Virginia Cooperative Extension

REVISED 2005 **PUBLICATION 424-001**

SMALL GRAINS IN 2005

The following are the small grain variety recommendations for Virginia in 2005. 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.

Wheat Varieties Recommended

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	Relative Heading	Straw Yield
SS 520*	4	1	4	3	Early	2
FEATHERSTONE 176	4	2	3	4	Early	3
SISSON	3	2	3	2	Early	2
RENWOOD 3260	4	4	4	2	Early	2
PIONEER BRAND 26R24	4	1	3	3	Early	3
3706	3	3	4	3	Early	2
USG 3209*	4	2	1	1	Early	2
SS 550	3	1	2	1	Avg.	1
VIGORO TRIBUTE	4	4	2	1	Avg.	3
PIONEER BRAND 26R15	4	1	4	3	Avg.	3
MCCORMICK	2	4	2	1	Avg.	3
SS 560	4	1	2	1	Late	2
SS MPV 57	4	1	4	3	Late	3

1 - Significantly below average
2 - Below average
3 - Greater than average
4 - Significantly greater than average
*These lines are not daylength sensitive and should not be planted early in order to avoid potential freeze damage.

Virginia Tech
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Wheat Varieties Recommended, continued

	Disease Resistance						
Cultivar	FHB† resistance	Powdery Mildew	Leaf Rust	Stripe Rust	Glume Blotch	Barley Yellow Dwarf Virus	Wheat Spindle Streak Virus
SS 520*	1	3	3	1	4	3	3
FEATHERSTONE 176	1	4	3	4	3	4	3
SISSON	2	3	1	1	3	3	3
RENWOOD 3260	3	3	3	2	3	4	3
PIONEER BRAND 26R24	1	3	3	1	3	4	3
3706	2	3	4	4	2	4	3
USG 3209*	3	3	1	4	2	4	3
SS 550	2	4	1	1	4	3	3
VIGORO TRIBUTE	3	4	4	2	4	3	3
PIONEER BRAND 26R15	3	3	4	4	---	4	3
MCCORMICK	3	4	2	4	4	4	3
SS 560	3	3	1	1	3	3	3
SS MPV 57	3	2	1	1	3	4	3

* These lines are not daylength sensitive and should not be planted early in order to avoid potential freeze damage. †FHB -Fusarium head blight

Barley Varieties Recommended

	Hulled Barley				Hulless Barley
	Nomini	Callao	Price	Thoroughbred	Doyce
Adapted Regions					
Coastal Plain		X	X	X	X
Piedmont, South of James River		X	X	X	X
Piedmont, North of James River		X	X	X	X
West of Blue Ridge	X	X	X	X	X
Agronomic Characteristics					
Yield	3	3	4	4	3
Test Weight	1	4	3	4	4
Lodging	2	4	2	1	2
Relative Height	4	1	2	3	3
Relative Heading	Avg	Early	Avg	Late	Avg
Grain Protein, %	8.1	8.5	8.0	8.8	9.0
Starch, %	54.0	56.4	53.4	54.7	61.3

4 - Significantly greater than average
3 - Greater than average
2 - Below average
1 - Significantly below average

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COMMERCIAL BARLEY ENTRIES

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

COMMERCIAL AND EXPERIMENTAL WHEAT ENTRIES

AgriPro COKER, PO Box 411, 520 East 1050 South, Brookston, IN 47923 – COKER 9184, COKER 9295, COKER 9312, COKER 9436, COKER 9553, COKER B980416, COKER B980582, and AgriPro Crawford.
Featherstone Seed Company, 13941 Genito Road, Amelia, VA 23002 - Featherstone 520 and Featherstone 176.
Hubner Seed Company, Inc., 524 Bermuda Hundred, Chester, VA 23836 – H-50.
University of Maryland, CMREC/Beltsville Facility, 12000 Beaver Dam Road, Laurel, MD 20708 – Choptank and MD5-46.
North Carolina State University, 840 Method Rd, Unit 3, Box 7629, Raleigh, NC 27695-7629 – Neuse, NC99-13022, NC00-15332, and Arcia (a triticale).
Pioneer Hibred International, Inc., Eastern Division, Tipton, IN 47072 - Pioneer Brand 26R24, Pioneer Brand 26R58, Pioneer Brand 26R12, Pioneer Brand 26R15, and Pioneer Brand 26R31.
Renwood Farms, Inc., 17303 Sandy Point Road, Charles City, VA 23030 – Renwood 3260 and 3706.
Resource Seeds, Inc., 2355 Rice Pike, Union, KY 41091 – Trical 2115 (a triticale).
Royster-Clark, Inc., 70 N. Market St., Mt. Sterling, OH 43143 – Tribute, V9412, V9510, and V9512.
Southern States Cooperative, PO Box 26234, Richmond, VA 23260 - SS 520, SS 550, SS 560, SS 8302, SS 8309, SS MPV 57, and SS Exp 240438.
Uni-South Genetics, 2640-C Nolensville Road, Nashville, TN 37211 - USG 3209, USG 3137, USG Exp 820, and 3706.
Virginia Tech and Virginia Crop Improvement Association, 9142 Atlee Station Road, Mechanicsville, VA 23111 – McCormick, Sisson, and all lines prefixed by VA.

Appreciation is expressed to the Virginia Small Grains Check-Off Board, AgriPro COKER, Featherstone Seed, Inc., Hubner Seed Co., Inc., Pioneer, A Dupont Company, Renwood Farms, Inc., Resource Seeds, Royster-Clark, Inc., 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. Daniel E. Brann, Extension Agronomist, Grains (retired); Dr. Carl Griffey, Small Grains Breeder; Mr. Harry Behl, Agricultural Supervisor; Ms. Elizabeth Rucker and Mr. Tom Pridgen, Research Associates. Location Supervisors: Mr. Tom Custis (Painter); Mr. Bobby Ashburn (Holland); Mr. Bob Pitman, Mr. Mark Vaughn, Mr. Jason Kenner, and Mr. Charles Sanford (Warsaw); Mr. Ned Jones (Blackstone); Dr. Carl Griffey, Mr. Wynse Brooks, and Mr. Tom Pridgen (Blacksburg); Mr. Brian Jones and Mr. Mack Smith (Shenandoah Valley); Mr. David Starner and Mr. Denton Dixon, Mr. Steve Gulick, and Mr. Alvin Hood (Orange).

INTRODUCTION

The following tables present results from barley and wheat varietal tests conducted in Virginia in 2003-2005. 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. All tests in 2003-2005 were grown in seven-inch rows planted at 22 seeds per row foot with the exception of Blacksburg and Warsaw which were grown in six-inch rows at 22 seeds per row foot and the No-Till test at Warsaw which was grown in 7.5 inch rows at 28 seeds per row foot. Details about management practices for barley and wheat are listed for each experimental location.

THE SEASON

The 2004-2005 small grain crop began with near average temperatures in October. Fall temperature overall was 1.7°F above long term mean (Figure 1) mainly due to November, which was much warmer than average. While the month of November was rainy, overall fall precipitation was 97% of normal (Figure 2). Spring and winter temperatures were near average with unseasonably warm periods in early January. Late winter saw many small grain fields that were stunted or tillering poorly due to late planting, inadequate topsoil moisture, and especially cold temperatures. This same trend was evident into March with small grains developing slowly. Concerns over cold temperature damage were felt statewide but more so in the Southern and Eastern counties. May was more than 3°F cooler than normal and was especially dry. Spring rainfall was 17% below the amount normally recorded for that time of year. A cool and mostly dry May contributed to conditions that were very favorable for a long grain fill period leading to good yields and high test weight. Small grain harvest occurred several days later than normal due to the cool May temperatures.

Figure 1.

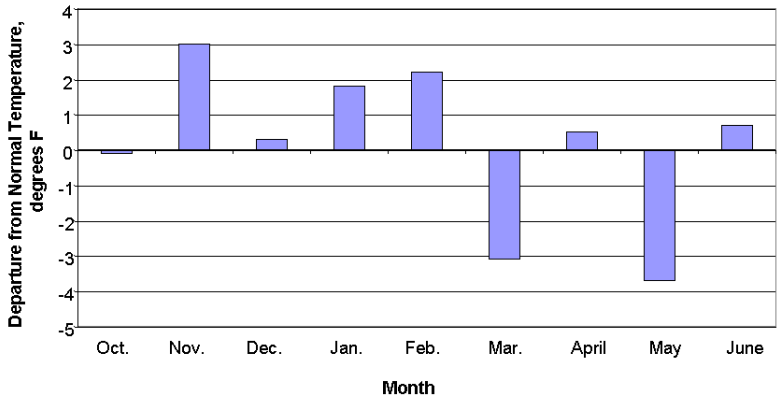
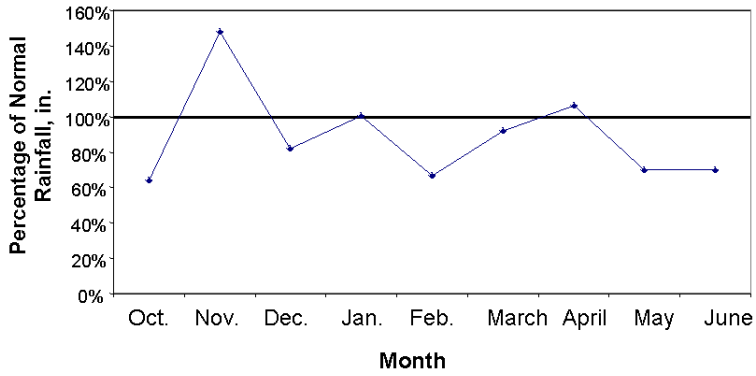


Figure 2.



Virginia producers planted an estimated 60,000 acres of barley in 2004-05, an increase of 9% over the previous year. Grain harvest occurred on 72% of planted acres for the 2003-2004 crop and an estimated 73 % (44,000 acres) for the current year. At a projected 83 bushels per acre, yields were nine bushels per acre higher than the 74 bushel per acre average of 2003-2004 and also well above the 10-yr state-wide average of 75 bushels per acre. Planted acres for wheat were estimated at 210,000 acres in 2004-05 which was very similar to the previous year. Harvested acres in 2004-05 decreased compared to 2003-04 to an estimated 170,000 acres. Statewide average yield was estimated at 57 bushels per acre, as compared to a statewide average of 55 bushels per acre in 2003-04 and was one bushel per acre lower than the 10 year average (58 bu/A). Overall wheat production is expected to be 9.7 million bushels, down two percent from last year.

SECTION 1 - BARLEY VARIETIES

Hulless Barley

Prior to the early 1990's winter barley cultivars available and grown in the U. S. Mid Atlantic Region were traditional hulled feed barley types. Traditional hulled barley has been grown for centuries in the Mid-Atlantic Region on many farms as feed for all classes of livestock. Demand for high energy, low fiber grain by the vertically integrated swine and poultry industries, and availability of brewer's distilled grains for the beef and dairy industries have resulted in greatly reduced demand for traditional barley. In an effort to recapture a share of this feed market, emphasis has been placed on the development of the more energy dense hulless type of barely. Hulless barley grows and looks like regular barley until nearly mature. When almost mature, the glumes start to separate from the seed. The grain is separated from the glumes when combined. Grain of hulless barley looks more like wheat than traditional barley.

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.

During the past 10 years, the Virginia Tech barley breeding program has developed hulless lines that yield 5-18 bushels per acre higher than initial winter hulless lines. Many of these lines have improved straw strength and grain plumpness and have higher resistance to prevalent diseases. Meanwhile, increased interest in the use of hulless barley varieties having high energy and digestibility in manufacturing food and fuel products, as well as feed, has accentuated the desire to develop winter hulless barley varieties having greater marketability in both domestic and

foreign markets. Additionally, barley grain contains health-related compounds similar to those found in oats, adding to its appeal in the health-food sector. The use of barley in ethanol production may soon become a reality and will provide a viable market for hulless barley produced in the Mid-Atlantic region. From the outset, the breeding program was based on crosses made between adapted hulled winter barley lines/cultivars with hulless lines of diverse origin. The program collaborated with nutritionists and chemists to identify and improve the nutritional and chemical quality of hulless barley for specific end uses. The breeding program's first major achievement was the release of 'Doyce' winter hulless barley variety in 2003. In collaboration with the USDA-ARS Eastern Regional Research Center, data on chemical and nutritional composition, including protein, starch, lipid and beta glucan concentrations, have been obtained on most barley lines tested in replicated yield trials. 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. Over one hundred advanced winter hulless barley lines are being evaluated in four states (Maryland, Pennsylvania, Kentucky and Delaware). Doyce hulless barley being produced in 2005 will be evaluated in pilot studies for its potential use in ethanol production and as an improved feed component in poultry rations. Continued efforts will be focused on development of hulless barley varieties for specific end-use markets benefiting producers in the Mid-Atlantic Region.

The two year average yield for Doyce hulless barley in Virginia was 82 bushels per acre with test weight of 55 pounds per bushel.

Hulled Barley

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.

Newer hulled barley lines performed well with statewide yields of Thoroughbred at 129 bushels per acre and average test weight of 47.4 pounds per bushel. Thoroughbred has plump, bright seed and large awns that break easily at harvest. The 2002 release Price averaged 120 bushels per acre with a test weight of 47.5 pounds per bushel. Two year average yields of the released varieties Thoroughbred, Callao, and Price all reached 117 bushels per acre or better. Price, Callao, and Thoroughbred all had two year mean test weight values significantly higher than the test mean. Hopefully these new varieties with improved genetic traits for test weight and other quality factors along with improved agronomic traits will enhance the marketability of Virginia grown barley.

Summary of barley management practices for the 2005 harvest season (All rates are given on a per acre basis.)

Blacksburg - Planted October 10, 2004. Preplant fertilizer was 25-80-120 on September 23, 2004. Site was fertilized with 65-0-0 plus 0.6 oz Harmony Extra® on April 6, 2005. Harvest occurred on June 16, 2005.
Blackstone - Planted October 19, 2004. Preplant fertilizer was 300 lb 10-20-20 on October 6, 2004. Site was fertilized with 40 lb N using 30%UAN and sprayed with 0.5 oz Harmony Extra® on January 25, 2005. Site was sprayed with 4.75 oz Osprey® on February 17, 2005. Site was fertilized with 60 lb N using 30%UAN March 15, 2005. Site was sprayed with 2.5 oz Warrior® May 4, 2005. Harvest occurred on June 14, 2005.
Painter - Planted November 2, 2004. Preplant fertilizer was 500 lb 5-10-10 on November 1, 2004. Site was fertilized with 70 lb N and sprayed with 0.5 oz Harmony Extra® and 0.75 pt 2,4-D March 31, 2005. Harvest occurred on June 21, 2005.
Warsaw - Planted October 27, 2004. Preplant fertilizer was 30-80-80-5 applied October 9, 2004. Site was sprayed with 0.4 oz Finesse® on February 9, 2005. Fertilization at 40 lb N using 24-0-0-3 was applied February 9, 2005 and again on March 31, 2005. Harvest occurred June 12-13, 2005.
Orange - Planted October 7, 2004. Preplant fertilization was 25-118-40 on October 5, 2004. Sixty lb N and Harmony Extra® at 0.4 oz were applied March 11, 2005. Harvest occurred on June 14, 2005.

Table 1. Summary of performance of hulless entries in the Virginia Tech Barley Test over locations (Blacksburg, Painter and Warsaw, VA), 2005 harvest.

Hulless Lines	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Mar31+)	Height (In)	Lodging (0.2-10)	Net Blotch (0-9)	Leaf Rust (0-9)	Leaf Spot (0-9)	Septoria (0-9)	Winter Survival %
	(3)	(5)	(3)	(3)	(4)	(1)	(2)	(1)	(1)	(1)
VA01H-44	87 +	55.3 -	25	33 -	1.8 +	6	1	0	0	22 -
VA00H-10	86 +	55.1 -	25	36 +	0.8	5 -	3 +	0	0	56
VA00H-65	82	56.4	25	36 +	0.9	6	3 +	0	0	74 +
DOYCE	82	55.1 -	25	33 -	2.3 +	6	1	0	0	16 -
VA01H-26	82	55.4 -	26 +	32 -	1.0	5 -	1	0	0	6 -
VA01H-37	82	55.3 -	26 +	32 -	1.1	6	1	0	0	9 -
VA01H-68	82	58.4 +	22 -	35 +	1.0	5 -	2 +	0	0	64
VA03H-259	82	55.8	26 +	35 +	1.2	7 +	1	0	0	99 +
VA00H-70	81	56.2	25	35 +	0.9	6	2 +	1 +	0	90 +
VA00H-74	81	56.4	25	35 +	0.9	6	2 +	0	0	70 +
VA00H-99	81	56.3	25	35 +	0.8	6	2 +	0	0	91 +
VA01H-3	80	56.9 +	25	35 +	1.1	7 +	2 +	0	0	76 +
VA03H-228	80	55.9	27 +	31 -	1.1	5 -	1	0	0	5 -
VA01H-125	79	56.7 +	23 -	29 -	0.8	6	2 +	0	0	91 +
VA03H-235	79	55.4 -	27 +	31 -	1.2	6	1	0	0	3 -
VA03H-239	79	55.9	27 +	31 -	1.1	6	1	0	0	5 -
VA03H-244	79	56.0	27 +	32 -	1.4	5 -	1	0	0	17 -
VA01H-1	78	57.0 +	25	35 +	0.3 -	6	2 +	1 +	0	86 +
VA00H-72	78	56.2	25	34	0.8	6	2 +	0	0	92 +
VA01H-13	77	55.4 -	26 +	34	1.4	6	1	0	0	4 -
VA03H-217	76 -	56.1	26 +	34	1.2	6	1	0	0	11 -
H-585	73 -	56.2	22 -	36 +	0.8	5 -	3 +	1 +	0	89 +
VA01H-122	67 -	56.5	25	38 +	0.9	8 +	1	0	0	83 +
Average	80	56.1	25	34	1.1	6	1	0	0	50
C.V.	6	1								
LSD (0.05)	4	0.5	1	1	0.5	1	1	1	0	20

Released cultivars are shown in bold print. Varieties are ordered by descending statewide yield averages. Yields from Blackstone and Orange were not included in the over-location averages. A plus or minus sign indicates a performance significantly above or below the test average, where hulled and hulless lines have been statistically analyzed separately. The number in parentheses below column headings indicates the number of locations on which data are based. Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is barley unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is barley standing upright and 5 is barley totally flat. The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Hulless barley is similar to hulled barley except the glumes thrash free of the seed when combined. Since the hulls make up about 15% of the dry grain weight, yields of hulless barley are expected to be about 15% lower than hulled barley.

Table 2. Two-year average summary of performance of hulless entries in the Virginia Tech Barley Tests, 2004 and 2005 harvests.

Hulless Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Mar31+)		Height (In)		Lodging (0.2-10)		Net Blotch (0-9)		Leaf Rust (0-9)		Leaf Spot (0-9)		Septoria (0-9)		Winter Survival %	
	(6)		(8)		(6)		(6)		(7)		(2)		(3)		(1)		(1)		(1)	
DOYCE	82	+	55.0	-	24		33		1.5	+	6		1	-	0		0		16	-
VA01H-44	80	+	55.0	-	24		32	-	1.2	+	5	-	1	-	0		0		22	-
VA01H-68	79	+	57.7	+	22	-	34	+	0.8		5	-	3	+	0		0		64	
VA00H-65	78	+	56.1		24		34	+	0.7		6		4	+	0		0		74	
VA00H-74	78	+	56.1		24		34	+	0.7		6		4	+	0		0		70	
VA00H-70	78	+	55.9		24		33		0.7		6		3	+	1	+	0		90	+
VA01H-26	78	+	55.2	-	25	+	31	-	0.7		5	-	1	-	0		0		6	-
VA01H-37	78	+	54.3	-	25	+	32	-	1.0		6		1	-	0		0		9	-
VA00H-10	77		54.5	-	25	+	34	+	0.5	-	5	-	4	+	0		0		56	
VA00H-72	75		56.1		24		33		0.6		6		3	+	0		0		92	+
VA00H-99	75		56.0		25	+	33		0.5	-	6		3	+	0		0		91	+
VA01H-13	74		55.2	-	25	+	33		1.0		7	+	1	-	0		0		4	-
H-585	71	-	55.7		22	-	35	+	0.6		6		4	+	1	+	0		89	+
VA01H-125	69	-	56.6	+	22	-	28	-	0.6		6		3	+	0		0		91	+
VA01H-122	59	-	56.1		25	+	36	+	0.6		7	+	1	-	0		0		83	+
Average	75		55.7		24		33		0.8		6		2		0		0		57	
C.V.	8		2																	
LSD (0.05)	3		0.5		0.4		1		0.3		1		1		1		0		22	

Released cultivars are shown in bold print.
Varieties are ordered by descending statewide yield averages.
A plus or minus sign indicates a performance significantly above or below the test average, where hulled and hulless lines have been statistically analyzed separately. The number in parentheses below column headings indicates the number of location-years on which data are based.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is barley unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is barley standing upright and 5 is barley totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.
Hulless barley is similar to hulled barley except the glumes thrash free of the seed when combined. Since the hulls make up about 15% of the dry grain weight, yields of hulless barley are expected to be about 15% lower than hulled barley.

Table 3. Three-year average summary of performance of hulless entries in the Virginia Tech Barley Tests, 2003, 2004, and 2005 harvests.

Hulless Lines	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Mar31+)	Height (In)	Lodging (0.2-10)	Net Blotch (0-9)	Leaf Rust (0-9)	Leaf Spot (0-9)	Septoria (0-9)	Winter Survival %
	(10)	(12)	(9)	(9)	(11)	(5)	(4)	(1)	(2)	(1)
DOYCE	76 +	54.2 -	26	34	2.2 +	5	1 -	0	1 +	16 -
VA00H-65	75 +	55.8 +	26	34	1.3	5	5 +	0	0	74
VA01H-26	75 +	54.4 -	27 +	32 -	1.5	4 -	1 -	0	1 +	6 -
VA01H-37	75 +	53.5 -	26	32 -	2.2 +	4 -	1 -	0	1 +	9 -
VA01H-44	74	54.1 -	26	32 -	2.0 +	4 -	1 -	0	1 +	22 -
VA00H-74	73	55.7 +	26	34	1.2	5	4 +	0	0	70
VA00H-99	73	55.6 +	27 +	33 -	0.9 -	5	4 +	0	0	91 +
VA00H-70	73	55.5 +	26	34	1.2	5	4 +	1 +	0	90 +
VA01H-13	73	54.4 -	26	34	1.9 +	5	1 -	0	0	4 -
VA00H-72	72	55.3	26	33 -	1.5	5	4 +	0	1 +	92 +
VA00H-10	70	54.1 -	27 +	34	1.2	4 -	5 +	0	0	56
H585	68 -	55.2	24 -	35 +	1.4	5	5 +	1 +	0	89 +
VA01H-122	59 -	55.9 +	27 +	37 +	1.2	5	1 -	0	1 +	83 +
Average	72	54.9	26	34	1.5	5	3	0	0.49	54
C.V.	9	2								
LSD (0.05)	3	0.5	0.4	1	0.4	0.5	1	1	0.55	21

Released cultivars are shown in bold print.
Varieties are ordered by descending statewide yield averages.
A plus or minus sign indicates a performance significantly above or below the test average, where hulled and hulless lines have been statistically analyzed separately. The number in parentheses below column headings indicates the number of location-years on which data are based.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is barley unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is barley standing upright and 5 is barley totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.
Hulless barley is similar to hulled barley except the glumes thrash free of the seed when combined. Since the hulls make up about 15% of the dry grain weight, yields of hulless barley are expected to be about 15% lower than hulled barley.

Table 4. Summary of performance of hulless entries in the Virginia Tech Barley Test, Eastern Virginia AREC, Warsaw, VA, 2005 harvest.

Hulless Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Mar31+)		Height (In)		Lodging (0.2-10)	
VA00H-10	86	+	55.6	-	24		37	+	0.2	
VA01H-1	82		58.4	+	23	-	37	+	0.2	
VA00H-70	82		57.1		23	-	36	+	0.2	
VA01H-37	82		56.3	-	25	+	34	-	0.2	
VA03H-259	82		55.9	-	25	+	35		0.2	
VA01H-44	81		56.0	-	24		35		0.2	
VA01H-68	80		58.5	+	22	-	37	+	0.2	
VA00H-74	80		57.4	+	23	-	36	+	0.2	
VA01H-26	80		56.6	-	25	+	34	-	0.2	
VA00H-99	79		57.3		25	+	35		0.2	
VA00H-72	79		56.9		23	-	36	+	0.2	
DOYCE	79		56.0	-	25	+	36	+	0.2	
VA01H-125	78		58.5	+	21	-	29	-	0.2	
VA01H-3	78		57.4	+	23	-	36	+	0.2	
VA03H-244	78		57.3		27	+	33	-	0.5	+
VA01H-13	76		56.5	-	24		37	+	0.2	
VA03H-228	74		57.4	+	26	+	33	-	0.2	
VA03H-235	74		57.0		27	+	33	-	0.2	
VA03H-239	74		56.9		27	+	32	-	0.2	
VA00H-65	74		56.9		24		36	+	0.2	
VA03H-217	73		56.7		25	+	36	+	0.2	
H-585	71		56.7		21	-	38	+	0.2	
VA01H-122	63	-	57.1		25	+	40	+	0.2	
Average	77		57.0		24		35		0.2	
C.V.	7		1							
LSD (0.05)	7		0.4		1		1		0.1	

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, where hulled and hulless lines have been statistically analyzed separately.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is barley unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is barley standing upright and 5 is barley totally flat.
Hulless barley is similar to hulled barley except the glumes thrash free of the seed when combined. Since the hulls make up about 15% of the dry grain weight, yields of hulless barley are expected to be about 15% lower than hulled barley.

Table 5. Summary of performance of hulless entries in the Virginia Tech Barley Test, Eastern Shore Virginia AREC, Painter, VA, 2005 harvest.

Hulless Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Lodging (0.2-10)		Leaf Rust (0-9)		Leaf Spot (0-9)		Septoria (0-9)
VA01H-44	98	+	56.8		2.8		0		0		0
VA00H-65	90		56.3	-	0.6		0		0		0
VA00H-74	89		57.2		0.8		0		0		0
VA01H-125	88		58.1	+	1.4		0		0		0
VA03H-259	88		56.8		1.8		0		0		0
DOYCE	88		56.2	-	4.7	+	0		0		0
VA01H-26	88		56.0	-	2.8		0		0		0
VA03H-239	87		56.6		2.7		0		0		0
VA01H-68	86		59.2	+	1.0		0		0		0
VA00H-70	86		56.5		0.6		0		1	+	0
VA00H-99	85		56.7		0.5		1	+	0		0
VA00H-10	85		55.5	-	0.8		0		0		0
VA03H-235	84		56.8		2.9		0		0		0
VA03H-217	83		57.4		2.9		0		0		0
VA03H-228	83		56.9		2.2		0		0		0
VA00H-72	83		56.8		0.7		0		0		0
VA03H-244	83		56.6		3.2	+	0		0		0
VA01H-3	82		57.2		0.5		0		0		0
VA01H-37	81		56.0	-	1.3		0		0		0
VA01H-1	79		57.8	+	0.6		0		1	+	0
VA01H-13	78		56.8		3.1		0		0		0
H-585	76	-	57.4		1.5		0		1	+	0
VA01H-122	72	-	58.0	+	1.4		0		0		0
Average	84		56.9		1.8		0		0		0
C.V.	7		1								
LSD (0.05)	8		0.6		1.4		0		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, where hulled and hulless lines have been statistically analyzed separately.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is barley unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is barley standing upright and 5 is barley totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.
Hulless barley is similar to hulled barley except the glumes thrash free of the seed when combined. Since the hulls make up about 15% of the dry grain weight, yields of hulless barley are expected to be about 15% lower than hulled barley.

Table 6. Summary of performance of hulless entries in the Virginia Tech Barley Test, Northern Piedmont AREC, Orange, VA, 2005 harvest.

Hulless Lines	Yield (Bu/a)		Test Weight (Lb/bu)	Date Headed (Mar31+)		Height (In)		Winter Survival %	
VA00H-72	106	+	55.2	24	-	39	+	92	+
VA00H-65	103	+	57.1	25		39	+	74	+
VA03H-259	101	+	54.3	25		38		99	+
VA00H-10	100		55.3	25		39	+	56	
VA00H-99	99		56.3	25		38		91	+
VA00H-70	99		55.4	25		38		90	+
VA01H-3	94		57.1	25		38		76	+
VA00H-74	92		56.1	24	-	38		70	+
VA01H-1	90		56.1	25		37		86	+
H-585	90		55.6	23	-	40	+	89	+
VA01H-68	87		57.2	22	-	36		64	
VA01H-125	84		55.9	22	-	31	-	91	+
VA01H-122	81		56.3	25		42	+	83	+
DOYCE	65	-	55.4	25		34		16	-
VA01H-44	61	-	53.7	25		35		22	-
VA03H-217	44	-	55.7	25		34		11	-
VA03H-244	44	-	55.2	26	+	33	-	17	-
VA03H-239	**NA***		55.4	26	+	31	-	5	-
VA01H-37	**NA***		53.9	25		33	-	9	-
VA01H-26	**NA***		53.4	25		33	-	6	-
VA03H-228	**NA***		52.8	26	+	32	-	5	-
VA01H-13	**NA***		52.8	25		34		4	-
VA03H-235	**NA***		51.8	27	+	32	-	3	-
Average	84		55.1	25		36		50	
C.V.	14		3						
LSD (0.05)	17		3.9	1		3		20	

***** Yields are not being reported for these lines; yields were compromised by extremely low winter survival.

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, where hulled and hulless lines have been statistically analyzed separately.
Hulless barley is similar to hulled barley except the glumes thrash free of the seed when combined. Since the hulls make up about 15% of the dry grain weight, yields of hulless barley are expected to be about 15% lower than hulled barley.

Table 7. Summary of performance of hulless entries in the Virginia Tech Barley Test, Kentland Farm, Blacksburg, VA, 2005 harvest.

Hulless Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Mar31+)		Height (In)		Lodging (0.2-10)		Net Blotch (0-9)		Leaf Rust (0-9)	
VA01H-44	87	+	54.4		27		30		4.1	+	6		1	-
VA00H-10	86	+	55.1		27		33	+	1.9		5	-	6	+
VA00H-65	84	+	56.0		26	-	32	+	2.8		6		5	+
VA01H-37	84	+	54.4		27		29	-	2.8		6		1	-
VA03H-228	83	+	55.4		29	+	29	-	1.7		5	-	1	-
VA01H-68	81		58.4	+	23	-	32	+	2.0		5	-	4	+
DOYCE	80		52.4	-	27		31	+	4.0	+	6		1	-
VA01H-3	79		56.4	+	26	-	32	+	3.5		7	+	3	
VA01H-26	79		55.4		29	+	29	-	0.9		5	-	1	-
VA00H-99	78		55.8		27		32	+	2.2		6		4	+
VA03H-235	78		55.0		29	+	29	-	1.5		6		1	-
VA01H-13	77		54.7		28	+	30		2.2		6		1	-
VA03H-239	77		54.4		30	+	28	-	1.2		6		1	-
VA00H-70	76		55.2		26	-	32	+	2.8		6		5	+
VA03H-244	76		55.0		30	+	29	-	1.7		5	-	1	-
VA03H-259	75		56.4	+	30	+	31	+	2.1		7	+	1	-
VA01H-1	74		56.9	+	27		30		0.3	-	6		3	
H-585	73		55.8		24	-	32	+	1.2		5	-	6	+
VA00H-74	73		54.9		27		31	+	2.5		6		5	+
VA03H-217	73		54.8		28	+	31	+	1.7		6		2	-
VA00H-72	72		55.5		27		29	-	2.0		6		5	+
VA01H-125	70	-	55.4		25	-	28	-	1.3		6		5	+
VA01H-122	65	-	55.4		27		33	+	1.8		8	+	2	-
Average	77		55.3		27		30		2.1		6		3	
C.V.	5		1											
LSD (0.05)	6		1.1		1		1		1.6		1		1	

Released cultivars are shown in bold print.
Varieties are ordered by descending statewide yield averages.
A plus or minus sign indicates a performance significantly above or below the test average, where hulled and hulless lines have been statistically analyzed separately. The number in parentheses below column headings indicates the number of location-years on which data are based.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is barley unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is barley standing upright and 5 is barley totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.
Hulless barley is similar to hulled barley except the glumes thrash free of the seed when combined. Since the hulls make up about 15% of the dry grain weight, yields of hulless barley are expected to be about 15% lower than hulled barley.

Table 8. Summary of performance of hulless entries in the Virginia Tech Barley Test, Southern Piedmont AREC, Blackstone, VA, 2005 harvest.

Hulless Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Lodging (0.2-10)	
VA01H-44	74	+	55.6		0.2	
VA01H-68	67	+	58.5	+	0.7	+
DOYCE	66		55.7		0.2	
VA03H-235	65		56.4		0.2	
VA00H-72	62		56.7	+	0.2	
VA00H-70	62		56.6		0.2	
VA03H-217	60		56.2		0.2	
VA00H-65	59		56.0		0.2	
VA01H-37	58		55.8		0.2	
VA03H-259	58		55.4		0.7	+
VA03H-228	57		56.4		0.2	
VA00H-99	56		55.6		0.2	
VA01H-26	56		55.5		0.2	
VA01H-3	55		56.6		0.2	
VA00H-74	55		56.5		0.2	
VA01H-13	55		56.3		0.2	
VA03H-244	55		56.0		0.2	
VA00H-10	54		54.0	-	0.2	
VA01H-1	50		55.8		0.2	
VA03H-239	49		56.2		0.2	
H-585	46		55.4		0.2	
VA01H-125	45	-	55.8		0.2	
VA01H-122	39	-	55.9		0.2	
Average	56		56.0		0.2	
C.V.	14		1			
LSD (0.05)	11		0.7		0.2	

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, where hulled and hulless lines have been statistically analyzed separately.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is barley unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is barley standing upright and 5 is barley totally flat.
Hulless barley is similar to hulled barley except the glumes thrash free of the seed when combined. Since the hulls make up about 15% of the dry grain weight, yields of hulless barley are expected to be about 15% lower than hulled barley.

Table 9. Summary of performance of hulled entries in the Virginia Tech Barley Test over locations (Blacksburg, Orange, Painter and Warsaw, VA), 2005 harvest.

Hulled Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Mar31+)		Height (In)		Lodging (0.2-10)		Net Blotch (0-9)		Leaf Rust (0-9)		Winter Survival %	
	(4)		(5)		(3)		(3)		(5)		(1)		(1)		(1)	
THOROUGHBRED	129	+	47.4	+	29	+	37	+	0.5	-	4		6	+	97	
VA03B-154	127	+	46.5		28	+	36		3.4	+	2	-	1	-	99	
VA97B-176	125	+	48.7	+	22	-	36		1.6		5	+	3		97	
VA97B-175	124	+	47.5	+	23	-	34	-	2.2		4		4	+	99	
VA01B-62	124	+	47.5	+	22	-	37	+	4.3	+	8	+	1	-	94	
VA03B-176	123	+	47.8	+	27	+	36		0.7	-	4		4	+	99	
VA03B-58	122		47.6	+	27	+	35	-	1.5		3	-	3		92	
VA01B-8	122		46.8		24	-	31	-	2.6		6	+	1	-	99	
VA03B-55	121		48.8	+	22	-	34	-	1.8		5	+	2	-	95	
VA99B-125	121		47.4	+	24	-	34	-	4.0	+	3	-	5	+	99	
PRICE	120		47.5	+	26	+	35	-	1.5		6	+	4	+	99	
VA98B-213	118		47.4	+	25		34	-	1.2		4		5	+	99	
VA98B-208	118		46.6		26	+	32	-	0.5	-	4		2	-	99	
VA96-44-304	117		47.6	+	22	-	34	-	1.9		6	+	5	+	80	
CALLAO	115		47.5	+	22	-	35	-	5.2	+	5	+	3		98	
MD 931048-38	114		42.3	-	27	+	38	+	1.0	-	4		1	-	89	
NOMINI	113		44.9	-	24	-	42	+	1.6		1	-	3		98	
MD 931043-25	113		43.5	-	23	-	34	-	3.3	+	6	+	2	-	98	
MD 931046-38	112		42.1	-	26	+	37	+	0.7	-	4		1	-	67	-
WYSOR	111	-	45.1	-	26	+	41	+	1.4		3	-	7	+	98	
MD 931046-93	111	-	42.9	-	26	+	35	-	0.4	-	4		2	-	42	-
VA03B-5	109	-	47.8	+	27	+	41	+	1.0	-	3	-	6	+	95	
VA92-42-46	104	-	45.9		25		42	+	1.0	-	9	+	0	-	76	
BARSOY	92	-	43.5	-	22	-	38	+	1.5		3	-	9	+	99	
Average	117		46.3		25		36		1.9		4		3		92	
C.V.	7		2													
LSD (0.05)	6		0.6		1		1		0.8		1		1		17	

Released cultivars are shown in bold print.
Varieties are ordered by descending statewide yield averages. Yields from Blackstone were not included in over-location averages. A plus or minus sign indicates a performance significantly above or below the test average, where hulled and hulless lines have been statistically analyzed separately.
The number in parentheses below column headings indicates the number of locations on which data are based.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is barley unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is barley standing upright and 5 is barley totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Table 10. Two-year average summary of performance of hulled entries in the Virginia Tech Barley Tests, 2004 and 2005 harvests.

Hulled Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Mar31+)		Height (In)		Lodging (0.2-10)		Net Blotch (0-9)		Leaf Rust (0-9)		Winter Survival %	
	(7)		(8)		(6)		(6)		(8)		(2)		(2)		(1)	
THOROUGHBRED	129	+	47.6	+	27	+	35		0.4	-	4	-	6	+	97	
VA01B-62	124	+	48.3	+	22	-	36	+	3.6	+	7	+	1	-	94	
VA01B-8	122	+	47.2		23		30	-	2.3	+	6	+	1	-	99	
VA98B-213	121	+	47.7	+	24	+	33	-	0.9	-	5		5	+	99	
VA97B-175	121	+	47.7	+	22	-	33	-	1.7		4	-	4		99	
VA97B-176	120		49.0	+	22	-	34	-	1.4		5		3	-	97	
VA99B-125	119		47.7	+	24	+	33	-	3.1	+	4	-	5	+	99	
CALLAO	118		48.0	+	21	-	33	-	4.3	+	4	-	3	-	98	
PRICE	117		48.0	+	24	+	33	-	1.2		6	+	4		99	
VA98B-208	116		47.2		25	+	30	-	0.4	-	4	-	3	-	99	
VA96-44-304	115		47.9	+	21	-	33	-	1.7		6	+	4		80	-
NOMINI	112		45.1	-	23		41	+	1.5		2	-	4		98	
VA92-42-46	107	-	45.8	-	24	+	41	+	0.9	-	8	+	0	-	76	-
WYSOR	107	-	45.1	-	25	+	40	+	1.3		3	-	7	+	98	
BARSOY	88	-	44.6	-	21	-	37	+	1.1	-	3	-	9	+	99	
Average	116		47.1		23		35		1.7		5		4		95	
C.V.	8		2													
LSD (0.05)	5		0.5		1		1		0.6		1		1		12	

Released cultivars are shown in bold print.
Varieties are ordered by descending statewide yield averages.
A plus or minus sign indicates a performance significantly above or below the test average, where hulled and hulless lines have been statistically analyzed separately.
The number in parentheses below column headings indicates the number of location-years on which data are based.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is barley unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is barley standing upright and 5 is barley totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Table 11. Three-year average summary of performance of hulled entries in the Virginia Tech Barley Tests, 2003, 2004, and 2005 harvests.

Hulled Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Mar31+)		Height (In)		Lodging (0.2-10)		Net Blotch (0-9)		Leaf Rust (0-9)		Septoria (0-9)		Winter Survival %	
	(11)		(12)		(9)		(9)		(12)		(5)		(3)		(1)		(1)	
THOROUGHBRED	117	+	47.3	+	28	+	36	+	0.9	-	3	-	6	+	0	-	97	
VA97B-175	110	+	47.2	+	23	-	33	-	2.2		3	-	3	-	1		99	
VA97B-176	109	+	48.5	+	24	-	34	-	2.3		4	-	3	-	1		97	
VA98B-213	108	+	47.2	+	26	+	33	-	1.8	-	4	-	5	+	2	+	99	
VA99B-125	107		47.4	+	25		33	-	3.7	+	3	-	4		1		99	
CALLAO	106		47.4	+	23	-	33	-	4.9	+	4	-	3	-	1		98	
VA96-44-304	106		47.3	+	22	-	33	-	2.5		5	+	3	-	1		80	-
PRICE	106		47.2	+	26	+	34	-	2.3		4	-	4		2	+	99	
VA98B-208	105		46.9		27	+	30	-	0.8	-	3	-	3	-	1		99	
NOMINI	104		44.4	-	24	-	41	+	2.4		2	-	4		0	-	98	
VA92-42-46	95	-	44.6	-	26	+	41	+	2.3		7	+	0	-	5	+	76	-
WYSOR	94	-	44.3	-	26	+	40	+	2.6		3	-	7	+	0	-	98	
BARSOY	87	-	45.1	-	22	-	37	+	2.0		3	-	8	+	0	-	99	
Average	104		46.5		25		35		2.4		4		4		1		95	
C.V.	9		3															
LSD (0.05)	4		0.5		1		1		0.5		0.4		1		1		13	

Released cultivars are shown in bold print.
Varieties are ordered by descending statewide yield averages.
A plus or minus sign indicates a performance significantly above or below the test average, where hulled and hulless lines have been statistically analyzed separately.
The number in parentheses below column headings indicates the number of location-years on which data are based.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is barley unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is barley standing upright and 5 is barley totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Table 12. Summary of performance of hulled entries in the Virginia Tech Barley Test, Eastern Virginia AREC, Warsaw, VA, 2005 harvest.

Hulled Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Mar31+)		Height (In)		Lodging (0.2-10)	
VA96-44-304	127	+	48.6	+	20	-	34		1.3	
VA03B-154	126	+	48.1	+	27	+	36		1.8	
VA99B-125	125	+	48.7	+	22	-	34		3.1	+
VA03B-176	119		48.9	+	26	+	35		0.3	-
THOROUGHBRED	119		48.6	+	27	+	36		0.6	-
VA01B-62	118		48.7	+	20	-	37		4.4	+
VA01B-8	116		48.2	+	22	-	31	-	0.9	
MD 931048-38	116		40.4	-	25	+	37		0.7	
VA97B-176	115		48.8	+	22	-	36		0.9	
VA97B-175	115		47.9		21	-	33	-	2.0	
PRICE	113		48.6	+	24	+	34		1.0	
MD 931046-38	113		41.6	-	24	+	37		0.4	-
VA03B-55	112		49.9	+	21	-	33	-	1.2	
CALLAO	112		48.4	+	20	-	34		3.4	+
VA98B-208	110		46.9		25	+	32	-	0.2	-
VA03B-5	108		48.7	+	25	+	40	+	0.5	-
VA98B-213	108		47.5		23		34		0.6	-
MD 931043-25	106		43.7	-	22	-	32	-	4.1	+
MD 931046-93	106		42.5	-	24	+	36		0.4	-
VA03B-58	103		48.9	+	27	+	34		0.4	-
WYSOR	103		45.4	-	24	+	42	+	1.1	
NOMINI	98	-	44.4	-	20	-	40	+	2.2	+
VA92-42-46	95	-	45.7		23		43	+	0.6	-
BARSOY	94	-	44.1	-	20	-	38		2.6	+
Average	111		46.8		23		36		1.4	
C.V.	7		2							
LSD (0.05)	10		1.2		1		3		0.8	

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, where hulled and hulless lines have been statistically analyzed separately.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is barley unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is barley standing upright and 5 is barley totally flat.

Table 13. Summary of performance of hulled entries in the Virginia Tech Barley Test, Eastern Shore Virginia AREC, Painter, VA, 2005 harvest.

Hulled Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Lodging (0.2-10)	
VA01B-8	113		48.0		4.8	+
VA03B-154	113		47.9		2.1	
VA97B-175	112		47.7		4.4	+
VA03B-58	112		47.6		2.0	
MD 931046-93	112		43.5	-	0.7	-
VA03B-55	111		49.2	+	4.2	+
THOROUGHBRED	111		48.1		0.6	-
VA97B-176	110		48.1		3.2	
VA03B-176	110		47.9		1.1	-
PRICE	109		47.2		2.8	
MD 931043-25	109		44.5	-	5.6	+
VA98B-213	108		46.8		3.2	
VA98B-208	108		46.3		0.8	-
NOMINI	108		44.7	-	2.9	
MD 931046-38	106		42.5	-	1.0	-
MD 931048-38	103		44.6	-	0.8	-
VA96-44-304	102		48.3	+	3.4	
VA01B-62	101		48.1		5.3	+
WYSOR	101		44.8	-	1.4	-
VA92-42-46	100		45.7		1.3	-
CALLAO	99		47.5		5.1	+
VA99B-125	96	-	48.4	+	4.4	+
VA03B-5	90	-	47.6		1.7	
BARSOY	89	-	47.5		2.8	
Average	106		46.8		2.7	
C.V.	6		2			
LSD (0.05)	10		1.4		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, where hulled and hulless lines have been statistically analyzed separately.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is barley unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is barley standing upright and 5 is barley totally flat.

Table 14. Summary of performance of hulled entries in the Virginia Tech Barley Test, Northern Piedmont AREC, Orange, VA, 2005 harvest.

Hulled Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Mar31+)		Height (In)		Lodging (0.2-10)		Winter Survival %	
THOROUGHBRED	158	+	46.0		27	+	42		0.5		97	
VA01B-62	150	+	44.8		23		41		2.7		94	
VA03B-58	147	+	45.5		26	+	39		0.2		92	
VA99B-125	143		46.3	+	25		39		2.0		99	
VA98B-213	140		46.1		24		39		0.2		99	
VA97B-175	138		46.7	+	23		37	-	0.2		99	
PRICE	138		44.7		25		40		0.8		99	
VA03B-55	137		47.2	+	20	-	37	-	0.2		95	
VA97B-176	137		46.1		21	-	40		0.3		97	
VA98B-208	135		45.5		25		36	-	0.5		99	
VA01B-8	135		43.4		24		34	-	0.2		99	
VA03B-176	133		45.6		25		40		0.2		99	
CALLAO	131		45.9		22	-	40		5.5	+	98	
VA03B-154	131		42.9		25		40		6.4	+	99	
WYSOR	129		43.9		25		44	+	1.8		98	
VA03B-5	128		47.4	+	26	+	45	+	0.4		95	
VA96-44-304	125		45.5		23		37	-	0.2		80	
MD 931043-25	125		42.0	-	22	-	40		1.4		98	
NOMINI	120		44.5		25		45	+	1.2		98	
MD 931048-38	120		40.8	-	26	+	42		2.2		89	
VA92-42-46	112	-	45.1		25		45	+	0.2		76	
MD 931046-38	111	-	40.7	-	25		40		0.2		67	-
MD 931046-93	98	-	41.8	-	25		38		0.2		42	-
BARSOY	98	-	40.8	-	23		44	+	0.3		99	
Average	130		44.5		24		40		1.1		92	
C.V.	8		3									
LSD (0.05)	15		1.8		2		3		2.5		17	

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, where hulled and hulless lines have been statistically analyzed separately.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is barley unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is barley standing upright and 5 is barley totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Table 15. Summary of performance of hulled entries in the Virginia Tech Barley Test, Kentland Farm, Blacksburg, VA, 2005 harvest.

Hulled Lines	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Mar31+)		Height (In)		Lodging (0.2-10)		Net Blotch (0-9)		Leaf Rust (0-9)	
VA03B-154	138	+	46.2		31	+	32	-	4.4		2	-	1	-
VA97B-176	135	+	49.8	+	25	-	33		2.7		5	+	3	
VA03B-176	132		47.6		30	+	34	+	1.7		4		4	+
THOROUGHBRED	130		46.8		32	+	34	+	0.7		4		6	+
VA01B-8	129		47.7		25	-	29		3.3		6	+	1	-
VA01B-62	128		47.9	+	25	-	32	-	4.3		8	+	1	-
VA03B-58	128		47.4		30	+	32	-	3.1		3	-	3	
VA97B-175	127		47.1		25	-	31	-	1.5		4		4	+
MD 931046-93	127		44.8	-	28		33		0.5	-	4		2	-
PRICE	126		48.0	+	28		33		2.6		6	+	4	+
NOMINI	126		45.4		26		40	+	1.5		1	-	3	
VA98B-208	125		46.4		29	+	30	-	0.8		4		2	-
VA03B-55	123		47.8	+	25	-	31	-	2.6		5	+	2	-
CALLAO	121		48.9	+	23	-	31	-	5.4	+	5	+	3	
VA99B-125	121		46.6		27		31	-	6.3	+	3	-	5	+
VA98B-213	120		47.6		28		31	-	1.5		4		5	+
MD 931048-38	119		43.8	-	31	+	34	+	1.1		4		1	-
MD 931046-38	118		41.9	-	30	+	33		1.6		4		1	-
VA03B-5	114		46.6		29	+	37	+	2.1		3	-	6	+
WYSOR	114		44.4	-	30	+	38	+	2.1		3	-	7	+
VA96-44-304	113		46.4		24	-	30	-	2.6		6	+	5	+
MD 931043-25	112		43.8	-	24	-	30	-	4.6	+	6	+	2	-
VA92-42-46	109	-	46.7		28		39	+	2.9		9	+	0	-
BARSOY	86	-	44.1	-	24	-	33		1.0		3	-	9	+
Average	122		46.4		27		33		2.5		4		3	
C.V.	7		2											
LSD (0.05)	12		1.4		2		1		2.0		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, where hulled and hulless lines have been statistically analyzed separately.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is barley unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is barley standing upright and 5 is barley totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Table 16. Summary of performance of hulled entries in the Virginia Tech Barley Test, Southern Piedmont AREC, Blackstone, VA, 2005 harvest.

Hulled Lines	Yield (Bu/a)	Test Weight (Lb/bu)		Lodging (0.2-10)	
VA99B-125	112	47.1		4.0	+
VA98B-208	112	47.8		0.2	
VA97B-176	110	50.5	+	1.2	
VA96-44-304	109	48.9	+	2.1	
VA03B-55	109	50.0	+	0.6	
MD 931046-38	109**	43.3	-	0.6	
PRICE	108	48.6	+	0.5	
VA97B-175	107	48.4	+	2.9	
VA98B-213	105	48.8	+	0.6	
VA03B-176	102	48.8	+	0.2	
THOROUGHBRED	101	47.5		0.2	
MD 931046-93	99**	42.0	-	0.3	
VA03B-154	96	47.3		2.1	
VA01B-62	96	47.9		4.9	+
VA03B-58	94	48.4	+	1.6	
VA03B-5	88	48.7	+	0.2	
VA01B-8	88	45.6		4.0	+
CALLAO	86	47.0		6.8	+
MD 931048-38	85**	41.9	-	0.5	
WYSOR	NA*	46.6		0.7	
VA92-42-46	NA*	46.3		0.2	
NOMINI	NA*	45.3	-	0.4	
MD 931043-25	NA*	43.4	-	0.9	
BARSOY	NA*	41.2	-	0.7	
Average	101	46.7		1.5	
C.V.	12	2			
LSD (0.05)	17	1.4		2.0	

* Yields are not being reported for these lines due to deer damage.
** Yields may have been affected by deer damage.

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, where hulled and hulless lines have been statistically analyzed separately.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is barley unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is barley standing upright and 5 is barley totally flat.

SECTION 2 - WHEAT VARIETIES

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 2005 were SS MPV 57, SS 560 treated with Raxil, Renwood 3260, USG 3209 treated with Raxil and Thiram, SS 8404, 3706, Featherstone 176, Pioneer 26R24 treated with Dividend, SS 520 treated with Raxil, and Vigoro 9412 treated with Dividend. These varieties excelled in all geographic regions of the Commonwealth. It should be noted that disease pressure, especially from powdery mildew, was slight at most testing locations for the 2004-05 growing season. The fact that varieties with a wide maturity range and other characteristics did well this year is promising in that producers have the opportunity to select good varieties to fit different management schemes. Test weights overall were very high due to favorable environmental conditions during grain fill. This lack of stress resulted in little difference among varieties tested and thus only a few were shown to have test weights significantly above or below the trial mean.

Varieties with three year average yields higher than the statewide average include SS MPV 57, Featherstone 176, USG 3209 treated with Raxil and Thiram, SS 560 treated with Raxil, SS 520 treated with Raxil, Tribute, Pioneer 26R24 treated with Dividend, and SS 550 treated with Baytan. Of these, only Tribute also had above average test weight.

Other varieties with above average yields but only two years of data are Renwood 3260, Vigoro 9412 treated with Dividend, and Pioneer 26R15 treated with Dividend. Renwood 3260 and Vigoro 9412 also have above average grain test weight based on data from 2004 and 2005 harvests.

Summary of wheat management practices for the 2005 harvest season (All rates are given on a per acre basis.)

Blacksburg - Planted November 11, 2004. Preplant fertilizer was 25-80-120 applied September 23, 2004. Harmony Extra® was applied at 0.6 oz on April 6 2005 with 80-0-0. Harvest occurred on July 12, 2005.
Warsaw - Planted October 27, 2004. Preplant fertilizer was 30-80-80-5 applied October 9, 2004. Site was sprayed with 0.4 oz Finesse® on February 9, 2005. Fertilization at 40 lb N using 24-0-0-3 was applied February 9, 2005 and at 60 lb N on March 31, 2005. Harvest occurred June 25, 2005.
Blackstone - Planted October 19, 2004. Preplant fertilizer was 300 lb 10-20-20 on October 6, 2004. Site was fertilized with 40 lb N using 30%UAN and sprayed with 0.5 oz Harmony Extra® on January 25, 2005. Site was sprayed with 4.75 oz Osprey® on February 17, 2005. Site was fertilized with 60 lb N using 30%UAN March 15, 2005. Site was sprayed with 2.5 oz Warrior® May 4, 2005. Harvest occurred on June 28, 2005.
Painter - Planted November 2, 2004. Preplant fertilizer was 500 lb 5-10-10 on November 1, 2004. Site was fertilized with 90 lb N and sprayed with 0.5 oz Harmony Extra® and 0.75 pt 2,4-D March 31, 2005. Harvest occurred on July 6, 2005.
Holland - Planted October 28, 2004. Area received 1500 lb lime and 350 lb 9-15-36 on October 26, 2004. Site was fertilized with 60 units N on January 12, 2005 and again on March 22, 2005. Harmony Extra® at .66 oz was applied in the spring. Harvest occurred July 7, 2005.
Orange - Planted October 7, 2004. Preplant fertilization was 25-118-40 on October 5, 2004. Sixty lb N and Harmony Extra® at 0.4 oz were applied March 11, 2005. Harvest occurred on June 23, 2005.
Shenandoah Valley - Planted October 11, 2004. Preplant fertilizer was 40-90-100-10 plus 2 tons lime. Seventy-five lb N and 0.5 oz Harmony Extra® were applied March 17, 2005. Harvest occurred July 11, 2005.

Table 17. Summary of performance of entries in the Virginia Tech Wheat Test, 2005 harvest.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Mar31+)	Height (In)	Lodging (0.2-10)	Powdery Mildew	Leaf Rust	Barley Yellow Dwarf Virus	Stripe Rust	Stripe Rust Reaction Type	Winter Survival %	Hessian Fly Resistance
						(0-9)						
	(7)	(7)	(3)	(3)	(3)	(4)	(2)	(4)	(1)	(1)	(1)	(1)
VA01W-205	80 +	59.6	39	31 -	0.2	0	0 -	3	2 -	MR	100	---
SS MPV 57	80 +	58.4	41 +	37 +	0.2	1 +	3 +	3	5 +	S	100	---
VA03W-415	79 +	57.5 -	37 -	34	0.2	0	1 -	3	7 +	S	94	BCE
SS 560(R)	79 +	58.9	40 +	35 +	0.5	0	3 +	3	5 +	S	98	---
VA02W-124	78 +	58.8	40 +	36 +	1.0 +	0	1 -	2 -	1 -	MS	100	---
VA03W-409	78 +	58.3	42 +	33 -	0.2	0	1 -	2 -	6 +	S	96	C
VA03W-412	78 +	59.4	39	34	0.2	0	2	3	2 -	MR	100	---
RENWOOD 3260	78 +	59.1	37 -	36 +	0.6	0	2	1 -	4 +	S	98	---
USG 3209(RT)	78 +	58.6	38 -	33 -	0.3	0	4 +	3	2 -	MS	100	BE
VA02W-555	77 +	58.7	38 -	33 -	0.2	0	3 +	2 -	1 -	R	96	---
FEATHERSTONE 176	77 +	59.0	36 -	36 +	0.9 +	0	3 +	3	2 -	R	94	E
3706	77 +	59.1	38 -	34	0.2	0	1 -	2 -	1 -	R	95	---
SS 8404	77 +	59.3	39	32 -	0.2	1 +	2	2 -	3	MS	98	---
VA02W-370	76 +	59.7	34 -	31 -	0.2	0	2	2 -	2 -	R	100	BCDE
VA02W-398	76 +	58.4	38 -	34	0.5	0	0 -	4 +	3	MS	100	---
VA02W-559	76 +	58.9	40 +	31 -	0.2	0	5 +	3	7 +	S	100	---
VA03W-434	76 +	58.6	41 +	32 -	0.2	0	2	3	3	S	100	---
PIONEER 26R24(D)	76 +	59.0	39	36 +	0.5	0	2	2 -	5 +	S	100	E
SS 520(R)	76 +	58.9	35 -	36 +	0.2	0	2	3	6 +	S	100	---
VA03W-235	75 +	58.8	42 +	37 +	0.3	0	2	2 -	1 -	I	100	---
VA03W-249	75 +	58.8	38 -	32 -	0.2	0	2	3	4	MS	98	---
VA03W-436	75 +	58.6	40 +	31 -	0.2	0	1 -	3	3	S	100	---
VA03W-445	75 +	58.6	42 +	33 -	0.2	0	2	3	4 +	S	100	CE
V9412(D)	75 +	59.3	39	36 +	0.2	0	3 +	3	2 -	MS	99	CDE
SISSON	74	58.8	38 -	33 -	0.5	0	6 +	4 +	6 +	S	98	---
VA00W-526	74	59.1	40 +	32 -	0.4	0	2	3	1 -	MR	100	---
VA01W-21	74	59.5	39	34	0.3	0	3 +	2 -	7 +	MS	100	---

Table 17, continued. Summary of performance of entries in the Virginia Tech Wheat Test, 2005 harvest.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Mar31+)	Height (In)	Lodging (0.2-10)	Powdery Mildew	Leaf Rust	Barley Yellow Dwarf Virus	Stripe Rust	Stripe Rust Reaction Type	Winter Survival %	Hessian Fly Resistance
						(0-9)						
	(7)	(7)	(3)	(3)	(3)	(4)	(2)	(4)	(1)	(1)	(1)	(1)
VA02W-513	74	59.3	39	32 -	0.2	0	2	3	3	I	100	---
VA02W-62	74	59.2	38 -	34	0.5	0	3 +	4 +	6 +	S	98	---
VA02W-713	74	59.2	36 -	36 +	0.3	0	3 +	3	2 -	MS	100	BCDE
PIONEER 26R31	74	59.1	38 -	33 -	0.2	0	1 -	5 +	5 +	MS	100	E
TRIBUTE	74	59.7	39	33 -	0.3	0	2	2 -	4 +	S	100	---
V9510	74	59.3	40 +	34	0.3	0	3 +	3	5 +	S	100	---
SS 550(B)	74	58.7	40 +	34	0.4	0	4 +	3	7 +	S	100	---
VA03W-211	73	59.9 +	34 -	34	0.4	0	1 -	4 +	1 -	MR	100	CE
VA03W-453	73	59.4	40 +	35 +	0.4	0	0 -	2 -	2 -	MS	100	---
PIONEER 26R15(D)	73	58.8	39	36 +	0.2	0	2	2 -	2 -	MS	100	BE
COKER 9553	73	59.3	36 -	35 +	0.4	0	1 -	3	1 -	R	95	---
VA01W-18	72	59.0	41 +	34	0.3	0	2	2 -	4 +	S	100	---
VA01W-35	72	59.0	40 +	35 +	0.6	0	2	3	5 +	S	100	---
COKER 9184(D)	72	59.4	41 +	34	0.2	0	1 -	3	3	S	100	C
VA01W-353	71	58.9	38 -	31 -	0.2	0	2	3	2 -	I	98	---
VA02W-596	71	58.6	41 +	34	0.6	0	3 +	5 +	1 -	R	100	---
VA01W-243	71	59.3	38 -	34	1.0 +	1 +	1 -	2 -	2 -	MR	99	BE
VA03W-294	71	58.9	35 -	32 -	0.2	0	3 +	3	3	MS	100	E
NC00-15332(R)	71	58.6	41 +	36 +	0.2	0	1 -	3	2 -	I	100	E
McCORMICK	70	59.7	40 +	32 -	0.2	0	3 +	2 -	1 -	MR	100	C
PIONEER 26R58(D)	70	58.6	39	34	0.2	1 +	3 +	4 +	3	MS	100	---
FEATHERSTONE 520(RT)	70	59.3	39	34	1.0 +	0	3 +	3	3	S	98	---
CRAWFORD	70	59.1	36 -	34	1.0 +	0	1 -	4 +	1 -	MS	100	CE
SS 8302(R)	69 -	59.3	40 +	36 +	0.3	1 +	2	3	1 -	R	100	---
COKER 9436(D)	69 -	58.0 -	42 +	33 -	0.3	1 +	2	3	3	S	90 -	BC
COKER B980582	69 -	59.9 +	35 -	36 +	0.5	0	1 -	3	2 -	S	100	---
USG EXP 820	69 -	60.3 +	41 +	36 +	0.3	3 +	3 +	2 -	2 -	MR	98	---
MV5-46	68 -	59.5	40 +	33 -	0.2	0	3 +	3	7 +	S	100	---

Table 17, continued. Summary of performance of entries in the Virginia Tech Wheat Test, 2005 harvest.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Mar31+)	Height (In)	Lodging (0.2-10)	Powdery Mildew	Leaf Rust	Barley Yellow Dwarf Virus	Stripe Rust	Stripe Rust Reaction Type	Winter Survival %	Hessian Fly Resistance
						(0-9)						
	(7)	(7)	(3)	(3)	(3)	(4)	(2)	(4)	(1)	(1)	(1)	(1)
NC99-13022(R)	68 -	58.8	39	32 -	0.2	0	2	4 +	1 -	I	100	---
CHOPTANK(R)	67 -	58.9	40 +	31 -	0.2	0	1 -	4 +	3	S	100	---
SS 8309(R)	67 -	58.8	41 +	37 +	0.2	1 +	2	3	3	MS	100	---
COKER 9312(D)	67 -	59.4	39	34	0.5	1 +	1 -	3	4 +	S	100	B
COKER B980416	67 -	58.5	40 +	35 +	1.0 +	0	2	2 -	3	MS	100	BCDE
VAN98W-342	66 -	58.7	38 -	32 -	0.2	0	2	4 +	5 +	S	95	C
VA01W-310	66 -	58.9	38 -	33 -	0.4	0	2	4 +	5 +	S	100	E
H-50(DEx)	66 -	58.8	40 +	39 +	0.4	3 +	2	3	1 -	R	100	BE
VA01W-99	65 -	58.7	39	34	0.2	0	3 +	3	5 +	S	96	---
COKER 9295(D)	65 -	58.1 -	40 +	34	0.2	0	0 -	4 +	2 -	MS	98	---
VA03W-192	64 -	59.4	40 +	33 -	0.2	0	1 -	3	2 -	I	100	---
PIONEER 26R12(D)	64 -	59.3	41 +	35 +	0.2	0	2	2 -	3	MS	100	---
V9512	64 -	58.9	40 +	38 +	0.5	2 +	2	3	2 -	I	100	BCE
USG 3137	64 -	58.6	40 +	38 +	0.7	2 +	2	3	2 -	S	100	BCE
MASSEY	62 -	58.9	39	38 +	1.1 +	1 +	7 +	4 +	4 +	S	100	BE
NEUSE(R)	61 -	59.4	43 +	34	0.2	0	1 -	3	6 +	S	100	E
Average	72	59.0	39	34	0.4	0	2	3	3		99	
C.V.	8	2.7										
LSD (0.05)	3	0.8	1	1	0.4	0	1	1	1		6	

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 average.
The number in parentheses below column headings indicates the number of locations on which data are based.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is wheat unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is wheat standing upright and 5 is wheat totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.
Stripe rust reaction type indicators are as follows: R=resistant, MR=moderately resistant, I=intermediate, S=susceptible, and MS=moderately susceptible.
Seedlings of all lines were tested for resistance to five biotypes of Hessian Fly, including B, C, D, E, and L. None showed good resistance to L.
Letters in column indicate varietal resistance to specified biotype(s). Lines lacking letters were susceptible to all biotypes.

Table 18. Two year average summary of performance of all entries in the Virginia Tech Wheat Tests, 2004 and 2005 harvests.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Mar31+)	Height (In)	Lodging (0.2-10)	Powdery Mildew (0-9)	Leaf Rust (0-9)	Barley Yellow Dwarf Virus (0-9)	White Spindle Streak Virus (0-9)	Stripe Rust (0-9)	Stripe Rust Reaction Type	Winter Survival %
	(14)	(14)	(6)	(6)	(6)	(5)	(3)	(7)	(1)	(1)	(1)	(1)
USG 3209(RT)	78 +	57.8 -	35 -	32 -	0.8	0	4 +	2 -	0	2 -	MS	100
SS MPV 57	77 +	57.8 -	37 +	37 +	0.7	1 +	2	2 -	0	5 +	S	100
FEATHERSTONE 176	76 +	57.8 -	34 -	36 +	1.1	0	3 +	2 -	0	2 -	R	94
VA01W-21	75 +	58.8 +	35 -	34	0.7	0	3 +	2 -	0	7 +	MS	100
RENWOOD 3260	74 +	58.7 +	35 -	36 +	0.9	0	2	1 -	0	4 +	S	98
VA01W-205	74 +	58.3	36	31 -	0.7	0	0 -	3	1 +	2 -	MR	100
SS 560(R)	74 +	58.0	37 +	34	0.9	1 +	2	3	0	5 +	S	98
VA02W-555	74 +	57.5 -	35 -	32 -	0.3	0	2	1 -	0	1 -	R	96
VA02W-398	74 +	57.0 -	35 -	33 -	0.6	0	0 -	3	0	3	MS	100
V9412(D)	73 +	58.8 +	35 -	35 +	0.3	1 +	3 +	3	0	2 -	MS	99
PIONEER 26R24(D)	73 +	58.0	35 -	36 +	1.2 +	1 +	2	2 -	0	5 +	S	100
VA02W-124	73 +	57.9	36	36 +	1.4 +	0	1 -	2 -	0	1 -	MS	100
VA02W-513	72 +	58.8 +	36	31 -	0.3	0	1 -	2 -	0	3	I	100
VA02W-370	72 +	58.7 +	33 -	32 -	0.4	0	2	2 -	0	2 -	R	100
PIONEER 26R15(D)	72 +	57.3 -	36	35 +	0.5	0	1 -	2 -	0	2 -	MS	100
VA01W-353	72 +	57.3 -	35 -	32 -	0.4	0	2	3	0	2 -	I	98
VA01W-18	71	58.1	37 +	34	0.5	0	2	2 -	0	4 +	S	100
SISSON	71	57.9	35 -	33 -	0.9	0	6 +	3	0	6 +	S	98
PIONEER 26R31	71	57.9	35 -	32 -	0.6	0	1 -	4 +	0	5 +	MS	100
SS 550(B)	71	57.8 -	36	34	0.7	0	4 +	3	0	7 +	S	100
VA02W-596	71	57.6 -	38 +	34	0.6	0	2	4 +	0	1 -	R	100
TRIBUTE	70	59.4 +	36	33 -	0.4	0	1 -	2 -	0	4 +	S	100
MV5-46	70	58.9 +	36	34	0.6	0	3 +	2 -	0	7 +	S	100
CRAWFORD	70	58.1	33 -	34	1.2 +	0	1 -	3	0	1 -	MS	100
SS 520(R)	70	57.4 -	33 -	36 +	0.9	1 +	2	3	0	6 +	S	100
COKER 9184(D)	69	59.4 +	38 +	34	0.2 -	1 +	1 -	3	0	3	S	100
SS 8302(R)	69	58.5 +	37 +	36 +	0.2 -	2 +	2	3	0	1 -	R	100

Table 18, continued. Two year average summary of performance of all entries in the Virginia Tech Wheat Tests, 2004 and 2005 harvests.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Mar31+)	Height (In)	Lodging (0.2-10)	Powdery Mildew	Leaf Rust	Barley Yellow Dwarf Virus	White Spindle Streak Virus	Stripe Rust	Stripe Rust Reaction Type	Winter Survival %
						(0-9)						
	(14)	(14)	(6)	(6)	(6)	(5)	(3)	(7)	(1)	(1)	(1)	(1)
PIONEER 26R58(D)	69	57.1 -	36	33 -	0.4	1 +	3 +	3	0	3	MS	100
McCORMICK	68 -	59.1 +	36	32 -	1.0	0	2	2 -	0	1 -	MR	100
FEATHERSTONE 520(RT)	68 -	58.7 +	36	34	1.1	1 +	3 +	3	0	3	S	98
COKER 9312(D)	68 -	58.6 +	35 -	34	1.2 +	1 +	1 -	3	0	4 +	S	100
COKER 9436(D)	68 -	56.7 -	39 +	33 -	0.8	1 +	1 -	3	0	3	S	90 -
VA01W-310	67 -	58.5 +	35 -	33 -	0.7	1 +	2	4 +	0	5 +	S	100
NC99-13022(R)	67 -	57.9	36	33 -	0.8	0	2	3	0	1 -	I	100
NC00-15332(R)	67 -	57.6 -	37 +	36 +	0.7	0	1 -	3	0	2 -	I	100
VAN98W-342	67 -	57.5 -	35 -	31 -	0.3	0	2	3	0	5 +	S	95
PIONEER 26R12(D)	66 -	58.9 +	37 +	35 +	0.8	1 +	1 -	2 -	0	3	MS	100
SS 8309(R)	66 -	57.9	37 +	36 +	0.2 -	1 +	2	2 -	0	3	MS	100
VA01W-99	65 -	58.4 +	35 -	34	0.3	0	3 +	2 -	0	5 +	S	96
CHOPTANK	65 -	57.9	36	31 -	0.3	0	1 -	3	0	3	S	100
COKER 9295(D)	64 -	57.1 -	38 +	35 +	0.4	0	0 -	3	1 +	2 -	MS	98
MASSEY	62 -	58.2	36	39 +	1.9 +	1 +	7 +	3	0	4 +	S	100
NEUSE(R)	61 -	59.2 +	39 +	34	0.7	0	1 -	2 -	0	6 +	S	100
VA00W-526	69	58.4 +	37 +	32 -	0.6	0	2	3	0	1 -	MR	100
3706	69	58.0	35 -	33 -	0.3	0	1 -	2 -	0	1 -	R	95
Average	70	58.1	36	34	0.7	0	2	3	0	3		99
C.V.	9	2										
LSD (0.05)	2	0.3	1	1	0.5	0	1	1	0	1		6

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 average.

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

Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is wheat unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is wheat standing upright and 5 is wheat totally flat.

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

Stripe rust reaction type indicators are as follows: R=resistant, MR=moderately resistant, I=intermediate, S=susceptible, and MS=moderately susceptible.

Table 19. Three year average summary of performance of all entries in the Virginia Tech Wheat Tests, 2003, 2004, and 2005 harvests.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Mar31+)	Height (In)	Lodging (0.2-10)	Powdery Mildew	Leaf Rust	Barley Yellow Dwarf Virus	White Spindle Streak Virus	Glume Blotch	Stripe Rust	Stripe Rust Reaction Type	Winter Survival %
						(0-9)							
	(19)	(19)	(9)	(9)	(9)	(9)	(5)	(7)	(1)	(2)	(1)	(1)	(1)
SS MPV 57	75 +	57.0 -	38 +	38 +	1.3	2 +	3 +	2 -	0	2	5 +	S	100
FEATHERSTONE 176	74 +	57.2	35 -	37 +	1.3	0 -	2	2 -	0	2	2 -	R	94
USG 3209(RT)	74 +	56.6 -	36	33 -	1.2	1	4 +	2 -	0	3 +	2 -	MS	100
VA01W-205	72 +	57.7 +	37 +	32 -	0.8	1	0 -	3	1 +	3 +	2 -	MR	100
SS 560(R)	72 +	57.1 -	38 +	35 +	0.7	1	3 +	3	0	2	5 +	S	98
SS 520(R)	72 +	57.1 -	34 -	37 +	1.0	1	2	3	0	1 -	6 +	S	100
TRIBUTE	71 +	58.9 +	36	34	0.8	0 -	1 -	2 -	0	1 -	4	S	100
PIONEER 26R24(D)	71 +	57.1 -	36	37 +	1.3	1	2	2 -	0	2	5 +	S	100
SS 550(B)	71 +	57.0 -	37 +	35 +	1.2	0 -	5 +	3	0	1 -	7 +	S	100
MV5-46	70	58.5 +	36	34	0.8	0 -	4 +	2 -	0	1 -	7 +	S	100
VA01W-18	70	57.4	38 +	34	0.6	0 -	2	2 -	0	2	4	S	100
SISSON	70	57.3	35 -	34	1.3	1	6 +	3	0	2	6 +	S	98
VA01W-353	70	56.4 -	36	32 -	0.4 -	0 -	2	3	0	2	2 -	I	98
CRAWFORD	69	57.6	35 -	35 +	1.3	0 -	1 -	3	0	2	1 -	MS	100
3706	69	57.4	36	33 -	0.4 -	1	1 -	2 -	0	3 +	1 -	R	95
McCORMICK	68	58.6 +	36	33 -	0.8	0 -	2	2 -	0	1 -	1 -	MR	100
VAN98W-342	68	57.1 -	36	32 -	0.3 -	0 -	2	3	0	2	5 +	S	95
PIONEER 26R58(D)	68	56.4 -	36	34	0.4 -	1	3 +	3	0	4 +	3 -	MS	100
FEATHERSTONE 520(RT)	67 -	57.9 +	36	35 +	1.8 +	1	3 +	3	0	2	3 -	S	98
VA00W-526	67 -	57.5	37 +	32 -	0.9	0 -	1 -	3	0	2	1 -	MR	100
CHOPTANK(R)	67 -	57.5	36	31 -	0.4 -	0 -	1 -	3	0	2	3 -	S	100
COKER 9184(D)	66 -	58.5 +	38 +	34	0.3 -	1	1 -	3	0	2	3 -	S	100

Table 19, continued. Three year average summary of performance of all entries in the Virginia Tech Wheat Tests, 2003, 2004, and 2005 harvests.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Mar31+)	Height (In)	Lodging (0.2-10)	Powdery Mildew	Leaf Rust	Barley Yellow Dwarf Virus	White Spindle Streak Virus	Glume Blotch	Stripe Rust	Stripe Rust Reaction Type	Winter Survival %
						(0-9)							
	(19)	(19)	(9)	(9)	(9)	(9)	(5)	(7)	(1)	(2)	(1)	(1)	(1)
VA01W-99	64 -	57.6	36	35 +	0.5	1	3 +	2 -	0	2	5 +	S	96
COKER 9295(D)	62 -	56.1 -	37 +	35 +	0.6	1	0 -	3	1 +	2	2 -	MS	98
NEUSE(R)	60 -	58.8 +	39 +	35 +	1.2	0 -	0 -	2 -	0	2	6 +	S	100
MASSEY	60 -	57.4	37 +	40 +	2.5 +	1	7 +	3	0	2	4	S	100
Average	69	57.4	36	34	0.9	1	2	3	0	2	4		99
C.V.	9	2											
LSD (0.05)	2	0.3	1	1	0.5	0.3	1	1	0	1	1		6

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 average.
The number in parentheses below column headings indicates the number of location-years on which data are based.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is wheat unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is wheat standing upright and 5 is wheat totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.
Stripe rust reaction type indicators are as follows: R=resistant, MR=moderately resistant, I=intermediate, S=susceptible, and MS=moderately susceptible.

Table 20. Summary of performance of entries in the Virginia Tech Wheat Test, Eastern Virginia AREC, Warsaw, VA, 2005 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)	Date Headed (Mar31+)		Height (In)		Lodging (0.2-10)		Powdery Mildew (0-9)		Leaf Rust (0-9)	
SS 560(R)	102	+	63.2	38	+	36	+	1.0		3	+	1	
SS 550(B)	101	+	63.0	38	+	35	+	0.8		2	+	3	+
SS MPV 57	100	+	62.7	38	+	39	+	0.2		3	+	2	+
SS 520(R)	99	+	62.5	33	-	35	+	0.3		0	-	1	
VA02W-398	97	+	62.2	37		35	+	1.0		1		1	
FEATHERSTONE 176	96	+	61.4	35	-	36	+	2.1	+	0	-	1	
PIONEER 26R31	96	+	63.7	34	-	33	-	0.2		1		1	
VA03W-235	96	+	63.2	40	+	37	+	0.5		2	+	1	
VA03W-409	96	+	63.4	41	+	33	-	0.2		0	-	1	
VA03W-415	95	+	62.0	35	-	35	+	0.3		0	-	1	
PIONEER 26R24(D)	94	+	62.9	36	-	37	+	0.5		2	+	1	
VA02W-124	94	+	63.0	38	+	37	+	1.4		0	-	1	
VA02W-555	94	+	62.9	35	-	33	-	0.2		1		1	
VA03W-412	94	+	63.3	37		34		0.2		2	+	1	
VA01W-21	92		63.5	37		33	-	0.3		0	-	1	
VA02W-596	92		62.6	39	+	35	+	1.5		0	-	2	+
VA03W-434	92		62.8	40	+	31	-	0.2		0	-	1	
VA03W-445	92		62.4	40	+	34		0.2		0	-	1	
NC99-13022(R)	91		63.1	36	-	33	-	0.3		0	-	1	
PIONEER 26R15(D)	91		63.3	38	+	36	+	0.3		1		1	
TRIBUTE	91		63.2	38	+	34		0.5		0	-	2	+
VA01W-205	91		63.0	38	+	31	-	0.3		1		1	
SISSON	90		62.6	37		33	-	0.6		1		5	+
SS 8302(R)	90		63.6	38	+	37	+	0.4		2	+	1	
VA00W-526	90		63.5	39	+	33	-	0.8		0	-	1	
VA01W-18	90		62.5	40	+	34		0.3		0	-	1	
VA01W-353	90		62.2	36	-	32	-	0.2		1		1	
VA02W-559	90		62.9	37		31	-	0.2		1		3	+
3706	89		62.6	35	-	34		0.2		0	-	1	
McCORMICK	89		62.8	38	+	33	-	0.3		0	-	1	
PIONEER 26R58(D)	89		62.6	37		33	-	0.2		3	+	1	
SS 8404	89		62.7	37		33	-	0.2		2	+	1	
V9510	89		63.4	39	+	35	+	0.5		1		1	
VA03W-453	89		63.3	39	+	34		0.8		1		1	
MV5-46	88		63.0	38	+	34		0.2		0	-	2	+
USG 3209(RT)	88		62.4	36	-	33	-	0.4		1		2	+
V9412(D)	88		62.5	37		36	+	0.3		1		2	+
VA01W-243	88		62.1	37		34		2.1	+	3	+	1	
VA02W-513	88		63.0	37		33	-	0.2		1		1	
CRAWFORD	87		62.2	34	-	35	+	1.8	+	0	-	1	

Table 20, continued. Summary of performance of entries in the Virginia Tech Wheat Test, Eastern Virginia AREC, Warsaw, VA, 2005 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)	Date Headed (Mar31+)		Height (In)		Lodging (0.2-10)		Powdery Mildew (0-9)		Leaf Rust (0-9)	
PIONEER 26R12(D)	87		62.7	40	+	35	+	0.3		2	+	1	
VA02W-62	87		63.0	36	-	34		0.3		1		2	+
VA03W-211	87		63.2	32	-	34		0.7		1		1	
VA03W-249	87		62.6	35	-	33	-	0.2		1		1	
VA03W-294	87		62.6	33	-	32	-	0.2		0	-	2	+
VAN98W-342	87		62.8	36	-	33	-	0.2		0	-	1	
COKER 9184(D)	86		62.5	41	+	34		0.3		2	+	1	
NC00-15332(R)	86		62.9	39	+	37	+	0.2		1		1	
VA02W-370	86		62.8	31	-	32	-	0.2		2	+	1	
VA03W-436	86		62.1	39	+	30	-	0.2		0	-	1	
COKER 9553	85		62.0	33	-	35	+	0.8		1		1	
SS 8309(R)	85		62.4	40	+	37	+	0.2		3	+	1	
VA01W-310	85		63.3	35	-	35	+	0.8		2	+	1	
VA01W-35	85		63.0	39	+	36	+	0.5		1		1	
COKER 9312(D)	84		62.2	37		33	-	1.0		2	+	1	
FEATHERSTONE 520(RT)	84		63.3	37		35	+	2.4	+	1		1	
COKER 9295(D)	83		62.5	38	+	34		0.3		1		1	
COKER 9436(D)	83		62.6	41	+	32	-	0.4		3	+	1	
COKER B980582	83		62.5	33	-	35	+	1.0		2	+	1	
RENWOOD 3260	83		63.2	36	-	36	+	0.4		0	-	1	
V9512	82	-	63.0	38	+	38	+	1.1		5	+	1	
COKER B980416	81	-	62.5	39	+	35	+	2.0	+	2	+	1	
VA02W-713	80	-	62.5	34	-	35	+	0.2		1		2	+
CHOPTANK(R)	79	-	62.3	38	+	31	-	0.3		0	-	1	
H-50(DEx)	79	-	63.2	38	+	39	+	0.7		6	+	1	
VA01W-99	79	-	61.8	37		35	+	0.2		2	+	2	+
USG EXP 820	78	-	62.5	39	+	34		0.3		4	+	2	+
MASSEY	77	-	62.3	38	+	40	+	2.2	+	2	+	6	+
VA03W-192	77	-	62.8	38	+	33	-	0.3		0	-	1	
USG 3137	76	-	61.8	38	+	38	+	1.6		4	+	1	
NEUSE(R)	74	-	62.9	42	+	34		0.2		0	-	1	
Average	88		62.7	37		34		0.6		1		1	
C.V.	5												
LSD (0.05)	6		1.4	1		1		1.1		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.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is wheat unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is wheat standing upright and 5 is wheat totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Table 21. Summary of performance of entries in the Virginia Tech Wheat Test, Eastern Shore AREC, Painter, VA, 2005 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Powdery Mildew (0-9)		Stripe Rust (0-9)		Stripe Rust Reaction Type
VA02W-398	91	+	54.2		0		3		MS
FEATHERSTONE 176	89	+	55.1		0		2	-	R
SS MPV 57	86	+	54.8		0		4	+	S
TRIBUTE	86	+	54.6		0		3		S
VA03W-211	86	+	55.6		0		2	-	MR
VA03W-412	86	+	54.3		0		3		MR
VA02W-124	85	+	53.8		0		1	-	MS
VA02W-370	85	+	55.1		0		1	-	R
NC99-13022(R)	84		55.3		0		2	-	I
COKER 9295(D)	83		54.1		0		3		MS
NC00-15332(R)	83		54.6		0		2	-	I
PIONEER 26R31	83		54.0		0		4	+	MS
SS 520(R)	83		55.0		0		7	+	S
V9412(D)	83		53.9		0		2	-	MS
VA00W-526	83		54.5		0		1	-	MR
VA02W-713	83		53.5		0		2	-	MS
VA03W-415	83		56.1	+	0		6	+	S
RENWOOD 3260	82		54.6		0		3		S
VA01W-205	82		56.1	+	0		1	-	MR
VA02W-513	82		55.4		0		3		I
3706	81		54.0		0		1	-	R
COKER B980582	81		55.4		1	+	3		S
CRAWFORD	81		54.1		0		1	-	MS
PIONEER 26R24(D)	81		53.3		0		4	+	S
USG 3209(RT)	81		53.9		0		1	-	MS
VA03W-436	81		55.2		0		3		S
COKER 9553	80		54.2		0		1	-	R
SS 8302(R)	80		54.5		3	+	1	-	R
SS 8404	80		53.8		0		2	-	MS
COKER 9184(D)	79		55.3		0		3		S
VA01W-353	79		54.1		0		2	-	I
FEATHERSTONE 520(RT)	78		54.0		0		4	+	S
SS 560(R)	78		54.6		0		3		S
VA02W-596	78		54.4		0		1	-	R
VA03W-249	78		54.7		0		6	+	MS
VA03W-453	78		55.5		0		2	-	MS
VA02W-62	77		54.5		0		5	+	S
VA03W-235	77		54.6		0		1	-	I
VA03W-434	77		54.1		0		3		S
COKER B980416	76		55.0		1	+	3		MS

Table 21, continued. Summary of performance of entries in the Virginia Tech Wheat Test, Eastern Shore AREC, Painter, VA, 2005 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)	Powdery Mildew (0-9)		Stripe Rust (0-9)		Stripe Rust Reaction Type
SISSON	76		54.0	0		8	+	S
VA03W-294	76		54.4	0		2	-	MS
H-50(DEx)	75		54.1	2	+	1	-	R
McCORMICK	75		54.1	0		1	-	MR
PIONEER 26R58(D)	75		54.4	0		2	-	MS
VA01W-243	75		54.5	1	+	1	-	MR
CHOPTANK(R)	74		54.7	0		2	-	S
VA01W-18	74		54.1	0		4	+	S
COKER 9312(D)	73		55.3	0		4	+	S
COKER 9436(D)	73		53.7	0		2	-	S
MASSEY	73		55.8	0		4	+	S
PIONEER 26R15(D)	73		54.7	0		1	-	MS
SS 8309(R)	73		55.1	1	+	3		MS
V9510	73		54.0	0		8	+	S
V9512	73		54.7	1	+	2	-	I
VA01W-21	73		55.0	0		7	+	MS
VA01W-310	73		54.5	0		4	+	S
VA02W-555	73		54.1	0		1	-	R
VA03W-409	71		54.0	0		5	+	S
PIONEER 26R12(D)	70		54.4	0		3		MS
USG 3137	70		54.2	1	+	2	-	S
VAN98W-342	70		53.9	0		5	+	S
VA01W-35	69	-	55.6	0		5	+	S
VA02W-559	69	-	53.6	0		6	+	S
VA03W-192	69	-	55.6	0		2	-	I
MV5-46	68	-	54.3	0		7	+	S
USG EXP 820	68	-	54.9	3	+	2	-	MR
VA03W-445	67	-	54.1	0		4	+	S
VA01W-99	65	-	53.8	0		5	+	S
SS 550(B)	63	-	53.7	0		5	+	S
NEUSE(R)	62	-	54.7	0		5	+	S
Average	77		54.5	0		3		
C.V.	8		1.8					
LSD (0.05)	8		1.4	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.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is wheat unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is wheat standing upright and 5 is wheat totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.
Stripe rust reaction type indicators are as follows: R=resistant, MR=moderately resistant, I=intermediate, S=susceptible, and MS=moderately susceptible.

Table 22. Summary of performance of entries in the Virginia Tech Wheat Test, Tidewater AREC, Holland, VA, 2005 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)
VA01W-205	76	+	56.2
VA02W-398	73	+	56.3
USG 3209(RT)	70	+	55.7
VA02W-62	69	+	56.9
PIONEER 26R31	68		57.2
V9412(D)	68		55.6
VA03W-211	67		56.0
VA03W-249	67		55.7
VA03W-415	67		56.7
VA03W-434	67		56.4
VA03W-436	67		56.3
COKER 9184(D)	66		55.8
SS MPV 57	66		56.0
VA01W-21	66		55.9
VA02W-513	66		56.0
3706	65		56.4
RENWOOD 3260	65		54.7
VA02W-559	65		55.7
SS 8404	64		55.4
TRIBUTE	64		56.1
VA01W-18	64		56.8
VA02W-713	64		55.2
VA03W-412	64		57.2
COKER B980416	63		55.0
COKER 9553	63		56.1
McCORMICK	63		56.6
PIONEER 26R24(D)	63		56.1
SS 560(R)	63		57.1
VA02W-596	63		57.5
VA03W-294	63		56.4
VAN98W-342	63		56.7
V9510	62		56.9
VA00W-526	62		56.3
VA01W-310	62		56.8
VA01W-35	62		56.2
VA02W-124	62		55.2
FEATHERSTONE 520(RT)	61		55.9
VA02W-555	61		56.3
VA03W-445	61		56.3
FEATHERSTONE 176	60		56.3

Table 22, continued. Summary of performance of entries in the Virginia Tech Wheat Test, Tidewater AREC, Holland, VA, 2005 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)	
SISSON	60		56.6	
SS 550(B)	60		56.0	
VA02W-370	60		56.8	
COKER B980582	59		58.4	+
NC99-13022(R)	59		56.3	
SS 520(R)	59		55.6	
VA03W-409	59		56.2	
MASSEY	58		55.9	
MV5-46	58		56.5	
PIONEER 26R15(D)	58		55.6	
VA03W-453	58		56.6	
VA03W-235	57		56.5	
COKER 9312(D)	56		57.6	
SS 8302(R)	56		56.2	
VA01W-99	56		56.4	
NEUSE(R)	55		55.8	
VA01W-353	55		58.0	
COKER 9295(D)	54		54.3	
COKER 9436(D)	54		55.8	
VA03W-192	54		56.6	
PIONEER 26R12(D)	53		55.5	
VA01W-243	53		57.4	
CHOPTANK(R)	52		55.9	
PIONEER 26R58(D)	51	-	57.3	
H-50(DEx)	50	-	55.9	
NC00-15332(R)	50	-	56.9	
USG 3137	46	-	55.3	
SS 8309(R)	45	-	56.8	
CRAWFORD	44	-	56.9	
USG EXP 820	43	-	55.9	
V9512	42	-	55.5	
Average	60		56.3	
C.V.	10		2.7	
LSD (0.05)	9		2.1	

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.

Table 23. Summary of performance of entries in the Virginia Tech Wheat Test, Northern Piedmont AREC, Orange, VA, 2005 harvest.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Mar31+)	Height (In)	Lodging (0.2-10)	Powdery Mildew (0-9)	Barley Yellow Dwarf Virus (0-9)	Winter Survival %
NC00-15332(R)	107 +	60.8	39	38	0.2	0	2 -	100
SS 560(R)	107 +	59.9	39	39 +	0.2	0	3	98
3706	105 +	62.5 +	37	38	0.2	0	2 -	95
VA03W-409	105 +	58.6 -	39	37	0.2	0	2 -	96
USG 3209(RT)	104 +	59.2	38	35 -	0.2	1 +	2 -	100
VA02W-559	104 +	60.0	40 +	33 -	0.2	0	2 -	100
FEATHERSTONE 176	103 +	59.4	33 -	40 +	0.5	0	2 -	94
RENWOOD 3260	102	60.2	36 -	40 +	1.3 +	0	2 -	98
CRAWFORD	101	61.5	34 -	37	1.1 +	0	4 +	100
PIONEER 26R15(D)	101	60.5	38	40 +	0.2	0	2 -	100
COKER 9436(D)	99	60.5	40 +	36	0.2	2 +	3	90 -
VA01W-18	99	60.8	40 +	37	0.2	0	2 -	100
VA02W-124	99	60.2	39	38	1.4 +	0	2 -	100
VA03W-434	99	59.7	39	36	0.2	0	3	100
SS 550(B)	98	60.5	39	37	0.2	0	2 -	100
VA03W-436	98	58.4 -	39	34 -	0.2	0	3	100
USG EXP 820	97	60.6	39	39 +	0.5	3 +	2 -	98
VA03W-445	97	59.0 -	40 +	35 -	0.2	0	2 -	100
SISSON	96	60.6	37	36	0.7	0	4 +	98
VA01W-35	96	59.3	39	39 +	1.0 +	0	2 -	100
VA02W-62	96	60.8	38	37	1.1 +	0	4 +	98
VA01W-243	95	62.0	37	37	0.2	0	2 -	99
COKER 9553	94	62.1	36 -	37	0.2	0	3	95
SS 8404	94	61.9	38	33 -	0.2	1 +	2 -	98
SS MPV 57	94	59.7	40 +	41 +	0.2	1 +	3	100
VA01W-205	94	62.3	39	34 -	0.2	0	2 -	100
VA03W-235	94	57.7 -	39	40 +	0.2	0	2 -	100
SS 8309(R)	93	58.9 -	40 +	39 +	0.2	1 +	3	100
VA02W-555	93	59.6	39	35 -	0.2	0	1 -	96
VA03W-415	93	61.6	36 -	37	0.2	0	2 -	94
VAN98W-342	93	61.4	38	35 -	0.2	0	4 +	95
V9510	92	62.2	39	37	0.2	0	3	100
VA01W-353	92	60.8	38	33 -	0.2	0	4 +	98
VA01W-21	91	61.7	37	37	0.4	0	2 -	100
VA02W-513	91	60.9	39	33 -	0.2	0	2 -	100
H-50(DEx)	90	60.9	39	42 +	0.2	3 +	2 -	100
SS 520(R)	90	61.0	33 -	39 +	0.2	1 +	3	100
VA02W-370	90	62.6 +	32 -	34 -	0.2	0	2 -	100
VA02W-398	90	59.8	37	35 -	0.2	0	4 +	100
VA02W-713	90	62.4 +	35 -	39 +	0.6	0	2 -	100

Table 23, continued. Summary of performance of entries in the Virginia Tech Wheat Test, Northern Piedmont AREC, Orange, VA, 2005 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Mar31+)		Height (In)		Lodging (0.2-10)	Powdery Mildew (0-9)		Barley Yellow Dwarf Virus (0-9)		Winter Survival %
VA03W-249	90		59.0	-	38		34	-	0.2	0		3		98
FEATHERSTONE 520(RT)	89		61.3		39		37		0.2	1	+	3		98
PIONEER 26R58(D)	89		60.6		39		37		0.2	0		4	+	100
PIONEER 26R24(D)	88		61.2		39		39	+	0.9	1	+	3		100
PIONEER 26R31	87		60.8		38		36		0.2	0		5	+	100
VA00W-526	87		60.4		39		33	-	0.2	0		5	+	100
VA02W-596	87		60.6		40	+	36		0.2	0		4	+	100
VA03W-294	86		60.3		33	-	35	-	0.2	0		4	+	100
COKER 9184(D)	85		60.2		38		36		0.2	0		4	+	100
VA03W-453	85		61.7		39		38		0.2	0		2	-	100
McCORMICK	84		61.6		39		35	-	0.2	0		3		100
MV5-46	84		61.0		39		36		0.2	0		2	-	100
V9412(D)	84		61.6		37		40	+	0.2	0		3		99
COKER 9295(D)	83		60.1		39		38		0.2	0		4	+	98
COKER 9312(D)	83		61.6		38		37		0.2	2	+	3		100
COKER B980416	83		58.4	-	39		37		0.8	0		2	-	100
CHOPTANK(R)	82		61.4		38		34	-	0.2	0		4	+	100
V9512	82		60.8		39		41	+	0.2	3	+	3		100
VA03W-412	82		61.2		39		36		0.2	0		3		100
USG 3137	81		60.4		39		41	+	0.2	3	+	3		100
VA01W-99	81		59.8		38		35	-	0.2	0		3		96
SS 8302(R)	80		61.4		39		37		0.2	1	+	4	+	100
NC99-13022(R)	79		58.7	-	39		34	-	0.2	0		4	+	100
VA03W-211	79		62.5	+	33	-	36		0.2	0		3		100
COKER B980582	78		62.5	+	34	-	40	+	0.2	0		2	-	100
TRIBUTE	78		62.1		36	-	36		0.2	0		3		100
VA03W-192	77	-	61.1		39		35	-	0.2	0		3		100
NEUSE(R)	75	-	61.2		40	+	36		0.2	0		3		100
PIONEER 26R12(D)	75	-	62.3		39		39	+	0.2	0		2	-	100
MASSEY	73	-	60.1		39		40	+	0.9	1	+	3		100
VA01W-310	73	-	60.3		38		34	-	0.2	0		4	+	100
Average	90		60.7		38		37		0.3	0		3		99
C.V.	9		1.9											
LSD (0.05)	13		1.7		2		2		0.7	1		1		6

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.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is wheat unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is wheat standing upright and 5 is wheat totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Table 24. Summary of performance of entries in the Virginia Tech Wheat Test, Southern Piedmont AREC, Blackstone, VA, 2005 harvest.

Line	Entry	Yield (Bu/a)		Test Weight (Lb/bu)		Barley Yellow Dwarf (0-9)	
SS 8404	55	65	+	60.4		1	-
VA02W-555	16	64	+	60.2		2	-
VA02W-713	22	61	+	61.3		3	
VA03W-412	29	61	+	60.4		3	
RENWOOD 3260	49	60	+	60.6		2	-
VA02W-370	13	60	+	60.6		3	
VA01W-205	8	59	+	60.2		3	
VA02W-124	12	59	+	61.2		3	
VA03W-211	24	58	+	61.0		6	+
VA03W-249	26	58	+	60.4		3	
V9412(D)	46	57	+	61.2		3	
VA02W-559	21	57	+	59.3	-	4	+
VA03W-415	30	56	+	60.9		3	
PIONEER 26R24(D)	40	55		60.5		3	
SS MPV 57	35	55		59.7		3	
V9510	47	55		60.8		3	
3706	37	54		60.4		4	+
PIONEER 26R31	44	54		60.7		5	+
VA00W-526	5	54		60.4		3	
VA03W-409	28	54		60.5		2	-
SS 550(B)	51	53		59.6		5	+
USG 3209(RT)	64	53		60.3		4	+
USG EXP 820	67	53		60.8		2	-
VA01W-243	19	53		59.6		3	
VA03W-434	31	53		60.2		5	+
TRIBUTE	45	52		60.3		2	-
COKER B980582	63	51		60.2		3	
CRAWFORD	70	51		60.9		4	+
SISSON	2	51		60.6		4	+
VA01W-21	10	51		61.3		3	
VA02W-513	15	51		60.2		4	+
VA03W-436	32	51		60.7		5	+
FEATHERSTONE 176	36	50		60.2		4	+
VA02W-62	20	50		60.0		5	+
VA03W-294	27	50		59.9		3	
VA03W-453	34	50		60.7		3	
COKER 9553	71	49		60.3		3	
SS 520(R)	50	49		60.4		5	+
VA02W-398	14	49		60.4		4	+
McCORMICK	3	48		61.3		3	

Table 24, continued. Summary of performance of entries in the Virginia Tech Wheat Test, Southern Piedmont AREC, Blackstone, VA, 2005 harvest.

Line		Yield (Bu/a)		Test Weight (Lb/bu)	Barley Yellow Dwarf (0-9)	
MV5-46	39	48		61.5	3	
VA01W-18	6	48		60.2	3	
VA01W-353	9	48		61.4	3	
VA02W-596	17	47		60.5	6	+
VA03W-192	23	47		60.3	3	
VA03W-445	33	47		59.7	5	+
FEATHERSTONE 520(RT)	58	46		60.6	4	+
USG 3137	66	46		59.9	4	+
VA01W-35	18	46		60.0	4	+
VA03W-235	25	46		60.2	3	
COKER 9312(D)	60	45		60.2	4	+
NC99-13022(R)	68	45		60.5	4	+
VA01W-99	7	45		60.1	3	
COKER 9184(D)	72	44		60.7	4	+
COKER B980416	62	44		60.8	2	-
H-50(DEx)	57	44		61.2	3	
PIONEER 26R15(D)	43	44		60.9	3	
SS 560(R)	52	44		60.8	4	+
SS 8302(R)	53	44		59.9	3	
CHOPTANK(R)	38	43		60.1	4	+
NC00-15332(R)	69	43		60.8	3	
V9512	48	42	-	60.4	4	+
PIONEER 26R58(D)	41	41	-	59.4	6	+
COKER 9436(D)	61	40	-	60.4	4	+
NEUSE(R)	56	40	-	61.0	2	-
VAN98W-342	4	40	-	60.7	4	+
MASSEY	1	39	-	60.4	6	+
COKER 9295(D)	59	38	-	60.4	4	+
VA01W-310	11	38	-	60.0	6	+
SS 8309(R)	54	37	-	60.8	3	
PIONEER 26R12(D)	42	32	-	60.6	3	
Average		49		60.5	3	
C.V.		10		1.4		
LSD (0.05)		7		1.2	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.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is wheat unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is wheat standing upright and 5 is wheat totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Table 25. Summary of performance of entries in the Virginia Tech Wheat Test, Shenandoah Valley (Smith Farms in Rockbridge County), VA, 2005 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Barley Yellow Dwarf (0-9)	
RENWOOD 3260	69	+	61.3	+	1	-
VA03W-415	67	+	60.6		4	
VA03W-445	65	+	60.6		3	
VA03W-409	64	+	59.2	-	2	
VA02W-370	63	+	61.2	+	2	
VA03W-412	63	+	60.8	+	4	
3706	62		60.2		1	-
SS 8404	62		60.8	+	1	-
COKER 9184(D)	61		61.4	+	3	
CRAWFORD	61		60.4		4	
PIONEER 26R24(D)	61		60.3		2	
SISSON	61		60.1		4	
USG 3209(RT)	61		60.3		3	
VA02W-713	61		61.3	+	2	
VA03W-235	61		60.8	+	2	
CHOPTANK(R)	60		59.8		5	+
COKER 9436(D)	60		58.5	-	4	
SS MPV 57	60		58.6	-	3	
VA01W-243	60		60.9	+	2	
SS 520(R)	59		59.7		2	
SS 560(R)	59		59.4	-	4	
VA01W-35	58		60.7	+	2	
VA02W-559	58		61.6	+	2	
V9412(D)	57		60.9	+	3	
VA02W-555	57		59.8		2	
VA03W-434	57		59.3	-	4	
COKER 9553	56		61.0	+	3	
VA03W-294	56		60.1		4	
FEATHERSTONE 176	55		61.1	+	2	
V9510	55		59.7		3	
VA02W-62	55		60.2		2	
VA03W-453	55		59.6		3	
H-50(DEx)	54		59.8		3	
NC00-15332(R)	54		58.3	-	4	
PIONEER 26R12(D)	54		60.1		1	-
PIONEER 26R58(D)	54		59.0	-	4	
SS 550(B)	54		60.2		4	
USG 3137	54		60.1		3	
VA01W-21	54		60.5		2	
VA02W-124	54		60.0		2	

Table 25, continued. Summary of performance of entries in the Virginia Tech Wheat Test, Shenandoah Valley (Smith Fams in Rockbridge County), VA, 2005 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Barley Yellow Dwarf (0-9)	
VA03W-249	54		60.3		2	
PIONEER 26R15(D)	53		59.1	-	3	
FEATHERSTONE 520(RT)	52		61.2	+	3	
SS 8302(R)	52		60.7	+	3	
USG EXP 820	52		60.9	+	2	
COKER 9312(D)	51		60.6		3	
COKER B980582	51		60.8	+	4	
V9512	51		59.5	-	3	
VA00W-526	51		59.9		4	
VA01W-18	51		60.0		3	
VA01W-205	51		60.5		4	
VA01W-353	51		58.7	-	4	
VA02W-596	51		58.4	-	5	+
VA03W-211	51		61.2	+	5	+
VA03W-436	51		59.7		3	
TRIBUTE	49		61.0	+	2	
MV5-46	48		60.6		3	
VA01W-99	48		60.3		3	
McCORMICK	47		60.8	+	2	
PIONEER 26R31	47		59.8		7	+
SS 8309(R)	47		59.6		2	
VA02W-398	47		59.0	-	4	
MASSEY	45	-	59.8		4	
VA02W-513	45	-	60.3		4	
VAN98W-342	45	-	58.9	-	4	
NEUSE(R)	44	-	60.9	+	3	
VA01W-310	44	-	59.6		4	
COKER 9295(D)	43	-	59.3	-	4	
COKER B980416	43	-	59.4	-	3	
NC99-13022(R)	43	-	59.8		3	
VA03W-192	43	-	60.2		4	
Average	54		60.1		3	
C.V.	11		0.7			
LSD (0.05)	9		0.6		2	

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 26. Summary of performance of entries in the Virginia Tech Wheat Test, Kentland farm, Blacksburg, VA, 2005 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Mar31+)		Height (In)		Lodging (0.2-10)		Powdery Mildew (0-9)		Leaf Rust (0-9)		Barley Yellow Dwarf Virus (0-9)		Straw Yield (Ton/a)	
SS MPV 57	99	+	57.5	-	45	+	33	+	0.3	+	0		4	+	3		2.06	
VA03W-409	97	+	56.9	-	45	+	31		0.2		0		1	-	2	-	1.96	
SS 560(R)	96	+	57.5	-	44	+	31		0.2		0		5	+	3		2.00	
VA02W-555	96	+	58.3		41	-	30	-	0.2		0		5	+	2	-	2.11	
VA03W-445	95	+	58.9		46	+	31		0.2		0		2	-	3		2.10	
VA02W-559	94	+	60.3	+	42		28	-	0.2		0		7	+	3		2.00	
VA03W-235	94	+	58.7		45	+	34	+	0.3	+	0		4	+	2	-	2.70	+
V9510	93	+	58.4		42		31		0.2		0		5	+	3		2.23	
VA01W-205	93	+	59.0	+	42		29	-	0.2		0		0	-	2	-	1.75	
VA02W-398	92	+	57.1	-	41	-	30	-	0.2		0		0	-	4	+	1.97	
VA03W-412	92	+	59.5	+	42		32	+	0.2		0		4	+	4	+	1.93	
VA03W-434	92	+	57.8	-	44	+	29	-	0.2		0		3		2	-	2.05	
3706	91	+	59.2	+	42		30	-	0.2		0		2	-	2	-	1.80	
SISSON	91	+	57.9	-	41	-	30	-	0.2		0		7	+	3		1.89	
SS 550(B)	91	+	58.1	-	43	+	30	-	0.2		0		6	+	3		1.73	-
SS 8404	91	+	59.8	+	43	+	30	-	0.2		0		3		3		2.09	
USG 3209(RT)	91	+	58.2	-	41	-	30	-	0.2		0		8	+	3		1.93	
VA03W-453	91	+	58.6		43	+	34	+	0.2		0		0	-	2	-	2.17	
FEATHERSTONE 176	90		59.3	+	42		33	+	0.2		0		5	+	2	-	2.21	
NC00-15332(R)	90		56.7	-	44	+	34	+	0.2		0		1	-	3		2.53	+
PIONEER 26R15(D)	90		57.6	-	43	+	31		0.2		0		2	-	3		2.18	
RENWOOD 3260	90		59.4	+	41	-	33	+	0.2		0		4	+	2	-	1.92	
SS 520(R)	90		58.0	-	40	-	34	+	0.3	+	0		3		3		1.98	
VA01W-35	90		58.5		43	+	31		0.2		0		3		3		1.91	
VA02W-124	90		58.4		43	+	34	+	0.2		0		1	-	2	-	2.20	
VA03W-294	90		59.2	+	41	-	31		0.2		0		5	+	3		2.02	
USG EXP 820	89		59.2	+	45	+	33	+	0.2		3	+	5	+	3		2.31	
VA01W-21	89		59.4	+	42		32	+	0.2		0		4	+	2	-	2.08	
VA02W-713	89		59.7	+	41	-	33	+	0.2		0		4	+	3		2.37	
COKER 9553	88		59.7	+	39	-	33	+	0.2		0		2	-	2	-	2.28	
PIONEER 26R58(D)	88		57.2	-	43	+	32	+	0.2		0		5	+	3		2.16	
SS 8309(R)	88		58.3		44	+	34	+	0.2		0		4	+	2	-	2.13	
VA02W-370	88		59.0	+	39	-	29	-	0.2		0		3		3		1.85	
VA03W-249	88		58.6		42		29	-	0.2		0		4	+	4	+	2.03	
COKER 9436(D)	87		55.6	-	45	+	30	-	0.2		0		3		4	+	2.00	
PIONEER 26R24(D)	87		58.7		42		33	+	0.2		0		4	+	2	-	2.17	
V9412(D)	87		59.2	+	42		31		0.2		0		3		4	+	2.14	
VA02W-513	87		59.7	+	42		29	-	0.2		0		3		2	-	1.99	
VA03W-436	87		57.9	-	44	+	28	-	0.2		0		2	-	2	-	1.93	
VA00W-526	86		59.1	+	43	+	30	-	0.2		0		2	-	2	-	2.10	

Table 26, continued. Summary of performance of entries in the Virginia Tech Wheat Test, Kentland farm, Blacksburg, VA, 2005 harvest.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Mar31+)	Height (In)	Lodging (0.2-10)	Powdery Mildew (0-9)	Leaf Rust (0-9)	Barley Yellow Dwarf Virus (0-9)	Straw Yield (Ton/a)
VA03W-415	86	58.7	41 -	32 +	0.2	0	2 -	3	2.14
H-50(DEx)	85	58.3	43 +	36 +	0.2	2 +	3	3	2.56 +
VA01W-18	85	58.3	43 +	32 +	0.3 +	0	3	3	2.04
VA01W-243	85	59.2 +	42	31	0.8 +	0	0 -	3	2.12
VA03W-192	85	59.6 +	43 +	30 -	0.2	0	0 -	2 -	2.17
VA03W-211	85	59.5 +	38 -	31	0.2	0	1 -	3	1.84
COKER 9184(D)	84	60.4 +	44 +	31	0.2	0	1 -	3	2.03
PIONEER 26R31	84	57.9 -	41 -	29 -	0.2	0	2 -	5 +	1.96
SS 8302(R)	84	59.1 +	43 +	33 +	0.2	0	4 +	3	2.02
VA01W-353	84	57.3 -	41 -	30 -	0.2	0	5 +	3	1.98
VA02W-62	84	59.1 +	41 -	30 -	0.3 +	0	6 +	4 +	1.90
COKER B980582	83	59.3 +	40 -	33 +	0.2	0	1 -	2 -	2.08
McCORMICK	83	61.0 +	43 +	30 -	0.2	0	6 +	2 -	2.35
MV5-46	83	59.9 +	43 +	30 -	0.2	0	5 +	3	2.08
TRIBUTE	83	61.1 +	43 +	30 -	0.2	0	2 -	2 -	2.26
VA02W-596	83	56.6 -	45 +	32 +	0.2	0	5 +	4 +	2.00
NEUSE(R)	82	59.3 +	46 +	32 +	0.2	0	0 -	3	2.28
VA01W-99	82	59.0 +	42	32 +	0.2	0	5 +	3	2.14
CHOPTANK(R)	81 -	58.2 -	42	29 -	0.2	0	1 -	3	1.87
COKER 9312(D)	81 -	58.7	42	31	0.2	0	1 -	2 -	2.18
VA01W-310	81 -	57.7 -	41 -	29 -	0.3 +	0	3	4 +	1.94
COKER B980416	80 -	58.6	43 +	32 +	0.2	0	4 +	3	2.51 +
FEATHERSTONE 520(RT)	80 -	59.2 +	43 +	32 +	0.3 +	0	5 +	4 +	1.98
USG 3137	80 -	58.9	43 +	36 +	0.2	1 +	4 +	3	2.36
V9512	79 -	59.0 +	42	36 +	0.2	0	4 +	3	2.65 +
NC99-13022(R)	78 -	58.4	42	30 -	0.2	0	2 -	3	1.91
CRAWFORD	77 -	58.4	41 -	30 -	0.2	0	1 -	4 +	1.72 -
PIONEER 26R12(D)	75 -	59.2 +	44 +	32 +	0.2	0	2 -	2 -	2.27
COKER 9295(D)	74 -	56.6 -	44 +	31	0.3 +	0	0 -	5 +	1.91
MASSEY	73 -	58.4	42	35 +	0.3 +	0	8 +	4 +	2.01
VAN98W-342	71 -	57.2 -	41 -	29 -	0.2	0	3	3	2.09
Average	86	58.6	42	31	0.2	0	3	3	2.09
C.V.	4	0.5							
LSD (0.05)	5	0.4	1	1	0.1	0	1	1	0.35

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.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is wheat unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is wheat standing upright and 5 is wheat totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

SECTION 3 - WHEAT PLANTED NO-TILL INTO CORN STUBBLE

Wheat was planted no-till into corn stubble at the Eastern Virginia AREC near Warsaw, Virginia. Cooperator Charles Sanford harvested the corn and shredded the stalks. Two quarts per acre Roundup Weathermax® were applied on September 13, 2004. Plots were planted using a Great Plains No-Till plot drill at 28 seeds per row foot in 7.5 inch rows on October 18, 2004 and preplant fertilizer of 30-80-80-5 was applied October 22, 2004. Nitrogen was applied at 40 and 80 pounds per acre as 24-0-0-3 on February 7, 2005 and April 8, 2005, respectively. Harmony Extra was applied at 0.6 ounces per acre on April 19, 2005. Plots were harvested on June 24, 2005.

A good stand was obtained by late fall. Due to a period of very cold nights in mid-winter, some winter injury was experienced and tillering was slightly less than normal going into early spring. The mean yield for the test was 90 bushels per acre reflecting the favorable growing conditions in late spring. Top yielding varieties of wheat when planted into corn residue without tillage were SS MPV 57, 3706, SS 560, and SS 520. All of these varieties yielded significantly more than the mean for the test. Most also did well in the conventional tillage tests. Long term, it will be beneficial in no tillage and conventional tillage when Fusarium resistance is increased in more varieties. Tribute, McCormick, Roane, and Neuse have a degree of resistance to scab spread in the head.

Table 27. Summary of performance of entries in the Virginia Tech No-tillage Wheat Test at Warsaw, 2005 harvest.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Mar31+)	Height (In)	Lodging (0.2-10)	Powdery Mildew (0-9)	Leaf Rust (0-9)	Stripe Rust (0-9)	Stripe Rust Reaction Type
SS MPV 57	104 +	62.0	37 +	37 +	0.2	1 +	4 +	4	S
3706	103 +	62.5	31 -	33	0.3	0	1 -	1 -	R
VA01W-205	103 +	62.7	34	32 -	0.4	1 +	0 -	1 -	R
VA01W-21	102 +	61.5	33	35	0.3	0	3 +	6 +	S
VA03W-409	102 +	63.1	38 +	35	0.2	0	0 -	5 +	S
VA03W-412	102 +	62.0	35	36 +	0.2	0	3 +	0 -	R
SS 560(R)	101 +	61.6	35	34	0.2	0	3 +	4	S
MV5-46	98 +	62.3	36 +	35	0.2	0	3 +	5 +	S
SS 520(R)	98 +	61.4	30 -	35	0.4	0	0 -	8 +	S
VA02W-555	98 +	61.9	30 -	33	0.4	0	5 +	0 -	R
VA03W-434	98 +	62.5	36 +	31 -	0.2	0	0 -	3	MS
PIONEER 26R24(D)	97	62.0	31 -	36 +	0.4	0	2	5 +	S
VA03W-436	97	62.9	35	30 -	0.2	0	0 -	3	I
SS 8302(R)	96	61.5	36 +	36 +	0.2	0	3 +	0 -	R
VA02W-398	96	62.0	32 -	34	0.5	0	0 -	2	I
VA03W-235	96	61.5	38 +	38 +	0.6 +	0	3 +	0 -	R
VA01W-243	95	61.4	32 -	35	0.6 +	1 +	1 -	1 -	R
VA02W-596	95	62.4	38 +	35	0.6 +	0	4 +	2	I
RENWOOD 3260	94	62.2	30 -	37 +	0.7 +	0	1 -	4	MS
VA02W-713	94	61.6	31 -	36 +	0.3	0	5 +	3	MS
NC00-15332(R)	93	63.0	37 +	37 +	0.2	0	1 -	1 -	MR
SS 8404	93	62.3	33	31 -	0.4	1 +	0 -	4	S
V9510	93	61.0	35	36 +	0.3	0	3 +	5 +	S
VA01W-35	93	62.2	34	35	0.4	0	0 -	5 +	S
VA02W-124	93	62.3	35	37 +	0.5	0	0 -	2	MR

Table 27, continued. Summary of performance of entries in the Virginia Tech No-tillage Wheat Test at Warsaw, 2005 harvest.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Mar31+)	Height (In)	Lodging (0.2-10)	Powdery Mildew (0-9)	Leaf Rust (0-9)	Stripe Rust (0-9)	Stripe Rust Reaction Type
VA02W-370	93	61.1	30 -	33	0.2	0	2	0 -	R
VA02W-62	93	62.1	31 -	33	0.4	0	4 +	7 +	S
VA03W-249	93	61.8	32 -	32 -	0.2	0	3 +	4	MS
PIONEER 26R15(D)	92	62.2	33	36 +	0.2	0	1 -	1 -	R
V9412(D)	92	63.4	35	35	0.2	0	2	2	I
VA01W-18	92	60.2 -	37 +	35	0.3	0	2	6 +	S
VA03W-415	92	62.0	30 -	36 +	0.4	0	0 -	6 +	S
PIONEER 26R58(D)	91	62.8	32 -	35	0.2	0	4 +	3	S
PIONEER 26R31	90	62.3	31 -	31 -	0.2	0	0 -	5 +	S
TRIBUTE	90	61.6	35	35	0.2	0	1 -	4	MS
VA02W-559	90	62.5	33	30 -	0.2	0	5 +	6 +	S
VA03W-453	90	62.2	37 +	35	0.2	0	0 -	1 -	R
COKER 9184(D)	89	62.3	38 +	35	0.2	0	0 -	3	I
COKER 9553	89	62.0	29 -	35	0.4	0	2	0 -	R
SS 550(B)	89	61.6	35	34	0.5	0	4 +	8 +	S
USG 3209(RT)	89	62.6	31 -	32 -	0.4	0	7 +	2	I
VA01W-353	89	61.9	33	33	0.2	0	3 +	3	I
VA03W-211	89	62.6	30 -	33	0.2	0	0 -	0 -	R
VA03W-294	89	62.4	29 -	33	0.2	0	2	3	MS
COKER B980582	88	62.4	31 -	35	0.4	1 +	0 -	4	S
VA00W-526	88	62.8	34	33	0.3	0	2	1 -	R
CHOPTANK(R)	87	61.0	35	33	0.3	0	2	3	MS
H-50(DEx)	87	62.9	35	38 +	0.4	6 +	2	0 -	R
VA03W-192	87	62.1	35	34	0.2	0	0 -	2	I
VA03W-445	87	61.1	39 +	34	0.2	0	1 -	5 +	MS
COKER 9436(D)	86	61.8	38 +	33	0.3	0	0 -	2	I
VAN98W-342	86	61.7	31 -	31 -	0.2	0	0 -	4	S
FEATHERSTONE 176	85	62.4	30 -	35	0.2	0	3 +	0 -	R
FEATHERSTONE 520(RT)	85	62.3	34	36 +	1.1 +	0	2	2	MS
McCORMICK	85	62.2	36 +	33	0.2	0	6 +	1 -	R
USG EXP 820	85	63.1	37 +	36 +	0.5	4 +	4 +	2	I
VA02W-513	85	61.9	32 -	33	0.2	0	2	2	MS
PIONEER 26R12(D)	84	61.9	37 +	35	0.2	1 +	1 -	4	S
SISSON	84	62.3	33	34	0.4	0	7 +	7 +	S
SS 8309(R)	84	61.4	39 +	36 +	0.2	0	2	4	S
VA01W-99	83	61.8	34	34	0.2	0	4 +	4	S
COKER 9312(D)	82 -	61.8	31 -	33	0.4	2 +	0 -	2	I
COKER 9295(D)	81 -	63.0	36 +	33	0.5	0	0 -	3	I
V9512	81 -	62.9	36 +	39 +	0.6 +	4 +	1 -	4	S
VA01W-310	79 -	62.4	31 -	35	0.3	0	1 -	5 +	S

Table 27, continued. Summary of performance of entries in the Virginia Tech No-tillage Wheat Test at Warsaw, 2005 harvest.

Line	Yield (Bu/a)		Test Weight (Lb/bu)	Date Headed (Mar31+)		Height (In)		Lodging (0.2-10)		Powdery Mildew (0-9)		Leaf Rust (0-9)		Stripe Rust (0-9)		Stripe Rust Reaction Type
COKER B980416	78	-	62.3	36	+	34		1.2	+	0		1	-	3		S
NC99-13022(R)	78	-	61.6	34		34		0.3		0		3	+	2		MR
NEUSE(R)	78	-	61.7	39	+	36	+	0.3		0		0	-	6	+	S
USG 3137	78	-	62.2	37	+	36	+	0.7	+	2	+	2		2		I
CRAWFORD	77	-	62.2	31	-	33		0.2		0		0	-	1	-	MR
MASSEY	74	-	62.3	33		38	+	0.5		0		7	+	5	+	S
Average	90		62.1	34		34		0.3		0		2		3		
C.V.	7		1.8													
LSD (0.05)	8		1.5	2		2		0.3		1		1		2		

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 number in parentheses below column headings indicates the number of locations on which data are based.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is wheat unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is wheat standing upright and 5 is wheat totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.
Stripe rust reaction type indicators are as follows: R=resistant, MR=moderately resistant, I=intermediate, S=susceptible, and MS=moderately susceptible.

Table 28. Two year average summary of performance of entries in the Virginia Tech No-tillage Wheat Test at Warsaw, 2004 and 2005 harvests.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Mar31+)	Height (In)	Lodging (0.2-10)	Powdery Mildew	Leaf Rust	Barley Yellow Dwarf Virus	Stripe Rust	Stripe Rust Reaction Type
						(0-9)				
	(2)	(2)	(2)	(2)	(2)	(1)	(1)	(1)	(1)	(1)
SS MPV 57	87 +	58.5	35 +	35 +	0.2 -	1 +	4 +	1	4	S
SS 560(R)	85 +	58.7	34 +	33	0.2 -	0	3 +	2 +	4	S
3706	83 +	58.9	31 -	31 -	0.2 -	0	1 -	2 +	1 -	R
VA01W-205	82 +	59.0	32	31 -	0.3	1 +	0 -	1	1 -	MR
SS 520(R)	81 +	57.4 -	28 -	34 +	0.3	0	0 -	2 +	8 +	S
SS 8302(R)	81 +	58.5	34 +	35 +	0.2 -	0	3 +	1	0 -	R
PIONEER 26R15(D)	80 +	57.8	32	34 +	0.2 -	0	1 -	1	1 -	MS
VA02W-596	80 +	58.5	35 +	33	0.4 +	0	4 +	1	2	R
NC00-15332(R)	79	58.9	34 +	35 +	0.2 -	0	1 -	1	1 -	I
PIONEER 26R24(D)	79	58.1	31 -	34 +	0.3	0	2	1	5 +	S
VA01W-21	79	59.0	30 -	33	0.3	0	3 +	1	6 +	MS
VA02W-555	79	58.2	30 -	31 -	0.3	0	5 +	1	0 -	R
PIONEER 26R31	78	58.8	31 -	30 -	0.2 -	0	0 -	1	5 +	MS
VA02W-124	78	58.5	33 +	35 +	0.4 +	0	0 -	2 +	2	MS
SS 550(B)	77	58.0	32	33	0.3	0	4 +	2 +	8 +	S
USG 3209(RT)	77	58.8	31 -	31 -	0.3	0	7 +	1	2	MS
VA02W-513	77	59.0	31 -	31 -	0.2 -	0	2	1	2	I
VAN98W-342	77	57.6 -	30 -	30 -	0.2 -	0	0 -	1	4	S
FEATHERSTONE 176	76	58.0	29 -	33	0.2 -	0	3 +	1	0 -	R
MV5-46	76	59.3	32	33	0.2 -	0	3 +	1	5 +	S
PIONEER 26R58(D)	76	58.3	31 -	32 -	0.2 -	0	4 +	2 +	3	MS
VA01W-18	76	57.9	34 +	33	0.3	0	2	1	6 +	S
CHOPTANK(R)	75	58.0	32	31 -	0.2 -	0	2	3 +	3	S
FEATHERSTONE 520(RT)	75	59.2	32	34 +	0.6 +	0	2	1	2	S

Table 28, continued. Two year average summary of performance of entries in the Virginia Tech No-tillage Wheat Test at Warsaw, 2004 and 2005 harvests.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Mar31+)	Height (In)	Lodging (0.2-10)	Powdery Mildew	Leaf Rust	Barley Yellow Dwarf Virus	Stripe Rust	Stripe Rust Reaction Type
						(0-9)				
	(2)	(2)	(2)	(2)	(2)	(1)	(1)	(1)	(1)	(1)
VA02W-398	75	57.5 -	30 -	32 -	0.3	0	0 -	2 +	2	MS
COKER 9436(D)	74	58.4	35 +	32 -	0.2 -	0	0 -	1	2	S
VA00W-526	74	59.0	33 +	31 -	0.2 -	0	2	2 +	1 -	MR
McCORMICK	73	59.1	33 +	31 -	0.2 -	0	6 +	1	1 -	MR
RENWOOD 3260	73	59.2	30 -	35 +	0.4 +	0	1 -	2 +	4	S
TRIBUTE	73	58.9	33 +	32 -	0.2 -	0	1 -	1	4	S
VA02W-370	73	58.5	28 -	31 -	0.2 -	0	2	1	0 -	R
VA01W-353	72	58.0	32	31 -	0.2 -	0	3 +	1	3	I
COKER 9184(D)	71	60.5 +	35 +	33	0.2 -	0	0 -	1	3	S
NC99-13022(R)	71	57.5 -	33 +	33	0.2 -	0	3 +	1	2	I
SISSON	71	58.3	31 -	33	0.3	0	7 +	1	7 +	S
VA01W-310	71	59.0	31 -	34 +	0.2 -	0	1 -	1	5 +	S
VA01W-99	71	59.1	31 -	33	0.2 -	0	4 +	1	4	S
V9412(D)	70 -	59.5 +	32	33	0.2 -	0	2	2 +	2	MS
COKER 9295(D)	69 -	59.2	34 +	34 +	0.3	0	0 -	2 +	3	MS
CRAWFORD	68 -	58.5	28 -	34 +	0.2 -	0	0 -	1	1 -	MS
PIONEER 26R12(D)	66 -	59.2	34 +	34 +	0.2 -	1 +	1 -	1	4	MS
COKER 9312(D)	65 -	58.7	30 -	32 -	0.3	2 +	0 -	1	2	S
MASSEY	64 -	59.1	32	38 +	0.3	0	7 +	2 +	5 +	S
SS 8309(R)	64 -	57.9	35 +	35 +	0.2 -	0	2	1	4	MS
NEUSE(R)	63 -	59.6 +	35 +	34 +	0.2 -	0	0 -	2 +	6 +	S
Average	75	58.6	32	33	0.3	0	2	1	3	
C.V.	7	2								
LSD (0.05)	5	0.9	1	1	0.1	1	1	1	2	

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 average.
The number in parentheses below column headings indicates the number of years on which data are based.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is wheat unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is wheat standing upright and 5 is wheat totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.
Stripe rust reaction type indicators are as follows: R=resistant, MR=moderately resistant, I=intermediate, S=susceptible, and MS=moderately susceptible.

Table 29. Three year average summary of performance of entries in the Virginia Tech No-tillage Wheat Test at Warsaw, 2003, 2004, and 2005 harvests.

Line	Yield (Bu/a)		Test Weight (Lb/bu)		Date Headed (Mar31+)		Height (In)		Lodging (0.2-10)		Powdery Mildew (0-9)		Leaf Rust (0-9)		Barley Yellow Dwarf Virus (0-9)		Stripe Rust (0-9)		Stripe Rust Reaction Type
	(3)		(3)		(3)		(3)		(3)		(2)		(2)		(1)		(1)		(1)
SS MPV 57	84	+	58.2		36	+	34	+	0.4		1	+	2		1		4		S
3706	83	+	58.8		33	-	30	-	0.2		0		0	-	2	+	1	-	R
SS 560(R)	82	+	58.0		35	+	31	-	0.2		1	+	2		2	+	4		S
PIONEER 26R24(D)	82	+	58.1		33	-	34	+	0.5		1	+	1	-	1		5		S
FEATHERSTONE 176	80	+	57.8	-	32	-	33	+	0.4		0		2		1		0	-	R
SS 520(R)	80	+	57.5	-	31	-	34	+	1.0	+	1	+	0	-	2	+	8	+	S
VAN98W-342	80	+	58.2		32	-	29	-	0.2		0		0	-	1		4		S
MV5-46	79		59.5	+	34		32		0.2		0		2		1		5		S
VA01W-205	79		58.6		34		30	-	0.3		1	+	0	-	1		1	-	MR
PIONEER 26R58(D)	78		57.5	-	33	-	32		0.2		1	+	2		2	+	3		MS
SS 550(B)	78		57.9		34		31	-	1.1	+	0		3	+	2	+	8	+	S
TRIBUTE	77		59.6	+	34		31	-	0.2		0		0	-	1		4		S
McCORMICK	77		59.7	+	34		31	-	0.2		0		3	+	1		1	-	MR
USG 3209(RT)	77		58.5		33	-	31	-	0.3		0		4	+	1		2	-	MS
VA01W-18	76		57.8	-	36	+	32		0.2		0		1	-	1		6	+	S
CHOPTANK(R)	76		58.1		33	-	29	-	0.2		0		1	-	3	+	3		S
SISSON	74		58.2		32	-	32		0.6		0		5	+	1		7	+	S
VA01W-353	74		57.6	-	34		30	-	0.2		0		2		1		3		I
VA00W-526	74		58.9		35	+	30	-	0.2		0		1	-	2	+	1	-	MR
FEATHERSTONE 520(RT)	73		59.0		34		33	+	1.2	+	1	+	2		1		2	-	S
CRAWFORD	72	-	58.5		31	-	33	+	1.0	+	0		0	-	1		1	-	MS
COKER 9184(D)	72	-	60.3	+	37	+	32		0.2		1	+	0	-	1		3		S
VA01W-99	72	-	59.0		33	-	32		0.2		0		2		1		4		S
COKER 9295(D)	69	-	58.2		36	+	33	+	0.3		2	+	0	-	2	+	3		MS
NEUSE(R)	67	-	59.8	+	36	+	33	+	0.4		0		0	-	2	+	6	+	S
MASSEY	65	-	58.8		34		37	+	0.9	+	1	+	6	+	2	+	5		S
Average	76		58.5		34		32		0.4		0		2		1		4		
C.V.	6		1																
LSD (0.05)	4		0.7		1		1		0.5		1		1		1		2		

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

Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is wheat unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is wheat standing upright and 5 is wheat totally flat. The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

Stripe rust reaction type indicators are as follows: R=resistant, MR=moderately resistant, I=intermediate, S=susceptible, and MS=moderately susceptible.

SECTION 4 – TRITICALE VARIETIES

Table 30. Summary of performance of entries in the Virginia Tech Triticale Tests, 2003 through 2005 harvests.

One-year average 2005	Yield (Bu/acre)		Test Weight (Lb/bu)		Heading Date (Mar31+)		Height (Inches)		Lodging (0.2-10)		Powdery Mildew (0-9)		Barley Yellow Dwarf Virus (0-9)	
	(7)		(7)		(3)		(2)		(1)		(0)		(0)	
Trical 2115	72	+	52.1	-	29	-	39		0.2	-	---		---	
Arcia	67		53.5	-	30	-	47	+	0.5	+	---		---	
McCormick (wheat)	62	-	60.7	+	41	+	34	-	0.2	-	---		---	
Average	67		55.4		33		40		0.3		---		---	
C.V.	8		1											
LSD (0.05)	3		0.3		0		2		0.1		---		---	
Two-year average 2004 - 2005	(14)		(14)		(6)		(5)		(2)		(1)		(1)	
TRICAL 2115	70		51.7		28		39		0.3		0		1	
Three-year average 2003 - 2005	(19)		(19)		(9)		(7)		(5)		(2)		(1)	
TRICAL 2115	67		50.4		29		38		0.3		0		1	
One-year average No till 2005														
Arcia	97		55.7		26		44		---		---		---	
Trical 2115	94		54.5		25		37		---		---		---	
McCormick	91		64.1		37		33		---		---		---	
Average	94		58.1		29		38		---		---		---	
C.V.	5		1											
LSD (0.05)	8		1.3		1		1		---		---		---	

Yields were calculated using 60 lb/bu.
Varieties are ordered by descending statewide yield averages.
A plus or minus sign indicates a performance significantly above or below the test average.
The number in parentheses below column headings indicates the number of locations or location-years on which data are based.
Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is triticale unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is triticale standing upright and 5 is triticale totally flat.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible.

SECTION 5 - MILLING AND BAKING QUALITY

Milling and baking quality of wheat lines grown in the 2003-2004 Virginia State Wheat Test were assessed by the USDA-ARS Soft Wheat Quality Laboratory (SWQL) in Wooster, Ohio (Table 31). Quality evaluations were conducted using 3000 gram seed samples from wheat lines grown at the Blacksburg, 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 "Millability 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 and baking quality of wheat lines were compared to that of the check cultivar Massey. On the basis of 12 independent Allis-Chalmers milling quality evaluations conducted by the SWQL, Massey ranked 452 out of 734 cultivars for milling quality and has average milling qualities. In comparison, Sisson ranked 232 for milling quality and has better than average milling qualities on the basis of six independent evaluations. Neuse has excellent milling and pastry baking quality and ranks 4th out of 734 cultivars on the basis of three independent evaluations. Massey has moderately strong protein gluten strength while Sisson has weak protein gluten strength. Pastry baking quality of both cultivars is below average but acceptable. Lines receiving milling and baking quality scores of "A" have similar (numeric score = 100) or better (scores > 100) quality than Massey. Wheat lines receiving milling or baking quality scores below "D" may have questionable milling quality and/or baking quality for pastry products, such as cookies.

Milling quality scores of released cultivars ranged from 109 for Neuse to 78.5 for USG 3209 with seven cultivars and two experimental lines having similar or better milling quality than Massey (score $\geq$ 100). Flour yields ranged from a high of 79% for Neuse to a low of 75.7% for Choptank, compared to 77.7% for Massey. Pastry baking quality scores of released cultivars ranged from a high of 106.6 for USG 3592 to a low of 66.8 for Crawford. Three released cultivars and two experimental lines had similar or better baking quality than Massey (score of 100). Cookie diameters of released cultivars ranged from a low of 16.8 cm for Crawford to a high of 17.8 cm for USG 3592, compared to 17.5 cm for Massey.

Flour protein concentration varied from 8.56% for USG 3209 to 10.09% for Pioneer Brand 26R15, compared with 9.83% for Masssey. Protein quality, specifically gluten strength, based on Lactic Acid Solvent Retention Capacity varied from a high of 118.2 for Pioneer 26R15 to a low of 80.5 for VAN98W-342, compared to 106.2 for the check cultivar Massey. Four released cultivars and one experimental line had scores of 115 or higher indicating that their protein gluten strength is stronger than average. Lines having lower Lactic Acid scores would produce a dough having weak gluten strength and more suitable for pastry products, while lines having higher Lactic Acid scores such as Pioneer 26R15 would produce a dough having stronger gluten strength and more suitable for cracker or certain bread products.

Table 31. Milling and baking quality of entries in the Virginia Tech Wheat Test based on evaluations of the 2004 harvest.

	HISTORICAL								STRAIGHT		SOFTNESS						ADJ.
	MILL SCORE				MILLING		BAKING		GRADE		ENDOSPERM		FLOUR		COOKIE		LACTIC
	RANK	No.			QUALITY		QUALITY		FLOUR		SEPARATION		PROTEIN		DIAMETER		ACID
LINE	(1-734)	Tests	MILLABILITY		SCORE		SCORE		YIELD		INDEX		%		CM		
Standard=Massey	**452**	**12**	109.42		100.0	A	100.0	A	77.66		9.50		9.83		17.50		106.2
Released Varieties																	
Renwood 3706	113	4	126.61		106.6	A	95.9	B	78.48		8.72		9.84		17.48		113.1
Neuse -R	4	3	123.14		108.7	A	95.4	B	79.00		7.61		9.91		17.53		101.3
VA 00W-526	75	4	117.27		106.0	A	70.0	F	78.90		8.55		10.13		16.98	*	103.0
Renwood 3260	124	2	117.26		102.6	A	88.3	D	77.41		8.86		9.73		17.22		115.4
SS 520 -R	65	6	115.30		104.6	A	92.3	C	78.09		9.08		8.91		17.38		105.7
Pioneer 26R15 -D	164	2	113.55		101.1	A	92.9	C	77.33		8.90		10.09		17.31		118.2
SS MPV 57			112.48		105.7	A	90.0	C	78.03		8.48		9.03		17.35		82.4
Coker 9312 -D	185	1	110.49		92.2	C	103.5	A	76.68	*	10.38	*	9.61		17.67		104.8
Massey	**452**	**12**	**109.30**		**100.0**	**A**	**100.0**	**A**	**77.66**		**9.50**		**9.84**		**17.50**		**106.2**
Pioneer 26R58 -D	250	2	108.18		94.2	C	93.6	C	77.14	*	10.19	*	9.37		17.50		84.3
V 9412 -D	513	1	107.28		87.7	D	83.6	E	76.82	*	11.01	Q	9.10		17.25		107.9
Crawford	435	1	106.92		90.6	C	66.8	F	77.06	*	10.92	Q	9.15		16.78	Q	101.7
USG 3592 -RT	336	1	106.84		94.2	C	106.6	A	76.75	*	9.74		8.71		17.81		116.9
Sisson	232	7	106.65		95.1	B	85.5	D	77.16		10.07	*	8.91		17.27		87.8
Featherstone 176	283	4	106.03		95.3	B	102.6	A	77.05	*	9.80		9.28		17.63		106.2
SS 8308 -R	390	1	105.06		92.3	C	89.6	D	76.78	*	10.71	Q	9.15		17.35		116.7
SS 550 -B	457	5	104.47		87.4	D	82.1	E	76.28	Q	11.14	Q	8.87		17.12	*	93.9
Pioneer 26R24 -D	386	8	103.95		96.4	B	91.1	C	77.55		9.38		9.04		17.20		113.8
SS 8302 -R	459	1	101.49		89.6	D	102.2	A	76.12	Q	10.39	*	9.49		17.49		109.3
McCormick	298	7	99.35	*	90.0	C	81.7	E	76.72	*	10.24	*	9.84		17.02	*	103.0
SS 560 -R	354	5	99.16	*	89.9	C	74.5	F	77.11	*	10.41	*	9.37		16.89	*	107.4
Tribute	392	8	98.39	*	89.1	D	73.6	F	76.90	*	10.55	*	9.06		16.97	*	102.2
Choptank -R	441	2	93.58	*	79.6	F	87.8	D	75.72	Q	11.62	Q	9.97		17.33		86.0
USG 3209 -RT	634	5	86.04	Q	78.5	F	69.2	F	75.93	Q	11.64	Q	8.56		16.86	*	101.0
Experimental Lines																	
Standard=Massey			109.42		100.0	A	100.0	A	77.66		9.50		9.83		17.50		106.2
VA 02W-398			128.66		110.0	A	104.5	A	79.56		7.18		8.71		18.25		110.7
VA 02W-124			112.54		106.3	A	74.2	F	78.90		8.83		9.82		17.04	*	108.1
VA 01W-205			112.49		97.6	B	106.7	A	77.17		9.84		9.02		18.10		110.5
VAN 98W-342			100.31	*	91.1	C	87.6	D	76.73	*	10.50	*	10.04		17.15	*	80.5
VA 02W-555			97.54	*	93.5	C	80.2	E	77.30		9.95		9.42		17.07	*	101.9
VA 02W-370			97.42	*	86.8	D	76.5	F	76.20	Q	10.73	Q	9.79		16.93	*	108.9
VA 02W-513			91.95	Q	79.8	F	77.7	F	75.77	Q	11.52	Q	9.71		17.00	*	115.6

SECTION 6 - WHEAT SCAB RESEARCH

A major focus of Dr. Carl Griffey's wheat breeding program is the development of adapted varieties with resistance to scab, Fusarium head blight (FHB), having reduced disease incidence and severity. Extensive past and ongoing effort by several members of Dr. Carl Griffey's staff including Jianli Chen, Julie Wilson, Daryoosh Nabati, Tom Pridgen, Pat O'Boyle, and Jason Kenner is paying off with the identification and development of new lines with increased scab resistance as well as good agronomic traits. Elite wheat lines and varieties having a FHB index [(incidence x severity) x 100] of <11 in 2003-04 were VA01W-99, Neuse, Massey, Coker B970051, VA01W-310, VA02W-519, Tribute, Pat, Coker 9295, and Vigoro 9412 (Table 43). Fusarium head blight index results from 2002-2004 demonstrate that released varieties such as McCormick, Tribute, Neuse, and Roane have reduced scab infection. Twenty-six SRW wheat lines possessing both high yield potential and scab resistance were selected among 268 lines evaluated in Virginia's 2004 Scab Observation tests. One elite scab resistant SRW wheat line VA02W-713 ranked 1st in grain yield (77 Bu/Ac) among 54 entries in Virginia's Advance Wheat Test over three locations, and will be entered in Virginia's Official Variety Trials in 2005. In addition, a set of near isogenic lines incorporating resistance QTLs from W14 and Futai 8944 into Roane and Ernie backgrounds have been developed using molecular-marker assisted backcross breeding.

Table 32. Summary of Reaction of Entries in the 2004-05 Virginia Tech State Wheat Test to Fusarium Head Blight, 2005 harvest.

LINE	Incidence (%)		Severity (%)	INDEX	
PIONEER 26R15(D)	55	-	12.7	7.0	-
USG 3209(RT)	65	-	13.3	8.7	
MASSEY	65	-	14.0	8.9	
COKER B980582	70		13.9	9.7	
COKER B980416	70		14.6	10.2	
VA02W-713	70		14.6	10.2	
USG EXP 820	75		14.2	10.5	
VA01W-205	70		15.3	10.7	
VA01W-21	65	-	16.7	10.8	
VA03W-192	75		14.4	10.8	
COKER 9553	70		15.6	10.9	
SS 8404	65	-	17.0	11.0	
VAN98W-342	65	-	16.8	11.5	
COKER 9436(D)	75		15.9	11.9	
VA01W-243	80		15.2	12.1	
NC00-15332(R)	70		17.4	12.2	
VA03W-453	85		14.4	12.2	
H-50(DEx)	80		15.2	12.2	
V9412(D)	85		14.6	12.4	
USG 3137	75		16.8	12.4	
CRAWFORD	75		18.2	13.0	
RENWOOD 3260	70		18.3	13.1	
TRIBUTE	75		17.7	13.4	
VA01W-35	85		15.6	13.4	
COKER 9295(D)	75		17.7	13.5	
VA02W-124	80		16.8	13.6	
VA02W-370	80		16.8	13.6	
VA03W-415	80		16.8	13.7	
PIONEER 26R24(D)	65	-	21.4	13.8	
SS 550(B)	80		17.4	13.8	

Table 32, continued. Summary of Reaction of Entries in the 2004-05 Virginia Tech State Wheat Test to Fusarium Head Blight, 2005 harvest.

LINE	Incidence (%)	Severity (%)	INDEX
VA02W-62	90	15.4	13.9
SS 8302(R)	80	17.9	14.1
VA03W-249	85	16.5	14.1
PIONEER 26R12(D)	80	17.7	14.2
VA03W-235	70	20.7	14.4
VA03W-445	80	18.0	14.4
VA03W-294	70	20.6	14.7
COKER 9312(D)	75	19.7	14.9
FEATHERSTONE 176	80	19.6	15.1
NEUSE(R)	85	18.2	15.2
MV5-46	75	20.6	15.3
V9510	75	20.5	15.5
V9512	85	18.2	15.5
VA03W-409	80	19.4	15.5
SS 8309(R)	75	20.6	15.6
VA01W-310	80	20.7	16.2
PIONEER 26R58(D)	80	20.3	16.2
VA02W-513	75	22.2	16.3
SISSON	85	19.4	16.6
McCORMICK	80	20.9	16.7
VA02W-559	80	21.3	16.9
VA02W-596	90	19.5	17.5
FEATHERSTONE 520(RT)	90	20.0	18.0
VA01W-18	80	22.7	18.1
SS 560(R)	80	23.5	18.9
SS MPV 57	90	21.4	19.3
VA03W-412	95 +	20.6	19.6
CHOPTANK(R)	85	23.1	19.7
VA01W-99	75	26.0	20.1
VA03W-211	80	25.2	20.2
VA01W-353	85	24.1	20.3
NC99-13022(R)	80	25.0	20.3
COKER 9184(D)	90	23.2	20.9
VA02W-555	90	23.3	21.0
VA03W-434	85	25.4	21.5
VA03W-436	85	26.5 +	22.6

Table 32, continued. Summary of Reaction of Entries in the 2004-05 Virginia Tech State Wheat Test to Fusarium Head Blight, 2005 harvest.

LINE	Incidence (%)	Severity (%)		INDEX	
3706	90	25.3		22.8	
VA00W-526	85	26.7	+	22.8	
SS 520(R)	85	27.4	+	22.9	
PIONEER 26R31	80	29.0	+	23.5	
VA02W-398	85	32.1	+	27.3	+
GRAND MEAN	78	19.4		15.3	
CV (%)	10	21.6		26.1	
LSD (0.05)	13	7.0		6.7	
SED	8	4.2		4.0	

Released cultivars are shown in bold print.
Varieties are ordered by descending 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 (5×10^4 spores/ml).
Scab Incidence (%): Percentage of infected spikes among 10 randomly selected spikes.
Scab Severity (%): Percentage of infected spikelets divided by total number of spikelets among 10 infected spikes.
Scab Index = Incidence X Severity/100; it is an overall indicator of scab resistance/susceptibility level.

Table 33. Two year average summary of Fusarium head blight (scab) and glume blotch resistance of entries in Virginia Tech Wheat Tests, 2004 and 2005 harvests.

LINE	Incidence (%)	Severity (%)	INDEX	S.nordorum (0-9)
MASSEY	60.0	13.7	8.2	4
PIONEER 26R15(D)	60.0	14.4	9.1	6
COKER 9436(D)	67.5	14.4	9.8	7
NEUSE(R)	67.5	15.4	10.6	4
V9412(D)	77.5	14.8	11.6	3
TRIBUTE	58.8	20.8	11.8	2
VA01W-99	51.3	19.9	11.9	3
COKER 9295(D)	62.5	19.5	12.1	3
VA01W-310	60.0	21.0	12.4	2
SS 8309(R)	77.5	17.9	13.8	2
COKER 9312(D)	82.5	17.5	14.3	6
VA01W-18	72.5	20.0	14.8	1
VA01W-205	72.5	20.4	15.0	6
MV5-46	77.5	19.6	15.2	3
PIONEER 26R12(D)	80.0	19.1	15.3	3
USG 3209(RT)	75.0	19.5	15.4	5
RENWOOD 3260	62.5	25.0	15.4	5
VA02W-596	77.5	21.0	15.6	3

Table 33, continued. Two year average summary of Fusarium head blight (scab) and glume blotch resistance of entries in Virginia Tech Wheat Tests, 2004 and 2005 harvests.

LINE	Incidence (%)	Severity (%)	INDEX	S.nordorum (0-9)
NC00-15332(R)	80.0	19.5	16.0	7
VA02W-370	77.5	20.7	16.1	5
SS 8302(R)	82.5	19.9	16.4	7
VA02W-124	80.0	20.9	16.7	4
PIONEER 26R31	73.8	22.6	17.2	2
SS MPV 57	85.0	20.3	17.5	2
VA02W-513	80.0	22.4	17.7	3
VAN98W-342	68.8	22.7	17.8	5
SS 550(B)	85.0	22.0	18.9	4
McCORMICK	82.5	22.8	19.0	3
SS 560(R)	72.5	27.6	19.4	3
FEATHERSTONE 520(RT)	77.5	25.6	19.9	4
VA00W-526	85.0	24.0	20.4	5
COKER 9184(D)	80.0	25.9	20.8	8
PIONEER 26R58(D)	80.0	25.7	21.2	3
SISSON	90.0	24.6	22.4	2
CRAWFORD	72.5	30.2	22.6	2
VA01W-21	70.0	29.3	22.7	5
CHOPTANK	90.0	25.8	23.6	6
VA02W-555	92.5	26.0	24.2	3
VA02W-398	85.0	34.3	28.9	1
NC99-13022(R)	80.0	36.9	29.8	5
FEATHERSTONE 176	86.3	34.1	30.3	4
3706	90.0	34.0	31.6	8
VA01W-353	85.0	38.9	32.2	4
PIONEER 26R24(D)	77.5	40.2	34.9	2
SS 520(R)	92.5	47.5	45.3	2
GRAND MEAN	76.5	24.0	19.0	4

Released cultivars are shown in bold print.
Varieties are ordered by descending index averages.
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 (5×10^4 spores/ml).
Scab Incidence (%): Percentage of infected spikes among 10 randomly selected spikes.
Scab Severity (%): Percentage of infected spikelets divided by total number of spikelets among 10 infected spikes.
Scab Index = Incidence X Severity/100; it is an overall indicator of scab resistance/susceptibility level.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible. Ratings were taken in 2004.

Table 34. Three year average summary of Fusarium head blight (scab) and glume blotch resistance of entries in Virginia Tech Wheat Tests, 2003-2005 harvests.

LINE	Incidence %	Severity (%)	INDEX	S.nordorum (0-9)
NEUSE(R)	54.2	14.2	4.7	4
VA01W-99	46.7	18.5	4.8	3
MASSEY	55.8	15.7	8.5	4
VA01W-18	61.7	19.7	10.2	1
COKER 9295(D)	55.8	20.7	10.3	3
TRIBUTE	55.0	20.4	10.4	2
SS MPV 57	70.0	18.5	11.6	2
VA01W-205	60.8	17.0	11.7	6
McCORMICK	65.8	19.6	12.9	3
USG 3209(RT)	65.0	17.5	14.0	5
MV5-46	70.0	19.6	14.6	3
SS 560(R)	65.0	23.9	15.2	3
VA00W-526	75.8	23.4	16.3	5
VAN98W-342	62.5	20.6	17.0	5
PIONEER 26R58(D)	70.8	22.0	17.4	3
SS 550(B)	74.2	22.3	18.8	4
FEATHERSTONE 520(RT)	72.5	25.3	19.7	4
COKER 9184(D)	76.7	26.2	19.9	8
CHOPTANK(R)	79.2	25.0	21.5	6
SISSON	78.3	23.3	21.8	2
3706	76.7	28.3	24.9	8
FEATHERSTONE 176	75.0	28.5	28.8	4
CRAWFORD	75.0	30.8	29.1	2
VA01W-353	75.8	32.4	29.4	4
PIONEER 26R24(D)	69.2	33.4	34.5	2
SS 520(R)	81.7	38.6	40.9	2
GRAND MEAN	68.0	23.3	18.0	4

Released cultivars are shown in bold print.
Varieties are ordered by descending index averages.
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 (5×10^4 spores/ml).
Scab Incidence (%): Percentage of infected spikes among 10 randomly selected spikes.
Scab Severity (%): Percentage of infected spikelets divided by total number of spikelets among 10 infected spikes.
Scab Index = Incidence X Severity/100; it is an overall indicator of scab resistance/susceptibility level.
The 0-9 ratings indicate a genotype's response to disease, where 0 = highly resistant and 9 = highly susceptible. Ratings were taken in 2004.