Virginia Cooperative Extension

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VIRGINIA STATE UNIVERSITY

Small Grains In 2009

2009 Virginia Polytechnic Institute and State University 2908-1403

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Recommended Small Grain Varieties

The following are the small grain variety recommendations for Virginia in 2009. The recommendations are based on the agronomic performance in barley and wheat variety tests conducted by the Research and Extension Divisions of Virginia Tech in the various agricultural regions of the state.

Recommended Wheat Varieties Arranged in Order of Maturity

All varieties have been extensively tested and proven to be adapted statewide.

Agronomic Characteristics

Cultivar	Grain Yield	Test Weight	Milling Quality	SRW Baking Quality
Early Heading Varieties (119-120 d, Julian)				
SS 520*	2	1	3	2
Jamestown	2	4	2	1
Coker 9553	2	4	2	2
Featherstone 176	1	1	2	3
Mid-Season Heading Varieties (121-122 d, Julian)				
USG 3555	4	1	2	2
USG 3342	2	2	2	1
Branson	4	1	3	3
Chesapeake	3	4	2	1
Merl	4	4	4	3
Tribute	3	4	3	2
SS 5205	3	3	4	4
Full-Season Heading Varieties (123-124 d, Julian)				
Dominion	2	3	4	2
Pioneer 26R15	4	1	4	3
Pioneer 26R12	2	4	2	2
Renwood 3434	3	1	2	2
USG 3665	4	2	4	3
SS 560	3	1	2	2
Shirley	4	1	3	3
SS-MPV 57	3	2	3	3
SS 8302	2	4	3	2
SS 8309	2	3	4	4

* These lines are not daylength sensitive and should not be planted early in order to avoid potential freeze damage.

4 - Significantly higher than average

3 - Average or higher than average

2 - Average or lower than average

1 - Significantly lower than average

Disease Resistance						
Cultivar	**FHB†† resistance**	**Powdery Mildew**	**Leaf Rust**	**Glume Blotch**	**Barley Yellow Dwarf Virus**	
Early Heading Varieties (116-117 d, Julian)						
SS 520	1	3	3	2	1	
Jamestown	4	3	3	2	4	
Coker 9553	4	3	3	1	1	
Featherstone 176	3	4	1	1	4	
Mid-Season Heading Varieties (118-119 d, Julian)						
USG 3555	3	3	1	3	4	
USG 3342	4	3	4	3	1	
Branson	3	3	3	2	4	
Chesapeake	2	4	1	3	4	
Merl	3	3	1	3	1	
Tribute	4	2	4	4	1	
SS 5205	3	3	4	1	2	
Full-Season Heading Varieties (120-121 d, Julian)						
Dominion	4	4	3	3	2	
Pioneer 26R15	3	3	4	1	1	
Pioneer 26R12	2	3	3	2	4	
Renwood 3434	2	4	3	4	1	
USG 3665	4	3	4	3	4	
SS 560	2	3	1	2	1	
Shirley	2	4	4	3	4	
SS-MPV 57	3	1	1	4	1	
SS 8302	4	1	1	1	1	
SS 8309	3	2	3	1	1	

4 - Significantly higher than average

3 - Average or higher than average

2 - Average or lower than average

1 - Significantly lower than average

†† FHB -Fusarium head blight

† Based on performance over only two season and may be less reliable than other recommendations

Recommended Barley Varieties

	Hulled Barley				Hulless Barley		
	Nomini*	Callao	Price	Thoroughbred	Doyce	Eve	Dan
Adapted Regions							
Coastal Plain		X	X	X	X	X	X
Piedmont, South of James River		X	X	X	X	X	X
Piedmont, North of James River		X	X	X	X	X	X
West of Blue Ridge	X	X	X	X	X	X	X
Agronomic Characteristics							
Yield	3	3	3	4	3	3	4
Test Weight	1	4	3	4	2	4	4
Lodging Tolerance	2	1	3	1	2	3	3
Relative Height	4	1	2	3	3	2	2
Relative Heading	Avg	Early	Avg	Late	Avg	Early	Avg
4 - Significantly higher than average							
3 - Average or higher than average							
2 - Average or lower than average							
1 - Significantly lower than average							
*Nomini barley has low test weight. It is not recommended in eastern Virginia because low test weight grain is unsuitable for export or domestic non-ruminant feed markets.							

Barley and Wheat Entries

Commercial Barley Entries

Virginia Tech and Virginia Crop Improvement Association, 9142 Atlee Station Road, Mechanicsville, VA 23116 – Barsoy, Callao, Doyce, Eve, Nomini, Price, Thoroughbred, and Wysor.

Commercial and Experimental Wheat Entries

DynaGro, Box 1467, Galesburg, IL 61402-1467 –Baldwin, Dominion, Oglethorpe, Shirley, Tribute, V9713, V9723, V9922.

Featherstone Seed Company, 13941 Genito Road, Amelia, VA 23002 - Featherstone 176.

University of Georgia, 1109 Experiment Street, Griffin, GA 30223 – GA-991336-6E9, GA-991371-6E12, GA-991209-6E33, GA-981622-5E35.

University of Maryland, CMREC/Beltsville Facility, 12000 Beaver Dam Road, Laurel, MD 20708 – Chesapeake.

Michigan State University, 286 PSSB, East Lansing, MI 48824-1325 – Red Ruby.

NC State University, Box 7629, Raleigh, NC 27695 – NC03-6228, NC04-20814.

Pioneer Hi-Bred International, Inc., 700 Boulevard South SW, Suite 302, Huntsville, AL 35802 – Pioneer varieties 26R12, 26R15, , 26R31, XW07B, and XW07X.

Progeny Ag Products, 1529 Hwy 193, Wynne, AR 72396 – Progeny 117, Progeny 119, Progeny 130, Progeny 136, Progeny 166, and Progeny 185.

Renwood Farms, 17303 Sandy Point Road, Charles City, VA 23030 – Renwood 3434.

Southern States Cooperative, PO Box 26234, Richmond, VA 23260 - SS 520, SS 560, SS 8302, SS 8309, SS 8404, SS MPV 57, SS 548, SS 5205, and SS 8641.

Syngenta Seeds, Inc., PO Box 411, 520 East 1050 South, Brookston, IN 47923 –Branson, COKER 9804, COKER 9436, COKER 9553, B030543, Magnolia, and Panola.

Uni-South Genetics, 2640-C Nolensville Road, Nashville, TN 37211 – USG 3190, USG 3209, USG 3342, USG 3592, USG 3665, and USG 3725, and USG 3555

Virginia Tech and Virginia Crop Improvement Association, 9142 Atlee Station Road, Mechanicsville, VA 23111 – Jamestown, Massey, Sisson, and all lines prefixed by VA.

Appreciation is expressed to the Virginia Small Grains Check-Off Board, AgriPro COKER, Ag-South Genetics, Crop Production Services, Featherstone Seed, Inc., Pioneer Hi-Bred International, Inc., Progeny Ag Products, Southern States Cooperative, UniSouth Genetics, Inc., and the Virginia Crop Improvement Association for their financial support of the Small Grains Variety Testing Program at Virginia Tech.
Conducted and summarized by the following Virginia Tech employees: Dr. Wade Thomason, Extension Agronomist, Grains; Dr. Carl Griffey, Small Grains Breeder; Mr. Harry Behl, Agricultural Supervisor; Ms. Elizabeth Hokanson, Research Associate. Location Supervisors: Mr. Tom Custis (Painter); Mr. Bobby Ashburn (Holland); Mr. Bob Pitman, Mr. Mark Vaughn, (Warsaw); Mr. Ned Jones (Blackstone); Dr. Carl Griffey, Mr. Wynse Brooks, Mr. Bryan Will (Blacksburg); Mr. Brian Jones (Shenandoah Valley); Mr. David Starner, Mr. Steve Gulick, Mr. Alvin Hood (Orange).

Introduction

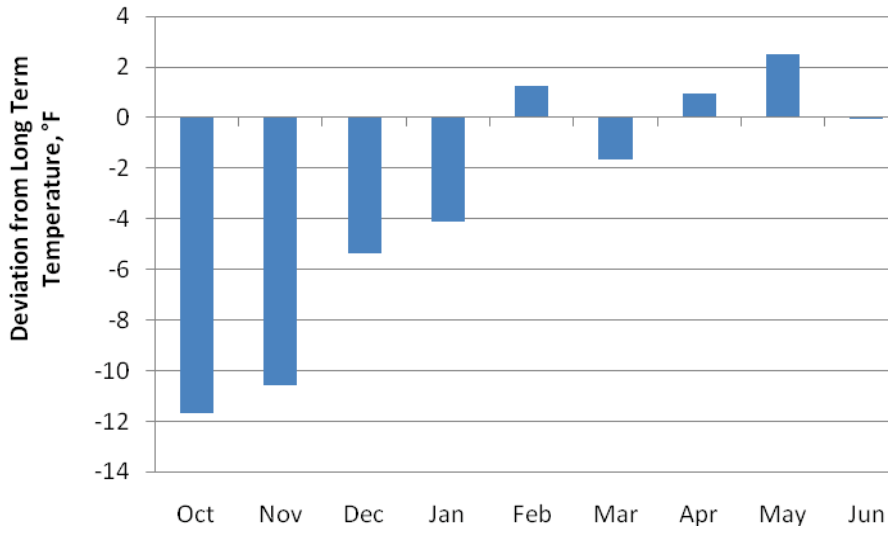
The following tables present results from barley and wheat varietal tests conducted in Virginia in 2007-2009. Small-grain cultivar performance tests are conducted each year in Virginia by the Virginia Tech Department of Crop and Soil Environmental Sciences and the Virginia Agricultural Experiment Station. The tests provide information to assist Virginia Cooperative Extension Service agents in formulating cultivar recommendations for small-grain producers and to companies developing cultivars and/or marketing seed within the state. Yield data are given for individual locations and across locations and years; yield and other performance characteristics are averaged over the number of locations indicated. Performance of a given variety often varies widely over locations and years which makes multiple location-year averages a more reliable indication of expected performance than data from a single year or location. Details about management practices for barley and wheat are listed for each experimental location.

The Season

Planting conditions in Fall 2008 were favorable for early planting with over 20% of the state's intended acreage seeded by October 20. The high cost of inputs influenced some growers to plant later than normal in hopes that prices would fall or fields were seeded with the intention of applying fertilizer at a later date. By November 1, 49% of the crop was estimated as planted which matched the 5-yr average of 50% planted by this date. Widespread rain in November provided moisture and improved groundwater supplies in many areas (Figure 1). While most small grain fields looked good, cool weather in November slowed crop development (Figure 2). Mid-winter was cooler than normal and dry, with most of the Coastal Plain region receiving 2 inches less precipitation than the long term average in the month of January (Figure 1). By February this deficit was more than 4 inches and results in only 26% of the small grain crop rated as good or excellent. Rain in March helped make up some of this deficit and over 50% of the crop was rated good or better in mid-April. In May, cool, wet weather had many producers scouting fields for disease and making pesticide applications in response to threats (Figure 2). By the end of the month the crop was headed, but continued wet weather caused producers to be concerned over the potential for Fusarium Head Blight (FHB) as well as potential decreases in test weight due to weathering. Overall, significantly more FHB infection was observed in Virginia wheat fields which will likely lower grain yield and grain quality. By June 20, approximately 20% of the crop was harvested which was significantly slower than the previous year when 44% was harvested by that date.

Figure 1. Long term mean and 2009 growing season statewide rainfall.

Figure 2. Deviation of 2009 monthly average temperatures from long term average (1948-2009)



Virginia's wheat producers expect yields to average 58 bushels per acre in 2009, according to USDA/NASS in Virginia. Wheat production in Virginia is expected to total nearly 13.9 million bushels, down 30 percent from last year's total wheat crop of 19.9 million bushels. Producers expect to harvest 240,000 acres of wheat, 40,000 acres less than in 2008.

Barley yields in Virginia are expected to average 64 bushels per acre, down 21 bushels per acre from last year. Barley production is expected to total nearly 2.7 million bushels, down 12 percent from 2008. Harvested acreage is expected to total 42,000 acres, up 6,000 acres from last year.

Section 1: Barley Varieties

Hulless Barley

Hulless barley tests were planted in seven-inch rows at Blackstone, Orange, Holland, and Painter. They were planted in six-inch rows at Warsaw and Blacksburg. They were planted in seven and one-half-inch rows at the Warsaw No-Till location. The no-till tests at Holland and Warsaw were planted at 28 seeds per row foot. All other locations were planted at 32 seeds per row foot.

Yields of current hulless barley lines are generally 10-20 percent lower than those of hulled barley lines. This is expected since the hull makes up 12-15 percent of the weight of traditional barley and the breeding program for hulless barley is relatively new. To date, significant progress has been made in the development of winter hulless barley lines. The program has developed more than 3,000 winter hulless barley populations. Continued efforts will be focused on development of hulless barley varieties for specific end-use markets benefiting producers in the Mid-Atlantic Region.

The three year (2007-2009) average yield for Doyce hulless barley in Virginia was 56 bushels per acre with test weight of 52.9 pounds per bushel. Eve hulless barley averaged 59 bushels per acre, but test weight was significantly higher at 57.2 pounds per bushel. Meanwhile, three year average grain yield of elite winter hulless line VA05H-147 was 11-15 bu/ac higher than both hulless check lines (Doyce and Eve).

Hulled Barley

Hulled barley tests were planted in seven-inch rows at Blackstone, Orange, Holland, and Painter. They were planted in six-inch rows at Warsaw and Blacksburg. They were planted in seven and one-half-inch rows at the Warsaw No-Till location. The no-till tests at Holland and Warsaw were planted at 28 seeds per row foot. All other locations were planted at 24 seeds per row foot.

Virginia grown barley typically yields in excess of 100 bushels per acre, and fits well in many crop rotation systems. However, profitable barley production on over 50,000 acres in Virginia will require revival of international market opportunities and/or development of barley varieties that livestock feeders desire.

Three year average yields of Thoroughbred hulled barley were 101 bushels per acre with average test weight of 45.2 pounds per bushel compared to the mean yield of 90 bu/ac and test weight of 44.6 pounds per bushel for the mean of all cultivars tested. Yield advantage of Thoroughbred over available hulled and hulless barley cultivars has posed a challenge in developing and releasing new cultivars. Therefore, our current focus is on a better understanding of the genetic basis of yield potential in both hulled and hulless barley.

Summary of barley management practices for the 2009 harvest season (All rates are given on a per acre basis.)

Blacksburg - Planted September 23, 2008. Preplant fertilizer was 30-40-80 in September 2008. Site was sprayed with .5 oz Harmony Extra SG® on November 24, 2008. Site was fertilized with 35 lb N plus 0.5 oz Harmony Extra SG® on March 10, 2009 and again on March 24, 2009 with 35 lb N. Harvest occurred on June 13, 2009.
Blackstone - Planted October 20, 2008. Site was fertilized with 300 lb 10-6-18 on October 16, 2008. Site was topdressed with 40 lb N using 34-0-0 on January 26, 2009 and with 50 lb N using 34-0-0 on March 25, 2009. Harvest occurred June 11, 2009.
Painter - Planted October 22, 2008. Preplant fertilizer was 30 lb N using 30% PPI on October 21, 2008. Site was fertilized with 60 lb N using 30%UAN and 0.75 oz Harmony Extra SG® April 1, 2009. Site was fertilized with 20 lb N using 30% UAN April 25, 2009. Harvest occurred on June 16, 2009.
Warsaw - Planted October 13, 2008. Preplant fertilizer was 30-80-80-5 applied October 9, 2008. Site was fertilized at 40 lb N using 24-0-0-3 on February 9, 2009. Site was treated with .9 oz Harmony Extra SG® on March 31, 2009. Harvest occurred June 1-2, 2009.
Holland – Planted no-till October 21, 2008. Preplant fertilization was 300 lb 9-16-31 on October 20, 2008. Site was fertilized with 60 lb N using 30% UAN and 0.6 oz Harmony Extra® February 10, 2009. Site was fertilized with 40 lb N using 30% UAN March 23, 2009. Harvest occurred on June 8-9, 2009.
Orange - Planted October 14, 2008. Preplant fertilization was 25-46-0 on October 9, 2008. Sixty lb N and Harmony Extra® at 0.4 oz were applied March 23, 2009. Harvest occurred on June 23-24, 2009.

Table 1. Summary of performance of hulless entries in the Virginia Tech Barley Test over locations, 2009 harvest.

Hulless Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Leaf Rust (0-9)		Powdery Mildew (0-9)		Net Blotch (0-9)	
	(5)		(5)		(3)		(3)		(6)		(2)		(3)		(2)	
VA05H-147	61	+	55.2		114		37	+	3		2	-	1		3	-
VA06H-79	61	+	55.0		118	+	35		3		7	+	1		2	-
VA06H-142	60	+	54.3	-	114		35		3		2	-	1		5	+
VA06H-82	60	+	56.1	+	113	-	34	-	2	-	5	+	1		4	
VA07H-31WS	60	+	55.3		117	+	37	+	3		3	-	3	+	1	-
VA06H-25	60	+	55.1		118	+	36	+	3		3	-	3	+	1	-
VA07H-21WS	59		54.9		117	+	37	+	3		3	-	2	+	3	-
VA06H-3WS	59		56.0	+	117	+	36	+	3		3	-	2	+	2	-
VA01H-125	58		54.0	-	112	-	31	-	2	-	5	+	1		7	+
VA07H-35WS	58		55.4		117	+	37	+	4	+	3	-	2	+	2	-
VA07H-105	57		56.3	+	116	+	37	+	2	-	2	-	1		5	+
VA07H-10WS	57		56.2	+	116	+	38	+	3		3	-	2	+	3	-
VA06H-31	57		55.6		116	+	37	+	3		3	-	2	+	3	-
Dan	57		57.7	+	116	+	34	-	3		2	-	1		2	-
VA06H-47	57		56.5	+	112	-	37	+	2	-	5	+	1		1	-
VA07H-111	56		54.6	-	112	-	36	+	2	-	4		1		5	+
VA06H-48	56		56.4	+	112	-	37	+	2	-	5	+	1		1	-
VA07H-1	55		56.1	+	113	-	36	+	3		6	+	1		5	+
VA06H-125WS	55		53.1	-	116	+	33	-	3		6	+	1		4	
VA05H-158	55		55.3		114		38	+	3		5	+	2	+	3	-
Eve	54		55.4		111	-	35		3		3	-	1		5	+
VA07H-73	53		54.7		110	-	33	-	3		4		1		6	+
VA07H-3	53		55.5		113	-	38	+	3		7	+	1		5	+
VA07H-97	53		54.7		110	-	34	-	2	-	4		1		5	+
VA07H-74	53		54.6	-	111	-	33	-	2	-	4		1		5	+
VA06H-2	52	-	56.8	+	115	+	35		3		3	-	1		2	-
VA07H-94	51	-	55.0		110	-	32	-	2	-	4		1		5	+
Doyce	50	-	51.4	-	114		34	-	3		1	-	1		7	+
VA05H-59	50	-	56.8	+	117	+	34	-	3		2	-	5	+	4	
Average	56		55.3		114		35		3		4		1		4	
LSD (0.05)	4		0.7		1		1		1		1		1		1	
C.V.	10		2.0		1		4		49		29		58		22	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages.

A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 2. Two-year average summary of performance of hulless entries in the Virginia Tech Barley Tests, 2008 and 2009 harvests.

Hulless Lines	Yield (Bu/a) (10)		Test Weight (Lb/bu) (10)		Date Headed (Julian) (5)		Height (In) (6)		Lodging (0-9) (11)		Leaf Rust (0-9) (4)		Powdery Mildew (0-9) (5)		Net Blotch (0-9) (6)		Early Height (In) (1)	
VA06H-25	69	+	56.6		116	+	38	+	4		2	-	4	+	3	-	12	
VA05H-147	69	+	56.7		113		38	+	3	-	2	-	1	-	4	+	12	
VA06H-3WS	64	+	58.1	+	115	+	37		4		3		2		3	-	11	
VA05H-158	63		57.0		112	-	39	+	4		5	+	3	+	4	+	15	+
VA06H-31	62		56.7		115	+	39	+	4		3		3	+	4	+	10	
Dan	60		58.7	+	115	+	35	-	4		2	-	1	-	4	+	7	-
VA06H-48	60		57.6	+	111	-	39	+	3	-	6	+	1	-	2	-	11	
Eve	60		56.9		109	-	35	-	4		2	-	1	-	6	+	16	+
VA01H-125	60		55.4	-	110	-	32	-	3	-	5	+	1	-	7	+	11	
VA06H-47	59		57.4	+	111	-	39	+	3	-	5	+	1	-	2	-	10	
Doyce	54	-	52.5	-	113		35	-	5	+	1	-	1	-	7	+	15	+
VA05H-59	50	-	57.4	+	116	+	35	-	4		3		5	+	5	+	9	-
Average	61		56.7		113		37		4		3		2		4		11	
LSD (0.05)	3		0.5		1		1		1		1		1		0		2	
C.V.	13		2.2		1		4		---		---		---		---		14	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages.

A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 3. Three-year average summary of performance of hulless entries in the Virginia Tech Barley Tests, 2007, 2008, and 2009 harvests.

Hulless Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Leaf Rust (0-9)		Powdery Mildew (0-9)		Net Blotch (0-9)		Spot Blotch (0-9)		Spring Freeze (0-9)		Early Height (inches)	
	(16)		(16)		(8)		(9)		(16)		(8)		(5)		(9)		(4)		(1)		(1)	
VA05H-147	68	+	56.9		115	+	38	+	3		3		1	-	3	-	3	-	2		12	
Dan	63	+	59.2	+	116	+	35		3		3		1	-	4	-	3	-	1	-	7	-
VA05H-158	62		56.9		113	-	37	+	3		5	+	3	+	4	-	3	-	3	+	15	+
VA01H-125	60		56.1		111	-	30	-	3		5	+	1	-	7	+	5	+	0	-	11	
Eve	59		57.2	+	111	-	35		3		3		1	-	5	+	3	-	2		16	+
Doyce	56	-	52.9	-	114	+	33	-	4	+	1	-	1	-	7	+	5	+	5	+	15	+
VA05H-59	53	-	57.4	+	117	+	34	-	3		3		5	+	5	+	4		2		9	-
Average	60		56.6		114		35		3		3		2		5		4		2		12	
LSD (0.05)	3		0.6		0		1		1		1		1		0		1		1		2	
C.V.	12		3.2		1		5		---		---		---		---		---		---		14	

Released cultivars are shown in bold print.
The number in parentheses below column headings indicates the number of location-years on which data are based.
Varieties are ordered by descending yield averages.
A plus or minus sign indicates a performance significantly above or below the test average.
The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 4. Summary of performance of hulless entries in the Virginia Tech Barley Test, Southern Piedmont AREC, Blackstone, VA, 2009 harvest.

Hulless Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Lodging (0-9)	
VA06H-142	66	+	56.3		2	
VA07H-35WS	59		57.0		3	
VA06H-82	58		57.9	+	3	
VA06H-25	57		56.8		3	
VA06H-125WS	57		55.0	-	3	
Dan	56		58.6	+	4	
VA05H-147	56		55.3	-	4	
VA01H-125	56		56.4		3	
VA07H-31WS	55		57.3		5	+
VA06H-2	55		58.5	+	4	
VA06H-79	55		56.3		3	
VA06H-31	55		55.9		3	
VA07H-111	54		56.1		4	
VA07H-10WS	54		56.7		3	
VA07H-3	53		57.2		3	
Doyce	53		52.8	-	3	
VA07H-1	52		57.4		5	+
VA05H-158	52		57.5	+	3	
VA07H-21WS	52		56.0		3	
VA06H-48	51		57.0		4	
Eve	51		56.4		3	
VA06H-47	50		57.7	+	4	
VA07H-74	50		56.2		4	
VA06H-3WS	50		57.2		3	
VA07H-97	50		56.2		3	
VA07H-105	49		57.9	+	3	
VA07H-73	48		56.3		4	
VA05H-59	45	-	56.7		4	
VA07H-94	45	-	55.9		3	
Average	53		56.6		3	
LSD (0.05)	7		0.9		2	
C.V.	9		1.1		38	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages.

A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 5. Summary of performance of hulless entries in the Virginia Tech Barley Test planted no-till at the Tidewater AREC, Holland, VA, 2009 harvest.

Hulless Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Lodging (0-9)	
VA06H-79	54	+	55.7		4	+
VA06H-142	53		54.9		3	
VA06H-25	52		56.3		4	+
VA05H-158	51		55.8		4	+
VA06H-3WS	51		56.4		3	
VA07H-21WS	49		56.0		4	+
VA07H-10WS	48		56.0		4	+
VA07H-73	48		55.8		4	+
VA05H-147	48		55.6		4	+
VA06H-82	48		57.2		3	
VA07H-105	48		56.4		3	
VA07H-74	48		56.1		3	
VA07H-97	48		55.9		3	
VA07H-35WS	47		56.4		4	+
VA06H-125WS	47		54.8		4	+
Eve	47		56.1		3	
Dan	45		58.7	+	4	+
VA05H-59	45		56.7		3	
VA07H-31WS	45		55.1		3	
VA07H-111	44		55.6		4	+
VA06H-2	44		55.5		4	+
VA07H-1	44		56.8		3	
VA07H-94	43		56.4		4	+
Doyce	43		55.3		4	+
VA06H-48	43		57.0		3	
VA06H-31	42		56.5		4	+
VA06H-47	42		57.1		3	
VA01H-125	38	-	53.8	-	4	+
VA07H-3	36	-	56.3		3	
Average	46		56.1		3	
LSD (0.05)	8		1.7		1	
C.V.	12		2.0		27	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages.

A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 6. Summary of performance of hulless entries in the Virginia Tech Barley Test, Eastern Virginia AREC, Warsaw, VA, 2009 harvest.

Hulless Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Net Blotch (0-9)	
VA07H-31WS	69	+	58.5	+	114	+	35	+	0		1	+	1	-
VA07H-35WS	67	+	58.5	+	114	+	34		0		0		2	-
VA06H-25	67	+	58.0	+	115	+	34		0		1	+	1	-
VA06H-142	65	+	55.8	-	110		33		0		0		5	+
VA05H-147	64	+	57.5		112	+	37	+	0		0		3	-
VA06H-3WS	64	+	58.1	+	115	+	34		0		0		2	-
VA06H-125WS	63	+	55.2	-	112	+	31	-	0		0		4	
VA06H-79	63	+	56.2		114	+	32		0		0		1	-
VA07H-21WS	62		57.5		113	+	36	+	0		0		4	
VA05H-158	60		57.0		109	-	37	+	0		0		3	-
VA06H-82	60		56.7		109	-	31	-	0		0		3	-
VA06H-47	59		57.1		107	-	35	+	1	+	0		1	-
Dan	58		59.4	+	113	+	32		0		0		2	-
VA06H-31	57		57.4		112	+	36	+	0		1	+	4	
VA07H-105	54		58.5	+	110		34		0		0		5	+
VA06H-2	53		58.9	+	111	+	32		0		0		1	-
Eve	52		55.4	-	107	-	34		1	+	0		5	+
VA07H-10WS	52		58.7	+	112	+	37	+	0		0		4	
VA01H-125	51		53.7	-	107	-	29	-	1	+	0		7	+
VA07H-111	51		55.8	-	108	-	34		1	+	0		5	+
VA05H-59	51		58.8	+	114	+	32		0		4	+	4	
VA07H-3	50		56.9		109	-	37	+	2	+	0		6	+
VA06H-48	50		56.9		108	-	34		0		0		1	-
VA07H-1	49	-	57.4		107	-	36	+	1	+	0		6	+
Doyce	48	-	50.3	-	109	-	32		1	+	0		7	+
VA07H-97	48	-	56.1		103	-	30	-	1	+	0		5	+
VA07H-73	46	-	55.6	-	103	-	29	-	1	+	0		6	+
VA07H-74	46	-	55.4	-	106	-	29	-	1	+	0		5	+
VA07H-94	44	-	55.8	-	104	-	27	-	1	+	0		5	+
Average	56		56.8		110		33		0		0		4	
LSD (0.05)	7		0.9		1		2		1		1		1	
C.V.	9		1.1		1		4		122		165		20	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages.

A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 7. Summary of performance of hulless entries in the Virginia Tech Barley Test, Eastern Shore AREC, Painter, VA, 2009 harvest.

Hulless Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Lodging (0-9)		Leaf Rust (0-9)		Powdery Mildew (0-9)	
VA07H-35WS	83	+	57.3		4		2		4	+
VA05H-147	78	+	56.8		3	-	1	-	1	-
VA06H-125WS	76	+	55.8	-	3	-	5	+	2	
VA06H-142	76	+	57.2		3	-	2		1	-
VA07H-31WS	75	+	57.1		4		2		3	+
VA07H-21WS	74	+	57.2		4		2		4	+
VA06H-25	74	+	57.1		3	-	2		3	+
Doyce	72		55.1	-	4		1	-	2	
Eve	69		58.4	+	4		2		2	
VA07H-10WS	68		58.3	+	3	-	2		4	+
VA06H-3WS	67		57.8		3	-	2		3	+
VA06H-31	67		57.2		3	-	1	-	3	+
VA05H-158	64		58.6	+	4		4		3	+
VA07H-1	64		57.1		4		5	+	1	-
VA07H-105	61		57.9		3	-	2		2	
Dan	59		59.5	+	3	-	2		2	
VA05H-59	58		57.6		3	-	2		7	+
VA06H-2	57		58.9	+	4		3		2	
VA06H-79	57		56.1	-	4		6	+	1	-
VA01H-125	55		56.5	-	3	-	4		1	-
VA06H-82	53		58.7	+	4		5	+	1	-
VA06H-47	52		58.5	+	4		4		1	-
VA07H-3	51	-	57.3		3	-	6	+	1	-
VA07H-94	51	-	56.7		4		5	+	1	-
VA06H-48	51	-	58.2	+	4		3		1	-
VA07H-97	48	-	57.2		4		4		1	-
VA07H-73	47	-	57.0		4		5	+	1	-
VA07H-74	46	-	57.7		4		3		1	-
VA07H-111	45	-	56.5	-	3	-	3		2	
Average	62		57.4		4		3		2	
LSD (0.05)	11		0.8		1		2		1	
C.V.	11		0.9		27		40		41	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages.

A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 8. Summary of performance of hulless entries in the Virginia Tech Barley Test, Northern Piedmont AREC, Orange, VA, 2009 harvest.

Hulless Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)	
VA07H-111	81	+	51.4		118	-	41		4	
VA01H-125	79	+	50.5		116	-	34	-	3	
VA06H-47	77	+	53.1		117	-	42	+	1	-
VA07H-1	76	+	51.6		118	-	40		5	
VA06H-82	76	+	52.4		120		39		3	
VA06H-48	75	+	54.0	+	117	-	43	+	2	-
VA06H-31	74	+	51.0		122	+	38		6	
VA07H-74	68		51.2		117	-	38		3	
VA07H-105	68		53.0		121	+	40		2	-
VA07H-94	67		52.3		117	-	37		2	-
VA07H-3	65		50.7		118	-	41		7	
Dan	65		53.3		121	+	38		7	
VA06H-2	65		53.5		121	+	39		5	
VA07H-73	65		51.3		116	-	37		4	
VA07H-10WS	64		51.5		121	+	39		9	
VA05H-147	64		50.8		119	-	40		8	
VA07H-97	63		51.5		117	-	40		4	
VA06H-79	62		51.9		122	+	38		7	
VA07H-21WS	60		50.3		122	+	39		7	
Eve	58		52.6		117	-	38		9	
VA06H-142	57		48.3		119	-	39		9	
Doyce	57		45.3	-	119	-	37		4	
VA07H-31WS	56		48.8		123	+	39		9	
VA05H-59	56		53.1		122	+	39		8	
VA07H-35WS	51	-	49.1		123	+	38		9	
VA06H-3WS	51	-	50.1		123	+	37		9	
VA06H-125WS	50	-	45.9	-	121	+	37		9	
VA06H-25	48	-	48.1	-	123	+	36	-	6	
VA05H-158	45	-	49.1		121	+	39		9	
Average	63		50.9		120		39		6	
LSD (0.05)	11		2.8		1		3		4	
C.V.	11		3.7		1		4		43	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages.

A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 9. Summary of performance of hulless entries in the Virginia Tech Barley Test, Kentland Farm, Blacksburg, VA, 2009 harvest.

Hulless Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Leaf Rust (0-9)		Powdery Mildew (0-9)		Net Blotch (0-9)	
VA06H-25	77	+	56.2		116	+	39	+	1		4		4	+	2	-
VA05H-147	76	+	55.5		114	+	36		1		3	-	2		3	-
VA07H-31WS	76	+	57.0	+	116	+	38	+	0		4		5	+	2	-
VA06H-3WS	76	+	56.9	+	116	+	38	+	0		3	-	3	+	2	-
VA07H-21WS	71	+	55.0	-	116	+	38	+	2	+	4		2		3	-
VA07H-10WS	70		57.0	+	116	+	38	+	1		3	-	2		3	-
VA06H-79	69		54.8	-	117	+	36		0		8	+	1	-	3	-
VA07H-105	68		55.7		117	+	36		0		3	-	1	-	4	
VA07H-35WS	68		56.3		116	+	38	+	2	+	4		3	+	2	-
VA05H-158	66		57.4	+	111	-	37	+	0		6	+	4	+	3	-
VA01H-125	65		56.1		113		29	-	0		6	+	1	-	7	+
VA06H-31	64		56.2		116	+	38	+	0		4		2		3	-
VA07H-3	62		56.3		113		37	+	0		8	+	1	-	4	
VA06H-48	62		57.1	+	112	-	35		0		7	+	1	-	1	-
VA06H-125WS	61		54.4	-	115	+	33	-	0		7	+	2		4	
Eve	60		56.4		108	-	33	-	1		4		1	-	6	+
VA07H-1	60		56.4		114	+	34		0		7	+	1	-	4	
VA06H-82	60		56.7		111	-	33	-	1		5	+	1	-	4	
Dan	60		58.6	+	115	+	33	-	0		3	-	1	-	3	-
VA07H-73	59		55.0	-	110	-	32	-	1		4		1	-	6	+
VA06H-142	57		56.3		115	+	34		0		2	-	1	-	5	+
VA06H-47	57		57.4	+	111	-	35		0		6	+	1	-	1	-
VA07H-97	56		54.1	-	110	-	31	-	0		4		1	-	5	+
VA07H-94	56		54.7	-	109	-	31	-	0		4		1	-	5	+
VA05H-59	54		58.0	+	117	+	32	-	0		3	-	2		5	+
VA07H-111	52	-	53.4	-	111	-	34		0		5	+	1	-	4	
VA07H-74	51	-	54.8	-	109	-	32	-	0		4		1	-	5	+
Doyce	50	-	53.5	-	115	+	33	-	1		1	-	1	-	8	+
VA06H-2	45	-	58.1	+	114	+	33	-	0		3	-	1	-	2	-
Average	62		56.0		113		35		0		4		2		4	
LSD (0.05)	9		0.8		1		2		2		1		1		1	
C.V.	10		1.1		1		4		321		21		56		24	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages.

A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 10. Summary of performance of hulled entries in the Virginia Tech Barley Test over locations, 2009 harvest.

Hulled Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Leaf Rust (0-9)		Powdery Mildew (0-9)		Net Blotch (0-9)	
	(5)		(5)		(2)		(3)		(5)		(2)		(2)		(4)	
VA06B-48	94	+	43.0	-	112		34		3		3		0	-	3	
VA07B-64	93	+	44.6	+	113	+	34		4	+	3		0	-	3	
VA04B-125	92		43.8		113	+	35	+	3		4	+	0	-	2	-
VA07B-52	92		45.2	+	111	-	34		3		3		0	-	2	-
Thoroughbred	91		43.9		117	+	35	+	3		6	+	6	+	2	-
VA05B-58	91		44.3	+	113	+	35	+	2	-	4	+	0	-	1	-
VA06B-32	88		44.0		112		33	-	3		3		0	-	4	+
VA06B-22	88		44.1		111	-	34		3		2	-	1	+	3	
Callao	88		43.3	-	111	-	32	-	4	+	3		0	-	3	
Nomini*	88		42.3	-	109	-	39	+	2	-	4	+	0	-	2	-
VA07B-15	87		44.2		111	-	34		3		2	-	1	+	3	
VA07B-59	87		44.7	+	111	-	34		3		3		0	-	3	
VA07B-61	87		44.6	+	111	-	35	+	3		2	-	0	-	3	
VA06B-19	86		43.8		111	-	35	+	3		3		0	-	3	
VA07B-109	86		44.7	+	113	+	33	-	2	-	3		0	-	2	-
VA96-44-304	82		42.3	-	110	-	32	-	2	-	4	+	0	-	5	+
VA07B-3	82		45.5	+	111	-	32	-	2	-	3		1	+	4	+
VA06B-44	82		42.7	-	112		33	-	4	+	2	-	0	-	3	
VA92-42-46*	77	-	43.4		111	-	39	+	1	-	0	-	0	-	7	+
Barsoy	73	-	42.7	-	111	-	37	+	4	+	6	+	1	+	3	
Price	72	-	44.1		113	+	33	-	3		4	+	0	-	4	+
Wysor*	67	-	40.2	-	113	+	39	+	4	+	5	+	0	-	4	+
Average	86		43.8		112		34		3		3		1		3	
LSD (0.05)	7		0.5		1		1		1		1		0		1	
C.V.	11		1.8		1		5		47		31		74		23	

*These yields have been adjusted for not appearing at all locations.

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages.

A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 11. Two-year average summary of performance of hulled entries in the Virginia Tech Barley Tests, 2008 and 2009 harvests.

Hulled Lines	Yield (Bu/a) (10)		Test Weight (Lb/bu) (10)		Date Headed (Julian) (6)		Height (In) (6)		Lodging (0-9) (11)		Leaf Rust (0-9) (4)		Powdery Mildew (0-9) (5)		Net Blotch (0-9) (6)	
VA06B-48	100	+	44.7		111		35	-	4	-	3	-	0	-	3	-
Thoroughbred	98	+	45.1	+	116	+	36		4	-	5	+	5	+	3	-
VA05B-58	95		45.3	+	113	+	35	-	4	-	4	+	0	-	2	-
Callao	95		44.7		110	-	33	-	6	+	3	-	0	-	4	+
Nomini	94		43.7	-	109	-	40	+	4	-	4	+	0	-	2	-
VA06B-19	94		45.3	+	110	-	35	-	5		3	-	1	+	4	+
VA04B-125	94		45.4	+	113	+	35	-	5		4	+	0	-	2	-
VA06B-32	92		45.2	+	111		33	-	5		3	-	0	-	4	+
VA96-44-304	92		43.6	-	109	-	34	-	4	-	3	-	1	+	5	+
VA06B-44	91		44.0		111		34	-	5		3	-	0	-	3	-
VA92-42-46	85	-	43.7	-	110	-	40	+	5		0	-	0	-	7	+
Price	83	-	45.4	+	112	+	35	-	5		3	-	0	-	5	+
Barsoy	80	-	44.2		110	-	38	+	5		6	+	1	+	3	-
Wysor	76	-	42.4	-	112	+	39	+	5		5	+	0	-	4	+
Average	91		44.5		111		36		5		4		1		4	
LSD (0.05)	5		0.6		1		1		1		1		0		0	
C.V.	11		2.8		1		5		---		---		---		---	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages.

A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 12. Three-year average summary of performance of hulled entries in the Virginia Tech Barley Tests, 2007, 2008, and 2009 harvests.

Hulled Lines	Yield (Bu/a) (16)		Test Weight (Lb/bu) (16)		Date Headed (Julian) (8)		Height (In) (9)		Lodging (0-9) (16)		Leaf Rust (0-9) (8)		Powdery Mildew (0-9) (5)		Net Blotch (0-9) (9)		Spot Blotch (0-9) (4)		Spring Freeze (0-9) (1)	
Thoroughbred	101	+	45.2	+	117	+	35		3	-	5	+	5	+	3	-	3		2	
VA04B-125	98	+	45.5	+	114	+	35		4		4	+	0	-	2	-	2	-	1	-
Callao	97	+	45.3	+	111	-	33	-	5	+	3	-	0	-	4	+	3		1	-
VA96-44-304	93		44.1	-	110	-	33	-	4		4	+	1	+	5	+	4	+	2	
VA92-42-46	88		44.3		112	-	39	+	3	-	1	-	0	-	7	+	5	+	3	+
Price	87		45.5	+	113	+	34	-	3	-	4	+	0	-	5	+	3		3	+
Wysor	81	-	42.8	-	113	+	38	+	4		5	+	0	-	4	+	3		3	+
Barsoy	77	-	43.5	-	110	-	37	+	4		6	+	1	+	3	-	2	-	2	
Average	90		44.6		113		35		4		4		1		4		3		2	
LSD (0.05)	4		0.5		0		1		1		0		0		0		1		1	
C.V.	12		3.1		1		4		---		---		---		---		---		---	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages.

A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 13. Summary of performance of hulled entries in the Virginia Tech Barley Test, Southern Piedmont AREC, Blackstone, VA, 2009 harvest.

Hulled Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Lodging (0-9)	
Thoroughbred	81		44.4		4	
VA04B-125	78		45.0		4	
VA05B-58	77		45.3		3	
VA06B-32	75		44.7		5	+
Callao	74		43.5		2	
VA07B-109	73		44.8		3	
VA07B-64	71		44.8		3	
VA06B-19	69		44.6		5	+
VA07B-61	69		45.2		4	
VA07B-59	69		45.3		3	
Barsoy	69		41.3	-	3	
VA06B-48	68		43.0	-	2	
VA06B-44	64		42.8	-	3	
Price	64		44.9		2	
VA07B-52	58		45.8	+	4	
VA96-44-304	58		42.7	-	2	
VA07B-3	57		46.3	+	3	
VA06B-22	57		44.5		2	
VA07B-15	56		43.7		4	
Wysor	---		---		---	
Nomini	---		---		---	
VA92-42-46	---		---		---	
Average	67		44.3		3	
LSD (0.05)	16		1.1		2	
C.V.	17		1.8		47	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages.

A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 14. Summary of performance of hulled entries in the Virginia Tech Barley Test planted no-till at the Tidewater AREC, Holland, VA, 2009 harvest.

Hulled Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Lodging (0-9)	
VA07B-52	78		45.3		3	
Callao	77		44.3		3	
Thoroughbred	77		43.9		3	
VA06B-32	76		44.7		3	
VA06B-48	76		43.4	-	3	
VA07B-3	74		46.5	+	4	
VA07B-64	72		45.3		4	
VA06B-19	71		43.8		3	
VA06B-44	71		43.7		3	
VA07B-109	70		44.7		3	
VA07B-61	70		44.2		5	+
VA07B-15	70		44.1		4	
VA05B-58	68		44.2		2	
VA96-44-304	68		42.9	-	2	
VA07B-59	66		44.0		2	
VA04B-125	65		44.7		4	
VA06B-22	61		44.1		3	
Barsoy	60		47.4	+	4	
Price	52	-	44.4		4	
Wysor	---		---		---	
Nomini	---		---		---	
VA92-42-46	---		---		---	
Average	69		44.5		3	
LSD (0.05)	14		0.9		2	
C.V.	12		1.4		49	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages.

A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 15. Summary of performance of hulled entries in the Virginia Tech Barley Test, Eastern Virginia AREC, Warsaw, VA, 2009 harvest.

Hulled Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Net Blotch (0-9)	
VA06B-19	104	+	46.0	+	107		33		2	+	1		3	
VA07B-15	104	+	46.3	+	106	-	33		1		1		3	
VA04B-125	104	+	45.4		109	+	34		1		0	-	1	-
Thoroughbred	102	+	46.9	+	113	+	34		0	-	7	+	2	-
VA07B-64	101	+	45.1		109	+	33		3	+	0	-	3	
VA07B-59	101	+	46.7	+	107		33		3	+	0	-	3	
VA07B-61	99		47.1	+	106	-	34		2	+	0	-	3	
VA06B-32	97		45.3		107		31	-	1		0	-	5	+
VA05B-58	97		45.9	+	109	+	34		0	-	0	-	1	-
Nomini	96		43.1	-	107		39	+	2	+	0	-	1	-
VA06B-22	92		46.1	+	107		32		2	+	0	-	3	
Callao	91		45.5		106	-	30	-	4	+	0	-	3	
VA07B-52	91		47.6	+	107		32		1		0	-	2	-
VA96-44-304	89		43.2	-	104	-	31	-	1		1		5	+
VA07B-3	89		46.4	+	105	-	33		1		1		4	+
VA06B-44	89		43.8	-	107		33		2	+	0	-	3	
VA06B-48	89		43.3	-	108	+	32		1		0	-	3	
VA07B-109	86		46.6	+	109	+	32		0	-	0	-	2	-
VA92-42-46	84		44.0	-	109	+	39	+	1		0	-	6	+
Wysor	79	-	43.1	-	109	+	37	+	1		0	-	4	+
Price	78	-	45.4		109	+	32		1		0	-	5	+
Barsoy	74	-	45.1		106	-	35	+	2	+	2	+	3	
Average	92		45.3		107		33		1		1		3	
LSD (0.05)	9		0.6		1		2		1		1		1	
C.V.	7		1.0		0		4		46		70		24	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages.

A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 16. Summary of performance of hulled entries in the Virginia Tech Barley Test, Eastern Shore AREC, Painter, VA, 2009 harvest.

Hulled Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Lodging (0-9)		Leaf Rust (0-9)		Powdery Mildew (0-9)	
VA07B-52	100		46.8	+	4		2		1	
Thoroughbred	97		45.3		4		5	+	6	+
VA06B-19	96		46.6	+	4		2		1	
VA06B-32	92		45.5		2	-	3	+	1	
VA07B-61	90		46.7	+	4		1	-	0	-
Price	89		46.7	+	4		3	+	1	
VA07B-64	89		46.7	+	4		2		1	
VA06B-44	89		44.2	-	4		2		1	
VA07B-3	88		46.3	+	4		2		2	+
Callao	88		45.9		4		2		1	
VA04B-125	87		45.2		4		2		1	
VA07B-109	87		45.2		4		2		1	
VA96-44-304	87		44.7		4		2		1	
VA07B-59	86		46.8	+	3	-	2		1	
VA05B-58	84		44.9		3	-	3	+	1	
VA06B-22	84		46.1	+	4		1	-	1	
VA92-42-46	80		43.5	-	3	-	0	-	0	-
Barsoy	79		43.3	-	4		5	+	2	+
Nomini	75		41.9	-	3	-	3	+	1	
VA06B-48	74		45.5		3	-	2		0	-
VA07B-15	68		46.2	+	4		1	-	1	
Wysor	62	-	41.3	-	4		4	+	0	-
Average	85		45.3		4		2		1	
LSD (0.05)	18		0.8		1		1		1	
C.V.	13		1.1		29		43		63	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages.

A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 17. Summary of performance of hulled entries in the Virginia Tech Barley Test, Northern Piedmont AREC, Orange, VA, 2009 harvest.

Hulled Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)	
VA07B-3	107	+	43.8	+	119	+	36		1	-
VA07B-52	104	+	41.5		118		37		4	
VA06B-48	103		41.9		118		36		5	
VA07B-109	100		42.8	+	118		36		1	-
VA06B-22	99		40.9		118		37		6	
VA96-44-304	98		41.1		118		36		4	
VA05B-58	95		41.7		119	+	37		5	
VA07B-64	92		41.9		119	+	37		9	+
VA06B-44	92		40.6		118		35		9	+
VA07B-61	90		41.4		117	-	37		5	
VA04B-125	85		40.6		119	+	37		6	
VA07B-15	85		42.1		117	-	36		3	-
Callao	84		39.3		117	-	36		9	+
VA06B-19	81		40.6		118		36		5	
VA07B-59	78		42.3		117	-	36		5	
VA06B-32	76		40.1		118		35		7	
Barsoy	71		37.6	-	117	-	41	+	9	+
Thoroughbred	67		40.1		123	+	37		7	
Price	59	-	40.2		119	+	37		8	
Wysor	44	-	35.7	-	119	+	42	+	9	+
Nomini	---		---		---		---		---	
VA92-42-46	---		---		---		---		---	
Average	85		40.9		118		37		6	
LSD (0.05)	19		1.7		1		3		3	
C.V.	15		3.0		1		6		38	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages.

A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 18. Summary of performance of hulled entries in the Virginia Tech Barley Test, Kentland Farm, Blacksburg, VA, 2009 harvest.

Hulled Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Leaf Rust (0-9)		Powdery Mildew (0-9)		Net Blotch (0-9)	
VA06B-22	131	+	44.9	+	110	-	33		1		3		0		3	
Thoroughbred	129	+	44.0		115	+	34		0		7	+	4	+	2	-
VA07B-64	127		45.7	+	111		33		2		4		0		4	+
VA06B-48	127		43.5		110	-	33		2		5		0		2	-
VA04B-125	125		43.4		112	+	34		3	+	6	+	0		3	
VA07B-52	125		46.0	+	109	-	33		1		4		0		3	
VA07B-15	123		44.8		109	-	32		1		4		0		3	
VA07B-59	123		45.2	+	109	-	34		1		4		0		2	-
Price	120		45.6	+	112	+	31	-	0		5		0		4	+
VA05B-58	118		44.6		112	+	34		2		4		0		2	-
Nomini	117		41.6	-	111		40	+	1		5		0		2	-
VA07B-61	117		45.2	+	110	-	33		1		3		0		2	-
VA06B-32	116		45.2	+	110	-	33		2		3		0		3	
VA06B-19	115		44.2		110	-	34		1		5		0		4	+
Callao	113		44.1		109	-	31	-	3	+	4		0		4	+
VA06B-44	111		42.9	-	110	-	32		1		3		0		2	-
Wysor	110		40.8	-	113	+	38	+	0		6	+	0		4	+
VA07B-109	106		44.7		111		31	-	0		4		0		2	-
VA92-42-46	103	-	42.8	-	113	+	38	+	0		1	-	0		8	+
VA96-44-304	97	-	41.7	-	108	-	29	-	0		6	+	0		6	+
Barsoy	91	-	41.0	-	110	-	35	+	1		8	+	0		2	-
VA07B-3	87	-	44.9	+	109	-	27	-	0		5		0		3	
Average	116		43.9		111		33		1		4		0		3	
LSD (0.05)	12		1.0		1		2		2		2		0		1	
C.V.	6		1.6		1		4		115		24		54		23	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages.

A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze, or lodging where 0 = highly resistant and 9 = highly susceptible.

Section 2: Barley Scab Research

One of the primary research objectives of the Virginia Tech barley breeding program is to identify and develop cultivars possessing resistance to Fusarium Head Blight (FHB) or scab. Each year all barley and hulless barley entries in Virginia's Official State Variety Trials are evaluated for FHB resistance in an inoculated, irrigated nursery at the Blacksburg test site. Data from this test for the current crop year and two- and three-year averages for FHB incidence, FHB severity and FHB Index (incidence x severity / 100) are included in this bulletin (Tables 19 – 24) to aid producers in selection of cultivars on the basis of FHB resistance. Cultivars possessing complete resistance or immunity to FHB have not been identified and resistance levels in currently available cultivars vary from moderately resistant to highly susceptible.

A major goal of the breeding program is to identify and incorporate unique and complementary types of FHB resistance into cultivars to enhance the overall level of resistance. Genes controlling FHB resistance have been identified on only a few spring barley lines. Incorporating multiple resistance genes having additive effects on FHB resistance into cultivars will enhance the overall level of resistance. Because the individual resistance genes are located on different barley chromosomes and each gene confers only partial resistance to FHB, identifying lines having multiple resistance genes is difficult using traditional breeding techniques. To overcome this limitation, our program will incorporate the available markers to help select FHB resistant cultivars.

Entries were inoculated by spreading scabby corn seeds in plots at the booting stage and by spraying a *Fusarium graminearum* spore suspension directly onto spikes at the 50% and 100% flowering stage. A high FHB infection level was obtained in 2009. Among 30 hulless lines and varieties tested in 2009, the FHB index varied from 1% to 36% with FHB incidence ranging from 5% to 93% and FHB severity ranging from 8% to 38% (Table 19). Eighteen lines and one varieties had FHB index values lower than the mean (<5%) and expressing moderate resistant to FHB. Based on two-year mean data for 2008 and 2009 (Table 20), six lines and 2 varieties had FHB index values lower than the test mean (<13%). Three hulless barley lines (VA01H-125, VA05H-59, VA05H-147TW) and two varieties (Eve and Dan) tested across three years (2007-2009) had average FHB index values lower than the test mean of 12% (Table 21).

Among 22 barley lines and varieties tested in 2009, the FHB index varied from 1% to 21% with FHB incidence ranging from 8% to 68% and FHB severity ranging from 10% to 33% (Table 22). Seven lines and five varieties had FHB index values lower than the mean (<7%) and expressing moderate resistant to FHB. Based on two-year mean data for 2008 and 2009 (Table 23), three lines and three varieties had FHB index values lower than the test mean (<29%). One hulled barley lines (VA04B-125) and two varieties (Thoroughbred and Price) tested across three years (2007-2009) had average FHB index values lower than the test mean of 25% (Table 24).

Table 19. Summary of reaction of entries in the Virginia Tech State Hulless Barley Test to Fusarium head blight (scab), 2009 harvest.

LINE	Heading date (Julian)		FHB Incidence[1] (%)		FHB Severity[2] (%)		FHB Index[3] (0-100)		Rank FHB Index
VA06H-25W/T	117	+	5		13		1		1
VA07H-21WS(Dec)	115		8		10		1		2
VA06H-48	115		5		8		1		3
VA07H-3	115		5		25		2		4
VA05H-158	114	-	10		13		2		5
Eve	113	-	10		13		2		6
VA06H-31T/W	115		18		10		2		7
VA06H-47	115		13		10		2		8
VA07H-10WS(Dec)	116	+	18		8		2		9
VA06H-2W/T	116	+	13		8		2		10
VA07H-1	116	+	18		15		3		11
VA06H-79	117	+	20		13		3		12
VA05H-147T/W	115		15		23		4		13
VA06H-125WS	117	+	18		20		4		14
VA07H-73	114	-	18		20		4		15
VA01H-125	115		20		18		4		16
VA07H-31WS	116	+	23		15		4		17
VA06H-182	116	+	28		13		4		18
VA07H-94	114	-	25		13		4		19
VA06H-82	114	-	18		25		5		20
Dan	115		20		23		5		21
VA07H-35WS	117	+	18		23		5		22
VA06H-3WS	116	+	20		20		5		23
VA07H-74	115		25		18		5		24
VA07H-105	117	+	33		15		5		25
VA07H-97	115		23		30		7		26
VA07H-111	115		38		20		8		27
VA05H-59	117	+	28		28		9		28
VA06H-142	116	+	45	+	33	+	15	+	29
Doyce	116	+	93	+	38	+	36	+	30
Average	115		21		18		5		
LSD (0.05)	1		18		13		7		
C.V.	1		---		---		---		

Released cultivars are shown in bold print. Varieties are ordered by ascending index averages.

A plus or minus sign indicates a performance significantly above or below the average.

Entries were planted in 2-row plots, 4 ft in length at Blacksburg, VA and were inoculated at 50% and 100% heading stages with Fusarium graminearum spore suspension (50,000 spores/ml).

[1]Scab Incidence (%): Percentage of infected spikes among 10 randomly selected spikes.

[2]Scab Severity (%): Percentage of infected spikelets among 10 infected spikes.

[3]Scab Index = Incidence X Severity/100; it is an overall indicator of scab resistance/susceptibility level.

Table 20. Two year average summary of reaction of entries in the Virginia Tech State Hulless Barley Tests to Fusarium head blight (scab), 2008 and 2009 harvests.

LINE	Heading date (Julian)	FHB Incidence[1] (%)		FHB Severity[2] (%)	FHB Index[3] (0-100)
Eve	117	23		13	4
VA06H-48	119	33		13	6
VA05H-147T/W	119	28		21	7
VA05H-59	120	24		33	8
Dan	119	25		24	10
VA01H-125	117	38		22	10
VA06H-3WS	117	48		20	11
VA06H-47	115	39		18	11
VA06H-31T/W	116	41		20	13
VA05H-158	116	48		30	24
Doyce	116	74	+	33	26
VA06H-25W/T	118	50		35	29
Average	117	39		24	13
LSD (0.05)	4	28		23	23
C.V.	2	---		---	---

Released cultivars are shown in bold print. Varieties are ordered by ascending index averages.

A plus or minus sign indicates a performance significantly above or below the average.

Entries were planted in 2-row plots, 4 ft in length at Blacksburg, VA and were inoculated at 50% and 100% heading stages with Fusarium graminearum spore suspension (50,000 spores/ml).

[1]Scab Incidence (%): Percentage of infected spikes among 10 randomly selected spikes.

[2]Scab Severity (%): Percentage of infected spikelets among 10 infected spikes.

[3]Scab Index = Incidence X Severity/100; it is an overall indicator of scab resistance/susceptibility level.

Table 21. Three year average summary of reaction of entries in the Virginia Tech State Hulless Barley Tests to Fusarium head blight (scab), 2007 - 2009 harvests.

LINE	Heading date (Julian)		FHB Incidence[1] (%)		FHB Severity[2] (%)		FHB Index[3] (0-100)
Eve	120		30		17		7
VA01H-125	117	-	42		19		9
VA05H-59	121		34		30		10
Dan	120		38		22		11
VA05H-147T/W	121		43		22		11
VA05H-158	120		38		24		17
Doyce	120		66	+	28		20
Average	120		42		23		12
LSD (0.05)	3		24		16		16
C.V.	2		---		---		---

Released cultivars are shown in bold print. Varieties are ordered by ascending index averages.

A plus or minus sign indicates a performance significantly above or below the average.

Entries were planted in 2-row plots, 4 ft in length at Blacksburg, VA and were inoculated at 50% and 100% heading stages with Fusarium graminearum spore suspension (50,000 spores/ml).

[1]Scab Incidence (%): Percentage of infected spikes among 10 randomly selected spikes.

[2]Scab Severity (%): Percentage of infected spikelets among 10 infected spikes.

[3]Scab Index = Incidence X Severity/100; it is an overall indicator of scab resistance/susceptibility level.

Table 22. Summary of reaction of entries in the Virginia Tech State Barley Test to Fusarium head blight (scab), 2009 harvest.

LINE	Heading date (Julian)		FHB Incidence[1] (%)		FHB Severity[2] (%)		FHB Index[3] (0-100)		Rank FHB Index
Thoroughbred	117	+	8		15		1		1
Wysor	116	+	8		10		1		2
VA92-42-46	117	+	10		25		3		3
VA07B-61	114	-	20		13		3		4
Nomini	115		15		23		4		5
Callao	114	-	20		20		4		6
VA07B-3	114	-	23		13		4		7
VA06B-22	114	-	20		25		5		8
VA06B-48	114	-	25		20		5		9
VA96-44-304	114	-	33		15		5		10
Barsoy	114	-	28		15		5		11
VA06B-32	114	-	35		15		6		12
VA06B-19	114	-	35		20		7		13
VA07B-15	114	-	33		20		7		14
VA06B-44	114	-	30		25		8		15
VA07B-59	114	-	33		23		8		16
VA07B-109	115		30		23		8		17
VA07B-52	114	-	43		18		8		18
Price	115		45		25		12		19
VA07B-64	115		40		33	+	15		20
VA04B-125	115		63	+	23		16		21
VA05B-58	115		68	+	28		21	+	22
Average	115		30		20		7		
LSD (0.05)	1		23		12		10		
C.V.	0		---		---		---		

Released cultivars are shown in bold print. Varieties are ordered by ascending index averages.

A plus or minus sign indicates a performance significantly above or below the average.

Entries were planted in 2-row plots, 4 ft in length at Blacksburg, VA and were inoculated at 50% and 100% heading stages with Fusarium graminearum spore suspension (50,000 spores/ml).

[1]Scab Incidence (%): Percentage of infected spikes among 10 randomly selected spikes.

[2]Scab Severity (%): Percentage of infected spikelets among 10 infected spikes.

[3]Scab Index = Incidence X Severity/100; it is an overall indicator of scab resistance/susceptibility level.

Table 23. Two year average summary of reaction of entries in the Virginia Tech State Barley Tests to Fusarium head blight (scab), 2008 and 2009 harvests.

LINE	Heading date (Julian)		FHB Incidence[1] (%)		FHB Severity[2] (%)		FHB Index[3] (0-100)	
Thoroughbred	121	+	36	-	17	-	7	-
VA05B-58	116		69		25		18	
VA06B-32	113	-	63		27		21	
VA06B-48	113	-	60		35		27	
Price	118	+	68		37		27	
Barsoy	113	-	61		34		27	
VA06B-19	114		65		37		29	
Callao	113	-	58		38		30	
VA04B-125	115		76	+	36		30	
VA06B-44	114		65		45		36	
VA96-44-304	113	-	66		42		37	
Nomini	116		58		47		38	
Wysor	118	+	54		44		39	
VA92-42-46	116		55		58	+	46	+
Average	115		61		37		29	
LSD (0.05)	2		13		15		15	
C.V.	1		---		---		---	

Released cultivars are shown in bold print. Varieties are ordered by ascending index averages.

A plus or minus sign indicates a performance significantly above or below the average.

Entries were planted in 2-row plots, 4 ft in length at Blacksburg, VA and were inoculated at 50% and 100% heading stages with Fusarium graminearum spore suspension (50,000 spores/ml).

[1]Scab Incidence (%): Percentage of infected spikes among 10 randomly selected spikes.

[2]Scab Severity (%): Percentage of infected spikelets among 10 infected spikes.

[3]Scab Index = Incidence X Severity/100; it is an overall indicator of scab resistance/susceptibility level.

Table 24. Three year average summary of reaction of entries in the Virginia Tech State Barley Tests to Fusarium head blight (scab), 2007 - 2009 harvests.

LINE	Heading date (Julian)		FHB Incidence[1] (%)		FHB Severity[2] (%)		FHB Index[3] (0-100)	
Thoroughbred	122	+	39	-	16	-	6	-
Price	122	+	63		32		23	
VA04B-125	118		63		36		23	
Callao	116	-	63		33		25	
Barsoy	115	-	63		33		25	
Wysor	121		53		33		28	
VA96-44-304	115	-	69		39		33	
VA92-42-46	119		65		47	+	38	+
Average	119		60		33		25	
LSD (0.05)	3		13		13		11	
C.V.	2		---		---		---	

Released cultivars are shown in bold print. Varieties are ordered by ascending index averages.

A plus or minus sign indicates a performance significantly above or below the average.

Entries were planted in 2-row plots, 4 ft in length at Blacksburg, VA and were inoculated at 50% and 100% heading stages with Fusarium graminearum spore suspension (50,000 spores/ml).

[1]Scab Incidence (%): Percentage of infected spikes among 10 randomly selected spikes.

[2]Scab Severity (%): Percentage of infected spikelets among 10 infected spikes.

[3]Scab Index = Incidence X Severity/100; it is an overall indicator of scab resistance/susceptibility level.

Section 3: Wheat Varieties

Wheat tests were planted in seven-inch rows at Blackstone, Orange, Holland, Painter, and Shenandoah Valley. They were planted in six-inch rows at Warsaw and Blacksburg. They were planted in seven and one-half-inch rows at the Warsaw No-Till location. All no-till locations (Holland, Warsaw No-Till, and Shenandoah Valley) were planted at 28 seeds per row foot. All other locations were planted at 22 seeds per row foot.

When evaluating wheat variety performance as presented in this report, one should consider the use of seed treatment. Certain entries in this test have different seed treatments that may greatly impact performance. Seed treatments are indicated by an acronym in parentheses following the name. "B" is Baytan®, "D" is Dividend®, "R" is raxil, and "T" is thiram. For example, USG3209 (RT) indicates that this entry was treated with raxil and thiram. Virginia Tech experimental lines and some public varieties such as Massey were treated with raxil and thiram.

Selecting the best wheat varieties is challenging but becomes easier with adequate information on performance over multiple environments. Past seasons across Virginia have provided the opportunity to evaluate daylength sensitivity, spring freeze damage, glume blotch, scab (Fusarium head blight), and general plant health. Many newer wheat varieties and lines performed well in all environments tested.

The future for wheat varieties adapted to Virginia conditions is very positive. Dr. Carl Griffey, Virginia Tech's small grains breeder, has many lines starting with "VA" shown in the by-location tables that are in the top-yielding group and that display good disease resistance.

The released varieties that yielded significantly higher than the statewide mean in 2009 were Branson, Vigoro V9723, Shirley, Progeny 185, Merl, Pioneer variety 26R15, SS 520, SS-MPV 57, USG 3555, USG 3665, Coker 9553, Renwood 3434, and Vigoro V9922. Merl and Coker 9553 also had mean test weight that was also significantly higher than the test mean. The average of all locations was 73 bu/ac.

Shirley had the highest two year average yield. Branson, USG 3555, Merl, Pioneer 26R15, and USG 3665 also had grain yields that were significantly higher than the test mean when results from 2008 and 2009 were combined.

Producers who grow large acreages of wheat should plant two or more varieties having significantly different maturity dates in order to ensure harvest of high quality grain having high test weight and no sprouting. In Virginia it is typical that the first good week of wheat harvest is followed by a period of sporadic or consistent rain showers, which delay subsequent harvest and significantly reduce grain test weight and quality. Growers can circumvent this problem by planting varieties that differ significantly in maturity wherein early maturing varieties often can be harvested first and prior to significant rain showers, and later maturing varieties harvested subsequently will suffer less damage and losses in test weight and quality due to exposure to such a rain event.

Three locations in 2008-09, Warsaw No-till, Shenandoah Valley and Holland were planted no-till following corn. Individual sites are reported similar to other testing locations. These sites are also included in the overall yearly average.

Summary of wheat management practices for the 2009 harvest season (All rates are given on a per acre basis.)

Blacksburg - Planted September 24, 2008. Preplant fertilizer was 30-40-80 in September 2008. Site was sprayed with .5 oz Harmony Extra SG® on November 24, 2008. Site was fertilized with 50 lb N plus 0.5 oz Harmony Extra SG® on March 10, 2009 and again on March 24, 2009 with 50 lb N. Harvest occurred on June 24, 2009.

Blackstone - Planted October 20, 2008. Site was fertilized with 2000 lb lime on October 15, 2008 and 300 lb 10-6-18 on October 16, 2008. Site was topdressed with 40 lb N using 34-0-0 on January 26, 2009 and with 70 lb N using 34-0-0 on March 25, 2009. Harvest occurred June 23, 2009.

Warsaw - Planted October 13, 2008. Preplant fertilizer was 30-80-80-5 applied October 9, 2008. Site was fertilized at 40 lb N using 24-0-0-3 on February 9, 2009 and again on March 25, 2009. Site was treated with .9 oz Harmony Extra SG® on March 31, 2009. Harvest occurred June 20, 2009.

Warsaw No-Till - Planted October 10, 2008. Site was sprayed with 2.5 pt Gromaxone + .5 pt 2-4,D Ester October 6, 2008. Preplant fertilizer was 30-60-60-5 applied October 9, 2008. Site was fertilized at 40 lb N using 24-0-0-3 on February 9, 2009 and again on March 25, 2008. Harvest occurred June 22, 2009.

Painter - Planted October 22, 2008. Preplant fertilizer was 30 lb N using 30% PPI on October 21, 2008. Site was fertilized with 60 lb N using 30%UAN and 0.75 oz Harmony Extra SG® April 1, 2009. Site was fertilized with 40 lb N using 30% UAN April 25, 2009. Harvest occurred on June 17, 2009.

Holland - Planted no-till October 21, 2008. Preplant fertilization was 300 lb 9-16-31 on October 20, 2008. Site was fertilized with 60 lb N using 30% UAN and 0.6 oz Harmony Extra® February 10, 2009. Site was fertilized with 60 lb N using 30% UAN March 23, 2009. Harvest occurred on June 10, 2009.

Orange - Planted October 14, 2008. Preplant fertilization was 25-46-0 on October 9, 2008. Sixty lb N and Harmony Extra® at 0.4 oz were applied March 23, 2009. Harvest occurred on June 5, 2009.

Shenandoah Valley - Planted on October 13, 2008. Preplant fertilizer was 40 lb N November 1, 2008. Sixty lb N and 0.6 oz Harmony Extra® were applied March 10, 2009. Forty lb N were applied March 31, 2009. Harvest occurred July 13, 2009.

Table 25. Summary of performance of entries in the Virginia Tech Wheat Test, 2009 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Leaf Rust (0-9)		Wheat Spindle Streak Virus (0-9)		Awns[1]
	(7)		(7)		(4)		(5)		(5)		(4)		(3)		(1)		
VA05W-151	82	+	58.6	+	123		35		3	+	2	+	3	+	2		AL
VA05W-258	81	+	55.7		126	+	38	+	2		1		1		2		AL
Branson(D)	81	+	55.8		122	-	35		1	-	1		1		1		AL
Vigoro V9723(D)	80	+	55.6	-	122	-	40	+	2		2	+	3	+	4		TA
Shirley	80	+	54.7	-	125	+	35		1	-	0	-	0	-	2		AL
VA07W-415	79	+	54.6	-	124	+	37	+	2		0	-	0	-	1		AL
VA05W-251	79	+	56.1		123		34	-	2		1		0	-	0		AL
Progeny 185(D)	78	+	56.5		123		36	+	1	-	2	+	2	+	3		AL
GA-991209-6E33	78	+	56.9		120	-	36	+	1	-	1		0	-	3		A
Merl	78	+	57.8	+	123		35		1	-	1		2	+	2		AL
Pioneer variety 26R15(D)	78	+	54.8	-	123		36	+	0	-	1		1		2		A
Pioneer variety XW07B(D)	78	+	55.4	-	126	+	37	+	2		1		0	-	1		A
VA06W-412	78	+	57.0	+	124	+	34	-	0	-	1		0	-	1		AL
Pioneer variety XW07X(D)	78	+	56.5		126	+	36	+	4	+	1		1		0		A
NC04-20814('R)	78	+	56.5		123		36	+	2		0	-	0	-	0		AL
SS 520(RT)	77	+	55.6	-	122	-	36	+	3	+	1		1		6		AL
VA05W-139	77	+	56.2		125	+	34	-	0	-	0	-	0	-	3		AL
SS-MPV 57(RT)	77	+	56.5		126	+	38	+	3	+	3	+	2	+	1		AL
USG 3555 (D)	77	+	55.7		123		33	-	1	-	0	-	2	+	0		AL
USG 3665(D)	77	+	55.6	-	124	+	38	+	1	-	1		1		0		AL
VA05W-168	77	+	59.2	+	122	-	34	-	2		1		0	-	0		AL
COKER 9553(D)	76	+	58.5	+	121	-	36	+	1	-	1		1		6		A
VA06W-392	76	+	55.9		124	+	34	-	2		2	+	0	-	5		AL
Renwood 3434(D)	76	+	55.5	-	125	+	32	-	0	-	0	-	0	-	3		AL
Vigoro V9922(D)	76	+	56.1		124	+	36	+	0	-	0	-	1		2		A
VA05W-358	76	+	55.5	-	121	-	35		4	+	0	-	5	+	1		AL
VA06W-423	76	+	55.5	-	126	+	36	+	3	+	1		1		1		AL
USG 3190 (D)	75		57.0	+	124	+	34	-	1	-	3	+	0	-	3		AL
Chesapeake (RT)	75		57.1	+	123		35		2		0	-	3	+	2		TA
VA07W-138	75		58.1	+	125	+	34	-	1	-	0	-	1		2		AL

Table 25. Summary of performance of entries in the Virginia Tech Wheat Test, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Leaf Rust (0-9)		Wheat Spindle Streak Virus (0-9)		Awns[1]
	(7)		(7)		(4)		(5)		(5)		(4)		(3)		(1)		
VA06W-256	75		55.7		123		35		5	+	1		0	-	1		AL
SS 548(RT)	75		56.0		124	+	37	+	1	-	1		1		0		AL
VA04W-92	75		55.6	-	124	+	31	-	0	-	0	-	1		0		AL
VA05W-640	75		57.6	+	122	-	36	+	1	-	0	-	0	-	0		AL
Jamestown	74		58.1	+	121	-	33	-	1	-	1		1		6		A
VA06W-587	74		58.5	+	122	-	37	+	3	+	1		4	+	5		AL
Pioneer variety 26R31(D)	74		55.7		123		32	-	1	-	1		0	-	5		AL
Progeny 117(D)	74		56.6		122	-	37	+	3	+	3	+	2	+	2		AL
Tribute(D)	74		59.3	+	124	+	34	-	2		3	+	0	-	2		TA
Featherstone 176 (RT)	74		55.6	-	122	-	36	+	3	+	0	-	2	+	1		AL
VA04W-90	74		57.2	+	124	+	36	+	2		0	-	2	+	1		AL
VA06W-93	74		57.5	+	125	+	32	-	3	+	3	+	1		1		AL
VA06W-558	74		58.6	+	122	-	36	+	3	+	3	+	2	+	0		AL
VA07W-600	74		56.8		124	+	35		5	+	2	+	0	-	0		AL
USG 3342(D)	74		55.8		122	-	32	-	1	-	1		0	-	0		A
Oakes	73		58.1	+	126	+	36	+	2		2	+	1		6		AL
Vigoro V9713(D)	73		56.6		125	+	34	-	2		1		2	+	4		A
VA04W-306	73		55.0	-	124	+	35		3	+	0	-	1		4		AL
USG 3725(D)	73		53.9	-	123		38	+	2		2	+	0	-	4		TA
SS 5205	73		56.5		123		32	-	2		1		0	-	4		AL
SS 560(RT)	73		55.9		125	+	35		1	-	1		2	+	2		TA
VA05W-414	73		54.9	-	125	+	37	+	3	+	0	-	1		2		AL
Red Ruby(RT)	73		55.3	-	124	+	37	+	1	-	1		5	+	0		A
GA-991336-6E9	72		56.0		122	-	35		1	-	1		1		7	+	A
VA06W-194	72		55.5	-	124	+	34	-	4	+	1		0	-	2		AL
VA07W-27	72		55.8		124	+	34	-	1	-	2	+	1		1		A
VA07W-214	72		56.2		123		33	-	1	-	1		0	-	1		AL
SS 8309(RT)	72		56.4		125	+	37	+	2		1		2	+	0		AL
Magnolia(D)	71		55.5	-	124	+	38	+	1	-	2	+	1		6		A
Progeny 136(D)	71		53.4	-	123		37	+	2		3	+	1		5		TA

Table 25. Summary of performance of entries in the Virginia Tech Wheat Test, 2009 harvest, continued.

Line	Yield (Bu/a) (7)		Test Weight (Lb/bu) (7)		Date Headed (Julian) (4)		Height (In) (5)		Lodging (0-9) (5)		Powdery Mildew (0-9) (4)		Leaf Rust (0-9) (3)		Wheat Spindle Streak Virus (0-9) (1)		Awns[1]
Dominion(D)	71		56.0		124	+	33	-	2		0	-	1		5		AL
VA07W-347	71		54.6	-	123		34	-	2		0	-	0	-	4		A
VA07W-607	71		58.4	+	124	+	37	+	3	+	3	+	2	+	3		AL
NC03-6228('R)	71		57.1	+	120	-	34	-	3	+	0	-	0	-	1		AL
Progeny 166(D)	70	-	55.5	-	123		40	+	2		5	+	0	-	9	+	AL
GA-991371-6E12	70	-	56.2		122	-	36	+	1	-	1		1		7	+	A
Progeny 130(D)	70	-	58.0	+	122	-	36	+	2		4	+	1		5		AL
VA05W-534	70	-	56.7		123		37	+	2		5	+	0	-	5		TA
SS 8302(RT)	70	-	57.2	+	125	+	37	+	1	-	3	+	2	+	4		A
VA07W-580	70	-	57.1	+	126	+	39	+	3	+	1		2	+	4		AL
Pioneer variety 26R12(D)	70	-	56.8		124	+	36	+	1	-	1		1		4		A
VA04W-259	70	-	55.8		125	+	34	-	2		1		0	-	4		AL
Oglethorpe(D)	70	-	55.1	-	121	-	34	-	4	+	1		0	-	3		AL
Sisson	70	-	56.0		122	-	34	-	3	+	2	+	6	+	0		AL
Coker 9804(D)	69	-	55.0	-	123		35		2		1		2	+	5		A
Panola(D)	69	-	54.6	-	123		35		2		1		2	+	5		A
SS 8641(RT)	69	-	55.1	-	125	+	36	+	1	-	0	-	0	-	5		TA
VA07W-643	69	-	58.0	+	124	+	35		5	+	1		0	-	3		AL
VA07W-83	69	-	55.9		124	+	35		1	-	2	+	0	-	2		AL
VA06W-6	69	-	56.1		123		32	-	2		1		0	-	0		A
VA06HRW-49(RT)	68	-	56.2		123		36	+	2		0	-	1		3		A
USG 3209(D)	68	-	55.0	-	123		35		3	+	2	+	3	+	2		AL
SS 8404(RT)	67	-	57.1	+	124	+	33	-	1	-	3	+	1		7	+	A
USG 3592(DR)	67	-	56.3		125	+	38	+	4	+	1		0	-	6		AL
Baldwin	67	-	55.3	-	125	+	40	+	2		1		0	-	2		A
COKER 9436(D)	66	-	53.5	-	127	+	34	-	3	+	3	+	0	-	7	+	AL
AGS 2035	66	-	56.4		122	-	38	+	2		1		0	-	5		A

Table 25. Summary of performance of entries in the Virginia Tech Wheat Test, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Leaf Rust (0-9)		Wheat Spindle Streak Virus (0-9)		
	(7)		(7)		(4)		(5)		(5)		(4)		(3)		(1)		Awns[1]
Massey	65	-	57.0	+	123		40	+	3	+	1		7	+	1		AL
Progeny 119(D)	64	-	57.0	+	125	+	38	+	0	-	6	+	3	+	3		TA
Average	73		56.3		123		35		2		1		1		3		
LSD (0.05)	3		0.7		1		1		1		1		1		4		
C.V.	8		2.2		1		4		---		---		---		---		

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of locations on which data are based.

Varieties are ordered by descending yield averages. A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease or lodging, where 0 = highly resistant and 9 = highly susceptible.

[1]A=awned, AL=awnletted, TA=tip awned

Table 26. Two year average summary of performance of entries in the Virginia Tech Wheat Tests, 2008 and 2009 harvests.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Leaf Rust (0-9)		Barley Yellow Dwarf Virus (0-9)		*S. nodorum* Leaf Blotch (0-9)		Wheat Spindle Streak Virus (0-9)		Early Lodging (0-9)		Early Height (In)	
	(14)		(14)		(8)		(8)		(11)		(7)		(7)		(1)		(1)		(1)		(1)		(2)	
Shirley	88	+	56.1	-	123	+	35	-	1	-	0	-	0	-	1	-	0	-	2		0		11	-
Branson(D)	87	+	56.7	-	121	-	35	-	2		1		2		1	-	0	-	1		0		10	-
VA05W-151	87	+	59.6	+	121	-	35	-	4	+	1		4	+	1	-	2		2		0		13	+
VA05W-258	86	+	56.8	-	123	+	38	+	3	+	2	+	2		2		2		2		1	+	13	+
USG 3555 (D)	86	+	56.9	-	120	-	33	-	2		1		2		1	-	3	+	0		0		14	+
Merl	85	+	58.6	+	121	-	36		1	-	1		2		3	+	2		2		0		12	
VA05W-139	85	+	57.6		123	+	34	-	0	-	1		1	-	2		2		3		0		11	-
Pioneer variety 26R15(D)	85	+	56.2	-	121	-	36		1	-	1		1	-	2		2		2		0		11	-
VA05W-251	84	+	56.9	-	121	-	34	-	3	+	1		0	-	1	-	1	-	0		0		12	
USG 3665(D)	84	+	57.1		122		38	+	1	-	1		2		1	-	3	+	0		0		11	-
SS 548(RT)	83		57.6		121	-	37	+	1	-	2	+	2		2		4	+	0		0		12	
VA04W-306	83		56.4	-	121	-	35	-	3	+	0	-	2		1	-	2		4		0		12	
VA05W-414	83		56.6	-	123	+	37	+	4	+	0	-	2		1	-	1	-	2		0		11	-
Renwood 3434(D)	83		56.5	-	122		32	-	1	-	0	-	2		2		0	-	3		0		11	-
SS-MPV 57(RT)	83		57.2		123	+	38	+	3	+	3	+	3	+	2		4	+	1		1	+	12	
VA05W-168	83		60.4	+	120	-	34	-	3	+	1		0	-	1	-	0	-	0		0		11	-
Progeny 185(D)	82		57.2		121	-	37	+	1	-	3	+	2		2		1	-	3		0		12	
VA06W-423	82		56.5	-	124	+	37	+	4	+	1		1	-	3	+	1	-	1		2	+	12	
VA06W-392	82		57.1		122		34	-	3	+	2	+	0	-	2		0	-	5		0		10	-
SS 560(RT)	82		56.9	-	123	+	35	-	1	-	1		3	+	2		3	+	2		0		12	
SS 520(RT)	82		56.6	-	119	-	37	+	3	+	1		2		2		2		6		0		14	+
USG 3725(D)	82		55.3	-	121	-	38	+	2		3	+	2		2		2		4		0		12	
SS 5205	82		57.6		121	-	32	-	2		1		0	-	1	-	1	-	4		0		12	
VA06W-93	82		58.4	+	123	+	33	-	3	+	3	+	1	-	1	-	0	-	1		0		10	-
Tribute(D)	82		60.4	+	121	-	34	-	2		2	+	1	-	2		0	-	2		0		10	-
VA04W-90	81		58.1	+	122		37	+	2		1		2		2		3	+	1		0		13	+
Progeny 117(D)	81		57.5		120	-	38	+	3	+	3	+	2		2		2		2		2	+	13	+
Chesapeake (RT)	81		58.6	+	121	-	35	-	2		0	-	3	+	1	-	2		2		0		12	

Table 26. Two year average summary of performance of entries in the Virginia Tech Wheat Tests, 2008 and 2009 harvests, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Leaf Rust (0-9)		Barley Yellow Dwarf Virus (0-9)		*S. nodorum* Leaf Blotch (0-9)		Wheat Spindle Streak Virus (0-9)		Early Lodging (0-9)		Early Height (In)	
	(14)		(14)		(8)		(8)		(11)		(7)		(7)		(1)		(1)		(1)		(1)		(2)	
Pioneer variety 26R31(D)	81		56.9	-	121	-	33	-	1	-	1		1	-	2		3	+	5		0		13	+
Jamestown	81		59.1	+	119	-	34	-	2		1		1	-	1	-	3	+	6		0		14	+
COKER 9553(D)	80		59.2	+	119	-	36		1	-	1		1	-	1	-	1	-	6		0		13	+
VA06W-256	80		57.1		121	-	36		5	+	1		0	-	3	+	2		1		1	+	11	-
USG 3342(D)	80		56.8	-	120	-	33	-	2		1		1	-	2		2		0		0		14	+
SS 8641(RT)	80		57.2		122		37	+	2		0	-	0	-	2		1	-	5		0		13	+
Red Ruby(RT)	80		56.5	-	122		38	+	1	-	1		5	+	2		1	-	0		1	+	11	-
Dominion(D)	80		57.5		122		33	-	2		0	-	2		2		1	-	5		0		11	-
SS 8309(RT)	80		57.3		123	+	37	+	2		1		2		1	-	2		0		0		9	-
VA06W-194	79		56.9	-	121	-	35	-	3	+	1		0	-	2		2		2		0		11	-
VA04W-259	79		56.9	-	123	+	34	-	3	+	1		1	-	2		0	-	4		0		12	
Vigoro V9713(D)	79		57.2		123	+	35	-	2		2	+	3	+	2		2		4		1	+	11	-
Pioneer variety 26R12(D)	79		58.1	+	122		37	+	1	-	1		2		1	-	1	-	4		0		10	-
VA06W-6	79		57.9	+	122		32	-	2		0	-	0	-	2		1	-	0		0		9	-
Featherstone 176 (RT)	78	-	57.0		120	-	36		3	+	0	-	3	+	1	-	3	+	1		1	+	12	
SS 8302(RT)	78	-	58.0	+	123	+	38	+	1	-	3	+	2		2		0	-	4		0		12	
Sisson	78	-	57.0		120	-	34	-	3	+	2	+	6	+	1	-	3	+	0		0		12	
Panola(D)	78	-	56.0	-	120	-	36		2		1		3	+	2		4	+	5		0		12	
Oglethorpe(D)	77	-	56.8	-	118	-	34	-	4	+	2	+	1	-	2		4	+	3		0		15	+
Coker 9804(D)	77	-	56.4	-	121	-	36		2		1		3	+	2		4	+	5		1	+	12	
Progeny 166(D)	77	-	56.4	-	122		40	+	2		6	+	1	-	3	+	2		9	+	0		10	-
SS 8404(RT)	76	-	58.4	+	122		33	-	1	-	3	+	2		1	-	1	-	7	+	0		12	
USG 3592(DR)	75	-	57.5		122		38	+	4	+	2	+	0	-	2		2		6		3	+	13	+
Magnolia(D)	75	-	56.6	-	123	+	39	+	1	-	3	+	1	-	2		3	+	6		0		12	
USG 3209(D)	75	-	56.1	-	121	-	35	-	4	+	2	+	5	+	2		5	+	2		3	+	13	+
COKER 9436(D)	73	-	54.9	-	121	-	34	-	3	+	2	+	1	-	2		1	-	7	+	1	+	11	-

Table 26. Two year average summary of performance of entries in the Virginia Tech Wheat Tests, 2008 and 2009 harvests, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)	Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)	Leaf Rust (0-9)		Barley Yellow Dwarf Virus (0-9)	*S. nodorum* Leaf Blotch (0-9)	Wheat Spindle Streak Virus (0-9)	Early Lodging (0-9)		Early Height (In)	
	(14)		(14)	(8)		(8)		(11)		(7)	(7)		(1)	(1)	(1)	(1)		(2)	
Massey	68	-	57.3	121	-	40	+	4	+	1	6	+	2	2	1	3	+	13	+
Average	81		57.3	122		36		2		1	2		2	2	3	0		12	
LSD (0.05)	3		0.4	1		1		1		1	1		1	1	4	1		1	
C.V.	9		2.0	1		4		---		---	---		---	---	---	---		10	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages. A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze or lodging, where 0 = highly resistant and 9 = highly susceptible.

Table 27. Three year average summary of performance of entries in the Virginia Tech Wheat Tests, 2007, 2008, and 2009 harvests.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Leaf Rust (0-9)		Barley Yellow Dwarf Virus (0-9)		*S. nodorum* Leaf Blotch (0-9)		Wheat Spindle Streak Virus (0-9)		Early Lodging (0-9)		Early Height (In)		Spring Freeze (0-9)	
	(22)		(22)		(12)		(12)		(15)		(10)		(11)		(6)		(1)		(1)		(1)		(2)		(2)	
Shirley	89	+	57.0	-	124	+	34		1	-	0	-	0	-	1	-	0	-	2		0		11	-	1	-
VA05W-258	88	+	57.6	-	123	+	37	+	3	+	2	+	2		2	+	2		2		1		13	+	2	
Branson	87	+	57.4	-	122		35	+	1	-	1		1	-	1	-	0	-	1		0		10	-	1	-
USG 3665	87	+	57.9	-	123	+	37	+	1	-	1		1	-	1	-	3	+	0		0		11	-	2	
USG 3555	86	+	57.6	-	121	-	32	-	2		1		3	+	1	-	3	+	0		0		14	+	2	
VA05W-414	85	+	57.6	-	124	+	36	+	3	+	0	-	2		1	-	1		2		0		11	-	1	-
VA05W-151	85	+	60.2	+	121	-	33	-	4	+	1		4	+	2	+	2		2		0		13	+	3	
Merl	85	+	59.4	+	122		35	+	1	-	1		3	+	3	+	2		2		0		12		2	
VA04W-306	85	+	57.5	-	121	-	34		3	+	0	-	2		1	-	2		4		0		12		3	
Pioneer variety 26R15	84	+	57.0	-	123	+	35	+	1	-	1		1	-	2	+	2		2		0		11	-	1	-
SS 5205	83	+	58.4		122		31	-	2		1		0	-	1	-	1		4		0		12		1	-
VA05W-251	83	+	57.7	-	121	-	33	-	2		1		0	-	1	-	1		0		0		12		3	
SS-MPV 57	82		57.8	-	124	+	36	+	3	+	2	+	3	+	3	+	4	+	1		1		12		4	+
SS 560	82		57.7	-	123	+	34		1	-	1		3	+	2	+	3	+	2		0		12		2	
VA05W-168	82		61.2	+	121	-	33	-	3	+	1		0	-	1	-	0	-	0		0		11	-	2	
Renwood 3434	82		57.4	-	123	+	31	-	1	-	0	-	1	-	2	+	0	-	3		0		11	-	2	
Tribute	82		61.1	+	122		33	-	2		1		1	-	2	+	0	-	2		0		10	-	2	
VA04W-259	82		58.0		124	+	33	-	2		1		1	-	2	+	0	-	4		0		12		2	
VA04W-90	81		58.9	+	122		35	+	2		0	-	3	+	1	-	3	+	1		0		13	+	3	
Chesapeake	81		59.3	+	122		34		3	+	0	-	3	+	1	-	2		2		0		12		2	
USG 3342	81		58.0		121	-	32	-	2		1		1	-	2	+	2		0		0		14	+	3	
SS 8309	81		58.2		124	+	36	+	1	-	1		2		2	+	2		0		0		9	-	1	-
SS 520	80		57.6	-	119	-	35	+	2		1		2		3	+	2		6		0		14	+	4	+
Pioneer variety 26R12	80		59.1	+	123	+	35	+	1	-	1		2		1	-	1		4		0		10	-	2	
Red Ruby	80		57.6	-	123	+	36	+	1	-	1		5	+	2	+	1		0		1		11	-	2	
Dominion	80		58.3		122		32	-	2		0	-	2		2	+	1		5		0		11	-	1	-
Vigoro V9713	80		58.2		124	+	34		2		1		3	+	2	+	2		4		1		11	-	1	-

Table 27. Three year average summary of performance of entries in the Virginia Tech Wheat Tests, 2007, 2008, and 2009 harvests, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Leaf Rust (0-9)		Barley Yellow Dwarf Virus (0-9)		*S. nodorum* Leaf Blotch (0-9)		Wheat Spindle Streak Virus (0-9)		Early Lodging (0-9)		Early Height (In)		Spring Freeze (0-9)	
	(22)		(22)		(12)		(12)		(15)		(10)		(11)		(6)		(1)		(1)		(1)		(2)		(2)	
SS 8302	80		58.9	+	124	+	37	+	1	-	3	+	3	+	2	+	0	-	4		0		12		3	
Jamestown	79	-	59.9	+	119	-	33	-	1	-	1		1	-	1	-	3	+	6		0		14	+	3	
Coker 9553	79	-	60.0	+	120	-	35	+	1	-	1		2		2	+	1		6		0		13	+	2	
Pioneer variety 26R31	79	-	57.9	-	121	-	31	-	1	-	0	-	2		3	+	3	+	5		0		13	+	4	+
Featherstone 176	79	-	57.9	-	120	-	35	+	3	+	0	-	3	+	1	-	3	+	1		1		12		3	
Sisson	79	-	57.8	-	122		33	-	3	+	1		6	+	2	+	3	+	0		0		12		4	+
Panola	78	-	57.0	-	121	-	35	+	2		1		3	+	2	+	4	+	5		0		12		2	
USG 3209	78	-	57.2	-	121	-	33	-	4	+	1		5	+	1	-	5	+	2		3	+	13	+	3	
SS 8404	77	-	59.4	+	122		32	-	1	-	3	+	2		1	-	1		7	+	0		12		4	+
USG 3592	77	-	58.4		123	+	37	+	4	+	1		0	-	2	+	2		6		3	+	13	+	3	
Magnolia	77	-	57.7	-	123	+	38	+	1	-	3	+	1	-	2	+	3	+	6		0		12		2	
GA-951231-4E25	75	-	57.8	-	119	-	33	-	3	+	2	+	1	-	2	+	4	+	3		0		15	+	7	+
Coker 9436	75	-	56.0	-	123	+	33	-	2		2	+	1	-	2	+	1		7	+	1		11	-	2	
Massey	68	-	58.2		122		38	+	4	+	1		7	+	3	+	2		1		3	+	13	+	3	
Average	81		58.2		122		34		2		1		2		2		2		3		0		12		3	
LSD (0.05)	2		0.3		0		1		1		0		0		0		1		4		1		1		1	
C.V.	9		1.8		1		4		---		---		---		---		---		---		---		10		---	

Released cultivars are shown in bold print.

The number in parentheses below column headings indicates the number of location-years on which data are based.

Varieties are ordered by descending yield averages. A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, freeze or lodging, where 0 = highly resistant and 9 = highly susceptible.

Table 28. Summary of performance of entries in the Virginia Tech Wheat Test planted conventionally-tilled at Warsaw, 2009 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Leaf Rust (0-9)		Wheat Spindle Streak Virus (0-9)	
VA06W-256	93	+	56.5		119	-	33		5	+	2		1	-	1	
VA05W-151	92	+	60.1	+	119	-	33		1		3	+	6	+	2	
VA06W-194	92	+	56.4		120		31	-	3	+	1	-	0	-	2	
Shirley	91	+	55.2	-	121	+	34		0		0	-	0	-	2	
VA07W-415	91	+	56.0	-	119	-	35		1		1	-	0	-	1	
Pioneer variety XW07X(D)	91	+	56.8		122	+	36	+	3	+	1	-	4	+	0	
VA05W-139	90	+	58.0		120		34		0		2		0	-	3	
VA05W-258	90	+	56.4		121	+	38	+	1		3	+	2		2	
Oglethorpe(D)	89	+	57.5		117	-	33		2		2		0	-	3	
Merl	89	+	58.7	+	120		34		1		2		4	+	2	
Vigoro V9922(D)	88	+	56.4		121	+	35		0		1	-	1	-	2	
Pioneer variety XW07B(D)	88	+	56.4		122	+	36	+	1		2		0	-	1	
VA05W-168	88	+	60.3	+	119	-	33		1		2		1	-	0	
VA04W-306	87	+	57.4		119	-	34		2		1	-	2		4	
SS 5205	87	+	58.1	+	119	-	31	-	0		2		0	-	4	
GA-991209-6E33	87	+	58.8	+	116	-	35		1		2		1	-	3	
Renwood 3434(D)	87	+	56.9		121	+	32	-	0		1	-	1	-	3	
VA06W-392	86	+	57.4		119	-	33		2		3	+	0	-	5	
VA04W-92	86	+	56.7		121	+	30	-	0		1	-	2		0	
SS 520(RT)	85		57.1		118	-	34		1		2		3	+	6	
VA05W-414	85		56.6		120		36	+	1		1	-	3	+	2	
Pioneer variety 26R15(D)	85		56.0	-	119	-	36	+	0		1	-	3	+	2	
USG 3665(D)	85		56.9		120		36	+	0		2		3	+	0	
VA05W-640	85		58.5	+	119	-	34		0		1	-	0	-	0	
Pioneer variety 26R31(D)	84		57.2		119	-	31	-	0		1	-	1	-	5	
SS 560(RT)	84		55.9	-	121	+	33		0		1	-	5	+	2	
Branson(D)	84		56.6		119	-	33		2		2		3	+	1	
VA07W-27	84		56.8		119	-	32	-	1		2		2		1	
VA05W-251	84		57.0		120		31	-	0		2		1	-	0	
NC04-20814(R)	84		57.0		120		34		2		1	-	0	-	0	

Table 28. Summary of performance of entries in the Virginia Tech Wheat Test planted conventionally-tilled at Warsaw, 2009 harvest, continued.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Powdery Mildew (0-9)	Leaf Rust (0-9)	Wheat Spindle Streak Virus (0-9)
GA-991371-6E12	83	58.6 +	118 -	35	0	2	0 -	7 +
Vigoro V9723(D)	83	55.2 -	119 -	38 +	1	2	6 +	4
Chesapeake (RT)	83	58.7 +	119 -	34	1	0 -	6 +	2
VA07W-83	83	57.8	119 -	33	0	2	1 -	2
SS-MPV 57(RT)	83	56.0 -	121 +	36 +	1	3 +	5 +	1
Featherstone 176 (RT)	83	57.8	119 -	33	2	1 -	5 +	1
VA04W-90	83	58.4 +	120	36 +	0	1 -	4 +	1
NC03-6228('R)	83	58.6 +	117 -	33	3 +	0 -	1 -	1
VA06W-412	83	58.2 +	120	33	0	2	0 -	1
SS 548(RT)	83	56.8	120	35	0	2	2	0
COKER 9553(D)	82	58.7 +	117 -	36 +	0	2	2	6
SS 8641(RT)	82	55.9 -	120	36 +	1	0 -	0 -	5
VA06W-423	82	56.3 -	122 +	35	2	2	2	1
USG 3555 (D)	82	57.5	119 -	31 -	0	1 -	4 +	0
Jamestown	81	59.2 +	117 -	31 -	0	1 -	2	6
VA07W-347	81	56.4	119 -	32 -	2	1 -	0 -	4
Dominion(D)	80	57.6	120	31 -	2	1 -	3 +	5
Progeny 136(D)	80	54.7 -	121 +	36 +	2	3 +	2	5
USG 3190 (D)	80	58.9 +	120	33	0	2	1 -	3
VA05W-358	80	55.1 -	119 -	33	3 +	1 -	8 +	1
VA06W-93	80	57.2	120	32 -	3 +	4 +	2	1
VA06W-587	79	57.1	119 -	36 +	2	1 -	7 +	5
SS 8309(RT)	79	56.4	122 +	35	1	3 +	4 +	0
VA07W-600	79	57.2	121 +	34	3 +	4 +	1 -	0
USG 3342(D)	79	56.7	118 -	31 -	0	2	1 -	0
Oakes	78	58.6 +	121 +	35	1	3 +	2	6
VA04W-259	78	57.4	120	32 -	1	2	0 -	4
Progeny 117(D)	78	57.5	119 -	35	1	4 +	4 +	2
VA07W-138	78	58.2 +	121 +	33	0	1 -	2	2
VA07W-214	78	57.5	119 -	30 -	0	2	1 -	1

Table 28. Summary of performance of entries in the Virginia Tech Wheat Test planted conventionally-tilled at Warsaw, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Leaf Rust (0-9)		Wheat Spindle Streak Virus (0-9)	
Magnolia(D)	77		57.3		119	-	37	+	1		2		2		6	
USG 3592(DR)	77		58.2	+	120		36	+	2		2		0	-	6	
USG 3725(D)	77		54.5	-	121		36	+	0		3	+	1	-	4	
VA07W-643	77		59.4	+	120		33		5	+	2		0	-	3	
GA-991336-6E9	76		58.3	+	118	-	33		1		1	-	0	-	7	+
AGS 2035	76		57.9		118	-	37	+	1		1	-	0	-	5	
Pioneer variety 26R12(D)	76		57.0		121	+	34		0		1	-	4	+	4	
VA06W-6	76		57.8		119	-	31	-	2		1	-	0	-	0	
Progeny 185(D)	75		56.2	-	121	+	34		0		3	+	4	+	3	
VA06HRW-49(RT)	75		56.8		119	-	35		1		1	-	2		3	
VA06W-558	75		58.3	+	120		34		1		5	+	3	+	0	
COKER 9436(D)	74	-	54.4	-	122	+	32	-	1		3	+	0	-	7	+
Coker 9804(D)	74	-	55.0	-	119	-	34		1		1	-	5	+	5	
Panola(D)	74	-	55.1	-	119	-	33		0		2		4	+	5	
Tribute(D)	74	-	60.7	+	120		33		1		5	+	0	-	2	
Baldwin	74	-	57.1		121	+	39	+	1		2		0	-	2	
VA07W-607	73	-	58.9	+	120		34		1		4	+	5	+	3	
Red Ruby(RT)	73	-	55.3	-	121	+	35		1		1	-	7	+	0	
SS 8404(RT)	72	-	57.3		119	-	32	-	0		3	+	2		7	+
USG 3209(D)	72	-	56.1	-	119	-	31	-	2		2		7	+	2	
VA07W-580	71	-	56.8		123	+	36	+	3	+	2		4	+	4	
Progeny 166(D)	70	-	55.4	-	121	+	38	+	2		5	+	1	-	9	+
Vigoro V9713(D)	70	-	56.4		121	+	33		1		2		5	+	4	
Progeny 130(D)	69	-	58.9	+	120		34		1		3	+	3	+	5	
SS 8302(RT)	69	-	57.4		120		35		0		4	+	5	+	4	
VA05W-534	66	-	56.9		120		36	+	2		8	+	0	-	5	
Sisson	65	-	55.9	-	119	-	33		2		3	+	9	+	0	

Table 28. Summary of performance of entries in the Virginia Tech Wheat Test planted conventionally-tilled at Warsaw, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)	Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Leaf Rust (0-9)		Wheat Spindle Streak Virus (0-9)	
Massey	64	-	57.0	119	-	38	+	3	+	2		9	+	1	
Progeny 119(D)	62	-	57.5	122	+	35		0		6	+	6	+	3	
Average	80		57.2	120		34		1		2		2		3	
LSD (0.05)	6		0.9	1		2		2		1		1		4	
C.V.	5		1.1	0		4		---		---		---		---	

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages. A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Table 29. Summary of performance of entries in the Virginia Tech Wheat Test, Eastern Shore AREC, Painter, VA, 2009 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Powdery Mildew (0-9)		Leaf Rust (0-9)			
Vigoro V9922(D)	86	+	59.4		0	-	0			
Pioneer variety XW07B(D)	81	+	57.8	-	1		0			
VA07W-347	81	+	59.0		0	-	0			
Shirley	81	+	57.7	-	0	-	0			
USG 3665(D)	80	+	59.7		0	-	0			
Pioneer variety XW07X(D)	80	+	59.4		0	-	0			
GA-991209-6E33	79		61.4	+	1		0			
VA04W-306	79		57.9	-	0	-	0			
SS 548(RT)	78		59.6		0	-	0			
NC04-20814('R)	78		59.2		0	-	0			
Progeny 117(D)	77		59.9		4	+	1	+		
Pioneer variety 26R15(D)	77		58.2	-	1		1	+		
Merl	77		59.9		0	-	1	+		
VA06W-392	77		59.1		2	+	0			
USG 3555 (D)	77		58.8		0	-	0			
USG 3190 (D)	76		60.9	+	3	+	0			
VA04W-259	76		58.8		0	-	0			
Jamestown	75		61.6	+	1		0			
Coker 9804(D)	75		59.1		0	-	0			
VA05W-414	75		58.4	-	0	-	0			
Branson(D)	75		58.4	-	0	-	0			
VA06W-93	74		59.5		4	+	2	+		
VA04W-90	74		60.6	+	0	-	1	+		
Magnolia(D)	74		59.7		3	+	0			
Oglethorpe(D)	74		60.0		1		0			
VA07W-600	74		59.8		1		0			
USG 3209(D)	73		57.3	-	1		2	+		
SS 8302(RT)	73		60.0		2	+	0			
Pioneer variety 26R31(D)	73		59.3		2	+	0			
AGS 2035	73		60.5		1		0			
Panola(D)	73		59.1		1		0			
GA-991371-6E12	73		61.5	+	0	-	0			
VA05W-151	72		61.4	+	3	+	1	+		
Progeny 166(D)	72		59.2		4	+	0			
USG 3725(D)	72		57.4	-	2	+	0			
VA05W-640	72		60.6	+	0	-	0			
Vigoro V9713(D)	72		59.1		0	-	0			
Progeny 136(D)	71		57.2	-	2	+	1	+		
VA07W-643	71		61.8	+	2	+	0			
VA06W-412	71		60.7	+	2	+	0			
COKER 9436(D)	71		56.9	-	2	+	0			
SS 8404(RT)	71		61.1	+	1		0			
USG 3592(DR)	71		60.6	+	1		0			
Pioneer variety 26R12(D)	71		60.5		1		0			

Table 29. Summary of performance of entries in the Virginia Tech Wheat Test, Eastern Shore AREC, Painter, VA, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Powdery Mildew (0-9)		Leaf Rust (0-9)	
VA07W-138	71		60.3		1		0	
Progeny 185(D)	71		58.7		1		0	
VA06HRW-49(RT)	71		59.7		0	-	0	
VA05W-139	71		59.5		0	-	0	
Dominion(D)	71		59.3		0	-	0	
SS 8309(RT)	71		58.6		0	-	0	
Chesapeake (RT)	70		61.3	+	0	-	2	+
VA07W-27	70		60.0		4	+	0	
VA07W-83	70		60.5		1		0	
GA-991336-6E9	70		61.5	+	0	-	0	
VA07W-415	70		59.3		0	-	0	
Baldwin	70		59.3		0	-	0	
Sisson	69		58.3	-	0	-	3	+
Tribute(D)	69		62.6	+	5	+	0	
VA05W-168	69		62.6	+	1		0	
Oakes	69		60.7	+	1		0	
VA06W-194	69		59.2		1		0	
VA04W-92	69		58.1	-	0	-	0	
SS 5205	69		58.1	-	0	-	0	
Vigoro V9723(D)	68		58.0	-	1		2	+
SS-MPV 57(RT)	68		58.3	-	3	+	1	+
SS 560(RT)	68		58.2	-	1		1	+
VA06W-558	68		61.0	+	4	+	0	
VA06W-6	68		59.8		1		0	
VA05W-251	68		58.9		1		0	
VA05W-258	68		57.9	-	0	-	0	
NC03-6228('R)	67		61.2	+	0	-	0	
COKER 9553(D)	67		60.7	+	0	-	0	
Progeny 130(D)	66		61.2	+	4	+	0	
SS 520(RT)	66		59.2		0	-	0	
SS 8641(RT)	66		59.1		0	-	0	
USG 3342(D)	66		58.7		0	-	0	
VA06W-423	66		58.4	-	0	-	0	
Featherstone 176 (RT)	65		59.6		0	-	1	+
VA07W-580	64		58.9		2	+	1	+
Renwood 3434(D)	64		57.2	-	0	-	0	
Red Ruby(RT)	63		56.8	-	0	-	5	+
VA05W-358	63		58.1	-	0	-	4	+
VA07W-214	63		59.8		0	-	0	
VA07W-607	62	-	61.1	+	5	+	1	+
Progeny 119(D)	61	-	59.3		5	+	2	+
VA06W-256	61	-	60.1		0	-	0	
VA06W-587	59	-	60.6	+	0	-	1	+

Table 29. Summary of performance of entries in the Virginia Tech Wheat Test, Eastern Shore AREC, Painter, VA, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Powdery Mildew (0-9)		Leaf Rust (0-9)	
VA05W-534	59	-	59.1		7	+	0	
Massey	58	-	59.3		0	-	5	+
Average	71		59.5		1		0	
LSD (0.05)	9		1.1		1		1	
C.V.	9		1.3		---		---	

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages. A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Table 30. Summary of performance of entries in the Virginia Tech Wheat Test, Southern Piedmont AREC, Blackstone, VA, 2009 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Lodging (0-9)	
VA05W-151	85	+	60.5	+	2	+
VA06W-412	83	+	59.0	+	0	
COKER 9553(D)	81	+	59.0	+	1	
NC03-6228('R)	80	+	59.5	+	0	
VA05W-258	80	+	57.7		0	
GA-991336-6E9	79	+	59.2	+	1	
SS 5205	78	+	57.9		1	
VA05W-251	78	+	57.7		0	
NC04-20814('R)	78	+	56.7	-	0	
SS 8641(RT)	77		57.8		0	
VA05W-358	76		56.7	-	2	+
USG 3342(D)	76		56.7	-	1	
Merl	76		59.4	+	0	
Shirley	76		56.4	-	0	
Pioneer variety 26R15(D)	76		55.9	-	0	
VA04W-259	75		58.3		1	
VA06W-423	75		57.0	-	1	
VA04W-306	75		57.7		0	
VA05W-168	74		61.7	+	0	
USG 3190 (D)	74		58.9	+	0	
VA07W-347	73		57.1		1	
VA05W-640	73		59.1	+	0	
Chesapeake (RT)	73		59.1	+	0	
Renwood 3434(D)	73		57.5		0	
VA07W-27	73		57.0	-	0	
Red Ruby(RT)	72		56.5	-	1	
GA-991209-6E33	72		59.6	+	0	
USG 3665(D)	72		57.9		0	
VA05W-414	72		57.8		0	
Pioneer variety 26R31(D)	72		57.4		0	
Featherstone 176 (RT)	71		57.2		2	+
Dominion(D)	71		57.7		1	
VA05W-139	71		56.9	-	0	
SS 520(RT)	70		58.3		1	
USG 3592(DR)	70		58.2		1	
Vigoro V9723(D)	70		57.0	-	1	
USG 3555 (D)	70		57.5		0	
Progeny 117(D)	69		58.3		1	
VA05W-534	69		57.6		1	
Pioneer variety XW07B(D)	69		56.9	-	1	
Tribute(D)	69		60.8	+	0	
Vigoro V9922(D)	69		56.8	-	0	
USG 3209(D)	68		57.1		2	+
VA06HRW-49(RT)	68		57.1		2	+

Table 30. Summary of performance of entries in the Virginia Tech Wheat Test, Southern Piedmont AREC, Blackstone, VA, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Lodging (0-9)	
Progeny 185(D)	68		58.1		1	
VA06W-392	68		58.1		0	
SS-MPV 57(RT)	67		58.7		2	+
VA06W-256	67		58.5		2	+
Jamestown	67		59.5	+	0	
SS 548(RT)	67		58.4		0	
AGS 2035	67		58.0		0	
VA07W-600	66		58.4		2	+
Coker 9804(D)	66		56.4	-	1	
Oakes	66		60.3	+	0	
Pioneer variety 26R12(D)	66		58.2		0	
VA06W-6	66		58.0		0	
VA04W-92	66		57.9		0	
GA-991371-6E12	65		59.2	+	0	
Baldwin	65		57.2		0	
Oglethorpe(D)	64		56.9	-	2	+
Sisson	64		57.4		1	
SS 8404(RT)	64		58.5		0	
VA07W-138	64		58.3		0	
Branson(D)	64		56.9	-	0	
VA07W-607	63		60.2	+	1	
SS 8302(RT)	63		58.1		1	
VA06W-587	63		59.7	+	0	
VA07W-214	63		58.5		0	
VA07W-580	63		58.2		0	
Vigoro V9713(D)	63		56.3	-	0	
VA06W-558	62		59.2	+	0	
Magnolia(D)	62		57.0	-	0	
Progeny 166(D)	61		56.4	-	1	
VA04W-90	61		58.6		0	
Panola(D)	61		55.9	-	0	
Pioneer variety XW07X(D)	60		56.2	-	4	+
Progeny 130(D)	60		59.9	+	0	
VA06W-93	58		57.9		1	
COKER 9436(D)	58		54.3	-	1	
VA07W-643	57		59.6	+	1	
Massey	57		57.6		1	
VA06W-194	56	-	57.4		1	
USG 3725(D)	56	-	55.2	-	0	
SS 8309(RT)	55	-	57.2		0	
VA07W-415	55	-	56.2	-	0	
SS 560(RT)	49	-	57.1		0	

Table 30. Summary of performance of entries in the Virginia Tech Wheat Test, Southern Piedmont AREC, Blackstone, VA, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Lodging (0-9)
VA07W-83	47	-	59.3	+	0
Progeny 119(D)	45	-	58.0		1
Progeny 136(D)	36	-	55.1	-	0
Average	67		57.9		0
LSD (0.05)	11		0.9		2
C.V.	11		1.1		---

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages. A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Table 31. Summary of performance of entries in the Virginia Tech Wheat Test, Northern Piedmont AREC, Orange, VA, 2009 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Early Lodging (0-9)	
NC04-20814('R)	99	+	54.9		129	-	38		3		1		0	
VA06W-558	97	+	58.5	+	127	-	38		3		1		0	
Branson(D)	95	+	55.5		127	-	36		2		0	-	0	
VA06W-93	94	+	55.9		131	+	35	-	3		2	+	0	
Vigoro V9723(D)	94	+	54.0		126	-	42	+	2		2	+	0	
Jamestown	94	+	57.6	+	129	-	35	-	1	-	1		0	
Progeny 185(D)	92	+	54.9		128	-	38		2		4	+	0	
SS 520(RT)	91	+	53.9		128	-	36		5	+	2	+	0	
SS-MPV 57(RT)	90	+	56.7	+	132	+	40	+	5	+	4	+	1	+
VA06W-392	90	+	53.1		131	+	36		1	-	2	+	0	
VA05W-168	90	+	57.4	+	129	-	36		2		0	-	0	
Vigoro V9713(D)	89	+	55.6		130		36		3		2	+	1	+
VA07W-138	89	+	57.4	+	130		36		1	-	0	-	0	
GA-991209-6E33	88	+	54.7		128	-	38		2		0	-	0	
VA05W-258	87		54.1		131	+	41	+	4		2	+	1	+
USG 3725(D)	87		52.3		128	-	40	+	3		2	+	0	
VA05W-151	87		56.9	+	130		38		5	+	0	-	0	
USG 3190 (D)	86		55.1		132	+	37		1	-	3	+	0	
VA06W-423	85		53.7		132	+	38		4		0	-	2	+
VA07W-580	85		55.3		131	+	42	+	4		0	-	0	
VA07W-607	84		57.8	+	130		40	+	2		1		0	
Chesapeake (RT)	84		55.0		130		36		4		0	-	0	
Progeny 166(D)	83		53.5		127	-	43	+	2		5	+	0	
VA05W-414	82		52.4		131	+	40	+	4		1		0	
SS 5205	82		55.2		130		33	-	2		1		0	
VA06HRW-49(RT)	81		54.7		130		36		2		0	-	1	+
VA05W-534	81		55.1		128	-	38		1	-	2	+	0	
Tribute(D)	81		57.6	+	130		36		2		1		0	
VA05W-358	81		53.7		127	-	37		5	+	0	-	0	
Shirley	81		53.0		132	+	37		1	-	0	-	0	
Progeny 136(D)	80		50.9	-	129	-	39	+	2		4	+	0	
Pioneer variety XW07B(D)	80		53.0		130		39	+	5	+	0	-	0	
VA04W-306	80		50.9	-	130		37		5	+	0	-	0	
USG 3665(D)	79		51.8		129	-	40	+	2		2	+	0	
VA07W-415	79		51.9		131	+	38		2		0	-	0	
Merl	79		56.0		130		37		1	-	0	-	0	
USG 3555 (D)	79		51.1	-	130		34	-	1	-	0	-	0	
VA07W-643	78		56.4	+	129	-	38		6	+	0	-	3	+
VA07W-600	78		54.4		129	-	38		7	+	1		1	+
Featherstone 176 (RT)	78		52.1		128	-	39	+	4		0	-	1	+
VA06W-587	78		56.8	+	127	-	37		3		0	-	0	
COKER 9553(D)	78		58.1	+	128	-	37		2		0	-	0	
Pioneer variety 26R15(D)	78		52.6		130		38		1	-	0	-	0	
VA05W-139	78		54.9		132	+	34	-	1	-	0	-	0	

Table 31. Summary of performance of entries in the Virginia Tech Wheat Test, Northern Piedmont AREC, Orange, VA, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Early Lodging (0-9)	
Pioneer variety XW07X(D)	77		55.1		130		37		3		0	-	1	+
Progeny 130(D)	77		54.8		127	-	38		3		5	+	0	
VA06W-256	76		54.1		130		39	+	5	+	2	+	1	+
GA-991336-6E9	76		51.9		130		38		3		0	-	1	+
SS 8309(RT)	76		54.2		129	-	40	+	1	-	1		0	
VA05W-251	75		53.9		131	+	36		3		1		0	
VA04W-90	75		55.5		129	-	38		1	-	0	-	0	
Massey	73		54.3		128	-	42	+	6	+	2	+	3	+
USG 3209(D)	73		51.0	-	130		38		3		2	+	3	+
Progeny 117(D)	73		53.7		129	-	39	+	6	+	2	+	2	+
Progeny 119(D)	73		55.9		131	+	39	+	1	-	7	+	0	
USG 3342(D)	73		54.7		131	+	33	-	2		0	-	0	
VA04W-92	73		53.3		131	+	33	-	1	-	0	-	0	
Oakes	72		55.1		131	+	39	+	3		4	+	0	
Magnolia(D)	72		52.8		131	+	39	+	1	-	2	+	0	
SS 8302(RT)	71		54.9		131	+	40	+	2		3	+	0	
SS 548(RT)	71		51.3	-	130		39	+	1	-	2	+	0	
SS 560(RT)	71		55.2		131	+	37		2		1		0	
SS 8641(RT)	71		51.3	-	131	+	39	+	1	-	0	-	0	
VA06W-6	71		54.1		130		35	-	1	-	0	-	0	
Oglethorpe(D)	70		50.4	-	129	-	37		5	+	2	+	0	
Sisson	70		53.9		128	-	35	-	3		2	+	0	
VA07W-347	70		51.0	-	129	-	35	-	2		0	-	0	
Coker 9804(D)	69		54.2		129	-	38		3		1		1	+
GA-991371-6E12	69		53.7		129	-	38		2		0	-	1	+
VA05W-640	69		54.3		128	-	37		2		0	-	1	+
Pioneer variety 26R31(D)	69		51.0	-	132	+	36		2		0	-	0	
Vigoro V9922(D)	69		52.1		129	-	37		1	-	0	-	0	
Red Ruby(RT)	68		52.0		130		40	+	2		1		1	+
Pioneer variety 26R12(D)	68		56.1		130		38		1	-	2	+	0	
VA04W-259	68		53.2		132	+	36		3		0	-	0	
USG 3592(DR)	67		52.5		131	+	41	+	7	+	2	+	3	+
Panola(D)	67		53.2		129	-	38		3		2	+	0	
VA07W-214	67		53.3		130		35	-	1	-	2	+	0	
COKER 9436(D)	65		49.9	-	132	+	36		6	+	5	+	1	+
Renwood 3434(D)	65		52.8		131	+	33	-	1	-	0	-	0	
VA06W-412	64	-	53.5		133	+	36		1	-	1		0	
NC03-6228('R)	64	-	53.2		127	-	36		4		0	-	0	
VA06W-194	63	-	50.7	-	130		37		6	+	0	-	0	
Dominion(D)	63	-	52.9		131	+	35	-	2		0	-	0	
VA07W-83	62	-	52.0		133	+	38		1	-	3	+	0	
VA07W-27	62	-	53.8		132	+	35	-	2		0	-	0	

Table 31. Summary of performance of entries in the Virginia Tech Wheat Test, Northern Piedmont AREC, Orange, VA, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Early Lodging (0-9)	
SS 8404(RT)	58	-	53.4		132	+	35	-	2		4	+	0	
AGS 2035	57	-	54.6		131	+	41	+	1	-	1		2	+
Baldwin	54	-	51.7		133	+	41	+	2		1		3	+
Average	76		54.0		130		37		3		1		0	
LSD (0.05)	12		2.4		1		2		2		1		1	
C.V.	10		3.1		1		4		---		---		---	

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages. A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Early Lodging ratings were taken on May 16, 2009. Lodging ratings were taken just before harvest.

Table 32. Summary of performance of entries in the Virginia Tech Wheat Test, Kentland farm, Blacksburg, VA, 2009 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Leaf Rust (0-9)		Barley Yellow Dwarf Virus (0-9)	
VA07W-415	102	+	56.5	-	126	+	38		7		0		0		0	
Branson(D)	101	+	57.8		122	-	38		2		0		0		0	
SS 560(RT)	100	+	58.5		127	+	36		2		0		0		0	
Merl	97	+	60.2	+	123	-	38		0	-	0		0		1	+
USG 3665(D)	97	+	58.5		127	+	39	+	3		1	+	0		0	
VA05W-258	97	+	56.9	-	129	+	39	+	5		0		0		0	
Vigoro V9723(D)	96	+	57.6		123	-	41	+	6		1	+	0		1	+
Progeny 185(D)	96	+	57.9		124		38		1	-	1	+	0		0	
VA05W-151	96	+	61.3	+	123	-	36		9	+	0		0		0	
Vigoro V9922(D)	96	+	58.7		126	+	39	+	0	-	0		0		0	
Shirley	95	+	56.8	-	126	+	36		1	-	0		0		0	
VA06W-558	94	+	60.7	+	123	-	38		9	+	0		2	+	1	+
VA04W-90	94	+	58.7		126	+	38		9	+	0		0		0	
VA06W-587	94	+	60.1	+	122	-	39	+	8		0		0		0	
SS 548(RT)	93	+	58.8		124		37		4		0		0		1	+
SS-MPV 57(RT)	93	+	58.5		128	+	40	+	6		0		0		0	
Pioneer variety XW07B(D)	93	+	57.9		130	+	37		2		0		0		0	
Pioneer variety 26R15(D)	93	+	57.8		123	-	39	+	0	-	0		0		0	
USG 3725(D)	92		56.6	-	124		40	+	4		2	+	0		1	+
SS 520(RT)	92		56.6	-	122	-	38		8		0		0		1	+
VA06W-93	92		59.3	+	126	+	34	-	8		1	+	0		0	
Progeny 136(D)	91		56.3	-	124		38		4		3	+	0		1	+
Tribute(D)	91		61.0	+	124		36		6		0		0		1	+
Progeny 130(D)	91		60.7	+	122	-	39	+	7		0		0		0	
VA05W-168	91		61.6	+	122	-	36		7		0		0		0	
Sisson	91		57.0		123	-	36		6		0		0		0	
VA07W-83	91		58.7		123	-	37		3		0		0		0	
VA05W-534	90		58.6		123	-	39	+	8		1	+	0		1	+
USG 3342(D)	90		58.2		123	-	35	-	3		0		0		1	+
Oakes	90		60.6	+	128	+	38		6		2	+	0		0	
VA05W-251	90		57.2		124		35	-	5		0		0		0	
COKER 9553(D)	90		61.3	+	121	-	38		3		0		0		0	
VA07W-138	90		59.8	+	128	+	36		2		0		0		0	
Renwood 3434(D)	89		57.3		126	+	34	-	1	-	0		0		1	+
Pioneer variety XW07X(D)	89		58.2		129	+	37		8		0		0		0	
SS 8309(RT)	89		58.4		128	+	39	+	5		0		0		0	
NC04-20814('R)	89		57.7		123	-	37		4		0		0		0	
VA07W-214	89		58.0		124		37		2		0		0		0	
Pioneer variety 26R12(D)	88		59.4	+	124		40	+	2		1	+	0		0	
Featherstone 176 (RT)	88		58.0		122	-	38		8		0		0		0	
VA06W-392	88		57.8		123	-	35	-	7		0		0		0	
VA05W-139	88		57.1		127	+	37		0	-	0		0		0	
VA06W-412	88		58.4		125	+	36		0	-	0		0		0	
VA07W-580	87		59.5	+	128	+	40	+	9	+	0		0		1	+

Table 32. Summary of performance of entries in the Virginia Tech Wheat Test, Kentland farm, Blacksburg, VA, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Leaf Rust (0-9)		Barley Yellow Dwarf Virus (0-9)	
Red Ruby(RT)	87		58.2		126	+	39	+	0	-	0		0		1	+
VA04W-92	87		58.0		125	+	35	-	0	-	0		0		1	+
VA05W-358	87		57.1		122	-	37		7		0		2	+	0	
Progeny 166(D)	87		56.8	-	124		40	+	4		6	+	0		0	
SS 8302(RT)	87		59.2		127	+	39	+	5		1	+	0		0	
Magnolia(D)	87		57.8		126	+	42	+	0	-	1	+	0		0	
VA06W-194	87		57.5		125	+	36		9	+	0		0		0	
Panola(D)	87		57.1		123	-	37		7		0		0		0	
VA05W-640	87		59.2		122	-	37		2		0		0		0	
SS 5205	86		58.2		124		34	-	4		0		0		1	+
Progeny 117(D)	86		58.7		122	-	38		5		1	+	0		0	
GA-991209-6E33	86		58.1		121	-	38		5		0		0		0	
VA07W-607	85		60.1	+	125	+	37		9	+	0		0		1	+
Dominion(D)	85		58.7		124		35	-	5		0		0		1	+
Jamestown	85		59.7	+	121	-	36		5		0		0		0	
USG 3555 (D)	85		56.9	-	123	-	36		4		0		0		0	
VA07W-27	85		58.9		124		36		2		0		0		0	
VA07W-600	84		58.2		126	+	35	-	9	+	0		0		1	+
Coker 9804(D)	84		57.5		124		36		5		1	+	0		0	
COKER 9436(D)	83		56.7	-	130	+	37		4		1	+	0		1	+
Pioneer variety 26R31(D)	83		57.0		122	-	35	-	2		0		0		1	+
SS 8641(RT)	83		55.9	-	128	+	38		4		0		0		0	
VA07W-643	82		58.3		126	+	36		9	+	0		0		1	+
Progeny 119(D)	82		58.4		126	+	41	+	0	-	5	+	0		0	
SS 8404(RT)	82		60.8	+	124		36		2		3	+	0		0	
USG 3190 (D)	82		59.0		122	-	36		3		0		0		0	
VA06W-256	81	-	56.6	-	124		36		9	+	0		0		0	
Oglethorpe(D)	81	-	56.6	-	121	-	35	-	9	+	0		0		0	
VA04W-259	81	-	56.8	-	127	+	36		7		0		0		0	
VA07W-347	81	-	57.1		122	-	37		4		0		0		0	
Vigoro V9713(D)	80	-	58.1		128	+	35	-	6		1	+	0		0	
VA06W-423	79	-	56.8	-	129	+	38		7		0		0		2	+
VA06W-6	79	-	56.7	-	123	-	34	-	6		0		0		0	
Massey	79	-	58.7		125	+	41	+	5		0		0		0	
VA06HRW-49(RT)	79	-	57.4		123	-	37		5		0		0		0	
GA-991371-6E12	78	-	56.5	-	122	-	37		3		0		0		1	+
VA05W-414	78	-	56.9	-	127	+	37		9	+	0		0		0	
VA04W-306	78	-	56.2	-	126	+	37		6		0		0		0	
Chesapeake (RT)	77	-	58.7		124		37		4		0		0		0	
GA-991336-6E9	77	-	58.0		122	-	37		2		0		0		0	
USG 3592(DR)	75	-	56.6	-	127	+	38		9	+	0		0		1	+
Baldwin	74	-	57.4		127	+	41	+	5		1	+	0		1	+

Table 32. Summary of performance of entries in the Virginia Tech Wheat Test, Kentland farm, Blacksburg, VA, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)	Lodging (0-9)		Powdery Mildew (0-9)	Leaf Rust (0-9)	Barley Yellow Dwarf Virus (0-9)	
NC03-6228('R)	73	-	59.3	+	121	-	36	8		0	0	1	+
USG 3209(D)	72	-	55.9	-	123	-	36	9	+	0	0	1	+
AGS 2035	68	-	57.9		122	-	38	6		0	0	0	
Average	87		58.1		124		37	5		0	0	0	
LSD (0.05)	6		1.2		1		2	4		1	1	1	
C.V.	5		1.5		1		3	---		---	---	---	

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages. A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Table 33. Summary of performance of entries in the Virginia Tech Wheat Test, planted at Shenandoah Valley at the Lynn Koontz Farm, Harrionburg, VA, 2009 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)	
VA06W-412	78	+	53.8	
Pioneer variety XW07X(D)	75	+	54.0	
Vigoro V9723(D)	74	+	52.8	
Progeny 185(D)	73	+	54.2	
Branson(D)	73	+	50.9	
USG 3555 (D)	72	+	51.9	
Pioneer variety 26R31(D)	71	+	53.2	
VA07W-600	71	+	53.1	
Vigoro V9713(D)	70	+	54.8	
COKER 9553(D)	70	+	54.7	
Progeny 119(D)	70	+	52.5	
VA07W-214	69		51.5	
Renwood 3434(D)	69		50.7	
VA04W-92	69		49.6	
Pioneer variety 26R15(D)	69		49.5	
VA07W-138	68		55.9	+
VA05W-640	68		55.2	
SS 8302(RT)	68		54.1	
Progeny 117(D)	68		53.5	
Vigoro V9922(D)	68		53.2	
VA05W-251	68		52.3	
SS 8309(RT)	67		54.6	
Red Ruby(RT)	67		51.2	
GA-991209-6E33	67		51.2	
Tribute(D)	66		54.7	
Jamestown	66		53.5	
Chesapeake (RT)	66		52.4	
VA05W-258	66		51.5	
Shirley	66		50.2	
Magnolia(D)	66		49.7	
Progeny 136(D)	66		47.4	-
VA06W-587	65		56.7	+
VA04W-90	65		52.1	
VA07W-643	64		53.5	
VA06W-392	64		50.7	
VA07W-415	64		48.0	-
Oakes	63		53.5	
Progeny 130(D)	63		53.1	
VA06W-194	63		52.8	
Panola(D)	63		49.9	
USG 3665(D)	63		49.5	
Merl	62		52.7	
VA05W-358	62		52.7	

Table 33. Summary of performance of entries in the Virginia Tech Wheat Test, planted at Shenandoah Valley at the Lynn Koontz Farm, Harrionburg, VA, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)	
SS 548(RT)	62		52.2	
VA06W-423	62		51.7	
GA-991336-6E9	62		48.7	
Baldwin	62		48.4	
SS-MPV 57(RT)	61		52.6	
USG 3342(D)	61		51.6	
AGS 2035	61		50.7	
VA06W-6	61		50.3	
GA-991371-6E12	61		48.9	
VA05W-534	60		54.2	
VA07W-580	60		53.8	
Pioneer variety 26R12(D)	60		51.3	
Pioneer variety XW07B(D)	60		50.5	
VA06W-558	59		55.5	+
SS 8404(RT)	59		53.9	
VA06W-93	59		53.8	
VA05W-151	59		52.7	
Dominion(D)	59		49.6	
Featherstone 176 (RT)	59		49.0	
NC04-20814('R)	58		53.3	
VA07W-607	58		53.2	
SS 560(RT)	58		51.9	
Progeny 166(D)	58		51.8	
VA07W-27	58		49.1	
VA05W-168	57		54.0	
VA05W-139	57		50.7	
VA05W-414	57		47.7	-
VA06HRW-49(RT)	56		52.9	
USG 3190 (D)	56		50.6	
NC03-6228('R)	56		50.3	
USG 3725(D)	56		49.2	
Massey	54		55.0	
Coker 9804(D)	54		50.3	
VA06W-256	54		49.4	
USG 3592(DR)	53		51.1	
USG 3209(D)	53		50.1	
SS 520(RT)	52	-	50.1	
VA07W-347	52	-	47.3	-
Sisson	51	-	52.4	
VA04W-306	51	-	49.5	
VA07W-83	50	-	48.2	
COKER 9436(D)	49	-	47.2	-
SS 5205	45	-	50.2	

Table 33. Summary of performance of entries in the Virginia Tech Wheat Test, planted at Shenandoah Valley at the Lynn Koontz Farm, Harrionburg, VA, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)	
VA04W-259	45	-	49.6	
Oglethorpe(D)	43	-	50.9	
SS 8641(RT)	40	-	46.8	-
Average	61		51.7	
LSD (0.05)	9		3.6	
C.V.	10		4.9	

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages. A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Table 34. Summary of performance of entries in the Virginia Tech Wheat Test, planted No-Till at Tidewater AREC, Holland, VA, 2009 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)	
VA07W-347	73	+	58.1	
Oakes	72	+	59.8	+
Pioneer variety XW07B(D)	72	+	57.1	
NC04-20814('R)	71	+	58.1	
VA05W-251	70		56.7	-
Branson(D)	70		56.6	-
Sisson	69		58.2	
USG 3190 (D)	69		58.2	
Red Ruby(RT)	69		57.7	
GA-991336-6E9	69		57.6	
Merl	68		58.8	+
VA05W-139	68		57.9	
VA05W-358	68		56.5	-
VA06W-93	67		60.1	+
VA07W-600	67		58.7	+
VA06W-256	67		57.8	
Pioneer variety XW07X(D)	67		57.8	
Vigoro V9713(D)	67		57.3	
SS 548(RT)	67		57.0	
VA06W-423	67		56.5	-
Shirley	67		56.2	-
Progeny 130(D)	66		59.5	+
Vigoro V9922(D)	66		58.2	
VA05W-640	66		58.0	
USG 3209(D)	66		57.9	
Dominion(D)	66		57.7	
VA06W-392	66		57.4	
GA-991209-6E33	66		57.1	
VA04W-92	66		57.0	
SS-MPV 57(RT)	66		56.6	-
Renwood 3434(D)	66		56.5	-
SS 560(RT)	66		56.3	-
SS 520(RT)	66		55.7	-
Oglethorpe(D)	66		55.2	-
NC03-6228('R)	65		59.3	+
VA07W-607	65		59.2	+
VA05W-151	65		58.5	+
VA06W-412	65		58.5	+
Pioneer variety 26R12(D)	65		58.5	+
SS 8404(RT)	65		58.4	+
VA04W-90	65		58.2	
USG 3555 (D)	65		57.5	
Progeny 185(D)	65		57.5	
VA07W-27	65		57.3	

Table 34. Summary of performance of entries in the Virginia Tech Wheat Test, planted No-Till at Tidewater AREC, Holland, VA, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)	
SS 8309(RT)	65		57.3	
VA05W-258	65		57.2	
SS 5205	65		56.9	
USG 3665(D)	65		56.7	-
Vigoro V9723(D)	65		56.4	-
Progeny 136(D)	65		53.7	-
Tribute(D)	64		59.9	+
GA-991371-6E12	64		58.6	+
Baldwin	64		58.6	+
Progeny 166(D)	64		58.3	+
VA04W-259	64		58.0	
Chesapeake (RT)	64		58.0	
VA06HRW-49(RT)	64		57.9	
Featherstone 176 (RT)	64		56.5	-
Pioneer variety 26R15(D)	64		55.9	-
USG 3725(D)	64		53.9	-
VA06W-558	63		59.0	+
VA05W-168	63		58.9	+
SS 8302(RT)	63		58.6	+
VA07W-83	63		57.8	
SS 8641(RT)	63		57.2	
Pioneer variety 26R31(D)	63		56.9	
VA07W-415	63		56.8	
Progeny 117(D)	63		56.3	-
USG 3342(D)	63		56.1	-
VA06W-587	62		59.5	+
VA07W-138	62		58.4	+
AGS 2035	62		57.8	
VA06W-6	62		57.6	
VA05W-414	62		57.0	
VA04W-306	62		56.1	-
COKER 9436(D)	62		55.4	-
Massey	61		58.3	+
USG 3592(DR)	61		57.8	
VA06W-194	61		56.3	-
Coker 9804(D)	61		56.3	-
Panola(D)	61		55.5	-
VA07W-643	60		59.3	+
COKER 9553(D)	60		58.3	+
Magnolia(D)	60		57.4	
VA07W-214	60		56.9	
Jamestown	59	-	57.2	

Table 34. Summary of performance of entries in the Virginia Tech Wheat Test, planted No-Till at Tidewater AREC, Holland, VA, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)	
Progeny 119(D)	57	-	58.3	+
VA07W-580	57	-	58.2	
VA05W-534	56	-	57.0	
Average	65		57.5	
LSD (0.05)	6		0.8	
C.V.	7		1.0	

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages. A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Table 35. Summary of performance of entries in the Virginia Tech Wheat Test planted No-Till at Warsaw, 2009 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Leaf Rust (0-9)	
VA05W-151	92	+	60.5	+	119	-	34		1		1		1	
VA07W-415	88	+	56.9	-	121	+	36	+	1		0	-	0	-
Shirley	87	+	55.6	-	121	+	33		1		0	-	0	-
VA06W-256	86	+	57.2		119	-	34		3	+	2	+	0	-
VA05W-251	86	+	57.8		119	-	33		1		2	+	0	-
Pioneer variety XW07X(D)	86	+	57.4		123	+	35	+	1		1		0	-
VA06W-194	84	+	57.1		120		33		2	+	2	+	0	-
Pioneer variety XW07B(D)	84	+	56.2	-	121	+	36	+	1		0	-	0	-
VA05W-358	83	+	56.7	-	118	-	33		3	+	0	-	2	+
USG 3555 (D)	83	+	57.7		119	-	31	-	1		0	-	1	
SS 520(RT)	83	+	57.5		118	-	34		1		1		0	-
Progeny 136(D)	82		55.6	-	121	+	37	+	1		3	+	1	
VA05W-168	82		60.5	+	118	-	33		2	+	1		0	-
VA04W-306	82		57.4		120		33		1		1		0	-
Branson(D)	82		56.5	-	120		33		1		1		0	-
Progeny 117(D)	81		58.4	+	118	-	35	+	1		3	+	1	
VA05W-258	81		56.4	-	122	+	37	+	1		1		1	
VA05W-414	81		55.8	-	122	+	35	+	2	+	0	-	1	
USG 3190 (D)	81		58.5	+	121	+	33		0	-	4	+	0	-
SS 548(RT)	80		57.6		121	+	36	+	0	-	2	+	1	
Renwood 3434(D)	80		56.9	-	121	+	30	-	0	-	1		1	
VA04W-92	80		57.0	-	121	+	29	-	0	-	1		1	
Pioneer variety 26R15(D)	80		55.8	-	121	+	33		0	-	0	-	1	
VA06W-423	80		56.7	-	123	+	35	+	2	+	2	+	0	-
USG 3725(D)	79		55.6	-	121	+	37	+	1		3	+	1	
SS-MPV 57(RT)	79		56.4	-	122	+	35	+	1		2	+	1	
Vigoro V9723(D)	79		56.2	-	121	+	39	+	1		1		1	
VA06W-412	79		57.9		120		31	-	0	-	1		1	
Chesapeake (RT)	79		58.3	+	120		34		1		0	-	1	
Oglethorpe(D)	79		57.2		118	-	31	-	1		1		0	-
GA-991209-6E33	79		59.1	+	115	-	33		0	-	1		0	-
VA05W-139	79		57.9		121	+	32		0	-	0	-	0	-
Sisson	78		57.6		119	-	33		2	+	2	+	6	+
Vigoro V9713(D)	78		57.4		122	+	34		1		2	+	1	
SS 8309(RT)	78		57.1		122	+	34		1		1		1	
VA07W-214	78		58.0		120		32		0	-	1		0	-
SS 560(RT)	78		56.3	-	122	+	31	-	0	-	1		0	-
Red Ruby(RT)	77		56.1	-	121	+	35	+	1		2	+	3	+
Merl	77		58.5	+	120		33		1		1		1	
SS 5205	77		57.6		120		30	-	1		0	-	0	-
Pioneer variety 26R31(D)	77		57.7		119	-	29	-	0	-	0	-	0	-
Coker 9804(D)	76		55.7	-	120		34		1		0	-	1	
VA07W-600	76		57.9		121	+	34		2	+	2	+	0	-
VA06W-392	76		57.7		121	+	33		1		2	+	0	-

Table 35. Summary of performance of entries in the Virginia Tech Wheat Test planted No-Till at Warsaw, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Leaf Rust (0-9)	
USG 3665(D)	76		58.1		121	+	35	+	1		1		0	-
NC04-20814('R)	76		57.6		120		35	+	1		1		0	-
VA04W-90	76		59.0	+	121	+	34		1		1		0	-
VA07W-27	76		57.8		120		31	-	1		0	-	0	-
USG 3209(D)	75		57.0	-	120		33		1		2	+	2	+
USG 3342(D)	75		57.0	-	118	-	30	-	0	-	2	+	0	-
Progeny 185(D)	75		56.8	-	121	+	34		1		1		0	-
VA05W-640	75		58.6	+	120		34		1		1		0	-
Featherstone 176 (RT)	75		58.3	+	118	-	34		1		0	-	0	-
Dominion(D)	75		57.7		122	+	32		1		0	-	0	-
VA07W-138	75		58.7	+	123	+	32		0	-	0	-	0	-
VA06W-587	74		59.6	+	119	-	37	+	2	+	1		3	+
VA07W-607	74		59.7	+	121	+	36	+	1		2	+	1	
Jamestown	74		60.1	+	117	-	30	-	0	-	0	-	0	-
VA05W-534	73		57.8		120		35	+	1		4	+	0	-
Baldwin	72		56.8	-	121	+	39	+	1		1		0	-
Tribute(D)	72		60.8	+	121	+	32		1		1		0	-
VA07W-83	72		57.9		120		32		1		1		0	-
Vigoro V9922(D)	72		57.2		122	+	34		0	-	0	-	0	-
VA04W-259	72		57.6		122	+	31	-	0	-	0	-	0	-
VA06W-558	71		59.0	+	120		35	+	1		1		2	+
SS 8302(RT)	71		58.1		121	+	35	+	0	-	4	+	1	
Panola(D)	71		55.7	-	119	-	33		1		1		1	
Oakes	71		58.8	+	123	+	34		1		1		0	-
NC03-6228('R)	71		59.3	+	117	-	31	-	2	+	0	-	0	-
Massey	70		58.5	+	120		38	+	1		1		7	+
VA07W-580	70		58.2	+	123	+	39	+	2	+	1		1	
AGS 2035	70		57.8		118	-	37	+	0	-	0	-	1	
Magnolia(D)	70		56.6	-	121	+	36	+	1		4	+	0	-
SS 8404(RT)	70		58.1		121	+	30	-	0	-	3	+	0	-
VA06W-93	69	-	58.4	+	121	+	29	-	1		1		1	
VA07W-347	69	-	55.3	-	120		32		0	-	0	-	1	
Progeny 130(D)	69	-	58.9	+	119	-	34		1		4	+	0	-
COKER 9436(D)	69	-	54.8	-	122	+	31	-	1		2	+	0	-
GA-991336-6E9	68	-	58.5	+	119	-	32		0	-	1		2	+
GA-991371-6E12	68	-	58.2	+	119	-	32		0	-	1		2	+
Progeny 166(D)	68	-	56.3	-	121	+	39	+	1		6	+	1	
VA06W-6	68	-	58.5	+	121	+	29	-	0	-	0	-	0	-
Pioneer variety 26R12(D)	67	-	57.3		121	+	34		0	-	1		1	
COKER 9553(D)	67	-	59.1	+	118	-	32		0	-	0	-	0	-
USG 3592(DR)	66	-	58.7	+	122	+	37	+	1		1		0	-
VA07W-643	66	-	59.6	+	121	+	33		3	+	0	-	0	-

Table 35. Summary of performance of entries in the Virginia Tech Wheat Test planted No-Till at Warsaw, 2009 harvest, continued.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Julian)		Height (In)		Lodging (0-9)		Powdery Mildew (0-9)		Leaf Rust (0-9)	
Progeny 119(D)	65	-	58.4	+	122	+	36	+	0	-	7	+	1	
SS 8641(RT)	64	-	56.7	-	122	+	34		1		0	-	0	-
VA06HRW-49(RT)	58	-	56.9	-	119	-	35	+	1		0	-	1	
Average	76		57.6		120		33		1		1		1	
LSD (0.05)	7		0.6		1		2		1		1		1	
C.V.	7		0.7		1		4		---		---		---	

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages. A plus or minus sign indicates a performance significantly above or below the test average.

The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Section 4: Milling and Baking Quality

Milling and baking quality of wheat lines grown in the 2007-2008 Virginia State Wheat Test were assessed by the USDA-ARS Soft Wheat Quality Laboratory (SWQL) in Wooster, Ohio (Table 36). Quality evaluations were conducted using 500 gram grain samples from wheat lines grown at the Painter, VA test site. The data presented here are for a single location and, therefore, are not a definitive measure of a given wheat line's milling and baking quality. Quality varies from location to location and from year to year; therefore, data from multiple years and locations are needed to accurately define quality of a given wheat line. While wheat lines are listed in the table from highest to lowest "Milling Quality Score", this parameter alone is not indicative of end use quality, which relates to a cultivar's suitability for use in manufacturing a vast array of products requiring flour with specific and diverse quality characteristics.

Milling (Quadrumat mill) and baking quality of wheat lines were compared to that of the check cultivar Tribute. On the basis of twelve independent Allis-Chalmers milling quality evaluations conducted by the SWQL, Tribute has a historical milling quality score of 65.9 and ranks 401 out of 768 wheat cultivars evaluated to date. For the 2008 crop, Tribute received a milling quality score of 65.8. While the historical and 2008 milling quality scores were similar for Tribute, they varied considerably for most of the other wheat cultivars. Wheat lines producing flour yields greater than 70.0% is desirable. The Soft Wheat Quality Lab adopted a new sugar snap cookie method, which was used to assess pastry baking quality of the 2008 samples. With the new method, diameters of cookies generally will be 0.7 to 1.2 cm larger than with the old method. The increase in cookie diameters of cultivars such as Tribute, having strong protein gluten strength, will be larger relative to the increase observed in traditional high quality pastry cultivars with weak gluten strength. The historical cookie diameter of Tribute (16.9 cm) using the old method is considerably lower than its 2008 cookie diameter (18.29) using the new method. Lines producing soft textured flour (softness equivalent score greater than 54%) and cookies having diameters of 18.75 cm or larger would be considered to have good pastry quality. While most of the wheat cultivars and lines evaluated in 2008 had acceptable milling quality, half of the cultivars had less than desirable pastry baking quality.

Milling quality scores of released cultivars ranged from 75.7 for Pioneer variety 26R31 to 60.2 for USG 3209 with 17 cultivars and 11 experimental lines having higher scores than Tribute. Flour yields among the cultivars ranged from a high of 72.9% for Pioneer variety 26R31 to a low of 69.8% for USG 3209. Cookie diameters of released cultivars ranged from a high of 19.93 cm for SS 5205 to a low of 17.82 cm for Panola.

Among released cultivars, flour protein concentration varied from 7.60% for SS 8309 to 9.16% for USG 3342. Protein quality, specifically gluten strength, based on Lactic Acid Solvent Retention Capacity varied from a high of 123.5% for Pioneer variety 26R15 to a low of 88.8% for Shirley. Lines having lower Lactic Acid scores would produce a dough having weak gluten strength and more suitable for pastry products such as cookies, while lines having higher Lactic Acid scores such as Pioneer variety 26R15, Branson, and Coker 9553 would produce a dough having stronger gluten strength and more suitable for cracker or certain bread products.

Table 36. Milling and baking quality of entries in the Virginia Tech Wheat Test based on evaluation of the 2008 harvest.

ENTRY	Historical Milling Quality Score	Historical No. Obs	Historical Cookie Diameter CM.	Milling Quality Score		Baking Quality Score		Straight Grade Flour Yield	Softness Equivalent Score %		Flour Protein %	Cookie Diameter CM.		Lactic Acid Adj.
Standard = Tribute	65.9	12	16.9	65.8	C	38.3	F	70.9	57.4		8.04	18.29		113.5
Pioneer variety 26R31(D)	81.9	2	16.9	75.7	B	34.1	F	72.9	54.6		8.31	18.17	Q	106.7
SS-MPV 57(RT)	77.7	4	17.3	74.4	B	66.1	C	72.7	55.2		8.51	19.13		92.9
USG 3665(D)	na	na	na	74.1	B	66.3	C	72.6	60.6		8.21	19.14		107.2
Dominion(D)	79.3	6	17.1	73.0	B	29.6	F	72.4	51.5	*	8.70	18.03	Q	110.0
Merl	70.3	2	17.1	72.5	B	46.4	E	72.3	57.4		8.50	18.54	*	97.7
Pioneer variety 26R15(D)	74.3	5	17.4	72.4	B	72.0	B	72.3	61.4		8.42	19.31		123.5
SS 8309(RT)	na	na	na	71.6	B	83.2	A	72.1	65.2		7.60	19.64		104.6
SS 520(RT)	77.7	1	16.5	71.2	B	52.2	D	72.0	55.6		8.40	18.71	*	115.5
Branson(D)	64.4	1	17.5	70.9	B	54.5	D	72.0	61.9		8.36	18.78		121.1
SS 5205	75.1	2	17.5	70.9	B	93.0	A	72.0	60.5		8.20	19.93		117.7
Sisson	70.0	10	17.3	70.7	B	61.6	C	71.9	57.4		8.35	18.99		94.3
Red Ruby(RT)	na	na	na	70.2	B	54.8	D	71.8	62.2		7.79	18.79		111.3
SS 8404(RT)	78.8	2	17.7	69.6	C	68.1	C	71.7	55.2		8.46	19.19		98.6
SS 8302(RT)	61.6	2	17.5	69.3	C	69.8	C	71.7	62.3		8.22	19.24		112.7
Shirley	75.0	2	17.5	68.2	C	64.3	C	71.4	58.2		7.96	19.08		88.8
Pioneer variety 26R12(D)	71.8	1	18.3	67.8	C	44.7	E	71.3	59.7		8.13	18.49	Q	119.8
Renwood 3434(D)	59.9	2	17.3	66.4	C	70.0	B	71.1	58.4		8.25	19.25		103.0
Tribute(D)	65.9	12	16.9	65.8	C	38.3	F	70.9	57.4		8.04	18.29	Q	113.5
Featherstone 176 (RT)	68.1	6	17.3	65.4	C	50.3	D	70.9	54.9		8.51	18.66	*	116.8

Table 36. Milling and baking quality of entries in the Virginia Tech Wheat Test based on evaluation of the 2008 harvest, continued.

ENTRY	Historical Milling Quality Score	Historical No. Obs	Historical Cookie Diameter CM.	Milling Quality Score		Baking Quality Score		Straight Grade Flour Yield		Softness Equivalent Score %	Flour Protein %	Cookie Diameter CM.		Lactic Acid Adj.
Standard = Tribute	65.9	12	16.9	65.8	C	38.3	F	70.9		57.4	8.04	18.29		113.5
Vigoro V9713(D)	na	na	na	63.3	C	60.7	C	70.5		58.3	8.59	18.97		109.2
SS 560(RT)	67.4	8	17.1	63.0	C	49.5	E	70.4		57.6	8.37	18.63	*	105.5
USG 3555 (D)	57.6	2	16.8	62.5	C	37.6	F	70.3		55.7	8.58	18.27	Q	110.7
USG 3342(D)	62.5	5	17.3	62.5	C	40.1	E	70.3		59.2	9.16	18.35	Q	96.4
Vigoro V9510(D)	54.5	1	17.2	62.1	C	49.8	E	70.2		58.6	8.12	18.64	*	116.4
COKER 9553(D)	56.0	3	16.7	61.0	C	46.8	E	70.0	*	58.6	8.58	18.55	*	121.7
Panola(D)	60.6	2	16.8	60.9	C	22.7	F	70.0	*	55.9	8.14	17.82	Q	111.8
Chesapeake (RT)	61.3	5	17.0	60.8	C	44.6	E	69.9	*	56.0	8.42	18.48	Q	101.7
Jamestown	62.7	2	16.8	60.6	C	31.6	F	69.9	*	56.6	8.53	18.09	Q	119.4
USG 3209(D)	55.3	8	16.9	60.2	C	35.7	F	69.8	*	56.4	8.50	18.22	Q	107.3
Experimental Lines														
VA06W-256	na	na	na	77.8	B	64.0	C	73.3		62.2	8.03	19.06		121.3
VA05W-414	na	na	na	76.1	B	46.3	E	73.0		55.5	8.22	18.53	*	94.1
VA03W-235	77.8	2	17.5	74.2	B	74.7	B	72.6		60.2	8.07	19.37		93.2
VA06W-423	na	na	na	71.1	B	51.4	D	72.0		59.1	8.11	18.69	*	125.1
VA06W-6	na	na	na	70.7	B	59.2	D	71.9		60.5	8.18	18.92		104.9
VA05W-251	na	na	na	69.4	C	64.6	C	71.7		55.1	8.17	19.08		96.9

Table 36. Milling and baking quality of entries in the Virginia Tech Wheat Test based on evaluation of the 2008 harvest, continued.

ENTRY	Historical Milling Quality Score	Historical No. Obs	Historical Cookie Diameter CM.	Milling Quality Score		Baking Quality Score		Straight Grade Flour Yield		Softness Equivalent Score %		Flour Protein %	Cookie Diameter CM.		Lactic Acid Adj.
Standard = Tribute	65.9	12	16.9	65.8	C	38.3	F	70.9		57.4		8.04	18.29		113.5
VA06W-392	na	na	na	68.9	C	71.9	B	71.6		59.1		8.02	19.30		102.1
VA04W-259	69.4	1	17.2	68.0	C	57.5	D	71.4		56.8		8.34	18.87		110.4
VA05W-151	na	na	na	68.0	C	34.3	F	71.4		56.1		8.58	18.17	Q	120.5
VA05W-168	na	na	na	67.8	C	35.4	F	71.3		57.0		8.07	18.21	Q	114.2
VA06W-600	na	na	na	67.8	C	53.5	D	71.3		60.8		8.00	18.75		111.5
VA05W-258	na	na	na	64.3	C	30.9	F	70.7		56.2		8.42	18.07	Q	115.7
VA04W-90	63.8	1	17.0	64.0	C	49.5	E	70.6		59.2		8.24	18.63	*	116.1
VA06W-194	na	na	na	63.4	C	49.8	E	70.5		58.2		8.21	18.64	*	123.7
VA05W-139	na	na	na	62.6	C	29.3	F	70.3		53.9	*	8.78	18.02	Q	128.1
VA06W-93	na	na	na	62.2	C	77.8	B	70.2		58.9		8.20	19.48		111.3
VA04W-306	59.9	1	17.2	61.7	C	42.8	E	70.1	*	56.9		7.89	18.43	Q	113.8
VA05W-777	na	na	na	57.2	D	47.1	E	69.2	Q	59.1		8.05	18.56	*	111.2
Average				67.5				71.3		58.0		8.29	18.73		110.0

Section 5: Wheat Scab Research

One of the primary research objectives of the Virginia Tech wheat breeding program is to identify and develop cultivars possessing resistance to Fusarium Head Blight (FHB) or scab. Each year all wheat entries in Virginia's Official State Variety Trials are evaluated for FHB resistance in an inoculated, irrigated nursery at the Blacksburg test site. Data from this test for the current crop year and two- and three-year averages for FHB incidence, FHB severity and FHB Index (incidence x severity / 100) are included in this bulletin (Tables 37 – 39) to aid producers in selection of cultivars on the basis of FHB resistance. Cultivars possessing complete resistance or immunity to FHB have not been identified and resistance levels in currently available cultivars vary from moderately resistant to highly susceptible.

A major goal of the breeding program is to identify and incorporate unique and complementary types of FHB resistance into cultivars to enhance the overall level of resistance. Genes controlling FHB resistance have been identified on more than six chromosomes in wheat and some of these genes are complementary in nature and effect different disease resistance components such as FHB incidence, severity, and DON toxin content. Incorporating such multiple resistance genes having additive effects on FHB resistance into cultivars will enhance the overall level of resistance. Because the individual resistance genes are located on different wheat chromosomes and each gene confers only partial resistance to FHB, identifying wheat lines having multiple resistance genes is difficult using traditional breeding techniques. To overcome this limitation, our program is currently identifying and using DNA markers located close to these resistance genes on the same chromosome as "tags" for selecting wheat lines possessing different combinations of these complementary resistance genes.

Entries were inoculated by spreading scabby corn seeds in plots at the booting stage and by spraying a *Fusarium graminearum* spore suspension directly onto spikes at the 80% flowering stage. A high FHB infection level was obtained in 2009. Among 89 lines and varieties tested in 2009, the FHB index varied from 2% to 35% with FHB incidence ranging from 10% to 70% and FHB severity ranging from 13% to 63% (Table 37). Nineteen lines and 30 varieties had FHB index values lower than the mean (<13%) and expressed moderate resistant to FHB in 2009. The toxin level (DON) ranged from 0.0 to 3.68 ppm in 2007 and from 0 to 1.3 ppm in 2008 (Table 39). Based on two year mean data for 2008 and 2009 (Table 38), six lines and 26 varieties had FHB index values lower than the test mean (<16%). Three experimental lines and 23 varieties tested across three years (2007-2009) had average FHB index values lower than the test mean of 13% (Table 39). Varieties expressing resistance to FHB based on three-year mean data are: Coker 9436, USG 3342, Jamestown, USG 3665, Magnolia, Oglethorpe, Coker 9553, Massey, Dominion, Tribute, SS 8309, SS 8302, Pioneer variety 26R31, Vigoro V9713, Pioneer variety 26R15, SS 560, Branson, USG 3555, and Red Ruby.

Table 37. Summary of reaction of entries in the Virginia Tech State Wheat Test to Fusarium head blight (scab) and glume blotch resistance, 2009 harvest.

LINE	Heading date (Julian)		FHB Incidence[1] (%)		FHB Severity[2] (%)	FHB Index[3] (0-100)	Rank FHB Index	*S.Nod* Glume blotch (0-9)		Leaf rust (0-9)	
VA07W-580	129	+	10	-	15	2	1	3		7	
VA05W-534	127		13		13	2	2	1		5	
COKER 9553	126		13		15	2	3	2		4	
Progeny 130	126		13		20	3	4	1		7	
SS 8309	128		15		18	3	5	3		7	
Oglethorpe	127		18		15	3	6	1		4	
Coker 9804	127		15		20	3	7	3		8	
SS 548	127		15		20	3	8	4		7	
Vigoro V9723	127		20		15	3	9	4		8	
COKER 9436	130	+	18		18	3	10	6	+	8	
VA06W-558	127		18		18	3	11	2		5	
VA07W-214	126		18		20	4	12	4		6	
SS 560	129	+	15		25	4	13	3		6	
Progeny 166	126		20		20	4	14	4		6	
USG 3342	126		18		23	4	15	1		6	
Tribute	127		15		28	4	16	1		8	
Jamestown	127		15		30	5	17	1		4	
Pioneer variety XW07X	128		18		25	5	18	4		7	
Oakes	127		20		23	5	19	4		6	
Dominion	127		35		15	5	20	2		8	
USG 3665	128		15		35	5	21	3		7	
VA05W-358	126		20		28	6	22	1		6	
NC04-20814	127		20		28	6	23	3		0	-
Progeny 119	129	+	25		23	6	24	3		8	
VA06W-93	127		25		25	6	25	1		6	
VA07W-643	128		23		28	6	26	2		1	-
Massey	127		23		30	7	27	2		6	
VA06W-256	126		25		28	7	28	1		2	-
VA05W-640	126		25		30	8	29	2		7	
VA04W-90	128		25		33	8	30	3		8	
VA06W-587	126		25		33	8	31	3		8	
USG 3555	126		28		30	8	32	3		8	
VA07W-607	127		30		28	8	33	1		4	
Pioneer variety 26R31	126		23		38	9	34	2		7	
Magnolia	128		25		35	9	35	4		5	
VA07W-600	127		30		30	9	36	1		8	
VA05W-139	128		28		33	9	37	2		5	
Baldwin	129	+	25		38	10	38	1		1	-
SS 8302	127		35		28	10	39	3		8	
Progeny 185	127		33		30	10	40	1		7	

Table 37. Summary of reaction of entries in the Virginia Tech State Wheat Test to Fusarium head blight (scab) and glume blotch resistance, 2009 harvest, continued.

LINE	Heading date (Julian)		FHB Incidence[1] (%)		FHB Severity[2] (%)		FHB Index[3] (0-100)		Rank FHB Index	*S.Nod* Glume blotch		Leaf rust (0-9)	
SS 520	126		30		35		11		41	3		6	
VA05W-151	127		35		30		11		42	3		7	
NC03-6228	126		25		43		11		43	2		5	
Sisson	127		28		40		11		44	1		8	
VA05W-251	127		38		30		11		45	1		3	-
Vigoro V9713	128		30		38		11		46	1		6	
Featherstone 176	126		33		35		12		47	4		8	
Branson	126		30		40		12		48	2		7	
Red Ruby	128		53	+	23		12		49	1		9	+
Progeny 117	127		33		38		13		50	1		8	
VA05W-168	128		28		45		13		51	2		3	-
Vigoro V9922	128		33		40		13		52	1		1	-
VA06HRW-49	127		33		40		13		53	3		7	
USG 3209	128		33		43		14		54	6	+	7	
SS 8404	127		33		43		14		55	1		7	
VA07W-415	128		33		43		14		56	2		2	-
Panola	128		33		45		15		57	4		6	
VA06W-392	127		33		45		15		58	2		4	
VA06W-194	127		35		43		15		59	2		4	
Pioneer variety 26R15	128		38		40		15		60	4		8	
VA07W-138	128		40		38		15		61	2		3	-
Renwood 3434	129	+	40		40		16		62	3		6	
GA-991209-6E33	126		48		35		17		63	3		6	
SS-MPV 57	128		38		45		17		64	1		8	
Pioneer variety 26R12	128		40		43		17		65	1		4	
VA06W-423	127		40		43		17		66	1		5	
Pioneer variety XW07B	128		40		45		18		67	3		6	
Merl	126		48		40		19		68	3		8	
VA05W-258	129	+	40		48		19		69	1		8	
VA07W-27	127		40		48		19		70	1		7	
VA06W-412	128		43		45		19		71	1		2	-
VA04W-92	128		50		40		20		72	1		7	
VA04W-259	128		38		53		20		73	2		0	-
GA-991371-6E12	127		53	+	43		23		74	2		3	-
Shirley	128		45		53		24		75	1		4	
Chesapeake	128		45		55		25		76	2		8	
VA07W-347	127		45		55		25		77	2		2	-
VA05W-414	128		50		53		27	+	78	3		8	
VA07W-83	128		53	+	50		27	+	79	2		7	
AGS 2035	128		50		60	+	30	+	80	1		2	-
VA04W-306	129	+	50		63	+	32	+	81	2		7	

Table 37. Summary of reaction of entries in the Virginia Tech State Wheat Test to Fusarium head blight (scab) and glume blotch resistance, 2009 harvest, continued.

LINE	Heading date (Julian)		FHB Incidence[1] (%)		FHB Severity[2] (%)		FHB Index[3] (0-100)		Rank FHB Index	*S.Nod* Glume blotch		Leaf rust (0-9)	
VA06W-6	129	+	70	+	48		34	+	82	2		4	
GA-991336-6E9	127		70	+	48		34	+	83	1		2	-
USG 3592	127		60	+	58		35	+	84	1		2	-
Average	127		31		35		13		---	2		6	
LSD (0.05)	2		20		24		14		---	3		3	
C.V.	1		---		---		---		---	---		---	

Released cultivars are shown in bold print. Varieties are ordered by ascending index averages.

A plus or minus sign indicates a performance significantly above or below the average.

Entries were planted in 2-row plots, 4 ft in length at Blacksburg, VA and were inoculated at 50% and 100% heading stages with Fusarium graminearum spore suspension (50,000 spores/ml).

[1]Scab Incidence (%): Percentage of infected spikes among 10 randomly selected spikes.

[2]Scab Severity (%): Percentage of infected spikelets among 10 infected spikes.

[3]Scab Index = Incidence X Severity/100; it is an overall indicator of scab resistance/susceptibility level.

Table 38. Two year average summary of reaction of entries in the Virginia Tech State Wheat Tests to Fusarium head blight (scab) and glume blotch resistance, 2008 and 2009 harvests.

LINE	Heading date (Julian)		FHB Incidence[1] (%)		FHB Severity[2] (%)		FHB Index[3] (0-100)		Barley yellow dwarf (0-9)		*S.Nod* Glume blotch (0-9)		Leaf rust (0-9)		Powdery mildew (0-9)		Don Value 2008
COKER 9436	130	+	25		20	-	5	-	3		7	+	5		4		0.84
USG 3342	127		21	-	26		5	-	1		2	-	5		0	-	0.75
Progeny 166	126	-	21	-	30		6	-	4	+	6	+	2	-	6	+	0.60
COKER 9553	126	-	21	-	33		7		2		5		3	-	3		0.00
Tribute	126	-	21	-	34		7		0		1	-	6		0	-	0.60
VA04W-90	128	+	30		24		7		1		3		8		2		0.13
Oglethorpe	126	-	29		26		8		1		4		1	-	7	+	1.02
Dominion	127		36		21	-	8		1		2	-	7		1		0.98
Massey	128	+	26		32		8		2		6	+	8		2		0.00
Jamestown	126	-	25		35		9		0		2	-	5		1		0.98
SS 548	127		25		35		9		0		6	+	7		5		0.90
VA06W-256	127		26		35		9		2		3		1	-	2		0.51
USG 3665	128	+	24		40		10		1		5		7		5		0.64
Magnolia	129	+	24		41		10		1		6	+	5		5		0.15
VA06W-93	128	+	33		30		10		0		2	-	5		7	+	0.68
VA05W-251	127		35		30		11		0		2	-	2	-	3		0.81
Coker 9804	126	-	26		41		11		1		6	+	7		2		0.22
Branson	126	-	30		36		11		2		5		7		1		0.72
VA05W-151	127		34		32		11		1		4		7		0	-	0.78
Progeny 117	126	-	29		41		12		0		4		8		5		0.00
Vigoro V9713	128	+	33		39		13		0		4		6		6	+	1.03
VA06W-194	127		28		46		13		1		2	-	2	-	2		0.88
SS-MPV 57	128	+	38		34		13		0		1	-	8		3		1.23
Sisson	127		38		35		13		0		3		8		0	-	0.96
USG 3555	127		35		38		13		0		3		7		3		0.12
Red Ruby	128	+	48		28		13		1		3		9	+	3		0.87
SS 8309	129	+	33		41		14		0		5		8		5		0.47
SS 8302	128	+	35		39		14		2		6	+	8		6	+	1.22

Table 38. Two year average summary of reaction of entries in the Virginia Tech State Wheat Tests to Fusarium head blight (scab) and glume blotch resistance, 2008 and 2009 harvests, continued.

LINE	Heading date (Julian)		FHB Incidence[1] (%)		FHB Severity[2] (%)		FHB Index[3] (0-100)		Barley yellow dwarf		*S.Nod* Glume blotch		Leaf rust (0-9)		Powdery mildew (0-9)		Don Value 2008
Pioneer variety 26R31	127		33		42		14		1		3		6		2		0.33
Progeny 185	127		36		39		14		1		5		7		6	+	0.81
Featherstone 176	126	-	38		40		15		0		5		8		0	-	0.93
SS 560	131	+	43		36		15		3		5		8		5		0.48
Pioneer variety 26R12	129	+	38		41		16		3		5		6		5		1.31
VA06W-392	127		35		45		16		0		3		4		4		0.36
VA06W-423	129	+	41		40		16		1		1	-	6		0	-	0.93
VA05W-139	129	+	38		44		17		0		2	-	6		3		0.91
Pioneer variety 26R15	127		35		48		17		2		7	+	5		3		0.66
VA05W-168	127		33		51		17		0		4		2	-	3		0.71
USG 3209	127		43		42		18		2		6	+	8		2		0.75
Merl	127		39		48		19		2		4		6		2		0.68
Renwood 3434	128	+	46		44		20		3		3		6		1		0.60
VA05W-258	129	+	44		47		21		3		2	-	4		4		0.82
SS 8404	127		41		51		21		0		5		8		5		0.85
Shirley	128	+	44		48		21		2		2	-	3	-	0	-	1.08
Panola	127		44		50		22		1		5		7		3		0.47
Chesapeake	127		48		48		23		1		2	-	7		1		0.16
SS 520	125	-	45		53		24		1		3		6		2		0.67
VA04W-306	128	+	46		57		26	+	0		2	-	6		1		0.84
VA05W-414	129	+	54	+	53		29	+	0		2	-	7		4		0.15

Table 38. Two year average summary of reaction of entries in the Virginia Tech State Wheat Tests to Fusarium head blight (scab) and glume blotch resistance, 2008 and 2009 harvests, continued.

LINE	Heading date (Julian)		FHB Incidence[1] (%)		FHB Severity[2] (%)		FHB Index[3] (0-100)		Barley yellow dwarf		*S.Nod* Glume blotch		Leaf rust (0-9)		Powdery mildew (0-9)		Don Value 2008
VA06W-6	128	+	56	+	52		29	+	0		1	-	1	-	0	-	0.76
USG 3592	128	+	54	+	57		31	+	4	+	4		1	-	4		0.61
VA04W-259	129	+	54	+	62	+	33	+	1		1	-	0	-	3		0.91
Average	127		36		40		16		1		4		6		3		
LSD (0.05)	1		14		18		10		3		2		3		3		
C.V.	1		---		---				---		---				---		

Released cultivars are shown in bold print. Varieties are ordered by ascending index averages.

A plus or minus sign indicates a performance significantly above or below the average.

Entries were planted in 2-row plots, 4 ft in length at Blacksburg, VA and were inoculated at 50% and 100% heading stages with Fusarium graminearum spore suspension (50,000 spores/ml).

[1]Scab Incidence (%): Percentage of infected spikes among 10 randomly selected spikes.

[2]Scab Severity (%): Percentage of infected spikelets among 10 infected spikes.

[3]Scab Index = Incidence X Severity/100; it is an overall indicator of scab resistance/susceptibility level.

Table 39. Three year average summary of reaction of entries in the Virginia Tech State Wheat Tests to Fusarium head blight (scab) and glume blotch resistance, 2007 - 2009 harvests.

LINE	Heading date (Julian)		FHB Incidence[1] (%)		FHB Severity[2] (%)		FHB Index[3] (0-100)		Barley yellow dwarf (0-9)		*S.Nod* Glume blotch (0-9)		Leaf rust (0-9)		Powdery mildew (0-9)		Don Value 2007	Don Value 2008
COKER 9436	131	+	20	-	15	-	3	-	3		6	+	5		4		0.36	0.84
USG 3342	128	-	26		20		5	-	1		3		5		0	-	0.00	0.75
Jamestown	127	-	23		26		6	-	0		2	-	5		1		0.64	0.98
USG 3665	129		21	-	30		6	-	1		4		7		5		0.60	0.64
Magnolia	130	+	23		28		6	-	1		6	+	5		5		1.17	0.15
Oglethorpe	127	-	31		21		7		1		5		1	-	7	+	0.74	1.02
COKER 9553	127	-	23		28		7		2		5		3	-	3		0.42	0.00
Massey	129		26		25		7		2		5		8		2		0.50	0.00
VA04W-90	129		30		23		7		1		3		8		2		0.10	0.13
Dominion	129		38		18	-	7		1		3		7		1		0.53	0.98
Tribute	128	-	29		26		8		0		1	-	6		0	-	0.00	0.60
SS 8309	130	+	28		30		9		0		5		8		5		0.22	0.47
SS 8302	130	+	32		28		9		2		6	+	8		6	+	1.23	1.22
Pioneer variety 26R31	129		27		34		9		1		4		6		2		0.63	0.33
VA05W-251	129		37		25		9		0		2	-	2	-	3		0.23	0.81
Vigoro V9713	129		32		29		9		0		3		6		6	+	0.97	1.03
Pioneer variety 26R15	129		28		34		10		2		6	+	5		3		0.61	0.66
VA05W-151	129		38		26		10		1		4		7		0	-	0.55	0.78
SS 560	131	+	35		29		10		3		4		8		5		0.77	0.48
Branson	128	-	33		31		10		2		4		7		1		0.68	0.72
USG 3555	128	-	37		28		10		0		4		7		3		0.21	0.12
Red Ruby	129		42		25		10		1		2	-	9	+	3		0.63	0.87
Featherstone 176	127	-	33		33		11		0		5		8		0	-	0.39	0.93
SS-MPV 57	130	+	38		29		11		0		1	-	8		3		1.07	1.23
USG 3209	129		40		31		12		2		6	+	8		2		0.41	0.75

Table 39. Three year average summary of reaction of entries in the Virginia Tech State Wheat Tests to Fusarium head blight (scab) and glume blotch resistance, 2007 - 2009 harvests, continued.

LINE	Heading date (Julian)		FHB Incidence[1] (%)		FHB Severity[2] (%)		FHB Index[3] (0-100)		Barley yellow dwarf		*S.Nod* Glume blotch		Leaf rust (0-9)		Powdery mildew (0-9)		Don Value 2007	Don Value 2008
Renwood 3434	130	+	39		32		12		3		2	-	6		1		0.00	0.60
Pioneer variety 26R12	130	+	38		34		13		3		5		6		5		0.62	1.31
Sisson	129		40		32		13		0		3		8		0	-	1.94	0.96
Merl	128	-	39		35		14		2		4		6		2		0.73	0.68
Panola	128	-	38		39		15		1		6	+	7		3		1.43	0.47
Chesapeake	128	-	40		38		15		1		3		7		1		0.36	0.16
VA05W-168	128	-	38		40		15		0		3		2	-	3		0.42	0.71
SS 8404	129		36		43		15		0		4		8		5		0.56	0.85
Shirley	129		43		37		16		2		3		3	-	0	-	0.21	1.08
VA05W-258	130	+	39		41		16		3		2	-	4		4		0.31	0.82
SS 520	127	-	42		41		17		1		4		6		2		1.69	0.67
VA04W-306	129		43		43		18		0		2	-	6		1		0.43	0.84
VA05W-414	130	+	53	+	42		22	+	0		3		7		4		3.25	0.15
VA04W-259	131	+	51	+	45	+	23	+	1		2	-	0	-	3		3.68	0.91
USG 3592	129		58	+	48	+	28	+	4	+	4		1	-	4		0.50	0.61
Average	129		35		32		13		1		4		6		3			
LSD (0.05)	1		14		13		7		3		2		3		3			
C.V.	1		---		---				---		---				---			

Released cultivars are shown in bold print. Varieties are ordered by ascending index averages.

A plus or minus sign indicates a performance significantly above or below the average.

Entries were planted in 2-row plots, 4 ft in length at Blacksburg, VA and were inoculated at 50% and 100% heading stages with Fusarium graminearum spore suspension (50,000 spores/ml).

[1]Scab Incidence (%): Percentage of infected spikes among 10 randomly selected spikes.

[2]Scab Severity (%): Percentage of infected spikelets among 10 infected spikes.

[3]Scab Index = Incidence X Severity/100; it is an overall indicator of scab resistance/susceptibility level.