87.9	28	46.4	64	22	13
2	Larker		174	40	88	117.8	26	51.3	86	10	4
3	Morex		172	39	80	116.4	27	50.4	86	10	4
4	Robust		174	39	70	130.0	24	53.2	94	5	0
5	Stander		176	38	68	145.0	17	53.6	90	8	2
6	Foster		174	37	28	165.0	1	53.0	96	3	0
7	Legacy(6B93-2978)	Bmpr/Krl//Bmpr/Mnkr/3/Bmpr/Krl/4/Excl	175	38	80	142.5	20	52.6	88	8	3
8	MNBrite	M90-89/M69	174	39	90	132.1	23	53.4	94	4	1
9	Drummond (ND15477)	ND9712//Stander/ND12200	173	38	22	151.8	11	54.1	94	4	1
10	Lacey (M98)	M78/M79	174	38	55	142.9	18	54.0	92	6	2
11	M103	M84/M81	174	38	35	146.8	16	53.8	94	5	1
12	ND16301	Foster//ND12200/6B88-3213	174	38	5	162.1	3	53.8	96	4	1
13	6B95-2482	6B89-126/ND10981	174	36	12	158.4	4	55.5	95	4	0
14	6B96-3733	B3213//6B89-2126/Foster	175	39	45	155.2	6	54.4	96	4	0
15	M106	M92-334/M81	174	36	32	162.8	2	55.0	92	6	2
16	M108	M92-395/M83	174	37	64	153.6	10	53.4	89	8	3
17	6B95-2089	6B84-2912/B1601//6B88-3213	175	37	60	154.2	8-9	54.6	90	8	2
18	M109	Lacey/M95	174	35	82	147.3	15	54.6	92	6	2
19	M110	M93-117/M95	174	35	82	147.8	13	53.8	95	4	1
20	ND16318	ND13063//ND12200/6B88-3213	174	39	62	149.2	12	53.0	96	4	1
21	ND16903	ND14156/ND14296	174	38	45	147.6	14	54.2	93	6	1
22	ND16922	ND14161/ND14296	174	37	32	154.3	7	54.1	94	5	0
23	6B97-2037	6B92-7098/6B91-6086	173	36	95	142.8	19	54.0	92	7	2
24	6B97-2195	6B92-7098/M75	172	35	52	154.2	8-9	54.4	91	8	2
25	6B97-2245	6B92-7098/M75	173	34	38	136.0	21	53.1	93	6	1
26	BT386	CDC Sisler/M75	178	37	78	125.6	25	50.7	85	10	5
27	BT484	Stander/SM93464	174	36	68	158.3	5	52.2	92	8	1
28	CDC Battleford	M67/Bt411	178	38	100	132.3	22	50.5	73	18	9

Average 143.57
 F Ratio 8.35
 LSD .05 16.42
 C.V. 8.13