

2002 MARYLAND WHEAT & BARLEY VARIETY PERFORMANCE TRIALS

<http://www.agnr.umd.edu/users/nrsl/crops/wheat/>

Wheat and barley cultivar trials were conducted by the Maryland Agricultural Experiment Station and the Department of Natural Resource Science and Landscape Architecture at five locations across Maryland in the 2001/2002 season: (1) Lower Eastern Shore Research and Education Center's (REC) Poplar Hill Facility near Quantico in Wicomico County; (2) Wye REC at Queenstown in Queen Anne's County; (3) Central Maryland REC's Beltsville Facility in Prince George's County; (4) Central Maryland REC's Clarksville Facility in Howard County; and (5) Western Maryland REC near Keedysville in Washington County.

Entries that are generally available to Maryland producers and that are commonly grown in the state are selected each year for the tests. In addition, new varieties, commercial brands, and advanced breeding lines are included in the tests to compare their performance to that of known varieties. Thirty-four wheat entries and sixteen barley entries made up the 2002 tests. Two triticale (a wheat/rye cross) entries were included in the wheat trials. One malting barley breeding line was also included in the barley trials. Table 2 lists the suppliers and seed treatments applied to each entry. The following characteristics were evaluated in these trials: grain yield (adjusted to 13.5% moisture), test weight, moisture content at harvest, heading date, lodging, plant height, and powdery mildew reaction. Lodging was based on a score of 0 - 10 where 0=no lodging and 10=flat. Heading date was determined when approximately 50% of the small grain heads had cleared the boot.

Wheat and barley entries in the respective tests were planted (conventional tillage) at all locations in seven-row plots 16 feet in length and later trimmed to 12 feet in randomized blocks with three replications per entry. Both the wheat and barley were planted in 6 inch rows. Wheat was seeded at a rate of 18 seeds per foot of row, which represents a population of approximately 1.3 million plants per acre (or 30 plants/sq. ft.) based on 90% germination. Seeding rate for barley was 96 lb/acre. Plots were mechanically harvested using a small plot combine (Wintersteiger Seedmech Nurserymaster Elite). Plot weight, test weight, and moisture content data of the wheat trials were obtained with a HarvestMaster HM-400 attached to the plot combine. Other location-specific management factors are summarized in Table 1.

PRODUCTION YEAR

Planting conditions were good at all five locations throughout October of 2001. The winter months were relatively warm and unusually dry. There was no winter kill noted in any of the plots. Spring green-up occurred earlier than usual and consequently heading dates were a week to 10 days earlier than usual. Powdery mildew was heavy at the Wye and Poplar Hill. No scab was observed across the state. The spring was also drier than average with late frosts that damaged the earlier heading barley entries.

RESULTS

Wheat and barley performance data are summarized in the tables that follow. There are tables summarizing the individual test locations for both small grain crops. In addition, there are regional and statewide summary tables. A two and three-year summary table for selected entries of each crop is also included (see Index to Tables).

Data were statistically analyzed to determine if differences existed between varieties at each location. At the bottom of each table a mean, a LSD, and a CV are reported. Least significant differences (LSD) were calculated at the 5 % probability level. “NS” in the tables indicates that no statistically significant differences were observed for that character at the 5% probability level. The coefficient of variation (CV) is a measure of field variability in relation to the mean. CV’s below 15% are an indication that the precision of the test is good in distinguishing differences between varieties. A CV above 15% indicates other factors than varietal differences are causing variability. These factors can include fertility management, different soil types within the study, low spots in the field, etc.

As an aid to assess the performance of individual varieties in the test, relative yield values were calculated. Relative yield value of a variety is the percentage of the mean yield for all varieties at a location. A variety with a relative yield that is consistently greater than 100 is a variety that consistently yields higher than the mean yield of all of the varieties at that location. Tables 4 and 13 summarize the relative yields of wheat and barley, respectively, in the 2002 test. In these tables, the relative yields of those varieties with an asterisk were not statistically different from the highest yielding variety at that location.

INDEX TO TABLES

	<u>PAGE</u>
Table 1. Test Plot Information.....	3
Table 2. Suppliers of private and public wheat and barley varieties.....	4
<u>Wheat Performance</u>	
Table 3. Statewide.....	5
Table 4. Relative Yield.....	6
Table 5. Two and Three Year Summary.....	7
Tables 6 - 11. Individual Locations.....	8-13
<u>Barley Performance</u>	
Table 12. Statewide.....	14
Table 13. Relative Yield.....	14
Table 14. Two and Three Year Summary.....	15
Table 15 -19. Individual Locations.....	15-17

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The cooperation and support offered by commercial seed companies, state crop improvement associations, and several University Experiment Stations in supplying seed and information about varieties are greatly acknowledged. Finally, a special note of appreciation is also extended to the County Extension Educators who disseminate this information.

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Table 1. 2001/2002 Wheat and Barley Variety Test Plot Information.

1. Lower Eastern Shore Research and Education Center (LESREC) - Poplar Hill Facility
Wicomico County - Quantico, MD

Planting dates: 10/12/01 (wheat and barley). Harvest dates: 6/20/02 (wheat); 6/4/02 (barley)
 Soil Type: Mattapeke silt loam. Previous crop: corn. Fertilizer: 25-20-40-20S (Fall) ; Spring: 40-20-40-24S, followed by 50# N/A of 30-0-0 UAN (for both crops).
 Herbicide: Harmony Extra 0.5 oz/A in the spring.

Farm Staff: Ron Mulford, Craig Anderson, Fred Senkbeil, Dover Dickerson, and Jim Martin.

2. Wye Research and Education Center (WREC)
Queen Anne's County - Queenstown, MD

Planting date: 10/10/01 . Harvest dates: 6/18/02 (wheat); 6/5/02 (barley)
 Soil Type: Matapeake silt loam. pH = 6.1. Previous crop: corn. Fertilizer: 200 # of 16-8-8(Fall) for both crops; Spring: 80# of N/A split 40# as ammonium nitrate and 40# N/A of 30-0-0 UAN; 60# of N/A as ammonium nitrate (barley)

Insecticide: Warrior at 3 ounces/A for aphid control (12/6/01)

Herbicide: Harmony Extra 0.5 oz/A in the spring.

Farm Staff: Mark Sultenfuss, Reese Stafford, and Joe Streett.

3. Central Maryland Research and Education Center (CMREC) - Beltsville Facility (Hayden Farm)
Prince George's County - Beltsville, MD

Planting dates: 10/4/01. Harvest dates: 6/21/02 (wheat); 6/10/02 (barley)

Soil Type: Sassafra sandy loam. Previous crop: soybeans.

Fertilizer: Fall: Wheat = 300# of 10-0-31

Spring: 30# N of 30-0-0 UAN followed by another 40# N of 30-0-0 UAN

Herbicide: Harmony Extra 0.5 oz/A with second spring N application

Farm Staff: Kevin Conover, Mike Heyser, and John Bachman.

4. Central Maryland Research and Education Center (CMREC) - Clarksville Facility
Howard County - Clarksville, MD

Planting dates: 10/4/01 (wheat and barley). Harvest dates: 6/25/02 (wheat); 6/13/02 (barley)

Soil type: Chester silt loam. pH= 6.8. Previous crop: corn

Fertilizer: Fall: 18-40-90. Spring: Wheat = 60# N. of 30-0-0 UAN; Barley = 40# N of. 30-0-0 UAN

Herbicide: Harmony Extra 0.3 oz/A in March 2002, and 0.3 oz/A in April 2002

Farm Staff: Dave Justice, and Tim Ridgley Sr.

5. Western Maryland Research and Education Center (WREC) - Keedysville Facility
Washington County - Keedysville, MD

Planting dates: 10/3/01 (wheat and barley). Harvest dates: 6/24/02 (wheat); 6/14/02 (barley).

Soil Type: Hagerstown silt loam (silty variant); Previous crop: corn

Fertilizer: Fall: none. Spring: Wheat = 45# N as Urea; Barley = 40# N as Urea

Herbicide: Harmony Extra 0.5 oz/A

Farm Staff: Tim Ellis and Dave Wyand.

Table 2. Sources of Winter Wheat, Triticale, and Barley Entries Tested in Maryland, 2002.

Supplier/Address/Local Rep.	Brand	Varieties and Seed Treatments*
AgriPro Wheat; 6025 W. 300 S., Lafayette, IN 47905; 1(800)858-4603	AgriPro	Patton, M94*1549(RT)
Hoffman Seeds, Inc.; 144 Main Street, Landisville, PA 17538; Jim Popham 1(800)776-7929	Hoffman	Century II (DXL)
Novartis Seeds, Inc.; P.O. Box 340, Hartsville, SC 29551	NK	Coker 9835 (DXL), Coker 9663 (DXL), Coker 9025 (DXL), Coker 9184 (DXL)
Pioneer Hi-Bred Intl., Inc.; P.O. Box 280, Mount Joy, PA 17552	Pioneer	25R37 (DXL), 26R24 (DXL)
Resource Seeds, Inc.; 2355 Rice Pike, Union, KY 41091 Local Rep. = Southern States Coop.	RSI	301, 331 (None)
Southern States Coop.; P.O. Box 26234, Richmond, VA 23260; Jerry Hevner (302) 629-7991	FFR	518 (RT), 520 (RT), 522 (B), 535 (GT), 550 (RT), 560 (GT), 566 (RT), Exp 564 (RT)
UniSouth Genetics, Inc.; 2640-C Nolensville Road, Nashville, TN 37211; David McKinney 1(800)505-3133	USG	3209 (RT), 3408 (RT), 3650 (RT)
Florida Agric. Exp. Stn.	-----	FL 304 (RT)
University of Georgia, GA Station, 1109 Experiment St., Griffin, GA 30223	-----	91426 E39 (D), GA 901146E15 (D)
Maryland Agric. Exp. Stn.	-----	Catoctin (RT), MD Breeding Lines (RT)
Virginia Tech and Virginia Crop Imp. Assoc., 9142 Atlee Station Road, Mechanicsville, VA 23111	-----	Madison (RT), Jackson (RT), Pocahontas (RT), Roane (RT), Sisson (RT), McCormick (RT), VA Breeding Lines (RT)
Kentucky Agric. Exp. Stn.	-----	Barsoy (RT)
Maryland Agric. Exp. Stn.	-----	Catchpenny (RT), MD Breeding Lines (RT)
Pennsylvania Agric. Exp. Stn.	-----	Pennco (RT), Pennbar 66 (RT), PA breeding lines (RT)
Virginia Tech and Virginia Crop Imp. Assoc., 9142 Atlee Station Road, Mechanicsville, VA 23111	-----	Nomini (RT), Callao (RT), Price (RT), VA Breeding Lines (RT)
USDA, ARS; Aberdeen, ID	-----	Ab 1347 (Malt) (RT)

*Seed treatment codes in parentheses after each entry are as follows: **RT** = Raxil/Thiram; **RA** = Raxil/Apron, **RAL** = Raxil/Allegiance; **B** = Baytan; **BT** = Baytan/Thiram; **G** = Gaucho; **D** = Dividend; **DXL** = Dividend/Apron.

The information presented here is also available on the World Wide Web at:

<http://www.agnr.umd.edu/users/nrsl/crops/wheat/>

Table 3. 2002 Maryland State Wheat Variety Performance Trials Averaged Over 4 Locations in Maryland - **Quantico, Queenstown, Clarksville, and Keedysville**¹.

Wheat Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (days after March 31st)	Height (in)	Beards² (Awns)	Proj. P. Mildew Resistance³
VA 98W-593	81.8	60.9	31	32	None	R
SS-560	81.0	58.4	32	34	None	R-MR
McCormick	78.9	60.6	32	31	None	R
26R24	78.9	59.1	30	36	None	MS-S
SS-550	78.4	58.4	30	33	None	MR
USG 3209	78.1	57.9	31	32	None	R-MR
SS-518	78.1	58.3	27	32	None	R-MR
M94 [†] 1549-1	77.3	59.7	28	33	Long	MR
Sisson	76.9	58.7	29	33	None	MR-MS
SS-520	76.2	57.8	29	36	None	MR
SS-522	75.5	59.6	31	35	None	S
MD 71-19	75.4	59.0	31	33	None	MR
SS-535	75.3	59.6	32	33	Tip	MR-MS
Century II	74.2	58.7	30	35	None	S
MD 11-52	73.5	59.3	30	31	Tip	R
GA 92485E15	73.1	59.8	28	35	Long	MR
RSI 331*	72.9	51.7	30	38	Long	R
MD 71-5	72.8	58.8	30	31	Long	R-MR
RSI 301*	72.6	53.1	28	36	Long	R-MR
USG 3650	72.6	59.0	32	36	None	MR
25R37	72.1	59.3	33	35	None	MR-MS
SS-Exp 564	71.6	57.9	33	35	None	MS
Coker 9663	71.1	58.3	30	39	None	S
USG 3408	71.0	59.5	32	35	None	MR-MS
Patton	70.0	58.7	31	37	None	S
Coker 9184	69.7	59.6	33	34	None	S
8Fawwon76	69.4	59.1	33	35	Long	MS
Jackson	69.1	59.0	32	37	None	S
Pocahontas	68.0	58.6	29	34	None	S
Madison	66.8	57.9	28	35	Tip	MS-S
SS-566	65.8	58.2	33	38	Tip	MR-MS
Coker 9835	65.6	56.8	32	31	None	S
Roane	65.1	60.0	34	34	None	MS-S
Coker 9025	64.7	57.6	34	35	None	MS-S
Catocin	62.6	59.3	32	37	None	MS-S
Florida 304	50.9	58.0	31	37	Long	VS
State-wide Means	72.1	58.5	31	35	-	-
LSD (0.05)	5.3	0.8	1 day	1	-	-
CV (%)	9.2	1.7	4.4	4.5	-	-

¹ Only locations where the coefficient of variation for grain yield was lower than 10% were included in the state average.

² Entries with a few awns at the tip of the spike were labeled as tip-awned.

³ Projected Resistance attributed to genetics of the variety. Powdery mildew is also affected by seed treatment.

R=Resistant, MR=Moderately Resistant, MS= Moderately Susceptible, S= Susceptible, VS= Very Susceptible. Disease ratings provided by Dr. Arvydas Grybauskas and Sydney Wallace, Dept. of Nat. Res. Sci., UMD.

* This is a wheat/rye cross or triticale, not a wheat variety. Its standard test weight is similar to barley (48 lbs/bu).

Table 4. Relative Yield of Wheat Entries Compared to the Mean Yield of All Entries at Each Location and Throughout the State in 2002.

Wheat Entry	State	Quantico	Queenstown	Beltsville	Beltsville No-Till	Clarksville	Keedysville
VA 98W-593	113*	124*	115*	114*	116*	102	112
SS-560	112*	116*	112*	111	102*	113*	107
McCormick	109*	120*	112*	109	108*	98	107
26R24	109*	101	108*	120*	108*	111*	116*
SS-550	109*	111	113*	98	121*	116*	91
USG 3209	108*	100	93	111	112*	114*	127*
SS-518	108*	105	111*	104	104*	106*	109
M94*1549-1	107*	110	109*	118*	113*	107*	101
Sisson	107*	111	109*	130*	109*	115*	90
SS-520	106	106	113*	94	107*	102	100
SS-522	105	104	111*	94	104*	97	104
MD 71-19	105	112	102	98	105*	101	102
SS-535	104	108	102	99	114*	99	107
Century II	103	99	111*	99	93	99	100
MD 11-52	102	101	96	87	103*	110*	100
GA 92485E15	101	100	102	104	84	105	97
RSI 331	101	117*	105*	102	110*	97	80
MD 71-5	101	106	108*	95	84	91	97
RSI 301	101	108	110*	88	101	103	84
USG 3650	101	102	98	97	96	99	104
25R37	100	103	91	102	101	107*	98
SS-Exp 564	99	100	91	107	114*	109*	97
Coker 9663	99	91	100	118*	106*	100	101
USG 3408	98	102	100	101	94	90	102
Patton	97	87	96	95	99	96	108
Coker 9184	97	96	88	88	90	100	102
8Fawwon76	96	90	91	89	90	104	99
Jackson	96	88	102	105	96	99	92
Pocahontas	94	87	94	108	92	98	97
Madison	93	93	89	77	88	92	96
SS-566	91	89	90	89	86	90	94
Coker 9835	91	83	86	98	103*	99	94
Roane	90	96	88	101	109*	81	96
Coker 9025	90	88	83	102	108*	99	89
Catoctin	87	78	84	70	71	89	95
Florida 304	71	66	88	77	60	65	60

*Indicates that the relative yield of an entry is not significantly different ($LSD_{0.05}$) from the highest yielding entry at that location.

Table 5. Two-year and Three-year Averages of Grain Yield and Test Weight of Wheat Entries in Maryland, 2000-2002.

Entry	Two-year average		Three-year average	
	Yield (bu/A)	Test Weight (lbs/bu)	Yield (bu/A)	Test Weight (lbs/bu)
USG 3209	83.0	57.5	79.8	57.2
VA 98W-593	83.0	60.0	-	-
26R24	82.2	58.2	-	-
SS-550	81.2	58.1	78.3	57.5
Sisson	81.1	58.2	79.4	57.8
Century II	80.0	58.4	76.1	58.1
25R37	79.7	58.6	-	-
SS-520	79.4	57.1	76.2	56.7
SS-522	79.4	59.2	74.6	58.6
SS-518	79.3	57.1	75.6	56.5
SS-535	78.8	58.9	76.0	58.5
MD 11-52	78.1	58.5	76.0	58.0
MD 71-19	77.5	58.5	74.5	57.8
Coker 9663	76.7	57.9	72.5	56.4
Agripro Patton	76.6	58.1	73.9	57.3
Coker 9184	75.5	58.9	-	-
Pocahontas	75.5	58.0	72.1	57.5
USG 3408	74.0	58.6	70.6	58.1
Roane	73.8	59.4	72.0	58.7
Coker 9835	73.8	56.8	72.4	56.4
Jackson	73.7	58.5	71.9	58.0
8Fawwon76	72.6	58.8	-	-
Madison	71.7	57.6	68.9	56.9
SS-566	71.2	57.5	68.8	57.2
Catocin	69.1	58.5	-	-
Florida 304	59.1	57.9	57.7	57.3

Table 6. 2002 Maryland State Wheat Variety Performance Trials at the Poplar Hill Facility - **Quantico, MD.**

Wheat Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (days after March 31st)
VA 98W-593	82.0	61.7	21
McCormick	79.6	61.2	25
RSI 331*	77.6	52.5	25
SS-560	76.6	58.9	25
MD 71-19	73.9	59.3	23
SS-550	73.4	58.7	22
Sisson	73.3	58.8	20
M94†1549-1	73.0	59.7	18
SS-535	71.5	59.7	26
RSI 301*	71.3	53.9	21
MD 71-5	70.2	59.3	22
SS-520	70.0	58.3	21
SS-518	69.4	58.9	19
SS-522	69.1	60.0	24
25R37	67.9	60.3	26
USG 3408	67.4	60.2	25
USG 3650	67.3	58.9	25
26R24	67.0	58.9	21
MD 11-52	66.8	59.6	22
GA 92485E15	66.0	60.6	19
SS-Exp 564	65.9	58.8	26
USG 3209	65.8	58.1	23
Century II	65.2	60.0	23
Roane	63.8	61.6	26
Coker 9184	63.3	61.5	26
Madison	61.5	58.4	19
Coker 9663	60.3	57.9	23
8Fawwon76	59.6	60.2	25
SS-566	58.9	59.0	27
Jackson	58.2	58.9	26
Coker 9025	58.0	58.8	27
Pocahontas	57.7	57.8	21
Patton	57.4	59.1	24
Coker 9835	55.0	56.9	25
Catocin	51.6	59.4	25
Florida 304	43.3	57.8	23
Location Means	66.1	59.0	23
State-wide Means	72.1	58.5	31
LSD (0.05)	6.6	0.9	1 day
CV (%)	6.2	0.9	4.0

* This is a wheat/rye cross or triticale, not a wheat variety. Its standard test weight is similar to barley (48 lbs/bu).

Table 7. 2002 Maryland State Wheat Variety Performance Trials at the Wye Facility - **Queenstown, MD.**

Wheat Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (days after March 31st)	Height (in)
VA 98W-593	92.7	61.4	25	31
SS-550	91.5	59.0	25	32
SS-520	91.1	57.0	23	35
McCormick	90.3	60.7	26	29
SS-560	90.1	58.2	28	34
SS-518	89.8	58.8	22	30
Century II	89.7	59.4	24	33
SS-522	89.5	60.3	25	34
RSI 301*	88.5	55.0	22	36
Sisson	88.2	59.1	24	31
M94 [†] 1549-1	88.1	59.6	22	33
MD 71-5	87.3	59.1	25	30
26R24	87.1	59.5	25	34
RSI 331*	84.7	53.7	24	39
MD 71-19	82.8	59.0	26	32
SS-535	82.7	59.7	27	31
Jackson	82.3	59.0	26	33
GA 92485E15	82.3	60.5	23	33
Coker 9663	80.9	59.1	24	36
USG 3408	80.7	60.5	26	34
USG 3650	78.8	59.1	28	33
MD 11-52	77.9	59.3	25	29
Patton	77.3	58.5	25	35
Pocahontas	75.6	58.1	24	33
USG 3209	75.4	58.0	25	31
25R37	73.9	60.6	27	33
SS-Exp 564	73.4	58.5	28	33
8Fawwon76	73.3	60.2	27	34
SS-566	72.6	60.3	28	37
Madison	72.0	57.9	24	34
Coker 9184	71.4	61.5	27	31
Roane	71.1	60.3	28	32
Florida 304	71.0	58.9	24	36
Coker 9835	69.2	57.1	26	30
Catocin	67.8	59.5	26	36
Coker 9025	66.9	59.8	27	34
Location Means	80.8	59.0	25	33
State-wide Means	72.1	58.5	31	35
LSD (0.05)	8.9	0.9	1 day	2
CV (%)	6.7	0.9	3.0	3.4

* This is a wheat/rye cross or triticale, not a wheat variety. Its standard test weight is similar to barley (48 lbs/bu).

Table 8. 2002 Maryland State Wheat Variety Performance Trials at the Clarksville Facility - **Clarksville, MD.**

Wheat Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (days after March 31st)	Height (in)	Lodging (0-10)
SS-550	85.7	59.4	37	33	0.0
Sisson	84.3	58.6	33	34	1.0
USG 3209	84.0	58.3	36	32	0.0
SS-560	83.3	57.8	38	34	0.3
26R24	81.5	58.9	35	37	0.7
MD 11-52	80.6	59.5	35	32	0.0
SS-Exp 564	80.5	57.1	38	38	0.7
25R37	79.0	59.3	38	35	0.0
M94 [†] 1549-1	78.5	59.5	33	33	0.0
SS-518	78.0	57.2	32	34	3.7
GA 92485E15	77.0	58.9	33	36	0.0
8Fawwon76	76.3	59.2	38	36	0.7
RSI 301*	75.7	52.5	31	37	0.0
VA 98W-593	75.4	61.3	38	33	0.7
SS-520	75.0	56.9	34	37	2.7
MD 71-19	74.7	59.3	37	33	0.7
Coker 9184	73.9	59.4	38	34	0.0
Coker 9663	73.6	58.0	34	41	0.0
Coker 9835	73.1	57.2	38	31	0.0
SS-535	73.1	59.2	37	35	0.0
Century II	72.9	59.2	34	36	0.0
Coker 9025	72.7	57.6	39	37	0.7
Jackson	72.6	59.6	38	39	1.0
USG 3650	72.5	58.7	37	37	0.0
McCormick	72.1	60.9	37	33	0.3
Pocahontas	71.9	58.8	34	35	1.7
SS-522	71.6	58.8	36	35	1.0
RSI 331*	71.5	50.9	32	38	0.0
Patton	70.9	58.8	37	38	0.7
Madison	67.8	57.3	33	37	0.3
MD 71-5	66.7	58.7	36	31	0.0
SS-566	66.6	58.3	38	39	0.3
USG 3408	66.0	58.1	38	36	0.7
Catocin	65.8	58.7	37	37	1.7
Roane	59.3	60.4	40	35	0.0
Florida 304	47.5	57.4	37	38	0.0
Location Means	73.6	58.3	36	35	0.5
State-wide Means	72.1	58.5	31	35	0.5
LSD (0.05)	8.1	1.0	1 day	3	1.4
CV (%)	6.8	1.1	2.1	4.4	78.0

* This is a wheat/rye cross or triticale, not a wheat variety. Its standard test weight is similar to barley (48 lbs/bu).

Table 9. 2002 Maryland State Wheat Variety Performance Trials at the Keedysville Facility - **Keedysville, MD.**

Wheat Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (days after March 31st)	Height (in)
USG 3209	87.1	57.1	39	32
26R24	79.9	59.0	37	37
VA 98W-593	77.2	59.3	38	34
SS-518	75.0	58.3	37	32
Patton	74.3	58.5	39	37
SS-535	73.9	59.9	38	33
SS-560	73.9	58.5	37	35
McCormick	73.8	59.7	39	32
USG 3650	71.7	59.1	39	37
SS-522	71.6	59.0	38	35
MD 71-19	70.0	58.4	39	34
Coker 9184	69.9	56.2	40	35
USG 3408	69.9	59.1	39	35
Coker 9663	69.7	58.3	38	39
M94 [†] 1549-1	69.6	60.2	38	33
Century II	68.8	56.4	38	35
MD 11-52	68.7	58.7	37	31
SS-520	68.7	58.8	38	35
8Fawwon76	68.4	56.9	40	36
25R37	67.5	57.1	40	37
MD 71-5	67.0	58.2	38	32
GA 92485E15	66.9	59.3	38	36
Pocahontas	66.8	59.6	37	36
SS-Exp 564	66.4	57.1	39	35
Roane	66.3	57.9	39	35
Madison	65.9	58.0	37	35
Catoctin	65.1	59.5	38	37
Coker 9835	65.0	55.9	39	33
SS-566	65.0	55.4	38	37
Jackson	63.2	58.6	38	38
SS-550	62.9	56.7	38	33
Sisson	61.9	58.1	37	33
Coker 9025	61.2	54.2	41	35
RSI 331*	57.6	49.6	38	36
RSI 301*	54.9	50.9	37	34
Florida 304	41.6	57.7	39	37
Location Means	68.8	57.6	38.3	35
State-wide Means	72.1	58.5	31	35
LSD (0.05)	8.8	1.5	3 days	3
CV (%)	7.9	1.6	4.1	4.4

* This is a wheat/rye cross or triticale, not a wheat variety. Its standard test weight is similar to barley (48 lbs/bu).

Table 10. 2002 Maryland State Wheat Variety Performance Trials at the Hayden Farm - **Beltsville, MD.**

Wheat Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (days after March 31st)	Height (in)
Sisson	73.7	56.2	31	31
26R24	67.8	56.0	29	32
Coker 9663	66.9	56.9	28	35
M94 [†] 1549-1	66.7	55.9	29	31
VA 98W-593	64.8	58.0	31	30
SS-560	62.8	55.9	32	31
USG 3209	62.7	56.2	31	29
McCormick	61.7	59.3	32	31
Pocahontas	61.2	55.0	27	33
SS-Exp 564	60.3	55.5	29	32
Jackson	59.3	56.5	32	33
SS-518	58.9	55.5	28	29
GA 92485E15	58.6	58.2	28	31
25R37	58.0	58.0	35	32
RSI 331*	57.8	50.1	26	37
Coker 9025	57.6	55.9	36	30
USG 3408	57.2	56.9	33	35
Roane	57.0	58.1	33	31
Century II	56.3	56.6	31	31
SS-535	56.3	57.4	32	31
SS-550	55.5	57.2	31	29
Coker 9835	55.4	55.3	31	27
MD 71-19	55.3	57.4	32	29
USG 3650	55.1	56.4	31	32
Patton	53.5	56.0	31	34
MD 71-5	53.5	56.0	31	27
SS-522	53.4	59.1	31	29
SS-520	53.3	55.3	28	32
SS-566	50.6	57.3	33	34
8Fawwon76	50.3	58.4	35	33
RSI 301*	49.9	51.7	25	34
Coker 9184	49.7	58.5	33	29
MD 11-52	49.3	56.0	32	26
Florida 304	43.6	56.8	32	34
Madison	43.4	54.7	29	31
Catoctin	39.8	56.3	32	34
Location Means	56.6	56.4	31	31
State-wide Means	72.1	58.5	31	35
LSD(0.05)	9.9	1.4	3 days	2
CV (%)	12.7	1.5	6.5	4.6

* This is a wheat/rye cross or triticale, not a wheat variety. Its standard test weight is similar to barley (48 lbs/bu).

Table 11. 2002 Maryland State Wheat Variety Performance Trials at the Hayden Farm (No-Till)- **Beltsville, MD.**

Wheat Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (days after March 31st)	Height (in)
SS-550	66.9	57.7	30	29
VA 98W-593	64.2	60.3	31	30
SS-Exp 564	63.4	57.8	31	34
SS-535	62.9	59.1	33	30
M94 [†] 1549-1	62.4	59.6	32	32
USG 3209	62.0	57.2	34	27
RSI 331*	61.1	51.7	29	36
Roane	60.7	60.3	33	31
Sisson	60.5	57.7	30	28
Coker 9025	60.0	59.0	36	31
McCormick	59.9	59.9	33	30
26R24	59.8	58.5	34	31
SS-520	59.2	57.1	29	32
Coker 9663	58.9	58.9	30	35
MD 71-19	58.0	59.2	35	30
SS-518	57.7	58.8	32	30
SS-522	57.7	60.0	30	32
Coker 9835	57.3	57.2	34	27
MD 11-52	57.1	57.3	30	28
SS-560	56.5	58.5	34	30
RSI 301*	55.7	51.1	30	33
25R37	55.7	59.5	34	31
Patton	54.6	58.1	32	34
Jackson	53.2	59.0	34	33
USG 3650	53.0	58.0	32	32
USG 3408	52.0	59.0	35	30
Century II	51.7	58.7	34	30
Pocahontas	50.9	57.6	29	30
Coker 9184	49.9	57.9	34	28
8Fawwon76	49.8	59.8	34	33
Madison	48.8	57.6	30	31
SS-566	47.6	57.4	34	33
GA 92485E15	46.7	60.2	34	31
MD 71-5	46.5	57.1	34	28
Catocin	39.6	57.2	33	32
Florida 304	33.0	57.4	33	33
Location Means	55.4	58.1	32	31
State-wide Means	72.1	58.5	31	35
LSD(0.05)	10.4	1.9	3 days	3
CV (%)	11.5	2.0	6.1	5.6

* This is a wheat/rye cross or triticale, not a wheat variety. Its standard test weight is similar to barley (48 lbs/bu).

Table 12. 2002 Maryland State Barley Variety Performance Trials averaged over 5 Locations in Maryland- **Quantico, Queenstown, Beltsville, Clarksville, and Keedysville.**

Barley Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (Days after March 31 st)	Height (in)	Lodging (0-10)	Beards (Awns)
PA 8950-9	111.3	48.0	23	37	0.7	Long
PA 8649-131	107.0	48.4	24	35	0.7	Long
VA 97B-388	106.1	48.4	22	32	1.1	Long
Pennbar 66	100.8	48.0	26	35	0.2	Long
Pennco	99.8	44.7	21	35	0.9	None
PA 8649-95	99.2	47.0	26	35	0.2	Long
VA 97B-176	99.0	48.4	18	29	1.3	Medium
Price	93.1	47.1	19	30	0.8	Medium
Ab 1347 (Malt)	88.7	45.7	24	28	0.6	Long
Nomini	86.1	45.6	20	35	1.0	None
Callao	83.7	46.9	17	27	2.6	Medium
MD921040-97	83.6	45.7	16	34	2.2	None
Catchpenny	81.6	44.5	16	32	1.4	None
MD921016-56	76.6	46.0	17	34	2.1	None
MD921016-79	68.2	45.3	17	35	2.0	None
Barsoy	60.9	47.3	16	30	2.9	Long
State-wide Means	90.3	46.7	20	33	1.3	-
LSD (0.05)	8.0	1.1	1 day	2	0.7	-
CV (%)	12.3	3.2	10.0	6.7	72.5	-

Table 13. Relative Yield of Barley Entries Compared to the Mean Yield of All Entries at Each Location and Throughout the State in 2002.

Barley Entry	State	Quantico	Queenstown	Beltsville	Clarksville	Keedysville
	-----Relative yield (%)-----					
PA 8950-9	111*	134*	133*	114*	114*	120*
PA 8649-131	107*	132*	95	128*	126*	112*
VA 97B-388	106*	111	105	127*	125*	118*
Pennbar 66	101	132*	115*	89	117*	108*
Pennco	100	115*	117*	107	116*	101
PA 8649-95	99	128*	97	104	112	109*
VA 97B-176	99	108	106	115*	103	112*
Price	93	104	111	110*	92	100
Ab 1347 (Malt)	89	94	106	93	102	97
Nomini	86	101	83	98	94	99
Callao	84	83	100	103	89	88
MD921040-97	84	84	103	101	89	86
Catchpenny	82	73	109	86	89	96
MD921016-56	77	77	90	92	80	85
MD921016-79	68	66	76	65	79	89
Barsoy	61	57	54	69	74	80

*Indicates that the relative yield of an entry is not significantly different ($LSD_{0.05}$) from the highest yielding entry at that location.

Table 14. Two-year and three-year averages of grain yield and test weight of barley entries in Maryland, 2000-2002.

Barley Entry	Two-year average		Three-year average	
	Yield (bu/A)	Test Weight (lbs/bu)	Yield (bu/A)	Test Weight (lbs/bu)
VA 97B-388	111.9	48.1	-	-
PA 8649-95	110.2	46.6	102.2	45.4
Pennbar 66	107.4	46.3	98.7	45.4
VA 97B-176	104.6	48.5	98.3	47.0
Catchpenny	100.9	44.6	94.2	43.4
Price	100.6	47.8	94.6	46.1
Nomini	94.9	44.8	91.9	43.7
Ab 1347 (Malt)	92.9	46.3	91.5	44.2
Callao	88.2	47.3	86.7	46.3
Pennco	87.1	43.5	91.3	43.0
Barsoy	72.3	47.2	68.5	45.1

Table 15. 2002 Maryland State Barley Variety Performance Trials at the Poplar Hill Facility - Quantico, MD.

Barley Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (days after March 31 st)	Height (in)
PA 8950-9	112.5	48.3	19	35
Pennbar 66	110.9	46.8	21	34
PA 8649-131	110.1	50.0	20	34
PA 8649-95	107.0	45.7	22	36
Pennco	96.5	45.6	19	33
VA 97B-388	92.9	47.9	18	32
VA 97B-176	90.3	47.2	15	26
Price	87.0	45.7	16	26
Nomini	84.6	45.3	17	34
Ab 1347 (Malt)	78.4	45.7	19	28
MD921040-97	70.5	45.5	13	34
Callao	69.6	44.7	13	25
MD921016-56	64.1	44.5	13	32
Catchpenny	60.8	43.5	13	33
MD921016-79	55.5	43.8	14	36
Barsoy	47.5	47.1	13	27
Location Means	83.7	46.1	17	32
State-wide Means	90.3	46.7	20	33
LSD (0.05)	14.1	2.4	1 days	4
CV (%)	10.1	3.1	4.2	7.5

Table 16. 2002 Maryland State Barley Variety Performance Trials at the Wye Facility - **Queenstown, MD.**

Barley Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (days after March 31st)	Height (in)	Lodging (0-10)	Aphid Damage (%)
PA 8950-9	109.4	51.2	19	36	0.3	26.7
Pennco	96.7	45.1	18	34	1.0	56.7
Pennbar 66	94.7	49.8	21	34	0.3	33.3
Price	91.2	50.3	16	33	1.3	36.7
Catchpenny	89.6	46.1	12	33	1.7	20.0
Ab 1347 (Malt)	87.7	47.0	18	28	1.0	50.0
VA 97B-176	87.1	51.5	15	30	1.0	46.7
VA 97B-388	86.2	48.5	18	31	0.7	50.0
MD921040-97	84.9	47.4	13	38	3.3	26.7
Callao	82.0	48.8	14	30	3.0	40.0
PA 8649-95	80.2	46.5	22	34	0.7	36.7
PA 8649-131	78.5	50.9	19	36	0.7	33.3
MD921016-56	73.9	47.4	12	37	3.0	53.3
Nomini	68.4	45.5	19	35	1.3	76.7
MD921016-79	62.9	46.5	14	36	2.7	43.3
Barsoy	44.8	49.4	13	30	3.3	30.0
Location Means	82.4	48.2	16	33	1.6	41.0
State-wide	90.3	46.7	20	33	1.3	-
LSD (0.05)	14.8	1.7	2 days	4	1.0	18.0
CV (%)	10.7	2.2	6.1	7.0	37.0	26.4

Table 17. 2002 Maryland State Barley Variety Performance Trials at the Hayden Farm Facility - **Beltsville, MD.**

Barley Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (days after March 31st)	Height (in)	Lodging (0-10)
PA 8649-131	119.5	50.6	19	35	0.7
VA 97B-388	118.3	51.8	19	31	0.0
VA 97B-176	107.5	51.6	15	27	1.3
PA 8950-9	106.2	49.3	19	36	0.0
Price	102.8	50.4	17	29	1.0
Pennco	99.5	44.9	18	35	0.3
PA 8649-95	97.4	49.9	21	33	0.0
Callao	96.6	51.3	16	25	2.0
MD921040-97	94.7	46.2	15	30	0.7
Nomini	91.5	46.9	17	33	1.0
Ab 1347 (Malt)	86.4	48.2	22	25	0.0
MD921016-56	86.3	46.3	15	31	1.0
Pennbar 66	82.9	49.7	20	33	0.0
Catchpenny	80.1	46.5	16	28	0.3
Barsoy	64.2	50.7	14	28	1.7
MD921016-79	61.1	45.9	17	32	0.7
Location Means	93.4	48.8	18	31	0.7
State-wide Means	90.3	46.7	20	33	1.3
LSD (0.05)	18.5	1.1	1 day	3	1.2
CV (%)	11.9	1.4	4.9	6.1	38.1

Table 18. 2002 Maryland State Barley Variety Performance Trials at the Clarksville Facility - **Clarksville, MD.**

Barley Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (days after March 31st)	Height (in)	Lodging (0-10)
PA 8649-131	111.2	45.9	32	36	0.0
VA 97B-388	110.6	46.8	25	34	0.7
Pennbar 66	103.8	46.8	29	36	0.3
Pennco	102.3	43.6	22	37	1.0
PA 8950-9	101.2	44.8	27	38	0.0
PA 8649-95	98.8	45.6	31	36	0.0
VA 97B-176	91.4	45.9	20	29	1.0
Ab 1347 (Malt)	90.6	41.8	29	30	0.7
Nomini	83.0	45.2	20	37	1.0
Price	81.3	44.1	22	30	0.3
MD921040-97	79.2	44.7	18	36	1.7
Callao	79.0	44.4	20	28	1.3
Catchpenny	78.5	43.8	19	32	1.0
MD921016-56	70.8	45.4	22	36	1.7
MD921016-79	69.6	44.7	20	36	1.3
Barsoy	65.5	43.6	18	32	2.7
Location Means	88.5	44.8	23	34	0.9
State-wide Means	90.3	46.7	20	33	1.3
LSD (0.05)	11.6	1.3	4 days	2	0.8
CV (%)	7.8	1.7	9.9	3.5	54.3

Table 19. 2002 Maryland State Barley Variety Performance Trials at the Keedysville Facility - **Keedysville, MD.**

Barley Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (days after March 31st)	Height (in)	Lodging (0-10)
PA 8950-9	123.6	45.8	30	39	2.3
VA 97B-388	122.5	46.9	30	34	3.0
VA 97B-176	116.3	45.9	22	33	1.7
PA 8649-131	115.7	44.7	32	36	1.3
PA 8649-95	112.4	47.4	33	37	0.0
Pennbar 66	111.4	47.1	36	37	0.0
Pennco	104.1	44.1	27	36	1.3
Price	103.5	45.0	24	33	0.7
Nomini	102.8	45.2	25	35	0.7
Ab 1347 (Malt)	100.3	46.1	34	30	0.7
Catchpenny	98.9	42.6	21	32	2.7
MD921016-79	92.2	45.7	21	37	3.3
Callao	91.2	45.1	23	27	4.0
MD921040-97	88.7	45.0	22	34	3.0
MD921016-56	87.9	46.3	21	35	2.7
Barsoy	82.6	45.5	22	34	4.0
Location Means	103.4	45.5	26	34	1.9
State-wide Means	90.3	46.7	20	33	1.3
LSD (0.05)	14.5	1.7	3 days	3	2.3
CV (%)	8.4	2.2	7.5	5.7	71.2