
Agronomy Facts No. 19

(Revised July, 2007)

2007 MARYLAND WHEAT & BARLEY VARIETY PERFORMANCE TRIALS

<http://www.mdcrops.umd.edu>

Wheat and barley cultivar trials were conducted by the Maryland Agricultural Experiment Station and the Department of Natural Resource Science and Landscape Architecture across Maryland in the 2006/2007 season at the following five locations : (1) Allen, in Wicomico County (2) Lower Eastern Shore Research and Education Center's (REC) Poplar Hill Facility near Quantico in Wicomico County; (3) Wye REC at Queenstown in Queen Anne's County; (4) Central Maryland REC's Clarksville Facility in Howard County; and (5) Western Maryland REC near Keedysville in Washington County (practices at each location are listed in Table 1).

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. Forty-five wheat entries and fifteen barley entries made up the 2007 tests. Two hull-less barley entries (Doyce, and Eve) were 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, wheat soil-borne mosaic virus at Clarksville (scored as a % of the plant), wheat powdery mildew at Poplar Hill and Keedysville (scored in a 0-9 scale). Lodging was based on a score of 0 - 9 where 0=no lodging and 9=flat. Heading date was determined when approximately 50% of the small grain heads had cleared the boot. Plant height did not include the length of the awns.

Wheat and barley entries were planted (both for conventional tillage and no-till) 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 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 based on 90% germination. For no-till studies, a rate of 22 seeds per foot of row was used (approximately 1.7 million plants per acre 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-1000b attached to the plot combine. Other location-specific management factors are summarized in Table 1.

PRODUCTION YEAR

Planting conditions were fairly favorable at all locations in the fall of 2006 after an early dry spell followed by heavy rains. December and January were warmer than the average, while February, March and early April were colder than average. May was dry in most of the state which reduced grain yield potential of both barley and wheat at some locations. Barley and wheat headed mostly at the average date or slightly early for wheat. Powdery mildew was again uncharacteristically absent during the spring of 2007 at most locations except for Poplar Hill and Keedysville. It was not as heavy at those locations, however, as it has been in previous years. Very little or no scab damage was observed across the state. Soil-borne mosaic virus was observed at relatively high levels at Clarksville. Leaf rust and stripe rust were practically absent this year. Grain yield and test weight of both barley and wheat entries were high at most locations favored by the cool spring and good weather for harvest. Wheat data from Allen is not reported because of harvesting problems at that location.

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 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, an 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 2007 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.

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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. 2006/2007 Wheat and Barley Variety Test Plot Information.

1. Allen.**Wicomico County- Allen, MD.**

Planting dates: 10/23/06 (wheat and barley). Harvest date: 6/12/07 (barley)

Soil Type: Sassafras sandy loam. pH=6.1. Previous crop: soybeans. No-till used.

Fertilizer: Fall: 347# 10-7-26 on 10/20/06. Spring at greenup: 210# 21-0-0-24S as Ammonium Sulfate on 2/17/07. Spring at GS 6: 57 lbs N as 30-0-0 on 3/25/07

Herbicide: Harmony Xtra 0.4oz on 3/25/07.

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

Planting dates: 10/11/06 (conventional till), 10/13/06 (No-till). Harvest date: 6/18/07 (wheat conventional and wheat no-till)

Soil Type: Sassafras Sandy loam. pH=6.1; Previous crop: corn.

Fertilizer: Fall: 375# 2-4-12 + 75#N as 30% UAN; 30 oz Roundup Herbicide on no-till. Spring at greenup: 50# N, 15#P, 45#K, 24#S on 2/26/07. Harmony XP Herbicide @ 0.5 oz on 3/6/07. Spring at GS 5/6: 50# N as 30% UAN on 3/23/07.

Warrior Insecticide @ 3 oz on 4/10/07

Farm Staff: Ron Mulford, Fred Senkbeil, and Mike Senkbeil.

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

Planting date: 10/16/06 (wheat and barley). Harvest date: 6/8/07 (barley); 6/19/07 (wheat);

Soil Type: Matapeake silt loam. pH = 6.4, Previous crop: corn.

Fertilizer: Fall: 230# 16-8-8. Spring: 60#N on all as 30% on 3/15/07. 40#N on wheat as 30% on 4/23/07

Herbicide: Harmony Xtra 0.6oz on 4/3/07.

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

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

Farm Staff: Kevin Conover, Donny Murphy, and Patrick Murphy.

Foundation seed increase of Chesapeake.

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

Planting dates: 10/4/06 (wheat and barley). Harvest dates: 6/11/07 (barley); 6/25/07 (wheat)

Soil type: Chester Gravely. pH= 6.6. Previous crop: corn. Conventional tillage.

Fertilizer: Fall: 150# 7-18-36. Spring: 65# N as 30-0-0 UAN

Herbicide: Harmony Xtra 0.5 oz/A

Farm Staff: Dave Justice, and Tim Ridgley Sr.

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

Planting dates: 10/5/06 (wheat and barley). Harvest dates: 6/21/07 (barley). 6/25/07 (wheat).

Soil Type: Hagerstown silt loam. pH=6.7. Previous crop: corn. Conventional tillage.

Fertilizer: Fall: none. Spring: wheat and barley: 30 #N as Urea on 3/15/07; 30#N as 30% on 4/23/07.

Herbicide: Harmony Extra 0.5oz on 4/23/07.

Farm Staff: Tim Ellis, Douglas Price and Dave Wyand.

Table 2. Sources of Winter Wheat, Triticale, and Barley Entries Tested in Maryland, 2006/2007 season.

Supplier/Address/Local Rep.	Brand	Varieties and Seed Treatments*
AgriPro Coker; P.O. Box 1240, Winterville, NC 28590; Phil Farmer (910)452-5597; phil.farmer@syngenta.com	AgriPro Coker	Cooper, Branson, M01-4377, Coker 9184, Coker 9511(B980582), Coker 9553 (AP742) (treated with D)
Growmark FS; 308 NE Front St., Milford, DE 19963; Duane Orr 410-960-7447; dorr@growmarkfs.com	FS	300, 621, 627, 652 (treated with D)
JGL Inc. 3540 S. US 231 Greencastle, IN 46135; Bryan Gerard (765) 653-5402; beg@ccrtcblue.com	JGL	Exp. 701, 703
Pioneer Hi-Bred Intl., Inc.; 14171 Carole Dr., Bloomington, IL 61704; Bill McCollum (302) 584-5428; bill.mccollum@pioneer.com	Pioneer	26R31, 26R15 (treated with D)
Seedway; 5901 Vera Cruz, Emmaus, PA 18049; Jerry Davis (610)967-4131; JDavis@Seedway.com	Seedway	SW 27, 55 (treated with RT)
Southern States Coop.; P.O. Box 26234, Richmond, VA 23260; Jerry Hevner (302) 629-7991; Jerry.Hevner@SSCOOP.COM	SS	520, 550, 560, MPV-57, SS 8302, SS 8309, SS8404 (Exp 240438) (treated with RT)
Crop Production Services; P.O. Box 1467, Galesburg, IL 61402-1467; Bill Petka (757) 710-3200; wpetka@roysterclark.com	Vigoro	Tribute , V9510, (treated with DXT) 9713 (WX2502), and Dominion (VA00W-526), treated with RT
UniSouth Genetics, Inc.; 2640-C Nolensville RD, Nashville, TN 37211; Kevin Anderson (410) 651-2706; wimberlyfarm@earthlink.net	USG	3209, 3295, 3342, 3592, 3665, 3706, 3910 (treated with DXT)
Ohio Agric. Exp. Stn.	-----	Becker (RT)
University of Georgia, GA Station, 1109 Experiment St., Griffin, GA 30223; Jerry Johnson (770) 228-7321; jjohnson@griffin.uga.edu	-----	GA 96693-4E16, 951231-4E25. 951231-4E26 (treated with RT)
Maryland Agric. Exp. Stn.	-----	Chesapeake and MD wheat breeding lines (treated with RT) Catchpenny barley, MD barley breeding Lines (treated with RT)
The Pennsylvania State University, Dept. CSS, 116 A.S.I. Bldg., University Park, PA 16802; Paul B. Rebarchak (814) 865-0911; PBR@psu.edu		Pennco, Pennbar 66, PA 9550-151, PA 8649-95 barley (treated with RT)
VPI & SU/VCIA/EVAREC; 2229 Menokin RD, Warsaw, VA 22572; Mark Vaughn (804) 333-3485; mvaughn@vt.edu	-----	Jamestown, McCormick, Sisson, VA Breeding Lines (treated with RT) Doyce, Eve, Price, Thoroughbred barley and VA barley breeding lines (treated with RT)

*Seed treatment codes in parentheses after each entry are as follows: **RT** = Raxil/Thiram; **D** = Dividend; **DXT** = Dividend Extreme.

Table 3. 2007 Maryland State Wheat Variety Performance Trials Averaged Across 4 Locations under Conventional tillage: Quantico, Queenstown, Clarksville, and Keedysville, MD.

Wheat Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (May)	Height (in)	P. Mildew (0-9)	SBMV (%)	Beards
SW 55	92.5	58.4	8	37	1.9	0.0	No
Exp. 701	92.3	56.9	10	40	4.8	0.0	No
FS 627	89.3	58.5	9	38	1.5	0.0	No
USG 3342	86.8	59.8	9	32	0.0	0.0	Yes
Chesapeake	85.7	59.7	9	35	0.0	0.0	No
SS MPV 57	85.7	58.2	10	38	2.4	0.0	No
VA02W-555	85.4	56.9	8	32	0.0	0.0	No
26R15	85.0	58.1	11	37	0.1	0.0	Yes
Branson	84.8	58.1	10	36	0.1	0.0	No
Exp. 703	84.3	55.4	12	40	0.3	1.7	No
USG 3592	83.8	59.1	10	38	1.7	26.7	No
USG 3665	83.6	57.6	10	39	1.3	0.0	No
GA951231-4E26	83.3	58.7	5	34	2.1	33.3	No
USG 3706	82.4	58.8	8	33	0.0	0.0	No
Cooper	82.3	58.6	11	37	4.0	1.7	No
SS 8302	82.0	58.2	11	37	4.0	10.0	Yes
V9510	81.8	58.9	10	37	1.3	0.0	Yes
SS 560	81.8	57.0	11	36	1.0	6.7	No
M01-4377	81.8	60.2	12	39	4.3	0.0	No
Dominion	81.5	58.7	10	32	0.0	16.7	No
GA951231-4E25	81.0	59.1	5	34	3.0	13.3	No
Tribute	80.9	60.4	9	34	0.0	70.0	No
GA96693-4E16	80.8	57.9	6	36	2.3	36.7	Yes
V9713	80.7	59.1	12	35	1.5	5.0	Yes
Jamestown (VA02W-370)	80.6	60.2	6	32	0.3	18.3	Yes
Coker 9553	80.6	61.1	7	36	0.4	30.0	Yes
USG 3209	80.3	58.1	8	33	2.2	0.0	No
FS 621	79.9	57.7	6	36	1.6	36.7	No
26R31	78.9	58.9	7	31	0.0	33.3	No
McCormick	78.3	60.5	10	33	0.0	0.0	No
SS 550	77.2	58.4	10	34	1.3	46.7	No
FS 652	76.9	57.4	11	35	0.8	1.7	No
USG 3910	75.9	58.3	8	38	0.3	66.7	No
SW 27	75.5	57.7	6	36	2.2	56.7	No
MD99W64-05-11	75.2	58.5	9	36	0.1	0.0	Yes
MD00W389-17	74.7	58.9	12	34	0.0	0.0	Yes
SS 520	74.5	57.3	6	35	0.8	86.7	No
SS 8404 (exp. 240438)	74.4	60.4	10	32	5.1	10.0	Yes
Coker 9511	73.9	60.5	6	38	3.9	0.0	No
Sisson	73.8	58.3	9	34	0.3	56.7	No
FS 300	73.3	59.0	9	37	1.4	56.7	No
SS 8309	71.0	58.3	12	37	0.2	40.0	No
Coker 9184	71.0	59.3	11	35	1.0	0.0	No
Becker	68.2	56.3	14	37	6.8	0.0	No
State-wide Means	79.5	58.9	9	35	1.5	16.9	
LSD (0.05)	7.6	1.0	1	2	1.3	19.7	
CV (%)	8.3	1.5	1.5	3.8	69.8	71.6	

Table 4. Relative Yield of Wheat Entries Compared to the Mean Yield of All Entries at Each Location and Throughout the State in 2007.

Wheat Entry	State	Quantico CT	Quantico NT	Wye CT	Clarksville CT	Keedysville CT
-----Relative Yield (%)-----						
SW 55	119*	113*	91	112*	116*	119*
Exp. 701	119*	109*	112*	119*	125*	109*
FS 627	115*	106*	91	105	119*	116*
USG 3342	112*	104*	101	113*	100	113*
Chesapeake	110*	109*	100	105	99	112*
SS MPV 57	110*	108*	97	107*	113*	105
VA02W-555	110*	108*	101	108*	112*	99
26R15	110*	104*	110*	105	113*	103
Branson	109	104*	109*	103	110	105
Exp. 703	109	97	92	112*	121*	93
USG 3592	108	112*	114*	105	100	100
USG 3665	108	98	104*	99	122*	101
GA951231-4E26	107	110*	118*	104	94	105
USG 3706	106	96	104*	109*	101	104
Cooper	106	103*	88	106	109	94
SS 8302	106	106*	104*	93	109	101
V9510	105	99*	96	104	101	102
SS 560	105	104*	107*	99	99	105
M01-4377	105	100*	102	105	104	99
Dominion	105	101*	99	100	107	98
GA951231-4E25	104	92	104*	99	99	112*
Tribute	104	104*	104*	109*	86	101
GA96693-4E16	104	110*	105*	109*	96	88
V9713	104	105*	93	106	104	89
Jamestown (VA02W-370)	104	99*	111*	102	98	100
Coker 9553	104	92	102	92	104	113*
USG 3209	103	101*	98	102	107	91
FS 621	103	99*	93	96	85	114*
26R31	102	96	108*	97	100	100
McCormick	101	94	85	97	110	92
SS 550	99	101*	107*	102	80	98
FS 652	99	85	106*	101	102	96
USG 3910	98	97	97	105	78	95
SW 27	97	89	106*	93	82	108*
MD99W64-05-11	97	87	82	92	98	98
MD00W389-17	96	99*	97	86	102	86
SS 520	96	90	96	91	77	109*
SS 8404 (exp. 240438)	96	104*	89	91	95	82
Coker 9511	95	98	101	87	96	87
Sisson	95	104*	98	95	73	93
FS 300	94	99*	89	101	69	92
SS 8309	91	95	102	80	84	94
Coker 9184	91	93	93	82	88	90
Becker	88	84	98	84	109	69
USG3295**	NA	99*	93	94	NA	102

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

**USG3295 was not tested at Clarksville (NA) and thus was not included in the overall average.

Table 5. Two-year and Three-year Averages of Grain Yield and Test Weight of Wheat Entries in Maryland, 2005-2007.

Entry	Two-year average		Three-year average	
	Yield (bu/A)	Test Weight (lbs/bu)	Yield (bu/A)	Test Weight (lbs/bu)
Chesapeake	84.7	58.9	81.3	59.0
USG 3592	84.4	58.3	-	-
USG 3665	84.4	57.3	-	-
Branson	84.0	57.1	-	.
FS 627	83.6	57.5	-	-
26R15	83.4	57.3	83.4	57.3
V9510	83.4	58.0	81.1	58.2
SS MPV 57	83.3	57.2	82.5	57.1
USG 3209	83.0	57.4	83.1	57.5
SS 8302	82.5	58.0	80.1	58.2
SS 560	82.0	56.6	82.0	56.5
USG 3342	81.6	58.2	78.7	58.3
SS 550	81.5	57.7	79.3	57.6
Tribute	81.4	60.2	79.1	60.0
Dominion	81.0	58.1	81.3	58.3
V9713	80.7	58.4	-	-
Cooper	79.9	58.1	80.3	57.9
USG 3706	79.8	58.5	78.6	59.0
FS 652	79.8	56.8	82.8	56.7
Coker 9553	79.1	59.8	79.1	59.7
26R31	79.0	57.9	-	-
FS 621	78.9	56.9	79.7	57.0
SS 8309	78.7	58.0	75.3	57.6
Sisson	77.7	57.7	76.6	57.7
McCormick	77.6	60.0	76.6	60.0
SS 8404 (exp. 240438)	77.6	59.9	77.7	59.8
SS 520	77.1	56.9	76.5	57.1
USG 3910	76.6	58.3	-	-
Coker 9184	75.3	59.3	75.2	59.3
Coker 9511	75.0	59.8	75.2	59.7
FS 300	74.7	58.5	77.1	58.5
Becker	69.6	55.4	-	-

Table 6. 2007 Maryland State Wheat Variety Performance Trials Conventional Till at Quantico, MD.

Wheat Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (May)	Height (in)	P. Mildew (0-9)
SW 55	91.4	60.4	2	36	1.0
USG 3592	90.8	61.0	3	39	1.7
GA96693-4E16	89.0	60.1	April 28	35	2.0
GA951231-4E26	88.9	60.9	April 28	35	2.7
Exp. 701	88.4	58.0	4	40	3.0
Chesapeake	87.9	61.5	3	36	0.0
SS MPV 57	87.3	59.4	4	37	3.0
VA02W-555	87.3	59.1	April 30	33	0.0
SS 8302	86.1	60.3	4	39	4.3
FS 627	85.8	60.4	2	37	0.8
V9713	85.1	61.8	7	37	0.2
Branson	84.6	59.4	1	36	0.2
Tibute	84.4	62.6	3	36	0.0
SS 560	84.3	58.6	4	36	1.7
USG 3342	84.2	61.6	3	33	0.0
SS 8404 (exp. 240438)	84.1	61.9	1	33	3.7
26R15	84.0	59.7	5	36	0.0
Sisson	84.0	59.8	3	36	0.2
Cooper	83.7	60.7	5	37	3.0
USG 3209	82.1	58.9	April 30	34	3.7
Dominion	81.9	60.2	2	32	0.0
SS 550	81.5	60.4	4	37	1.0
M01-4377	80.8	61.2	4	40	4.0
MD00W389-17	80.6	60.7	4	36	0.0
V9510	80.5	60.8	2	38	2.0
Jamestown (VA02W-370)	80.4	62.6	April 28	32	0.5
FS 621	80.2	59.5	April 29	37	0.5
USG3295	80.2	61.3	April 30	33	3.0
FS 300	80.2	60.9	2	38	1.8
Coker 9511	79.7	62.4	April 27	36	3.3
USG 3665	79.6	60.0	4	38	0.2
USG 3910	78.4	60.1	2	37	0.3
Exp. 703	78.3	57.4	5	38	0.5
26R31	78.0	60.4	April 29	31	0.0
USG 3706	77.8	61.0	2	34	0.0
SS 8309	76.6	59.6	5	40	0.2
McCormick	76.5	63.0	3	33	0.0
Coker 9184	75.6	61.4	4	34	0.8
Coker 9553	74.8	62.9	April 30	35	0.5
GA951231-4E25	74.4	61.9	April 29	34	2.0
SS 520	72.8	59.2	April 28	36	0.8
SW 27	72.1	60.2	April 29	36	1.7
MD99W64-05-11	70.6	61.8	April 30	35	0.2
FS 652	69.2	59.5	4	35	1.3
Becker	67.9	57.4	6	37	5.7
Location Means	81.0	60.5	2	36	1.4
State-wide Means	79.5	58.9	9	35	1.5
LSD (0.05)	11.6	0.6	1.8	1.7	1.2
CV (%)	8.9	1.1	0.9	2.9	54.7

Table 7. 2007 Maryland State Wheat Variety Performance Trials no-till at the Poplar Hill Facility- Quantico, MD.

Wheat Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (May)	Height (in)
GA951231-4E26	82.8	59.1	April 30	33
USG 3592	79.5	59.3	3	36
Exp. 701	78.2	56.5	5	38
Jamestown (VA02W-370)	77.7	61.5	April 30	31
26R15	76.8	58.1	6	38
Branson	76.0	58.0	5	36
26R31	75.7	58.6	April 30	32
SS 550	75.0	58.5	5	36
SS 560	74.8	56.9	5	34
FS 652	74.2	56.9	5	34
SW 27	74.2	57.6	1	35
GA96693-4E16	73.4	58.2	April 29	33
SS 8302	73.1	58.9	6	36
USG 3706	72.9	59.7	3	33
GA951231-4E25	72.9	60.0	April 29	31
Tribute	72.8	60.9	3	33
USG 3665	72.6	57.4	5	38
M01-4377	71.4	59.4	5	39
Coker 9553	71.4	60.7	1	34
SS 8309	71.3	58.4	8	39
Coker 9511	71.0	61.4	April 28	33
VA02W-555	70.9	57.0	3	31
USG 3342	70.9	60.7	3	32
Chesapeake	69.9	60.1	3	33
Dominion	69.1	57.8	2	31
USG 3209	68.6	57.7	2	32
Becker	68.3	55.8	7	36
Sisson	68.3	58.3	3	34
SS MPV 57	68.2	56.7	5	35
MD00W389-17	68.1	58.7	5	34
USG 3910	67.6	59.9	3	36
V9510	67.2	60.1	4	35
SS 520	67.1	58.3	April 30	35
FS 621	65.2	58.0	April 30	33
V9713	65.2	61.3	8	35
Coker 9184	65.2	60.1	6	34
USG3295	64.8	60.6	2	32
Exp. 703	64.6	55.8	8	39
SW 55	63.9	57.2	3	35
FS 627	63.7	57.8	3	35
SS 8404 (exp. 240438)	62.6	60.9	3	30
FS 300	62.1	60.1	3	36
Cooper	61.7	59.4	6	34
McCormick	59.3	60.5	4	32
MD99W64-05-11	57.3	60.8	April 30	34
Location Means	70.0	58.9	3	34
State-wide Means	79.5	58.9	9	35
LSD (0.05)	10.8	1.1	1	2
CV (%)	9.5	1.1	0.5	3.6

Table 8. 2006 Maryland State Wheat Variety Performance Trials Conventional-till at the Wye- Queenstown, MD.

Wheat Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (May)	Height (in)
Exp. 701	99.4	57.5	9	39
USG 3342	94.1	60.8	6	33
SW 55	93.9	59.3	6	37
Exp. 703	93.7	53.4	11	39
GA96693-4E16	90.9	59.6	2	36
Tribute	90.7	61.5	6	35
USG 3706	90.7	58.4	6	33
VA02W-555	90.5	58.9	5	33
SS MPV 57	89.6	57.9	8	37
Cooper	88.7	59.5	10	37
V9713	88.1	59.8	11	36
USG 3910	87.9	59.1	6	37
Chesapeake	87.9	60.1	7	36
26R15	87.8	58.9	8	38
FS 627	87.7	59.0	6	38
USG 3592	87.5	59.9	7	38
M01-4377	87.4	60.6	10	40
V9510	87.0	59.0	8	36
GA951231-4E26	86.6	60.0	2	36
Branson	86.1	58.8	9	36
USG 3209	85.4	59.2	5	33
Jamestown (VA02W-370)	85.3	61.8	3	33
SS 550	85.3	60.1	8	36
FS 652	84.0	57.8	8	35
FS 300	84.0	59.2	7	37
Dominion	83.9	59.9	6	33
GA951231-4E25	82.9	60.5	2	36
SS 560	82.6	57.6	8	35
USG 3665	82.4	59.0	7	38
26R31	81.1	59.6	4	33
McCormick	81.0	60.4	7	33
FS 621	80.0	57.8	3	36
Sisson	79.2	59.7	6	34
USG3295	78.1	61.0	5	34
SS 8302	78.0	58.9	10	37
SW 27	77.8	57.7	3	36
MD99W64-05-11	76.9	58.8	5	37
Coker 9553	76.8	60.1	5	35
SS 520	75.9	57.6	3	36
SS 8404 (exp. 240438)	75.7	61.7	7	33
Coker 9511	73.0	61.4	3	36
MD00W389-17	72.0	59.9	10	34
Becker	70.0	56.8	12	37
Coker 9184	68.1	59.6	9	35
SS 8309	66.5	58.1	10	38
Location Means	83.5	59.2	7	36
Statewide Means	79.5	58.9	9	35
LSD (0.05)	10.4	1.1	1	2
CV (%)	7.7	1.1	10.3	3.1

Table 9. 2007 Maryland State Wheat Variety Performance Trials (conventional till) at the Clarksville Facility-Clarksville, MD.

Wheat Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (May)	Height (in)	SBMV (%)
Exp. 701	84.3	57.2	13	37	0
USG 3665	82.3	58.1	13	36	0
Exp. 703	81.8	57.7	14	37	2
FS 627	79.8	59.0	13	35	0
SW 55	78.1	58.2	12	34	0
Roane	76.4	59.9	11	30	0
26R15	76.3	58.7	13	34	0
SS MPV 57	76.2	59.4	13	35	0
VA02W-555	75.5	57.9	11	30	0
Branson	74.0	57.5	12	33	0
McCormick	73.8	61.6	13	31	0
Cooper	73.2	59.0	14	33	2
SS 8302	73.1	60.5	14	33	10
Becker	73.1	56.4	16	34	0
Dominion	72.1	59.5	13	29	17
USG 3209	72.0	58.4	12	30	0
V9713	70.2	59.7	15	31	5
M01-4377	69.8	60.9	15	36	0
Coker 9553	69.7	61.3	10	34	30
MD00W389-17	69.0	60.7	15	31	0
FS 652	68.6	57.4	13	31	2
V9510	68.2	60.0	13	33	0
USG 3706	68.2	59.0	11	29	0
USG 3592	67.5	59.9	14	36	27
USG 3342	67.4	59.8	12	29	0
26R31	67.3	58.8	10	28	33
SS 560	66.7	57.9	13	32	7
Chesapeake	66.6	60.0	13	31	0
GA951231-4E25	66.5	59.1	8	31	13
Jamestown (VA02W-370)	66.1	60.8	9	29	18
MD99W64-05-11	66.0	60.6	14	33	0
GA96693-4E16	64.9	59.6	9	32	37
Coker 9511	64.8	61.1	9	36	0
SS 8404 (exp. 240438)	64.2	61.1	13	30	10
GA951231-4E26	63.4	59.1	8	29	33
Coker 9184	59.2	61.1	14	31	0
Tribute	58.1	62.2	12	29	70
FS 621	57.4	57.9	8	31	37
SS 8309	56.4	58.7	14	29	40
SW 27	55.3	57.8	9	31	57
SS 550	54.0	59.0	14	28	47
USG 3910	52.5	57.4	12	32	67
SS 520	51.5	56.8	9	30	87
Sisson	49.1	58.1	12	29	57
FS 300	46.7	57.3	12	29	57
Location Means	67.3	59.2	12	32	17
State-wide Means	79.5	58.9	9	35	17
LSD (0.05)	9.9	0.6	1	3	20
CV (%)	9.1	1.2	5.8	5.5	71.6

Table 10. 2006 Maryland State Wheat Variety Performance Trials (conventional till) at the Keedysville Facility-Keedysville, MD.

Wheat Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (May)	Height (in)	P. Mildew (0-9)
SW 55	106.4	55.6	15	41	2.8
FS 627	103.7	55.5	15	42	2.3
FS 621	101.9	55.6	13	39	2.8
USG 3342	101.5	56.9	15	35	0.0
Coker 9553	100.9	59.9	13	40	0.3
Chesapeake	100.5	57.1	15	38	0.0
GA951231-4E25	100.0	55.0	12	36	4.0
SS 520	97.6	55.7	13	38	0.8
Exp. 701	97.1	54.7	16	44	6.5
SW 27	96.8	55.2	13	40	2.8
SS MPV 57	94.3	55.9	17	43	1.8
Branson	94.3	56.6	15	38	0.0
GA951231-4E26	94.3	54.7	13	36	1.5
SS 560	93.7	53.8	18	40	0.3
USG 3706	93.0	56.7	15	36	0.0
26R15	91.9	55.0	16	39	0.3
V9510	91.6	55.9	16	41	0.5
USG 3295	91.3	56.2	16	36	0.3
SS 8302	90.7	53.2	18	40	3.8
Tribute	90.6	55.3	16	37	0.0
USG 3665	90.3	53.5	16	41	2.5
Jamestown (VA02W-370)	89.5	55.7	14	35	0.0
USG 3592	89.4	55.7	17	40	1.8
26R31	89.1	56.8	16	34	0.0
M01-4377	89.0	58.2	18	40	4.5
VA02W-555	88.3	51.5	16	34	0.0
SS 550	88.1	54.1	16	37	1.5
Dominion	87.9	55.1	18	36	0.0
MD99W64-05-11	87.5	52.8	16	41	0.0
FS 652	85.7	55.1	17	38	0.3
USG 3910	84.7	56.6	13	44	0.3
SS 8309	84.4	56.9	17	40	0.3
Cooper	83.8	55.2	16	40	5.0
Exp. 703	83.3	53.2	18	44	0.0
Sisson	82.9	55.6	15	36	0.5
FS 300	82.3	58.5	14	44	1.0
McCormick	81.9	57.0	16	36	0.0
USG 3209	81.5	56.0	16	34	0.8
Coker 9184	81.0	55.2	18	40	1.3
V9713	79.6	55.3	16	37	2.8
GA96693-4E16	78.4	52.5	15	40	2.5
Coker 9511	78.1	56.9	14	43	4.5
MD00W389-17	77.4	54.4	19	37	0.0
SS 8404 (exp. 240438)	73.5	57.0	17	34	6.5
Becker	61.9	54.5	21	40	8.0
Location Means	89.5	55.5	16	38	1.6
State-wide Means	79.5	58.9	9	35	1.5
LSD (0.05)	11.2	2.9	1	3	2.9
CV (%)	7.6	3.1	4.4	3.3	87.5

Table 11. 2007 Maryland State Barley Variety Performance Trials Averaged Over Allen, Queenstown, Clarksville, and Keedysville.

Barley Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (May)	Height (in)	Lodging (0-10)	Beards
MD931046-38	103.0	50.5	3	36	2.7	Yes
Thoroughbred	102.1	50.3	5	33	6.3	Yes
MD931060-15	99.4	49.8	2	35	2.3	Yes
MD931046-93	98.3	49.2	2	35	2.3	Yes
MD931046-51	95.6	47.5	2	37	4.0	Yes
PA 8649-95	92.2	48.2	7	36	1.0	Yes
Pennbar 66	87.2	49.3	6	37	1.7	Yes
Pennco	86.4	45.2	4	37	7.3	No
PA 9550-151	84.8	46.0	4	40	7.7	No
MD931011-38	84.7	46.8	2	39	7.0	No
Price	84.4	47.6	3	31	5.7	Yes
Barsoy	84.2	51.7	April 29	32	1.0	Yes
Catchpenny	78.0	45.9	2	33	2.0	No
Doyce*	75.8	57.3	3	33	4.0	Yes
Eve* (VA01H-68)	64.7	60.1	1	33	5.3	Yes
State-wide Means	88.2	49.7	3	35	4.0	
LSD (0.05)	9.9	1.2	2	1	1.5	
CV (%)	12.9	2.9	1.3	6.5	22.3	

*hull-less entries.

Table 12. Relative Yield of Barley Entries Compared to the Mean Yield of All Entries at Each Location and Throughout the State in 2007.

Barley Entry	State	Allen	Queenstown	Clarksville	Keedysville
-----Relative Yield (%)-----					
MD931046-38	117*	118*	121*	117*	109
Thoroughbred	116*	115*	114*	102	132*
MD931060-15	113*	105	119*	119*	108
MD931046-93	111*	106	116*	102	122*
MD931046-51	108*	112*	107*	109*	104
PA 8649-95	105	125*	98	90	101
Pennbar 66	99	112*	99	84	98
Pennco	98	93	87	113*	98
PA 9550-151	96	94	77	108*	93
MD931011-38	96	87	83	101	108
Price	96	99	115*	101	69
Barsoy	95	104	78	92	106
Catchpenny	88	78	86	101	92
Doyce**	86	85	91	82	84
Eve** (VA01H-68)	73	67	83	80	63

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

**hull-less entries.

Table 13. Two-year and three-year averages of grain yield and test weight of barley entries in Maryland, 2005-2007.

Barley Entry	Two-year average		Three-year average	
	Yield (bu/A)	Test Weight (lbs/bu)	Yield (bu/A)	Test Weight (lbs/bu)
Thoroughbred	108.6	50.6	109.4	51.2
MD931046-38	106.5	49.7	105.7	50.5
MD931046-93	104.6	49.1	104.4	49.6
MD931060-15	103.2	49.4	103.5	50.2
MD931046-51	100.8	47.3	-	-
MD931011-38	95.9	46.9	93.2	47.4
Price	93.7	48.3	98.1	49.5
Catchpenny	91.0	46.4	92.7	46.8
Doyce*	88.4	57.7	87.3	58.2
Eve* (VA01H-68)	78.8	60.0	-	-

*hull-less entries.

Table 14. 2007 Maryland State Barley Variety Performance Trials at Allen - Allen, MD.

Barley Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (April)	Height (in)
PA 8649-95	123.2	47.5	May 1	40
MD931046-38	117.0	49.6	29	37
Thoroughbred	113.6	49.8	May 1	35
Pennbar 66	110.7	49.7	May 1	40
MD931046-51	110.6	47.1	28	39
MD931046-93	104.6	48.1	29	34
MD931060-15	103.5	47.5	28	35
Barsoy	102.9	50.4	25	34
Price	97.6	48.0	30	33
PA 9550-151	92.9	44.6	30	41
Pennco	92.2	44.1	30	37
MD931011-38	85.8	45.2	29	39
Doyce*	84.5	56.1	29	35
Catchpenny	76.6	44.5	27	32
Eve* (VA01H-68)	66.2	60.1	27	34
Location Means	98.8	48.8	29	36
State-wide	88.2	49.7	May 3	35
LSD (0.05)	17.9	1.6	1.5	3.4
CV (%)	10.9	2.0	0.8	5.6

*hull-less entries.

Table 15. 2007 Maryland State Barley Variety Performance Trials at the Wye Facility - Queenstown, MD.

Barley Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (April)	Height (in)
MD931046-38	106.1	49.8	30	38
MD931060-15	104.3	50.4	28	39
MD931046-93	101.6	49.7	28	39
Price	101.4	50.3	29	34
Thoroughbred	100.3	51.0	May 1	38
MD931046-51	94.3	48.5	29	42
Pennbar 66	86.5	49.5	May 4	40
PA 8649-95	86.1	48.2	May 4	39
Doyce*	80.1	59.3	29	36
Pennco	76.1	45.4	29	40
Catchpenny	75.9	46.1	26	38
MD931011-38	73.2	47.1	28	42
Eve* (VA01H-68)	72.9	61.5	28	38
Barsoy	68.9	51.5	May 4	38
PA 9550-151	67.7	48.3	30	43
Location Means	87.8	50.4	29	39
State-wide	88.2	49.7	May 3	35
LSD (0.05)	12.1	1.6	1	2
CV (%)	8.2	1.9	0.7	3.2

*hull-less entries.

Table 16. 2007 Maryland State Barley Variety Performance Trials at the Clarksville Facility - Clarksville, MD.

Barley Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (May)	Height (in)
MD931060-15	99.6	51.9	4	32
MD931046-38	98.0	53.3	2	33
Pennco	94.1	47.3	6	34
MD931046-51	90.9	47.4	4	34
PA 9550-151	89.9	46.6	7	36
MD931046-93	85.4	50.0	3	31
Thoroughbred	84.9	52.7	6	28
MD931011-38	84.6	48.3	3	35
Catchpenny	84.3	47.6	2	32
Price	84.0	47.5	3	30
Barsoy	76.7	54.1	1	31
PA 8649-95	75.4	50.7	8	30
Pennbar 66	70.2	50.1	5	31
Doyce*	68.8	58.3	3	29
Eve* (VA01H-68)	66.8	61.4	1	30
Location Means	83.6	51.1	4	32
State-wide Means	88.2	49.7	May 3	35
LSD (0.05)	12.1	2.6	3	3
CV (%)	8.7	3.1	1.5	5.0

*hull-less entries.

Table 17. 2007 Maryland State Barley Variety Performance Trials at the Keedysville Facility - Keedysville, MD.

Barley Entry	Yield (bu/A)	Test Weight (lbs/bu)	Heading Date (May)	Height (in)	Lodging** (0-10)
Thoroughbred	109.8	47.5	11	32	6.3
MD931046-93	101.5	49.0	7	35	2.3
MD931046-38	91.0	49.2	10	36	2.7
MD931060-15	90.3	49.3	8	35	2.3
MD931011-38	90.2	46.5	9	39	7.0
Barsoy	88.4	51.0	6	25	1.0
MD931046-51	86.6	47.1	8	35	4.0
PA 8649-95	84.2	46.5	16	36	1.0
Pennco	81.8	44.2	9	35	7.3
Pennbar 66	81.4	47.8	15	37	1.7
PA 9550-151	77.4	44.3	11	38	7.7
Catchpenny	76.5	45.2	10	30	2.0
Doyce*	69.9	55.6	11	33	4.0
Price	57.8	44.6	9	26	5.7
Eve* (VA01H-68)	52.8	57.3	7	32	5.3
Location Means	83.3	48.4	10	34	4.0
State-wide Means	88.2	49.7	May 3	35	4.0
LSD (0.05)	11.2	2.6	2	4	1.5
CV (%)	8.1	3.2	13.8	7.6	22.3

*hull-less entries.

**Lodging was only observed at this location.