

Small Grains in 2015



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Recommended Small Grain Varieties

The following are the small grain variety recommendations for Virginia in 2015. The recommendations are based on the agronomic performance in wheat and barley variety tests conducted by the Research and Extension Divisions of Virginia Tech in the various agricultural regions of the state.

Recommended Wheat Varieties Arranged in Order of Maturity

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

Agronomic Characteristics

Cultivar	Grain Yield	Test Weight	Milling Quality	SRW Baking Quality
Early Heading Varieties (119-120 d, Julian)				
Jamestown*	2	4	Moderate	Poor
Progeny 117	2	2	Very Good	Moderate
SS 8513	2	3	Good	Good
SS 520*	2	1	Good	Good
SY 007	3	2	Poor	Moderate
SS 5205	3	3	Good	Excellent
SS 8415*	3	3	Good	Moderate
Mid-Season Heading Varieties (121-122 d, Julian)				
Hilliard†	4	3	Poor	Moderate
AgriMAXX 434	4	2	Poor	Very Good
USG 3438	4	2	Good	Good
AgriMAXX 427	3	1	Good	Very Good
AgriMAXX 413	3	1	Good	Very Good
USG 3612	3	1	Good	Very Good
Full-Season Heading Varieties (123-124 d, Julian)				
SS 8340	4	4	Moderate	Good
Shirley	4	1	Good	Excellent
Pioneer 26R10	4	2	Moderate	Good
USG 3523	4	1	Poor	Moderate
USG 3013	4	1	Moderate	Good
Dyna-Gro 9223	3	1	Moderate	Good
Pioneer 26R20	4	3	Moderate	Excellent
USG 3404	4	2	Moderate	Good

* This line is not daylength sensitive and should not be planted early in order to avoid potential freeze damage.

4 - Significantly higher than average

3 - Average or higher than average

2 - Average or lower than average

1 - Significantly lower than average

† limited seed availability

Disease Resistance

Cultivar	FHB [†] resistance	Powdery Mildew Resistance	Leaf Rust Resistance	Glume Blotch Resistance	Barley Yellow Dwarf Virus Tolerance
Early Heading Varieties (119-120 d, Julian)					
Jamestown*	Excellent	Good	Good	Moderate	Excellent
Progeny 117	Moderate	Weak	Moderate	Moderate	Moderate
SS 8513	Good	Good	Moderate	Moderate	Moderate
SS 520*	Weak	Good	Good	Moderate	Weak
SY 007	Good	Very Good	Good	Moderate	Good
SS 5205	Good	Good	Excellent	Weak	Moderate
SS 8415*	Weak	Very Good	Moderate	Good	Moderate

Mid-Season Heading Varieties (121-122 d, Julian)					
Hilliard ^{††}	Very Good	Very Good	Very Good	Moderate	Good
AgriMAXX 434	Very Good	Weak	Weak	Moderate	Good
USG 3438	Good	Good	Moderate	Good	Weak
AgriMAXX 427	Good	Moderate	Weak	Moderate	Moderate
AgriMAXX 413	Good	Moderate	Moderate	Moderate	Weak
USG 3612	Very Good	Moderate	Moderate	Moderate	Good

Full-Season Heading Varieties (123-124 d, Julian)					
SS 8340	Excellent	Good	Moderate	Good	Good
Shirley	Weak	Excellent	Excellent	Good	Excellent
Pioneer 26R10	Good	Moderate	Weak	Good	Moderate
USG 3523	Good	Weak	Weak	Good	Good
USG 3013	Good	Weak	Weak	Good	Moderate
Dyna-Gro 9223	Good	Weak	Weak	Moderate	Moderate
Pioneer 26R20	Moderate	Moderate	Good	Moderate	Good
USG 3404	Good	Weak	Moderate	Good	Good

* This line is not daylength sensitive and should not be planted early in order to avoid potential freeze damage.

† FHB - Fusarium head blight

†† limited seed availability

Recommended Barley Varieties

	Hulled Barley						Hulless Barley	
	Nomini*	Callao	Price	Thoroughbred	Atlantic	Secretariat	Amaze 10	Dan
Adapted Regions								
Coastal Plain		X	X	X	X	X	X	X
Piedmont, South of James River		X	X	X	X	X	X	X
Piedmont, North of James River		X	X	X	X	X	X	X
West of Blue Ridge	X	X	X	X	X	X	X	X
Agronomic Characteristics								
Yield	2	2	3	4	4	4	4	3
Test Weight	1	2	3	3	3	3	2	4
Lodging Tolerance	Very Good	Poor	Good	Good	Fair	Fair	Fair	Very Good
Relative Height	3	2	2	3	2	2	3	2
Relative Heading	Avg	Early	Avg	Late	Early	Avg	Avg	Avg

4 - Significantly higher than average

3 - Average or higher than average

2 - Average or lower than average

1 - Significantly lower than average

*Nomini barley has low test weight. It is not recommended in eastern Virginia because low test weight grain is unsuitable for export or domestic non-ruminant feed markets.

Introduction

The following tables present results from barley and wheat varietal tests conducted in Virginia in 2013-2015. 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 in parenthesis near the column heading. Performance of a given variety often varies widely over locations and years which makes multiple location-year averages a more reliable indication of expected performance than data from a single year or location. Details about management practices for barley and wheat are listed for each experimental location.

The Season

Temperatures and rainfall in September and October were generally near the 30-year means and mostly conducive for wheat seeding, though some areas were delayed due to excess moisture. By November 10, 57 and 93% of wheat and barley acres were seeded compared with the 5-yr average of 68 and 95%. In late November soil moisture was mostly adequate and wheat was rated 76% good and 21% fair, while barley was 66% good and 27% fair. December was mild for most areas of the commonwealth and rainfall of 2-3 inches was widespread. Temperatures in early January and much of February and early March were colder than the long term average which definitely reduced winter growth and tillering in many fields. Mostly due to this delayed development only 64 and 52% of wheat and barley acres, respectively, were rated good or excellent. By early April, conditions and crop ratings improved statewide, however development was 5-10 days behind most years. Widespread rains and cool weather persisted in most of the state through mid-April. Freeze damage from earlier cold nights was observed in some fields, especially in the southern counties, but little yield loss was experienced. Early May brought much warmer weather and less rainfall. While fusarium head scab was reported in some areas, the overall occurrence was low due to the general absence of rain during flowering. By May 24, wheat heading was reported in 85% of fields, compared to the 5-year average of 95% by this date. Timely harvested wheat generally had good test weight and grain quality, however many areas experienced frequent rains prior to harvest causing reduction in quality and an increase in dockage. The Virginia Department of Agriculture and Consumer Services estimates that Virginia farmers will harvest 16 million bushels of winter wheat during 2015 which is 10 percent less than the previous year. Average wheat yield was estimated to be 71.0 bushels per acre, up 3.0 bushels from 2014.

Figure 1. 2014-15 and 30-yr mean cumulative growing season precipitation for Virginia.

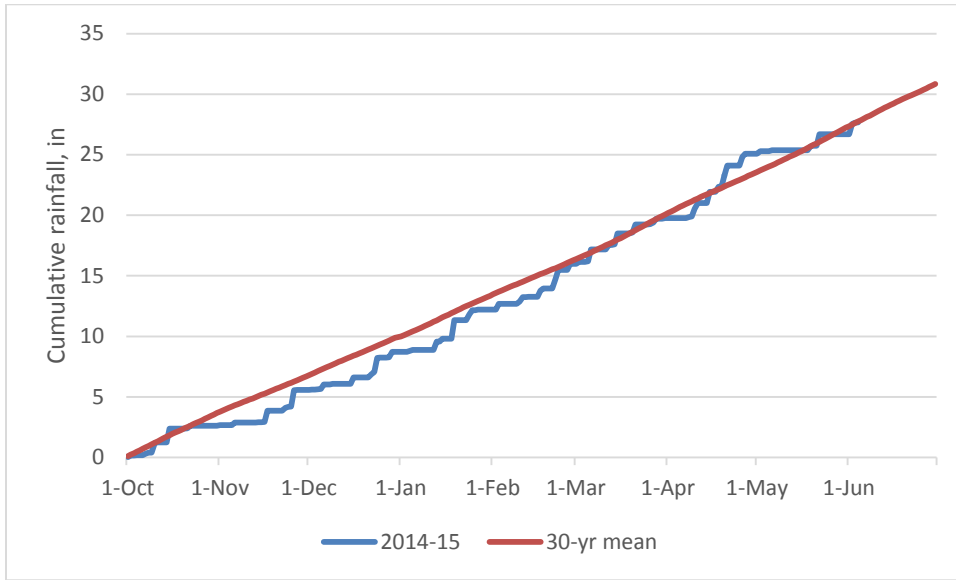
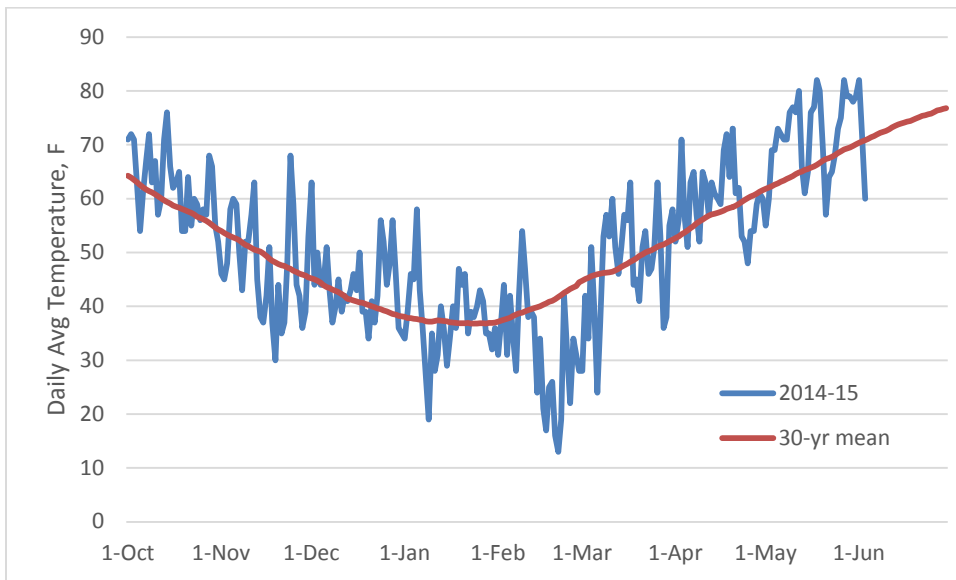


Figure 2. Growing season daily average temperature, 2014-15 and 30-yr mean.



Section 1: Barley Varieties

The Virginia Tech breeding program will continue to accelerate development of high yielding barley cultivars having improved and higher quality for use in animal feed, malting and domestic fuel ethanol production. In this regard, we will deploy a combination of Double-Haploid and Marker Assisted Selection breeding methods. New barley lines derived from crosses made between superior barley breeding lines from our program with outstanding breeding lines from other programs are being developed and evaluated in the Virginia Tech breeding program. Last spring (2014), we made over 400 crosses in the greenhouse comprised of hulled and hulless elite barley parents. This fall (2014), we planted F₁ progeny (300) from 426 crosses made in 2014, and F₂ progeny (199) from 376 crosses made in 2013. We will also evaluate over 450 pure lines in replicated yield tests at multiple locations in Virginia in order to identify potential high yielding varieties. Approximately 60 advance barley lines will be evaluated in replicated yield tests at locations in Virginia, North Carolina, Kentucky, Ohio, and Pennsylvania.

Increased interest in local and regional production of winter malt barley by producers and the malting industry has prompted the program to expand efforts to develop malt barley cultivars adapted to the mid-Atlantic and south eastern United States. As a result, we are currently involved in a cooperative national winter malt barley research project that includes collaborative trials at 16 locations in the states of Washington, Oregon, Idaho, Utah, Nebraska, North Dakota, Minnesota, Wisconsin, Montana, New York, Texas, North Carolina, Kentucky, Ohio, Pennsylvania, Vermont, and Virginia. There is great interest in this nursery and the number of cooperators will likely expand in the next 2-3 years to include additional nurseries in other states. The Virginia Tech breeding program will continue to work with interested parties in evaluating the potential of barley for these and other diverse purposes. Through these efforts, the quality and value of winter barley has increased greatly during the past few years.

The Virginia Tech barley-breeding program is the largest and one of only a few surviving programs in the eastern United States. The barley program is significantly diverse with breeding efforts focused on development of superior, widely adapted, high yielding winter barley cultivars and a major focus on incorporation of value-added traits geared towards development of new markets.

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 improvement of domestic value added opportunities.

Hulless Barley

Hulless barley tests were planted in seven-inch rows at Blackstone, Orange, Holland, and Painter. They were planted in six-inch rows at Warsaw and Blacksburg. The no-till site at Holland was planted at 66 seeds per square foot. All other locations were planted at 60

seeds per square foot. Yields from Holland in the 2013 harvest year were not included in the over-location or over-year analyses.

Three year average (2013, 2014 and 2015) grain yield for Doyce hulless barley in Virginia was 78 bushels per acre with test weight of 54.2 pounds per bushel. Average grain yield of Eve was 76 bushels per acre with test weight of 57.1 pounds per bushel. Grain yield of Dan averaged 79 bushels per acre and test weight was 59.2 pounds per bushel. Dan had the highest average test weight (59.2 pounds/bushel) that was 1.6 pound per bushel higher than Amaze 10 (57.6 pound/bushel), 2.1 pounds per bushel higher than Eve and 5.0 pounds per bushel higher than Doyce (54.2 pounds/bushel). Meanwhile, the hulless barley experimental line VA07H-35WS had the highest three year average grain yield (86 bushels per acre) that was 1 bushels per acre higher than that of Amaze 10 (85 bushels/acre), 7 bushels per acre higher than Dan, 8 bushels per acre higher than Doyce, 10 bushels per acre higher than Eve, and 6 bushels per acre more than the test average.

Hulled Barley

Hulled barley tests were planted in seven-inch rows at Blackstone, Orange, Holland, and Painter. They were planted in six-inch rows at Warsaw and Blacksburg. The no-till site at Holland was planted at 48 seeds per square foot. All other locations were planted at 44 seeds per square foot. Yields from Holland in the 2013 harvest year were not included in the over-location or over-year analyses.

Three year average (2013, 2014 and 2015) grain yield of Thoroughbred hulled barley was 106 bushels per acre with average test weight of 47.4 pounds per bushel compared to the mean yield of 98 bushel per acre and test weight of 47.3 pounds per bushel for the mean of all cultivars tested. Three year average grain yield of Atlantic (100 bushels per acre) was 6 bushels per acre less than Thoroughbred, 4 bushels per acre higher than Price (100 bushels per acre), 2 bushels per acre higher than Price, 8 bushels beer acre higher than Callao and 18 bushels per acre higher than Nomini. At the same time, the hulled barley variety Secretariat had the highest three year average grain yield (100 bushels per acre) that was 1 bushel per acre higher than Thoroughbred, 7 bushels per acre higher than Atlantic, 9 bushels per acre higher than Price, and significantly higher than Callao and Nomini.

Our current research interests in the barley breeding program include: development of winter habit barley varieties for feed, malting and fuel ethanol; incorporation of quantitative disease resistance; characterization and utilization of genetic diversity; stimulating local barley production; and barley quality assessment.

Entries in 2014-15 Virginia Barley Tests, arranged by company.

Company	Line	Seed Treatment Reported by Company
Limagrain Cereal Seeds 2040 SE Frontage Road Fort Collins, CO 80525	Violetta	Raxil MD Extra
Virginia Tech and the Virginia Crop Improvement Association 9142 Atlee Station Road Mechanicsville, VA 23111	Amaze 10	Raxil MD Extra
	Atlantic	Raxil MD Extra
	Barsoy	Raxil MD Extra
	Callao	Raxil MD Extra
	Dan	Raxil MD Extra
	Doyce	Raxil MD Extra
	Eve	Raxil MD Extra
	Nomini	Raxil MD Extra
	Price	Raxil MD Extra
	Secretariat	Raxil MD Extra
	Thoroughbred	Raxil MD Extra
	Wysor	Raxil MD Extra
	All lines prefaced by VA	Raxil MD Extra

Summary of barley management practices for the 2015 harvest season (All rates are given on a per acre basis.)

Blacksburg - Planted September 30, 2014. Preplant fertilizer was 30-50-50 September 22, 2014. Site was sprayed with .75 oz Harmony Extra SG® on October 31, 2014. Site was fertilized with 30 lb N using 30-0-0 UAN on March 18, 2015 (GS 25) and with 25 lb N using 30-0-0 UAN plus 0.75 oz Harmony Extra SG® on April 8, 2015 (GS 30). Smart Zn and Manni-Plex N-Boron™ were applied at 1 qt each April 11, 2015. Harvest occurred June 15, 2015.

Blackstone - Planted October 8, 2014. Preplant fertilizer was 300 lb 10-10-10 on October 2, 2014. Site was fertilized with 60 lb N using UAN + .5 oz. Harmony Extra, on March 18, 2015. Site was fertilized with 60 #N, 60#K using 15-0-14 on April 8, 2015. Cereal leaf beetles were sprayed on May 19th 2015. Harvest occurred June 12, 2015.

Painter - Planted October 23, 2014. Preplant fertilizer was 30 lb N using 30% UAN cut 50/50 on October 20, 2014. Site was fertilized with 60 lb N using 30% UAN and 0.75 oz Harmony Extra SG® March 25, 2015. Site was fertilized with 40 lb N using 30% UAN April 30, 2015. Harvest occurred June 9, 2015.

Warsaw - Planted October 20, 2014. Preplant fertilizer was 30-60-60-5 applied October 6, 2014. Site was fertilized using 12-0-0-1.5 at 30 lb on December 15, 2014 and at 30 lb again on February 6, 2015. Site was treated with 6.5 oz Starane® and .75 oz Harmony Extra SG® plus Scanner surfactant at 1.5 qt/100 gal water on March 24, 2015. Site was fertilized with 45 lb N using 24-0-0-3 April 2, 2015. Site was treated with 2 qt boron and 1.25 pt zinc on April 12, 2015. Harvest occurred June 11, 2015.

Holland - Planted no-till October 20-21, 2014. Preplant fertilizer was 1/2 ton lime October 18, 2014 and 300 lb 11-16-33 on October 26, 2014. Site was fertilized with 100 units N using 24-0-0-3 plus 0.6 oz Harmony Extra SG® on March 18, 2015. Harvest occurred June 11, 2015.

Orange - Planted October 9, 2014. Preplant fertilizer was 30-80-80 October 2, 2014. Sixty lb N plus 0.6 oz Harmony Extra SG® was applied March 17, 2015. Harvest occurred June 11, 2015.

Table 1. Summary of performance of entries in the Virginia Tech Hulless Barley Test, 2015 harvest.

Hulless Lines	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Net Blotch (0-9)	Powdery Mildew (0-9)	Winter Survival (%)
	(6)	(6)	(2)	(3)	(6)	(1)	(3)	(3)	(1)
VA06H-25	85.2 +	57.8 +	118.0 +	36.8 +	5.0 +	5.3	1.0 -	2.5 +	93.8
VA13H-25	84.0 +	57.4 +	114.0 -	34.4	2.6 -	2.3 -	2.1	0.0 -	93.8
VA12H-84	83.4 +	57.6 +	111.9 -	35.1	2.6 -	4.8	3.4 +	0.0 -	97.0
VA13H-49	82.9	57.1	116.5	32.8 -	2.1 -	6.5 +	1.7	0.3	90.0 -
VA10H-33	81.7	56.8	116.5	34.8	3.9	3.8	3.0 +	2.0 +	91.3
VA07H-35WS	81.3	57.2	117.9 +	36.7 +	5.0 +	4.3	1.0 -	2.0 +	95.0
VA13H-34	81.0	57.0	115.9	35.3	3.0	3.3	1.3	0.2	92.5
VA13H-39	80.6	56.8	114.8 -	36.1 +	3.1	2.5 -	2.0	0.2	92.5
VA06H-79	80.5	56.7	118.5 +	34.1	3.2	8.5 +	0.8 -	0.7	95.0
VA08H-65	80.0	58.0 +	115.6	34.7	3.3	5.3	2.6 +	0.3	99.0 +
VA11H-34	79.9	57.6 +	118.4 +	32.5 -	2.9	2.0 -	0.8 -	0.2	96.0
AMAZE 10	78.2	57.4 +	118.3 +	36.1 +	4.8 +	4.8	1.0 -	2.2 +	95.0
VA10H-57	78.0	57.5 +	115.6	35.9	3.5	3.5	3.2 +	0.0 -	90.5 -
DAN	77.7	59.0 +	115.5	34.3	3.7	3.5	1.3	1.0	94.8
EVE	76.8	56.5 -	110.9 -	31.3 -	2.8	7.5 +	2.4	0.2	93.8
VA09H-110(2R)	76.7	55.6 -	119.1 +	34.5	3.4	6.0	1.8	0.0 -	94.8
VA13H-38	76.6	56.1 -	107.3 -	36.8 +	4.6 +	2.5 -	1.4	0.2	91.3
DOYCE	76.4	54.3 -	114.0 -	32.9 -	4.3 +	4.5	3.6 +	0.8	96.8
VA12HFHB-89(2R)	73.1 -	57.8 +	115.3	32.5 -	1.7 -	3.3	0.6 -	0.0 -	96.0
VA10H-79WS(2R)	72.4 -	58.2 +	121.1 +	38.9 +	2.3 -	6.3	2.5 +	0.0 -	99.3 +
VA08H-79WS	71.9 -	53.4 -	118.1 +	34.9	2.7 -	9.0 +	0.1 -	7.7 +	96.0
Average	79.0	56.9	115.9	34.8	3.4	4.7	1.8	1.0	94.5
LSD (0.05)	4.2	0.4	0.7	1.2	0.5	1.6	0.7	0.9	3.6
C.V.	9.0	1.1	0.6	4.4	28.1	23.3	48.6	80.8	2.7

Released cultivars are shown in bold print.

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

Varieties are ordered by descending yield averages.

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

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

Table 2. Two year average summary of performance of entries in the Virginia Tech Hulless Barley Tests, 2014 and 2015 harvests.

Hulless Lines	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Net Blotch (0-9)	Powdery Mildew (0-9)	Early Lodging (0-9)	Winter Survival (%)
	(12)	(12)	(4)	(6)	(11)	(3)	(6)	(5)	(1)	(2)
VA06H-25	87.7 +	58.2 +	119.9 +	36.2 +	4.0 +	4.4	1.8	2.3	6.5 +	90.0
VA07H-35WS	87.3 +	57.9	119.4 +	36.4 +	3.8 +	4.3	1.3 -	2.7 +	6.5 +	92.3
AMAZE 10	84.1 +	58.0 +	119.6 +	36.4 +	3.7 +	4.6	1.2 -	2.8 +	5.8 +	93.0
VA11H-34	82.1	58.0	119.5 +	32.4 -	2.1 -	1.4 -	1.2 -	0.2 -	1.3 -	94.3
VA06H-79	81.6	57.0 -	119.4 +	34.0	2.5	8.4 +	0.8 -	0.6 -	4.0	91.6
VA08H-65	80.6	58.5 +	117.3 -	35.1	2.5	3.5	3.0 +	0.8 -	4.8	93.6
DAN	78.7	59.4 +	117.3 -	34.6	2.7	3.7	1.7	1.6	1.8 -	92.9
DOYCE	78.7	55.0 -	115.9 -	32.7 -	3.7 +	3.3 -	4.7 +	1.3	6.5 +	94.3
VA09H-110(2R)	77.9	57.2 -	119.8 +	35.3	2.8	4.3	2.8	1.0	2.3	95.6
VA10H-57	77.7	57.9	117.6 -	35.7	3.1	2.7 -	4.7 +	0.0 -	2.3	87.1 -
EVE	76.5	57.5	113.0 -	32.3 -	2.3 -	5.6 +	4.0 +	0.8 -	2.3	90.1
VA10H-79WS(2R)	73.9 -	58.9 +	121.9 +	38.5 +	1.8 -	3.6	3.8 +	1.1	2.8	97.4 +
VA08H-79WS	73.8 -	54.7 -	120.3 +	35.1	2.1 -	8.4 +	0.7 -	7.5 +	2.3	92.8
VA12HFHB-89(2R)	71.8 -	58.1 +	117.4 -	33.3 -	1.1 -	2.6 -	1.1 -	0.3 -	0.8 -	93.5
Average	79.5	57.6	118.4	34.9	2.7	4.3	2.3	1.6	3.5	92.7
LSD (0.05)	3.2	0.4	0.5	0.9	0.4	0.8	0.6	0.7	1.6	3.4
C.V.	9.5	1.6	0.6	4.6	35.2	24.1	48.7	53.1	31.4	3.6

Released cultivars are shown in bold print.

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

Varieties are ordered by descending yield averages.

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

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

Table 3. Three year average summary of performance of entries in the Virginia Tech Hulless Barley Tests, 2013, 2014, and 2015 harvests.

Hulless Lines	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Net Blotch (0-9)	Powdery Mildew (0-9)	Early Lodging (0-9)	Winter Survival (%)
	(17)	(17)	(6)	(9)	(16)	(6)	(8)	(8)	(2)	(3)
VA07H-35WS	86.3 +	57.5 +	118.1 +	36.0 +	4.0 +	4.1 -	1.2 -	3.7 +	4.3 +	90.3
VA06H-25	86.1 +	57.6 +	118.7 +	35.7 +	4.1 +	4.4	1.8 -	3.5 +	4.8 +	89.2
AMAZE 10	85.3 +	57.6 +	118.0 +	36.1 +	3.8 +	4.3	1.3 -	3.8 +	3.5	91.9
VA06H-79	81.7	56.7 -	118.0 +	34.0 -	2.9 -	8.1 +	0.8 -	0.7 -	2.8	91.1
VA08H-65	81.6	58.2 +	116.1 -	34.5	3.1	3.5 -	2.6	0.6 -	3.0	92.8
VA09H-110(2R)	79.0	56.8	118.5 +	35.4	3.3	4.5	2.7	1.0 -	2.0	90.8
DAN	78.9	59.2 +	116.5 -	34.0 -	2.9 -	3.6 -	1.6 -	1.5 -	0.9 -	93.4
VA10H-57	78.2	57.5 +	116.6 -	35.1	3.2	2.6 -	5.0 +	0.3 -	1.4 -	85.2 -
DOYCE	77.5	54.2 -	115.0 -	32.5 -	4.3 +	4.5	4.8 +	1.8	5.0 +	92.8
EVE	76.0 -	57.1	111.6 -	32.0 -	3.1	5.0	4.4 +	0.8 -	2.4	92.3
VA10H-79WS(2R)	75.9 -	58.3 +	120.8 +	37.9 +	2.2 -	4.0 -	4.4 +	1.3 -	2.6	96.3 +
VA08H-79WS	72.1 -	54.7 -	120.3 +	34.9	3.0	7.8 +	0.6 -	7.8 +	1.8	93.3
Average	79.9	57.1	117.3	34.8	3.3	4.7	2.6	2.2	2.9	91.6
LSD (0.05)	2.8	0.3	0.5	0.7	0.4	0.6	0.6	0.6	1.3	3.2
C.V.	10.1	1.7	0.7	4.4	31.3	21.7	43.8	48.1	46.3	4.3

Released cultivars are shown in bold print.

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

Varieties are ordered by descending yield averages.

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

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

Table 4. Summary of performance of entries in the Virginia Tech Hulless Barley Test, Southern Piedmont AREC, Blackstone, VA, 2015 harvest.

Hulless Lines	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Lodging (0-9)	Powdery Mildew (0-9)
EVE	69.7	66.6	76.3 +	54.4 -	3.3	0.5
DOYCE	68.7	70.6 +	74.0	55.9	3.5	1.5
VA09H-110(2R)	67.1	68.0	71.6	53.1 -	3.3	0.0
VA13H-49	---	---	70.5	55.1	3.0	1.0
VA13H-25	---	---	69.7	56.4	3.0	0.0
VA06H-79	63.4	65.2	68.6	56.8	3.5	0.5
VA08H-65	67.6	65.2	68.6	57.3 +	3.3	1.0
VA10H-33	---	---	68.2	57.1 +	3.8	0.5
VA12H-84	---	---	67.0	57.0 +	2.5 -	0.0
VA13H-34	---	---	66.5	55.8	3.3	0.0
VA13H-39	---	---	66.1	55.7	3.5	0.5
VA13H-38	---	---	65.0	54.4 -	5.3 +	0.5
DAN	65.2	61.5	64.4	58.9 +	4.5	1.0
VA07H-35WS	62.2	64.7	62.4	55.3	4.5	1.0
VA10H-57	66.8	64.8	62.0	57.5 +	3.8	0.0
VA12HFHB-89(2R)	---	59.5	61.8	56.5	3.5	0.0
VA11H-34	---	62.0	58.4	57.5 +	4.0	0.5
VA06H-25	60.9	62.9	57.7	55.4	4.7	2.5
VA10H-79WS(2R)	61.7	59.0	57.4	54.9	3.3	0.0
VA08H-79WS	54.4 -	55.9 -	53.7 -	50.3 -	3.3	7.5 +
AMAZE 10	62.7	59.2	53.5 -	54.3 -	5.0 +	1.0
Average	64.2	63.2	64.9	55.7	3.7	0.9
LSD (0.05)	6.4	7.2	10.9	1.2	1.1	2.1
C.V.	11.7	11.0	11.6	1.4	21.7	105.9

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages.

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

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

Table 5. Summary of performance of entries in the Virginia Tech Hulless Barley Test, Tidewater AREC, Holland, VA, 2015 harvest.

Hulless Lines	2-year Av. Yield (Bu/a)	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Lodging (0-9)
VA13H-25	---	63.5	56.2	4.0
VA06H-79	67.5	63.2	55.6	2.8
VA10H-33	---	62.7	56.0	4.3
VA09H-110(2R)	63.9	61.8	55.4	3.3
VA10H-79WS(2R)	65.4	60.9	57.2 +	2.5 -
VA12HFHB-89(2R)	57.5	60.8	58.3 +	2.3 -
AMAZE 10	65.2	60.5	55.6	4.3
VA12H-84	---	60.2	56.9 +	3.8
VA06H-25	67.2	60.0	55.3	4.3
DOYCE	66.2	59.3	53.1 -	3.8
VA13H-38	---	59.0	55.5	4.5
VA08H-65	62.9	58.9	57.7 +	3.0
VA08H-79WS	65.2	58.3	50.1 -	1.8 -
VA13H-49	---	57.3	55.1	2.8
VA13H-39	---	56.8	56.2	4.0
VA13H-34	---	56.4	55.7	3.3
DAN	62.3	55.4	58.1 +	3.8
VA10H-57	56.5 -	54.2	57.9 +	3.5
EVE	60.2	52.5	55.2	3.0
VA11H-34	61.1	49.1 -	56.4	5.3 +
VA07H-35WS	58.8	49.0 -	55.4	4.8 +
Average	62.8	58.1	55.9	3.5
LSD (0.05)	6.2	7.8	0.9	1.0
C.V.	9.2	8.5	1.1	19.9

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages.

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

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

Table 6. Summary of performance of entries in the Virginia Tech Hulless Barley Test, Eastern Virginia AREC, Warsaw, VA, 2015 harvest.

Hulless Lines	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Net Blotch (0-9)	Powdery Mildew (0-9)
VA12H-84	---	---	109.8 +	57.3 +	112.3 -	36.0	3.5	1.5	0.0
VA06H-25	108.2 +	110.2 +	109.0 +	57.2 +	119.8 +	39.0 +	7.5 +	0.5	2.5 +
VA10H-33	---	---	105.7 +	57.0 +	118.0 +	37.8	8.0 +	1.3	2.8 +
VA11H-34	---	104.9 +	105.4 +	56.9	119.8 +	35.3	1.8 -	1.0	0.0
VA07H-35WS	107.7 +	106.4 +	101.6	56.5	119.5 +	37.8	7.0 +	0.8	2.5 +
VA13H-38	---	---	101.4	55.7	115.3 -	40.0 +	7.5 +	1.3	0.0
VA06H-79	103.1 +	104.1 +	101.2	55.6	118.8 +	36.8	4.8	0.0	0.8
VA13H-49	---	---	100.3	57.6 +	116.8	34.8	2.3 -	0.5	0.0
AMAZE 10	104.7 +	105.4 +	98.7	57.2 +	120.8 +	37.3	6.5 +	1.0	2.8 +
VA13H-25	---	---	98.6	57.1 +	114.3 -	35.3	2.5 -	0.3	0.0
VA13H-39	---	---	97.6	56.2	114.8 -	36.8	3.3 -	0.3	0.0
VA10H-57	83.5 -	89.7	97.5	57.8 +	116.3	36.5	7.3 +	1.0	0.0
VA08H-65	95.0	98.3	95.0	57.4 +	116.3	35.5	3.5	0.5	0.0
VA13H-34	---	---	95.0	57.0	116.0	36.0	4.5	0.0	0.3
DOYCE	85.2 -	93.3	89.0	53.8 -	115.0 -	35.5	8.8 +	2.3 +	0.5
DAN	84.8 -	90.4	85.4	58.1 +	115.8 -	36.5	6.8 +	0.0	1.0
VA12HFHB-89(2R)	---	84.5 -	85.1	56.2	115.3 -	32.8 -	0.0 -	0.5	0.0
VA08H-79WS	84.4 -	89.4	80.4 -	53.5 -	120.0 +	36.5	5.0	0.3	7.8 +
EVE	78.2 -	83.1 -	78.3 -	54.9 -	111.3 -	33.5 -	2.5 -	2.0 +	0.0
VA10H-79WS(2R)	85.6 -	83.6 -	77.7 -	57.3 +	122.0 +	38.3 +	2.0 -	2.5 +	0.0
VA09H-110(2R)	86.4 -	84.1 -	71.8 -	50.7 -	118.8 +	35.8	5.0	2.0 +	0.0
Average	92.2	94.8	94.5	56.2	117.0	36.3	4.8	0.9	1.0
LSD (0.05)	5.3	6.5	9.9	0.8	1.0	1.7	1.5	1.0	1.0
C.V.	6.9	6.8	7.3	0.9	0.6	3.2	21.9	77.7	71.2

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 or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 7. Summary of performance of entries in the Virginia Tech Hulless Barley Test, Eastern Shore AREC, Painter, VA, 2015 harvest.

Hulless Lines	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Lodging (0-9)	Net Blotch (0-9)
VA07H-35WS	83.7 +	86.3 +	75.8	57.4 +	5.3	0.5 -
VA06H-25	77.4	78.9	74.1	58.3 +	5.3	0.8 -
VA13H-34	---	---	73.4	55.4	4.8	2.8
EVE	70.4	74.7	73.3	56.0	4.3	4.8 +
VA12HFHB-89(2R)	---	74.4	72.8	57.9 +	4.0	0.5 -
VA13H-49	---	---	72.3	55.7	4.0	3.8
VA11H-34	---	71.0	70.5	56.7	5.3	0.5 -
AMAZE 10	75.2	74.2	70.4	57.6 +	4.5	0.3 -
VA09H-110(2R)	73.3	71.3	70.2	56.7	5.8 +	2.5
VA13H-25	---	---	67.1	56.4	4.5	5.3 +
VA06H-79	68.0	70.3	66.7	56.7	4.5	2.0
DOYCE	71.5	69.7	64.4	49.0 -	5.8 +	6.5 +
VA13H-38	---	---	64.4	54.6	5.3	2.5
DAN	74.2	71.0	63.3	57.5 +	5.5	2.8
VA10H-33	---	---	62.3	53.9 -	5.3	5.8 +
VA12H-84	---	---	61.9	54.9	4.8	6.8 +
VA13H-39	---	---	61.7	55.5	4.5	5.0 +
VA10H-57	68.7	64.0	59.8	53.2 -	4.5	7.3 +
VA08H-79WS	60.5 -	62.3	58.7	54.3 -	4.0	0.0 -
VA08H-65	62.5 -	58.3 -	54.0 -	55.4	5.8 +	6.3 +
VA10H-79WS(2R)	69.3	65.7	53.7 -	57.8 +	4.3	0.5 -
Average	71.2	70.9	66.2	55.8	4.8	3.2
LSD (0.05)	7.1	8.7	11.8	1.2	0.8	1.3
C.V.	11.7	11.9	12.1	1.5	12.3	28.9

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages.

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

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

Table 8. Summary of performance of entries in the Virginia Tech Hulless Barley Test, Northern Piedmont Center, Orange, VA, 2015 harvest.

Hulless Lines	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Lodging (0-9)	Height (in)
VA13H-25	---	---	112.3 +	59.5	0.0	36.8
VA13H-39	---	---	108.0	58.5	0.0	38.8 +
DAN	90.3 +	95.9 +	107.7	61.0 +	0.0	34.8
VA12H-84	---	---	105.5	59.4	0.0	37.0
VA07H-35WS	89.2	102.6 +	105.5	60.6 +	0.0	36.0
VA13H-49	---	---	105.3	59.6	0.0	33.3
VA06H-79	83.3	90.7	103.9	58.2 -	0.0	33.8
VA13H-34	---	---	102.6	59.3	0.0	36.8
VA10H-33	---	---	100.7	59.0	0.5	35.0
VA11H-34	---	88.9	98.0	59.1	0.0	32.8
VA06H-25	87.6	97.1 +	97.7	60.3 +	0.0	35.8
VA08H-65	88.1	90.1	94.3	60.1 +	1.0 +	35.0
VA08H-79WS	77.5 -	80.6	91.3	56.4 -	0.0	33.5
AMAZE 10	85.8	91.4	89.8	60.0 +	0.8	36.0
DOYCE	82.4	84.9	87.9	58.4 -	0.5	33.3
VA10H-57	85.1	88.6	87.6	59.6	0.0	36.0
VA09H-110(2R)	77.9 -	80.2	87.0	58.5	0.5	34.8
VA10H-79WS(2R)	74.9 -	76.6 -	86.5	60.5 +	0.0	40.5 +
VA13H-38	---	---	86.4	58.5	0.3	37.3
EVE	79.3	82.5	81.8	58.4 -	0.0	31.5 -
VA12HFHB-89(2R)	---	63.7 -	67.8 -	57.4 -	0.0	33.0
Average	83.4	86.7	95.6	59.2	0.2	35.3
LSD (0.05)	6.0	8.4	13.8	0.8	0.8	2.9
C.V.	8.4	9.0	9.8	0.9	343.2	5.9

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages.

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

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

Table 9. Summary of performance of entries in the Virginia Tech Hulless Barley Test, Kentland Farm, Blacksburg, VA, 2015 harvest.

Hulless Lines	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Net Blotch (0-9)	Winter Survival (%)
VA07H-35WS	105.3 +	108.8 +	106.0 +	59.6	116.3	36.3 +	8.3 +	4.3	1.8	95.0
VA06H-25	106.5 +	108.3 +	104.2 +	59.5	116.3	35.8 +	8.0 +	5.3	1.8	93.8
VA08H-65	103.6 +	105.7 +	104.0 +	60.0 +	115.0	33.5	3.3	5.3	1.0	99.0 +
VA10H-57	97.4	96.6	99.7	59.3	115.0	35.3 +	2.0	3.5	1.3	90.5 -
VA12H-84	---	---	96.9	59.4	111.5 -	32.3	1.3	4.8	2.0	97.0
AMAZE 10	106.2 +	103.6 +	96.5	59.6	115.8	35.0 +	8.0 +	4.8	1.8	95.0
VA08H-79WS	86.0 -	92.7	96.5	56.9 -	116.3	34.8 +	2.3	9.0 +	0.0	96.0
VA09H-110(2R)	99.6	99.2	96.0	59.8	119.5 +	33.0	2.8	6.0	1.0	94.8
VA10H-33	---	---	95.5	58.3	115.0	31.5	1.5	3.8	2.0	91.3
VA13H-39	---	---	93.2	58.5	114.8	32.8	3.3	2.5 -	0.8	92.5
VA10H-79WS(2R)	93.5	92.7	92.4	60.8 +	120.3 +	38.0 +	2.0	6.3	4.5 +	99.3 +
VA13H-34	---	---	92.0	58.9	115.8	33.3	2.5	3.3	1.0	92.5
VA13H-49	---	---	91.8	59.3	116.3	30.3 -	0.8 -	6.5 +	0.8	90.0 -
VA13H-25	---	---	91.2	59.0	113.8 -	31.3	1.5	2.3 -	0.8	93.8
VA11H-34	---	101.4	90.4	58.8	117.0 +	29.5 -	1.3	2.0 -	0.8	96.0
VA12HFHB-89(2R)	---	87.4 -	87.0	60.6 +	115.3	31.8	0.5 -	3.3	0.8	96.0
VA06H-79	100.0	96.0	87.0	57.5 -	118.3 +	31.8	3.8	8.5 +	0.3	95.0
DAN	92.0 -	91.7 -	86.4 -	60.2 +	115.3	31.5	1.8	3.5	1.3	94.8
VA13H-38	---	---	85.6 -	58.4	116.5 +	33.0	3.8	2.5 -	0.5	91.3
EVE	89.2 -	88.3 -	85.5 -	59.3	110.5 -	29.0 -	4.0	7.5 +	0.5	93.8
DOYCE	86.9 -	87.2 -	83.7 -	55.7 -	113.0 -	30.0 -	3.3	4.5	2.0	96.8
Average	97.2	97.1	93.4	59.0	115.6	32.8	3.1	4.7	1.3	94.5
LSD (0.05)	4.8	4.4	6.5	0.8	0.9	1.7	2.2	1.6	1.3	3.6
C.V.	5.9	4.4	4.8	0.9	0.5	3.7	49.9	23.3	76.0	2.7

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 or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 10. Summary of performance of barley entries in the Virginia Tech Barley Test, 2015 harvest.

Barley Lines	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Net Blotch (0-9)	Powdery Mildew (0-9)	Winter Survival (%)	Awns ¹
	(6)	(6)	(2)	(3)	(6)	(1)	(3)	(1)	(1)	
SECRETARIAT	106.0 +	48.8	112.0 -	31.8 -	5.0 +	1.0 -	1.4	0.0	94.8	SA
VA12B-30	105.3 +	47.9	118.8 +	36.4 +	3.5 -	5.3 +	1.3	0.0	97.0	SA
VA12B-8	104.8 +	48.0	115.6 +	35.5 +	3.2 -	4.8 +	0.8	0.0	98.0	LA
THOROUGHbred	103.2 +	48.5	118.3 +	34.5	4.0	7.8 +	1.8	3.8 +	98.0	LA
ATLANTIC	100.1 +	48.0	110.0 -	29.9 -	4.8 +	4.8 +	1.6	0.3	97.0	SA
VA12B-129	99.9 +	48.8	116.5 +	36.8 +	4.3	2.5	2.2 +	0.0	98.0	LA
VA12B-41	99.9 +	46.6 -	115.5 +	34.7	3.8	2.0	0.8	0.0	96.0	SA
VA10B-43	99.8 +	47.7	116.9 +	34.3	4.0	2.8	1.0	0.5	95.0	SA
VA11B-102	99.8 +	45.8 -	116.5 +	35.9 +	5.0 +	3.3	0.8	0.3	98.0	LA
VA12B-56	99.6 +	48.3	110.9 -	29.6 -	4.0	3.8	0.3 -	0.3	94.8	SA
VA11B-41	98.9	47.9	115.8 +	34.6	4.3	1.3 -	0.9	0.0	95.5	SA
VA11B-143	98.8	49.2 +	112.8 -	35.0 +	3.9	1.5 -	0.9	0.0	95.0	LA
PRICE	98.8	48.1	112.6 -	31.5 -	3.6	6.5 +	3.4 +	0.3	92.5	SA
VA08B-108	98.3	48.1	112.0 -	30.6 -	4.1	3.3	1.4	0.3	96.0	SA
VA08B-84	98.1	49.2 +	111.0 -	30.5 -	4.7 +	1.0 -	1.6	0.0	97.0	SA
VA13B-48	97.4	48.9	116.1 +	35.0 +	4.5 +	1.3 -	0.2 -	0.0	95.8	LA
VA13B-37	97.4	49.8 +	111.0 -	35.2 +	3.9	1.5 -	0.7	0.8	95.0	LA
VA11B-141	97.0	49.5 +	115.3 +	35.6 +	3.6	1.8 -	0.5 -	0.0	97.0	LA
VA11B-130	96.6	50.1 +	110.6 -	33.6	2.8 -	1.5 -	2.1 +	0.0	95.0	LA
VA11B-4	96.0	48.9	114.5	31.6 -	4.5 +	2.5	0.8	0.0	92.5	SA
VA11B-126	94.9	49.3 +	110.6 -	32.5 -	3.7	1.5 -	1.5	0.0	98.0	LA
VA13BFHB-23	94.6	48.2	116.9 +	33.2	3.6	2.5	0.7	0.0	91.3 -	SA
VA13B-25	94.4	49.7 +	112.0 -	33.5	3.8	4.5 +	0.8	0.0	93.8	LA
VA08B-95	93.7	47.2 -	111.6 -	32.7	5.0 +	1.3 -	1.4	7.3 +	96.0	SA
VA09B-34	92.6	50.1 +	111.8 -	31.8 -	3.7	1.0 -	0.1 -	0.8	96.0	LA
VA13B-35	91.8	49.6 +	111.8 -	33.9	4.4	3.5	0.7	0.0	93.8	LA
VA13B-15	89.9 -	47.4	119.5 +	37.3 +	4.2	1.5 -	1.1	0.0	91.3 -	LA
VA13B-30	88.7 -	50.1 +	116.6 +	34.7	3.6	1.3 -	0.3 -	0.0	94.8	LA
BARSOY	88.5 -	47.9	111.8 -	33.8	4.2	7.8 +	1.3	0.0	96.0	LA

Table 10. Summary of performance of barley entries in the Virginia Tech Barley Test, 2015 harvest.

Barley Lines	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Net Blotch (0-9)	Powdery Mildew (0-9)	Winter Survival (%)	Awns ¹
CALLAO	87.7 -	48.2	109.9 -	28.9 -	6.3 +	5.3 +	1.4	0.3	95.0	SA
VIOLETTA	87.2 -	48.1	118.9 +	30.1 -	2.7 -	1.0 -	1.0	0.0	95.8	LA
NOMINI	79.3 -	43.7 -	110.9 -	35.8 +	2.7 -	5.5 +	0.1 -	0.0	97.0	AL
WYSOR	75.7 -	43.6 -	112.0 -	37.1 +	3.6	8.5 +	2.3 +	0.0	98.0	AL
VA92-42-46	71.0 -	45.0 -	113.1	37.4 +	3.0 -	1.0 -	4.8 +	0.3	96.0	AL
Average	94.9	48.1	113.8	33.7	4.0	3.1	1.2	0.4	95.6	
LSD (0.05)	4.6	0.9	0.8	1.1	0.5	1.2	0.7	0.5	3.6	
C.V.	8.1	3.0	0.7	4.0	20.5	28.2	66.6	74.5	2.7	

Released cultivars are shown in bold print.

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

Varieties are ordered by descending yield averages.

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

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

¹ LA=long awned, SA=short awned, AL=awnletted or awnless.

Table 11. Two year average summary of performance of hulled entries in the Virginia Tech Barley Tests, 2014 and 2015 harvests.

Barley Lines	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Net Blotch (0-9)	Powdery Mildew (0-9)	Early Lodging (0-9)	Winter Survival (%)
	(12)	(12)	(4)	(6)	(11)	(3)	(6)	(3)	(1)	(2)
VA12B-8	107.5 +	48.5	117.5 +	36.0 +	2.9 -	5.3 +	1.6	0.4	1.0 -	94.8
THOROUGHbred	106.0 +	48.9	120.0 +	34.8	3.5	6.8 +	2.6 +	2.9 +	2.8	94.8
SECRETARIAT	104.1 +	48.9	113.9 -	31.7 -	4.4 +	0.8 -	2.2	0.2 -	4.5	90.3
VA11B-102	103.8 +	47.3 -	118.1 +	36.3 +	4.5 +	2.6	1.0 -	0.4	2.0	96.5 +
VA10B-43	103.1 +	48.2	118.4 +	34.4	3.6	1.7 -	1.0 -	0.3	5.5 +	90.0
VA11B-141	102.2 +	49.8 +	117.2 +	36.4 +	3.0 -	1.3 -	1.1 -	0.1 -	2.0	92.6
VA11B-41	102.1 +	48.2	117.6 +	34.5	3.5	1.2 -	1.1 -	0.3	2.5	90.8
VA11B-4	102.0 +	49.5 +	117.0 +	32.5 -	4.0	2.8	1.1 -	0.2 -	5.3 +	87.8 -
VA08B-108	101.0	48.1	113.7 -	31.3 -	3.8	2.7	2.3	0.3	4.3	91.9
VA11B-143	100.7	49.7 +	115.3	35.3 +	3.3	1.3 -	1.3 -	0.4	2.0	91.3
VA11B-126	100.7	49.9 +	113.1 -	33.8	3.3	1.6 -	2.2	0.3	1.3 -	96.8 +
VA11B-130	100.0	50.7 +	113.1 -	34.5	2.6 -	1.2 -	2.4	0.3	1.0 -	94.0
ATLANTIC	99.3	48.4	112.4 -	31.0 -	4.4 +	4.3 +	2.5 +	0.3	3.3	91.8
PRICE	98.4	48.4	114.8 -	31.9 -	3.6	4.9 +	3.9 +	0.3	3.0	89.9
VA08B-84	98.1	49.3 +	113.4 -	30.9 -	4.2 +	0.8 -	2.2	0.2 -	4.0	92.9
VA08B-95	96.1	47.3 -	113.8 -	33.1	4.8 +	1.4 -	1.5	4.3 +	6.8 +	91.5
VA09B-34	94.2	50.4 +	113.5 -	33.3	3.0 -	1.1 -	1.0 -	0.4	1.5	94.8
BARSOY	91.2 -	48.6	113.9 -	34.6	3.9	6.9 +	2.3	0.3	2.3	91.6
VIOLETTA	89.7 -	48.5	120.9 +	31.0 -	2.3 -	0.4 -	1.3 +	0.3	0.3 -	94.9
CALLAO	89.4 -	48.5	112.1 -	29.3 -	6.0 +	3.8 +	2.5	0.2 -	6.8 +	92.3
NOMINI	78.7 -	45.0 -	113.1 -	37.2 +	2.7 -	4.8 +	0.5 -	0.3	2.8	94.5
WYSOR	75.6 -	44.2 -	114.8 -	37.9 +	3.5	7.3 +	3.0 +	0.0 -	4.3	96.9 +
VA92-42-46	74.7 -	45.6 -	115.3	38.5 +	3.0 -	0.7 -	5.2 +	0.2 -	3.8	91.4
Average	97.3	48.5	115.3	33.9	3.6	2.8	2.0	0.6	3.2	92.8
LSD (0.05)	4.4	0.6	0.5	1.0	0.4	0.6	0.5	0.3	1.7	3.3
C.V.	10.6	3.1	0.6	5.0	28.0	27.0	46.1	73.4	39.2	3.6

Released cultivars are shown in bold print.

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

Varieties are ordered by descending yield averages.

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

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

Table 12. Three year average summary of performance of hulled entries in the Virginia Tech Barley Tests, 2013, 2014, and 2015 harvests.

Barley Lines	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Net Blotch (0-9)	Powdery Mildew (0-9)	Early Lodging (0-9)	Winter Survival (%)
	(17)	(17)	(6)	(9)	(16)	(6)	(8)	(6)	(2)	(3)
SECRETARIAT	107.1 +	48.1 +	113.3 -	31.3 -	4.3 +	0.7 -	2.1	0.4 -	6.0 +	93.3
VA11B-102	106.2 +	46.2 -	117.4 +	35.9 +	4.3 +	2.1 -	1.0 -	0.6	4.1	97.3 +
THOROUGHbred	106.1 +	47.4	119.4 +	34.2	3.3	6.4 +	2.5	4.6 +	2.9	94.3
VA10B-43	106.0 +	47.3	117.9 +	34.1	3.3	1.4 -	0.9 -	0.6 -	5.0	90.0 -
VA11B-141	105.6 +	48.7 +	116.8 +	36.1 +	3.0 -	1.4 -	1.0 -	0.5 -	1.1 -	92.5
VA11B-143	105.1 +	48.6 +	114.9 +	34.9 +	3.1 -	1.3 -	1.2 -	1.0	3.4	90.8
VA08B-108	104.5 +	47.2	113.3 -	31.0 -	3.7	2.1 -	2.3	0.5 -	5.5	93.6
VA11B-4	104.2 +	48.3 +	116.3 +	31.8 -	3.8	2.5	1.1 -	0.5 -	6.0 +	87.7 -
VA11B-126	103.2 +	48.5 +	113.0 -	33.3	3.4	1.3 -	2.2	0.4 -	2.5 -	97.6 +
VA11B-130	103.0 +	49.5 +	112.9 -	34.8 +	3.0 -	1.4 -	2.3	0.5 -	3.9	93.4
ATLANTIC	99.6	47.3	111.6 -	30.2 -	4.5 +	3.7 +	2.6	0.5 -	5.1	94.3
VA08B-84	99.5	48.5 +	112.5 -	30.7 -	4.5 +	0.7 -	2.4	0.3 -	5.8 +	94.3
PRICE	97.7	47.4	114.1	31.3 -	3.6	4.4 +	4.3 +	0.8	2.9	92.2
VA09B-34	97.3	49.2 +	113.0 -	32.9	3.2 -	1.2 -	1.4 -	0.9	2.0 -	94.3
VA08B-95	96.4	46.4 -	112.9 -	32.6 -	4.9 +	1.6 -	1.2 -	6.1 +	7.1 +	92.5
CALLAO	91.9 -	47.3	111.3 -	28.9 -	6.0 +	3.5 +	2.2	0.4 -	7.5 +	93.0
BARSOY	90.6 -	47.0	113.5 -	34.6 +	4.0	6.6 +	2.2	0.8	4.4	94.1
NOMINI	82.0 -	44.3 -	112.6 -	37.3 +	2.6 -	4.5 +	0.5 -	0.5 -	2.4 -	94.2
WYSOR	81.9 -	43.5 -	114.3	37.4 +	3.5	6.7 +	3.0 +	0.3 -	5.0	96.5 +
VA92-42-46	77.2 -	45.0 -	114.8	38.2 +	3.0 -	0.7 -	5.5 +	0.3 -	2.6	91.7
Average	98.3	47.3	114.3	33.6	3.8	2.7	2.1	1.0	4.3	93.4
LSD (0.05)	3.7	0.5	0.4	0.8	0.4	0.4	0.5	0.4	1.5	2.7
C.V.	10.7	2.9	0.7	5.0	29.6	28.3	46.9	66.9	37.1	3.6

Released cultivars are shown in bold print.

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

Varieties are ordered by descending yield averages.

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

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

Table 13. Summary of performance of barley entries in the Virginia Tech Barley Test, Southern Piedmont AREC, Blackstone, VA, 2015 harvest.

Barley Lines	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Lodging (0-9)
SECRETARIAT	92.2 +	90.1 +	97.2 +	49.9	5.3 +
VA11B-143	85.8	84.6	94.4 +	48.8	4.8
VA13B-25	---	---	89.9	50.8 +	4.8
VA11B-141	88.1 +	86.6 +	89.8	50.2	3.8
VA08B-84	77.9	80.0	89.6	50.9 +	4.8
ATLANTIC	80.4	81.0	86.4	49.4	4.3
VA13B-48	---	---	85.6	49.5	4.5
VA08B-108	89.1 +	86.3	85.4	50.2	4.0
VA08B-95	83.3	81.8	84.5	49.6	4.3
VA13B-15	---	---	83.8	47.4 -	4.8
PRICE	82.8	83.9	83.6	49.9	3.0 -
VA12B-8	---	85.2	82.7	48.7	4.0
NOMINI	69.4 -	71.6 -	82.1	47.0 -	4.3
WYSOR	75.6	76.0	81.4	48.1	4.8
THOROUGHBRED	89.5 +	88.3 +	80.9	49.8	4.0
VA11B-130	85.0	79.9	80.9	51.9 +	3.3
VA13B-37	---	---	80.9	51.1 +	4.3
CALLAO	79.6	73.9	80.9	48.3	6.0 +
VA12B-129	---	---	79.8	49.4	4.5
VA11B-102	85.7	83.8	79.2	44.3 -	4.8
VA12B-56	---	---	78.3	48.8	4.5
VA13B-35	---	---	76.7	50.2	5.5 +
VA11B-4	79.7	79.5	76.4	48.4	3.8
VA13BFHB-23	---	---	76.0	47.5 -	2.5 -
VA12B-30	---	---	75.5	46.2 -	3.0 -
VA11B-126	83.8	80.1	75.1	51.2 +	3.0 -
VA10B-43	81.2	75.6	75.1	47.6 -	3.5
VA11B-41	---	77.6	73.6	48.1	3.8
VA12B-41	---	---	72.7	46.7 -	4.3
VA13B-30	---	---	71.7	50.4 +	4.3
BARSOY	72.7 -	71.8 -	69.9	49.6	4.5
VA09B-34	72.0 -	67.5 -	69.6	52.2 +	2.8 -
VIOLETTA	---	77.6	69.2	46.3 -	3.3
VA92-42-46	68.6 -	63.4 -	64.0 -	48.9	3.5
Average	81.2	79.5	80.1	49.0	4.1
LSD (0.05)	6.1	6.9	12.0	1.2	0.9
C.V.	8.9	8.5	10.2	1.7	15.6

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.

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

Table 14. Summary of performance of barley entries in the Virginia Tech Barley Test, planted no-till at the Tidewater AREC, Holland, VA, 2015 harvest.

Barley Lines	2-year Av. Yield (Bu/a)	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Lodging (0-9)
VA92-42-46*	67.3	-----	-----	0.0 -
NOMINI*	56.3 -	-----	-----	0.0 -
WYSOR*	46.7 -	-----	-----	0.0 -
THOROUGHbred	87.8 +	82.2 +	50.5	3.3
VA13B-37	---	81.1	53.2 +	4.5
VA11B-41	81.1	78.8	49.4	4.8
VA12B-8	80.8	76.7	50.7	3.0
VA12B-56	---	75.6	49.9	4.0
VIOLETTA	68.8	74.6	49.4	2.0 -
VA13B-48	---	72.4	49.9	4.5
VA12B-41	---	71.7	48.1 -	3.3
VA12B-30	---	70.7	47.4 -	3.5
VA12B-129	---	70.2	50.0	4.8
VA11B-141	70.6	70.0	50.6	3.3
VA08B-95	69.5	69.6	48.9 -	4.5
ATLANTIC	72.1	69.4	50.3	4.5
VA13B-25	---	68.9	51.9 +	4.8
VA11B-4	69.0	67.3	50.6	4.5
PRICE	77.3	66.7	49.6	3.3
VA11B-130	73.1	66.5	52.7 +	3.0
VA11B-143	72.3	66.0	51.3 +	3.8
VA13B-30	---	65.6	52.2 +	3.3
VA13BFHB-23	---	65.5	49.4	4.0
VA10B-43	71.1	64.4	48.6 -	3.5
VA09B-34	66.6	63.7	52.3 +	4.0
VA11B-126	72.0	63.6	52.0 +	4.3
VA08B-108	69.5	61.7	50.1	4.3
SECRETARIAT	70.4	61.6	49.6	5.5 +
VA11B-102	69.1	61.4	45.9 -	6.5 +
VA13B-35	---	60.1	51.8 +	4.8
VA08B-84	73.9	59.9	49.9	4.8
CALLAO	68.1	58.5	50.2	6.3 +
VA13B-15	---	57.8	48.8 -	4.0
BARSOY	66.2	54.5	50.4	4.0
Average	71.5	67.6	50.2	3.8
LSD (0.05)	10.3	14.0	1.1	1.2
C.V.	12.7	13.9	1.4	22.9

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages.

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

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

* Deer damaged these varieties in the 2014-15 growing season.

Table 15. Summary of performance of barley entries in the Virginia Tech Barley Test, Eastern Virginia AREC, Warsaw, VA, 2015 harvest.

Barley Lines	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Net Blotch (0-9)	Powdery Mildew (0-9)
VA12B-30	---	---	134.6 +	46.8 +	119.0 +	37.3 +	3.8 -	1.0	0.0
VA10B-43	136.2 +	131.5 +	133.4 +	45.5	117.3 +	36.5	6.3	0.3	0.5
VA11B-4	137.0 +	126.9 +	133.0 +	47.2 +	115.3 +	32.8 -	7.3	0.3	0.0
VA13B-48	---	---	131.1	46.2	115.0	36.5	6.5	0.0	0.0
VA13B-25	---	---	130.1	46.9 +	111.8 -	35.8	4.8	0.5	0.0
SECRETARIAT	135.7 +	126.2	129.9	47.1 +	111.5 -	33.0 -	7.0	0.3	0.0
VA08B-84	130.3	123.1	129.0	47.4 +	110.5 -	32.8 -	6.8	1.0	0.0
VA11B-102	131.9	122.7	127.6	44.9 -	117.8 +	37.3 +	6.0	0.3	0.3
VA12B-56	---	---	127.6	46.6 +	110.3 -	29.8 -	4.3 -	0.0	0.3
ATLANTIC	126.3	123.6	126.8	45.3	110.0 -	32.0 -	7.5 +	1.0	0.3
VA11B-130	137.4 +	125.2	126.6	46.1	110.3 -	35.0	5.0	0.5	0.0
VA11B-143	132.3	122.7	125.4	46.7 +	112.8	36.5	6.3	0.3	0.0
VA13BFHB-23	---	---	124.9	46.5 +	117.8 +	35.3	6.8	0.5	0.0
VA13B-15	---	---	124.9	45.7	120.0 +	40.5 +	6.5	0.0	0.0
VA12B-41	---	---	124.4	44.7 -	115.8 +	37.0 +	4.5 -	1.3	0.0
VA11B-41	---	121.5	124.1	45.8	116.5 +	35.8	6.3	0.3	0.0
PRICE	114.3 -	116.3	123.3	45.5	112.5	33.0 -	6.3	3.0 +	0.3
VA13B-35	---	---	123.3	46.4	111.0 -	36.8	5.0	0.5	0.0
VA08B-108	130.2	122.8	123.0	44.8 -	112.0 -	31.5 -	6.3	0.5	0.3
VA12B-129	---	---	122.4	45.9	116.8 +	38.0 +	5.5	0.8	0.0
BARSOY	124.6	118.8	122.4	45.6	111.3 -	36.8	7.0	0.5	0.0
VA12B-8	---	119.3	121.7	44.1 -	116.3 +	37.8 +	4.3 -	1.0	0.0
THOROUGHbred	129.3	124.1	121.7	44.8 -	119.5 +	37.5 +	6.3	3.0 +	3.8 +
VA13B-37	---	---	120.6	45.6	110.0 -	36.3	5.0	0.3	0.8
VA09B-34	127.5	118.0	120.1	47.2 +	111.5 -	33.5 -	4.5 -	0.0	0.8
VA11B-141	130.2	123.0	119.2	47.3 +	115.3 +	36.8	6.3	0.3	0.0
VA11B-126	124.0	117.1	118.6	45.7	109.8 -	33.3 -	5.5	0.8	0.0
VA13B-30	---	---	118.5	47.2 +	117.5 +	37.0 +	6.3	0.3	0.0
VIOLETTA	---	115.0 -	118.4	45.6	119.3 +	31.5 -	4.8	1.3	0.0

Table 15. Summary of performance of barley entries in the Virginia Tech Barley Test, Eastern Virginia AREC, Warsaw, VA, 2015 harvest.

Barley Lines	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Net Blotch (0-9)	Powdery Mildew (0-9)
CALLAO	124.2	115.9	117.2	46.1	109.8 -	29.5 -	8.5 +	0.8	0.3
WYSOR	116.3 -	108.1 -	113.2	43.3 -	111.0 -	38.8 +	6.3	3.0 +	0.0
VA08B-95	122.7	119.3	112.3 -	44.5 -	111.3 -	34.5	8.8 +	0.3	7.3 +
NOMINI	113.6 -	107.1 -	105.8 -	42.7 -	110.0 -	38.0 +	4.5 -	0.0	0.0
VA92-42-46	103.2 -	98.6 -	100.3 -	44.0 -	112.3 -	40.0 +	7.0	3.5 +	0.3
Average	126.5	119.6	122.8	45.7	113.8	35.4	6.0	0.8	0.4
LSD (0.05)	6.3	7.0	9.8	0.7	1.3	1.6	1.4	1.3	0.5
C.V.	6.1	5.8	5.7	1.1	0.8	3.2	17.0	113.8	74.5

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 or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 16. Summary of performance of barley entries in the Virginia Tech Barley Test, Eastern Shore AREC, Painter, VA, 2015 harvest.

Barley Lines	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Lodging (0-9)	Net Blotch (0-9)
VA12B-8	---	99.6 +	99.0 +	48.6	4.8	1.0 -
VA12B-56	---	---	85.9 +	48.5	4.8	0.5 -
VA12B-30	---	---	84.6 +	47.6	4.8	1.0 -
VA12B-41	---	---	81.7 +	46.4 -	4.8	1.0 -
VA09B-34	78.3	81.0	80.0	51.0 +	5.0	0.3 -
VA13BFHB-23	---	---	78.2	47.7	5.0	1.5
VA12B-129	---	---	78.1	49.4	5.0	2.5
SECRETARIAT	79.1	77.0	78.0	47.7	5.0	3.0
BARSOY	71.2	78.0	77.8	50.0 +	5.5	3.0
VA11B-126	77.6	75.7	77.8	49.3	4.8	3.5 +
VA10B-43	78.7	79.9	77.6	47.5	4.5	2.5
ATLANTIC	82.2	81.0	77.4	47.4	4.8	2.8
THOROUGHbred	80.0	80.9	74.6	48.3	5.0	2.0
PRICE	74.1	72.4	74.0	47.6	4.8	4.5 +
VA13B-37	---	---	72.7	50.2 +	5.0	1.3
VA11B-4	82.1	80.8	71.2	48.6	5.0	2.0
VA11B-143	78.3	76.7	71.2	49.3	4.8	2.0
VA13B-30	---	---	70.8	51.5 +	4.8	0.8 -
VA08B-84	75.2	72.9	70.5	47.3	4.8	3.8 +
VA11B-130	74.3	75.2	70.5	51.8 +	4.0	3.3 +
VA11B-41	---	77.1	70.3	47.4	4.8	2.3
VA11B-141	80.3	76.2	70.1	48.8	5.3	0.8 -
VA08B-108	79.4	77.1	69.8	47.8	5.0	3.5 +
VA13B-35	---	---	68.3	49.9 +	5.5	1.5
VA13B-48	---	---	66.9	48.8	5.0	0.5 -
VA08B-95	72.2	73.3	64.1	44.9 -	5.0	2.3
CALLAO	66.2 -	64.1 -	64.0	48.2	5.3	3.3 +
VA11B-102	78.5	76.7	58.7 -	45.2 -	5.3	1.8
VA13B-15	---	---	58.1 -	48.0	6.0 +	2.0
VA13B-25	---	---	57.8 -	49.6	5.0	1.3
VIOLETTA	---	57.9 -	57.7 -	47.3	5.3	1.5
NOMINI	58.7 -	49.6 -	51.3 -	45.0 -	2.8 -	0.0 -
VA92-42-46	43.2 -	49.9 -	49.9 -	45.2 -	4.3	5.5 +
WYSOR	56.3 -	44.0 -	44.0 -	44.2 -	4.0	3.5 +
Average	74.6	74.6	70.7	48.1	4.8	2.1
LSD (0.05)	8.1	9.6	10.6	1.5	0.9	1.1
C.V.	11.5	11.0	9.1	1.8	13.3	36.5

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 or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 17. Summary of performance of barley entries in the Virginia Tech Barley Test, Northern Piedmont Center, Orange, VA, 2015 harvest.

Barley Lines	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Lodging (0-9)	Height (in)
THOROUGHbred	108.6 +	112.1 +	124.6 +	51.7	0.0	32.8
VA11B-102	106.7 +	115.8 +	121.5 +	50.3	0.8	37.0 +
VA12B-8	---	122.8 +	120.5 +	51.9	0.0	34.3
VA12B-30	---	---	119.2 +	52.1	0.0	36.8 +
VA12B-41	---	---	114.7 +	49.2	0.3	34.5
VA12B-129	---	---	112.4 +	52.7	0.0	36.5 +
VA10B-43	107.9 +	112.0 +	112.2 +	50.9	0.0	33.5
VA13B-48	---	---	112.1 +	51.7	1.0 +	35.0
PRICE	93.5	103.3	109.9	51.5	0.0	32.3
SECRETARIAT	93.2	98.9	109.1	51.4	0.0	31.8
VA08B-108	102.8 +	107.3	109.1	50.8	0.0	31.5
VA11B-141	104.4 +	110.4 +	107.2	52.6	0.0	36.0 +
VA11B-130	94.9	101.8	104.4	52.5	0.0	33.5
VA11B-41	---	105.2	103.0	50.1	0.0	35.0
VA11B-126	104.5 +	114.7 +	102.9	51.4	0.5	32.3
VA13BFHB-23	---	---	102.6	51.0	0.0	33.8
ATLANTIC	95.5	101.3	102.2	50.0	0.0	29.0 -
VA12B-56	---	---	101.6	50.2	0.0	30.3 -
VA11B-143	99.3	101.9	101.6	51.9	0.0	34.0
VA11B-4	99.4	104.5	101.0	51.3	0.0	32.0
VA13B-35	---	---	100.1	52.5	0.0	32.5
BARSOY	83.0	91.1	99.4	49.8	0.0	33.0
VA13B-25	---	---	99.2	52.0	0.0	32.5
VA13B-37	---	---	97.3	52.1	0.0	36.0 +
VIOLETTA	---	89.7	97.2	53.2	0.0	30.3 -
VA13B-30	---	---	96.5	52.6	0.0	33.3
VA08B-95	83.7	91.6	96.2	49.0	1.0 +	32.8
VA13B-15	---	---	93.6	49.7	0.0	35.0
VA09B-34	93.5	99.8	93.4	50.8	0.0	31.0 -
VA08B-84	83.8	88.1	90.7	52.1	0.0	30.0 -
CALLAO	90.1	93.0	89.4	50.3	2.8 +	29.5 -
NOMINI	58.6 -	51.6 -	27.3 -	41.6 -	0.0	34.3
WYSOR	44.6 -	44.6 -	22.1 -	38.5 -	0.0	36.8 +
VA92-42-46	26.7 -	26.7 -	18.4 -	41.4 -	0.0	36.8 +
Average	91.7	96.7	97.4	50.3	0.2	33.4
LSD (0.05)	10.5	12.5	13.2	4.8	0.7	2.2
C.V.	12.7	12.3	9.3	6.4	262.2	4.8

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.

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

Table 18. Summary of performance of barley entries in the Virginia Tech Barley Test, Kentland Farm, Blacksburg, VA, 2015 harvest.

Barley Lines	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Net Blotch (0-9)	Winter Survival (%)
SECRETARIAT	142.9 +	147.9 +	140.4 +	48.0 +	112.5 -	30.8	7.3 +	1.0 -	1.0	94.8
VA08B-84	139.7 +	144.5 +	139.6 +	48.1 +	111.5 -	28.8 -	7.3 +	1.0 -	0.0	97.0
VA08B-108	137.5	140.7	136.5 +	45.4	112.0 -	28.8 -	5.0	3.3	0.3	96.0
VA10B-43	147.2 +	148.7 +	136.1 +	46.2	116.5 +	32.8	6.0	2.8	0.3	95.0
VA11B-102	139.0	144.8 +	135.2 +	45.7	115.3 +	33.5	6.8 +	3.3	0.5	98.0
THOROUGHbred	134.0	140.6	135.1 +	46.1	117.0 +	33.3	5.3	7.8 +	0.5	98.0
VA12B-30	---	---	134.5 +	47.2	118.5 +	35.3 +	5.8	5.3 +	2.0 +	97.0
VA12B-129	---	---	134.2 +	46.4	116.3 +	35.8 +	6.3	2.5	3.3 +	98.0
VA08B-95	131.9	135.7	133.3 +	46.1	112.0 -	30.8	6.8 +	1.3 -	1.8	96.0
VA13B-15	---	---	132.8	44.7 -	119.0 +	36.3 +	4.0	1.5 -	1.3	91.3 -
VA11B-41	---	144.6 +	131.5	46.9	115.0 +	33.0	6.5	1.3 -	0.3	95.5
VA11B-126	138.7	141.3	130.9	46.0	111.5 -	32.0	4.0	1.5 -	0.3	98.0
ATLANTIC	126.6	129.9	129.4	45.6	110.0 -	28.8 -	8.0 +	4.8 +	1.0	97.0
VA12B-41	---	---	127.0	45.8	115.3 +	32.5	6.0	2.0	0.3	96.0
VA11B-143	141.0 +	141.0	126.4	47.2	112.8 -	34.5 +	3.8	1.5 -	0.5	95.0
VA12B-56	---	---	125.6	46.5	111.5 -	28.8 -	6.5	3.8	0.5	94.8
VA11B-141	141.8 +	142.2	125.5	47.6 +	115.3 +	34.0	3.0 -	1.8 -	0.5	97.0
VA13B-37	---	---	125.4	47.2	112.0 -	33.3	4.5	1.5 -	0.5	95.0
VA12B-8	---	137.6	125.2	45.5	115.0 +	34.5 +	3.3 -	4.8 +	0.3	98.0
VA11B-130	137.0	138.6	124.0	46.0	111.0 -	32.3	1.3 -	1.5 -	2.5 +	95.0
VA11B-4	136.0	140.9	122.2	48.0 +	113.8	30.0 -	6.8 +	2.5	0.0	92.5
VA13B-35	---	---	122.0	46.7	112.5 -	32.5	5.5	3.5	0.0	93.8
VA13B-25	---	---	120.7	47.3 +	112.3 -	32.3	3.3 -	4.5 +	0.5	93.8
VA09B-34	130.7	128.0	118.3	47.8 +	112.0 -	30.8	5.8	1.0 -	0.0	96.0
VA13B-48	---	---	116.3	47.1	117.3 +	33.5	5.8	1.3 -	0.0	95.8
CALLAO	112.0 -	121.8 -	116.3	46.2	110.0 -	27.8 -	9.0 +	5.3 +	0.3	95.0
VA13BFHB-23	---	---	115.7 -	46.9	116.0 +	30.5	3.5 -	2.5	0.0	91.3 -
PRICE	131.4	129.5	115.5 -	46.1	112.8 -	29.3 -	4.5	6.5 +	2.8 +	92.5
VA92-42-46	113.0 -	116.2 -	115.4 -	45.5	114.0	35.5 +	3.5 -	1.0 -	5.3 +	96.0

Table 18. Summary of performance of barley entries in the Virginia Tech Barley Test, Kentland Farm, Blacksburg, VA, 2015 harvest.

Barley Lines	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a @ 48 lb/bu)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Net Blotch (0-9)	Winter Survival (%)
WYSOR	106.4 -	110.8 -	110.8 -	44.4 -	113.0	35.8 +	6.5	8.5 +	0.3	98.0
NOMINI	105.1 -	110.8 -	109.6 -	44.0 -	111.8 -	35.3 +	4.8	5.5 +	0.3	97.0
VA13B-30	---	---	108.7 -	46.4	115.8 +	33.8	3.3 -	1.3 -	0.0	94.8
VIOLETTA	---	126.9	108.2 -	46.6	118.5 +	28.5 -	1.0 -	1.0 -	0.3	95.8
BARSOY	113.2 -	118.1 -	101.5 -	43.0 -	112.3 -	31.8	4.0	7.8 +	0.5	96.0
Average	131.7	135.2	124.4	46.3	113.9	32.2	5.1	3.1	0.8	95.6
LSD (0.05)	7.7	9.2	8.5	0.9	1.0	1.8	1.5	1.2	1.1	3.6
C.V.	6.8	6.5	4.7	1.4	0.6	4.1	21.4	28.2	98.5	2.7

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 or lodging where 0 = highly resistant and 9 = highly susceptible.

Section 2: Barley Scab Research

One of the primary research objectives of the Virginia Tech barley breeding program is to identify and develop cultivars possessing resistance to *Fusarium* head blight (FHB) or scab. Each year all barley and hulless barley entries in Virginia's Official State Variety Trials are evaluated for FHB resistance in an inoculated, irrigated nursery at a Mount Holly test site. Data from this test for the current crop year and two and three year averages for FHB incidence, FHB severity, FHB Index (incidence x severity / 100), and deoxynivalenol (DON) content from 2012 and 2013 are included in this bulletin (Tables 19-24) to aid producers in selection of cultivars on the basis of FHB resistance. Cultivars possessing complete resistance or immunity to FHB have not been identified and resistance levels in currently available cultivars vary from moderately resistant to highly susceptible.

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

Entries were inoculated by spreading scabby corn seeds in plots at the booting stage. A high level of FHB infection was obtained in 2015. Among 21 hulless lines and varieties tested in 2015, the FHB index ranged from 35 to 75 with FHB incidence ranging from 95% to 100% and FHB severity from 35% to 75% (Table 19). One two-rows hulless line (VA12HFHB-89(2R)) had similar FHB Index to resistant variety 'Eve'. Two two-rows hulless lines (VA09H-110(2R) and VA10H-79WS(2R)) showed FHB index lower than moderately resistant variety 'Dan'. However, VA10H-79WS(2R) had DON content of 14.7 ppm higher than Eve (4.3 ppm) and Dan (6.2 ppm) averaged over 2013 and 2014. Based on two year mean data for 2014 and 2015 (Table 20), four lines and two varieties had FHB index values lower than the test mean (<30.6). Eve had the least DON content (4.6 ppm) followed by VA12FHB-89(2R) (4.6 ppm), Dan (8.6 ppm) and VA09H-110(2R) (6.8 ppm). Three hulless barley lines (VA09H-110(2R), VA10H-79WS(2R) and VA08H-65) and two varieties (Eve and Dan) tested across three years (2013-2015) for FHB index and two years (2013-2014) for DON content had average FHB index and DON content values lower than the test mean of 28.8 and 14.2 ppm, respectively (Table 21).

A high FHB infection level was obtained for hulled barley in 2015. Among 34 barley lines and varieties tested in 2015, the FHB index varied from 37.5 to 72.5. The FHB index and FHB severity was same as the FHB incidence was 100% (Table 22). Thirteen lines and five varieties had FHB index values lower than the mean (<52.5) in 2015. Based on two year mean data for 2014 and 2015 (Table 23), seven lines and four varieties had FHB index values lower than the test mean (<27.8) and DON content values lower than the test mean (15.3 ppm) averaged over 2013 and 2014 (except for VA12B-8 and Violetta which had DON content values only from 2014). Six hulled barley lines (VA11B-126, VA08B-95, VA92-42-46, VA11B-130, VA11B-143, and VA11B-141) and two varieties (Nomini and Barsoy) tested across three years (2013-2015) for FHB index and two years (2013-2014) for DON content had average FHB index and DON content values lower than the test mean of 25.0 and 13.0 ppm, respectively (Table 24).

Table 19. Summary of reaction of entries in the Virginia Tech State Hulless Barley Test to Fusarium head blight (scab), 2015 harvest.

LINE	FHB Incidence ¹ (%)	FHB Severity ² (%)	FHB Index ³ (0-100)	Rank FHB Index	Date Headed (Julian)
VA12HFHB-89(2R)	100.0	35.0 -	35.0 -	1	118.0
EVE	100.0	35.0 -	35.0 -	2	117.0
VA09H-110(2R)	95.0 -	37.5 -	35.8 -	3	120.0
VA10H-79WS(2R)	100.0	40.0 -	40.0 -	4	119.0
DAN	100.0	45.0	45.0	5	119.5
VA08H-79WS	100.0	47.5	47.5	6	121.5
VA13H-49	100.0	47.5	47.5	7	117.5
VA12H-84	100.0	52.5	52.5	8	116.5
VA08H-65	100.0	55.0	55.0	9	119.0
VA13H-38	100.0	55.0	55.0	10	117.5
VA13H-34	100.0	57.5	57.5	11	118.5
VA13H-39	100.0	57.5	57.5	12	115.5
VA13H-25	100.0	60.0	60.0	13	120.0
AMAZE 10	100.0	60.0	60.0	14	119.5
VA06H-25	100.0	62.5	62.5	15	120.5
VA06H-79	100.0	62.5	62.5	16	119.5
VA10H-33	100.0	62.5	62.5	17	117.5
VA10H-57	100.0	65.0	65.0	18	118.5
VA11H-34	100.0	67.5 +	67.5 +	19	116.0
VA07H-35WS	100.0	72.5 +	72.5 +	20	119.0
DOYCE	100.0	75.0 +	75.0 +	21	117.0
Average	99.8	54.9	54.8		118.4
LSD (0.05)	3.2	11.1	11.1		4.6
C.V.	1.5	9.7	9.7		1.9

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

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

Entries were planted in 6-row plots, 13 ft in length cut back to 9 ft at Mt. Holly, VA and were inoculated at 50% and 100% heading stages with *Fusarium graminearum* spore suspension (50,000 spores/ml).

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

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

³Scab Index = Incidence X Severity/100 (overall indicator of scab resistance/susceptibility level.)

Table 20. Two year average summary of reaction of entries in the Virginia Tech State Hulless Barley Tests to Fusarium head blight (scab), 2014 and 2015 harvests.

LINE	FHB Incidence ¹ (%)	FHB Severity ² (%)	FHB Index ³ (0-100)	Rank FHB Index	Date Headed (Julian)	DON ⁴ (ppm)
VA12HFHB-89(2R)	62.5 -	20.0 -	18.1 -	1	116.5	4.6 [‡]
EVE	71.3 -	20.0 -	18.6 -	2	114.0 -	4.3
VA09H-110(2R)	80.0	22.5 -	20.3 -	3	118.0	6.8
VA10H-79WS(2R)	66.3 -	22.5 -	20.8 -	4	118.5	14.7
DAN	81.3	25.0 -	24.1 -	5	117.8	6.2
VA08H-79WS	75.0	26.3	25.0	6	120.3 +	17.1
VA08H-65	90.0	31.8	30.9	7	116.5	13.9
VA06H-25	80.0	34.3	33.1	8	119.0	37.7
AMAZE 10	85.0	36.3	34.4	9	118.3	19.9
VA11H-34	83.8	38.8 +	37.1 +	10	115.5	11.6 [‡]
VA06H-79	90.0	38.8 +	37.3 +	11	118.0	30.1
VA07H-35WS	88.8	38.8 +	38.2 +	12	119.3	36.8
VA10H-57	92.5 +	42.5 +	41.0 +	13	117.3	21.3
DOYCE	96.3 +	50.0 +	49.1 +	14	115.3	18.6
Average	81.6	31.9	30.6		117.4	17.4
LSD (0.05)	8.7	5.8	5.6		2.2	
C.V.	7.3	12.5	12.6		1.3	

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

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

Entries were planted in 6-row plots, 13 ft in length cut back to 9 ft at Mt. Holly, VA and were inoculated at 50% and 100% heading stages with *Fusarium graminearum* spore suspension (50,000 spores/ml).

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

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

³Scab Index = Incidence X Severity/100 (overall indicator of scab resistance/susceptibility level.)

⁴DON values were measured (pooled over replications) from the 2013 and 2014 harvest year.

[‡]DON values were measured (pooled over replications) from the 2014 harvest year.

Table 21. Three year average summary of reaction of entries in the Virginia Tech State Hulless Barley Tests to Fusarium head blight (scab), 2013 - 2015 harvests.

LINE	FHB Incidence ¹ (%)	FHB Severity ² (%)	FHB Index ³ (0-100)	Rank FHB Index	Date Headed (Julian)	DON ⁴ (ppm)
EVE	58.3 -	14.0 -	12.6 -	1	110.5 -	4.3
VA09H-110(2R)	76.7 -	18.3 -	15.9 -	2	114.7	6.8
VA10H-79WS(2R)	75.8 -	21.7 -	20.2 -	3	115.2	14.7
DAN	84.2	21.7 -	20.5 -	4	114.3	6.2
VA08H-65	81.7	23.2	22.0	5	112.8	13.9
VA08H-79WS	83.3	25.0	24.2	6	116.5 +	17.1
VA11H-34	85.8	30.0	28.5	7	112.2 -	---
VA10H-57	93.3 +	34.2	32.9	8	113.8	21.3
VA06H-25	86.7	37.0	36.2	9	115.5	37.7
AMAZE 10	90.0	40.0 +	38.8 +	10	114.8	19.9
VA07H-35WS	92.5 +	40.0 +	39.6 +	11	115.5	36.8
VA06H-79	93.3 +	42.5 +	41.5 +	12	115.0	30.1
DOYCE	94.2 +	43.3 +	41.7 +	13	111.7 -	18.6
Average	84.3	30.1	28.8		114.0	14.2
LSD (0.05)	7.2	8.1	8.1		1.5	2.7
C.V.	7.3	23.1	23.9		1.2	10.5

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

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

Entries were planted in 6-row plots, 13 ft in length cut back to 9 ft at Mt. Holly, VA and were inoculated at booting stage with *Fusarium graminearum* corn spawn.

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

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

³Scab Index = Incidence X Severity/100 (overall indicator of scab resistance/susceptibility level.)

⁴DON values were measured from the 2013 and 2014 harvest year.

Table 22. Summary of reaction of entries in the Virginia Tech State Barley Test to Fusarium head blight (scab), 2015 harvest.

LINE	FHB Incidence ¹ (%)	FHB Severity ² (%)	FHB Index ³ (0-100)	Rank FHB Index	Date Headed (Julian)
VA11B-141	100.0	37.5	37.5	1	116.0
VA11B-143	100.0	37.5	37.5	2	114.5
NOMINI	100.0	40.0	40.0	3	115.0
VA13B-35	100.0	40.0	40.0	4	112.0
VA12B-8	100.0	42.5	42.5	5	115.5
WYSOR	100.0	45.0	45.0	6	116.0
VA08B-95	100.0	45.0	45.0	7	113.0
VA13B-25	100.0	45.0	45.0	8	112.0
VA11B-126	100.0	45.0	45.0	9	111.5
BARSOY	100.0	45.0	45.0	10	111.0 -
VA11B-130	100.0	45.0	45.0	11	111.0 -
VA92-42-46	100.0	47.5	47.5	12	119.5
VA11B-102	100.0	47.5	47.5	13	117.5
VA13B-48	100.0	47.5	47.5	14	117.0
VA13B-37	100.0	47.5	47.5	15	113.5
VIOLETTA	100.0	50.0	50.0	16	120.0
VA12B-129	100.0	50.0	50.0	17	117.5
CALLAO	100.0	50.0	50.0	18	110.5 -
VA13B-15	100.0	52.5	52.5	19	122.0 +
VA08B-84	100.0	52.5	52.5	20	117.5
VA08B-108	100.0	52.5	52.5	21	113.5
VA13BFHB-23	100.0	55.0	55.0	22	119.0
VA09B-34	100.0	55.0	55.0	23	114.0
VA13B-30	100.0	57.5	57.5	24	117.0
THOROUGHbred	100.0	60.0	60.0	25	121.0 +
SECRETARIAT	100.0	60.0	60.0	26	115.5
VA12B-56	100.0	60.0	60.0	27	110.5 -
VA12B-30	100.0	62.5	62.5	28	120.0
VA11B-4	100.0	65.0	65.0	29	119.0
ATLANTIC	100.0	65.0	65.0	30	110.0 -
PRICE	100.0	67.5	67.5	31	113.5
VA11B-41	100.0	70.0 +	70.0 +	32	121.0 +
VA12B-41	100.0	70.0 +	70.0 +	33	118.5
VA10B-43	100.0	72.5 +	72.5 +	34	118.5
Average	100.0	52.5	52.5		115.7
LSD (0.05)	0.0	17.1	17.1		4.5
C.V.	0.0	16.1	16.1		1.9

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

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

Entries were planted in 6-row plots, 13 ft in length cut back to 9 ft at Mt. Holly, VA and were inoculated at 50% and 100% heading stages with *Fusarium graminearum* spore suspension (50,000 spores/ml).

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

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

³Scab Index = Incidence X Severity/100 (overall indicator of scab resistance/susceptibility level.)

Table 23. Two year average summary of reaction of entries in the Virginia Tech State Barley Tests to Fusarium head blight (scab), 2014 and 2015 harvests.

LINE	FHB Incidence ¹ (%)	FHB Severity ² (%)	FHB Index ³ (0-100)	Rank FHB Index	Date Headed (Julian)	DON ⁴ (ppm)
VA11B-143	82.5	20.5	19.9	1	114.5	12.4
VA11B-141	91.3	21.0	20.5	2	116.5	10.6
NOMINI	78.8	21.0	20.6	3	113.5	9.2
VA12B-8	85.0	23.8	23.0	4	115.3	3.8 [‡]
VA11B-130	85.0	25.0	24.3	5	111.3 -	6.0
BARSOY	86.3	25.0	24.3	6	110.8 -	11.8
VA11B-126	87.5	25.0	24.4	7	110.8 -	5.5
WYSOR	90.0	25.0	24.5	8	115.8	13.7
VA11B-102	80.0	25.5	24.9	9	116.5	24.2
VA08B-95	95.0 +	25.5	25.2	10	113.0	9.3
VA92-42-46	82.5	26.3	25.4	11	117.3	9.5
VIOLETTA	65.0	27.5	25.8	12	116.5	14.4 [‡]
CALLAO	90.0	26.8	26.5	13	110.8 -	16.0
VA09B-34	78.8	28.5	28.1	14	113.3	18.4
VA08B-108	88.8	28.8	28.2	15	113.5	14.7
VA08B-84	96.3 +	29.3	29.0	16	115.8	16.6
THOROUGHbred	87.5	31.3	30.9	17	119.3 +	21.5
SECRETARIAT	85.0	32.5	31.8	18	114.3	17.5
ATLANTIC	87.5	35.0	34.4	19	111.5 -	18.7
VA11B-4	95.0 +	35.8	35.4	20	118.3 +	29.0
PRICE	87.5	36.8 +	36.0 +	21	114.0	21.6
VA11B-41	87.5	37.5 +	36.9 +	22	118.3 +	14.8 [‡]
VA10B-43	92.5	39.3 +	38.8 +	23	117.5 +	31.5
Average	86.3	28.4	27.8		114.7	15.3
LSD (0.05)	8.1	8.0	8.0		2.7	
C.V.	6.6	19.8	20.1		1.7	

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

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

Entries were planted in 6-row plots, 13 ft in length cut back to 9 ft at Mt. Holly, VA and were inoculated at 50% and 100% heading stages with *Fusarium graminearum* spore suspension (50,000 spores/ml).

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

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

³Scab Index = Incidence X Severity/100 (overall indicator of scab resistance/susceptibility level.)

⁴DON values were measured (pooled over replications) from the 2013 and 2014 harvest year.

[‡]DON values were measured (pooled over replications) from the 2014 harvest year.

Table 24. Three year average summary of reaction of entries in the Virginia Tech State Barley Tests to Fusarium head blight (scab), 2013 - 2015 harvests.

LINE	FHB Incidence ¹ (%)	FHB Severity ² (%)	FHB Index ³ (0-100)	Rank FHB Index	Date Headed (Julian)	DON ⁴ (ppm)
NOMINI	74.2 -	15.7 -	14.8 -	1	110.7	9.2
WYSOR	85.0	18.7	17.9	2	112.5	13.7
VA11B-126	85.0	19.2	18.3	3	108.5 -	5.5
VA08B-95	86.7	19.5	18.7	4	110.2	9.3
VA92-42-46	80.0	20.0	18.8	5	113.5 +	9.5
BARSOY	84.2	20.0	19.0	6	108.5 -	11.8
VA11B-130	88.3	20.0	19.4	7	108.8 -	6.0
VA11B-143	86.7	20.3	19.7	8	111.3	12.4
VIOLETTA	75.0 -	21.7	20.3	9	113.5 +	---
VA09B-34	79.2	22.3	21.4	10	110.2	18.4
CALLAO	91.7	22.8	22.5	11	108.8 -	16.0
VA11B-141	94.2	24.0	23.7	12	113.5 +	10.6
VA08B-108	90.8	25.8	25.4	13	110.5	14.7
VA11B-102	86.7	27.0	26.6	14	113.8 +	24.2
THOROUGHbred	91.7	28.3	28.1	15	115.3 +	21.5
SECRETARIAT	88.3	30.0	29.3	16	111.5	17.5
ATLANTIC	90.0	31.7	31.2	17	109.2 -	18.7
PRICE	91.7	32.0	31.5	18	111.2	21.6
VA11B-4	96.7 +	34.7 +	34.4 +	19	114.3 +	29.0
VA08B-84	97.5 +	35.3 +	35.2 +	20	112.3	16.6
VA10B-43	95.0	49.5 +	49.2 +	21	114.5 +	31.5
Average	87.5	25.6	25.0		111.6	13.0
LSD (0.05)	8.5	8.4	8.6		1.8	3.8
C.V.	8.4	28.4	29.7		1.4	17.3

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

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

Entries were planted in 6-row plots, 13 ft in length cut back to 9 ft at Mt. Holly, VA and were inoculated at 50% and 100% heading stages with *Fusarium graminearum* spore suspension (50,000 spores/ml).

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

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

³Scab Index = Incidence X Severity/100 (overall indicator of scab resistance/susceptibility level.)

⁴DON values were measured (pooled over replications) from the 2013 harvest year.

Section 3: Wheat Varieties

Wheat trials were planted in seven-inch rows at Blackstone, Orange, Holland, Painter, and Shenandoah Valley. They were planted in six-inch rows at Blacksburg and Warsaw. Holland and Shenandoah Valley were planted at 48 seeds per square foot. All other locations were planted at 44 seeds per square foot.

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 day length 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- and over-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 2015 were Pioneer XW13T, VA10W-119, USG 3895, Pioneer Brand 26R10, MAS #32, and VA12FHB-8. VA10W-119 also had test weight that was significantly higher than the mean of all lines tested. Average yield of all lines tested in 2014-15 was 78 bushels per acre.

Pioneer Brand 26R10 had the highest two-year average yield. USG 3404, AgriMAXX 446, SS 8360, Shirley, AgriMAXX 434, USG 3523, Hilliard, USG 3612, MAS #37, Pioneer Brand 26R20, USG 3251, VA11W-106, and AgriMAXX 427 all had grain yield significantly above the mean over the 2014 and 2015 harvests. Hilliard, Pioneer Brand 26R20, and VA11W-106 also had test weight that was significantly higher than the two-year mean of all lines tested. The two-year average grain yield over all locations and varieties was 71 bushels per acre.

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

Entries in 2014-15 Virginia Wheat Test, arranged by company.

Company	Line	Seed Treatment reported by company
AgriMAXX Wheat Company 7167 Highbanks Road Mascoutah, IL 62258	AgriMAXX 413	Vibrance Extreme, Maxim + Cruiser
	AgriMAXX 415	Vibrance Extreme, Maxim + Cruiser
	AgriMAXX 427	Vibrance Extreme, Maxim + Cruiser
	AgriMAXX 434	Vibrance Extreme, Maxim + Cruiser
	AgriMAXX 438	Vibrance Extreme, Maxim + Cruiser
	AgriMAXX 444	Vibrance Extreme, Maxim + Cruiser
	AgriMAXX 446	Vibrance Extreme, Maxim + Cruiser
	AgriMaxx Exp 1450 AgriMAXX EXP 1558	Vibrance Extreme, Maxim + Cruiser Vibrance Extreme, Maxim + Cruiser
Crop Production Services 15277 Richmond-Tappahannock Hwy St Stephens Church, VA 23148	Dyna-Gro 9171	Foothold Awaken ST
	Dyna-Gro 9223	Foothold Awaken ST
	Dyna-Gro 9522	Foothold Awaken ST
	Dyna-Gro 9552	Foothold Awaken ST
	Shirley WX15733	Foothold Awaken ST Foothold Awaken ST
	Yorktown	Foothold Awaken ST
Dupont Pioneer 59 Greif Parkway Suite 200 Delaware, OH 43015	Pioneer Brand 25R32	Dividend
	Pioneer Brand 26R10	Dividend
	Pioneer Brand 26R20	Dividend
	Pioneer Brand 26R53	Dividend
	Pioneer XW13T	Dividend
	Pioneer XW13W	Dividend
Eddie Mercer Agri-Services, Inc. 6900 Linganore Road Frederick, MD 21702	MBX 15-E-229	Reviz WST + Vibrance EXT
	MBX EXP 1502	Cruiser + Vibrance EXT
	MBX11-V-258	Reviz WST + Vibrance EXT
	MBX12-V-251	Reviz WST + Vibrance EXT
	MBX14-K-297	Reviz WST + Vibrance EXT
	MBX14-S-210	Reviz WST + Vibrance EXT
Erwin-Keith, Inc. 1529 Hwy 193 Wynne, AR 72396	Progeny 117	Apron
	Progeny 357	Apron
	Progeny 410	Apron
	Progeny 870	Apron
Featherstone Farm Seed 13941 Genito Road Amelia, VA 23002	Featherstone 73	Evergol
	Featherstone VA258	Evergol
Limagrain Cereal Seeds 7707 Jackson Pond Dr Charlotte, NC 28273	LCS 2141	Cruiser Maxx
	LCS 2214	Starburst IM
	LCS NEWS	Starburst IM
Meherrin 4020 Wake Forest Rd, Suite 110 Raleigh, NC 27609	Southern Harvest 3200	Vibrance Extreme + Bio-Forge
	Southern Harvest 4300	Vibrance Extreme + Bio-Forge
	Southern Harvest 4400	Vibrance Extreme + Bio-Forge
Mid-Atlantic Seeds 204 St. Charles Way, #163E York, PA 17402	MAS #2	MAS Proshield
	MAS #23	MAS Proshield
	MAS #32	MAS Proshield

Entries in 2014-15 Virginia Wheat Test, arranged by company.

Company	Line	Seed Treatment reported by company
	MAS #35	MAS Proshield
	MAS #37	MAS Proshield
	MAS #42S	MAS Proshield
	MAS #45	MAS Proshield
	MAS #46	MAS Proshield
	MAS #47	MAS Proshield
	MAS #49	MAS Proshield
	MAS #51	MAS Proshield
	MAS #53	MAS Proshield
	MAS #59	MAS Proshield
	MAS #6	MAS Proshield
	MAS #7	MAS Proshield
North Carolina State University	NC09-20986	none
840 Method Road Unit 3	NC10-23663	none
Raleigh, NC 27695	NC10-23720	none
Southern States	SS 520	Evergol Energy
6606 West Broad Street	SS 5205	Evergol Energy
Richmond, VA 23230	SS 8340	Evergol Energy
	SS 8360	Evergol Energy
	SS 8415	Evergol Energy
	SS 8513	Evergol Energy
	SS 8870	Evergol Energy
	SS EXP 8530	Evergol Energy
	SS EXP 8629	Evergol Energy
Syngenta Seeds, Inc.	SY 007	Vibrance Extreme + Cruiser 5FS
806 N. 2nd St	SY 474	Vibrance Extreme + Cruiser 5FS
Berthoud, CO 80513	SY 483	Vibrance Extreme + Cruiser 5FS
	SY 547	Vibrance Extreme + Cruiser 5FS
UniSouth Genetics, Inc.	USG 3013	Raxil
3205-C HWY 46S	USG 3201	Raxil
Dickson, TN 37055	USG 3225	Raxil
	USG 3251	Raxil
	USG 3315	Raxil
	USG 3404	Raxil
	USG 3438	Raxil
	USG 3523	Raxil
	USG 3612	Raxil
	USG 3895	Raxil
	USG 3993	Raxil
	USG EXP 3756	Raxil
University of Georgia	GA-03564-12E6	Dividend
1109 Experiment Street	GA-04417-12E33	Dividend
Griffin, GA 30223	GA-04434-12LE28	Dividend

Entries in 2014-15 Virginia Wheat Test, arranged by company.

Company	Line	Seed Treatment reported by company
University of Maryland	MD04W249-11-12	Vibrance + Storcide
27664 Nanticoke Rd	MD04W249-11-7	Vibrance + Storcide
Salisbury, MD 21801		
University of Tennessee	TN1201	Raxil
252 Ellington Hall, 2431 Joe Johnson Dr		
Knoxville, TN 37996		
Virginia Tech and the Virginia	Hilliard	Raxil MD Extra + Gaucho
Crop Improvement Association	Jamestown	Raxil MD Extra + Gaucho
9142 Atlee Station Road	Massey	Raxil MD Extra + Gaucho
Mechanicsville, VA 23111	Merl	Raxil MD Extra + Gaucho
	VA07MAS14-9260-8-2-2	Raxil MD Extra + Gaucho
	VA07MAS4-7417-1-3-3	Raxil MD Extra + Gaucho
	VA08MAS1-188-6-4	Raxil MD Extra + Gaucho
	VA08MAS1-190-4-1	Raxil MD Extra + Gaucho
	VA08MAS5-39-6-4	Raxil MD Extra + Gaucho
	VA10W-119	Raxil MD Extra + Gaucho
	VA10W-21	Raxil MD Extra + Gaucho
	VA10W-96	Raxil MD Extra + Gaucho
	VA11W-106	Raxil MD Extra + Gaucho
	VA11W-182	Raxil MD Extra + Gaucho
	VA11W-230	Raxil MD Extra + Gaucho
	VA11W-278	Raxil MD Extra + Gaucho
	VA11W-279	Raxil MD Extra + Gaucho
	VA11W-313	Raxil MD Extra + Gaucho
	VA11W-95	Raxil MD Extra + Gaucho
	VA12FHB-4	Raxil MD Extra + Gaucho
	VA12FHB-53	Raxil MD Extra + Gaucho
	VA12FHB-55	Raxil MD Extra + Gaucho
	VA12FHB-8	Raxil MD Extra + Gaucho
	VA12W-150	Raxil MD Extra + Gaucho
	VA12W-22	Raxil MD Extra + Gaucho
	VA12W-248	Raxil MD Extra + Gaucho
	VA12W-31	Raxil MD Extra + Gaucho
	VA12W-54	Raxil MD Extra + Gaucho
	VA12W-68	Raxil MD Extra + Gaucho
	VA12W-72	Raxil MD Extra + Gaucho
	VA12W-97	Raxil MD Extra + Gaucho
	VA13FHB-11	Raxil MD Extra + Gaucho
	VA13FHB-13	Raxil MD Extra + Gaucho
	VA13FHB-5	Raxil MD Extra + Gaucho
	VA13W-124	Raxil MD Extra + Gaucho
	VA13W-177	Raxil MD Extra + Gaucho
	VA13W-38	Raxil MD Extra + Gaucho
	VA13W-56	Raxil MD Extra + Gaucho

Summary of wheat management practices for the 2015 harvest season (All rates are given on a per acre basis.)

Blacksburg - Planted October 1, 2014. Preplant fertilizer was 30-50-50 September 22, 2014. Site was sprayed with .75 oz Harmony Extra SG® on October 31, 2014. Site was fertilized with 30 lb N using 30-0-0 UAN on March 18, 2015 (GS 25) and with 50 lb N using 30-0-0 UAN plus 0.75 oz Harmony Extra SG® on April 8, 2015 (GS 30). Smart Zn and Manni-Plex N-Boron™ were applied at 1 qt each April 11, 2015. Harvest occurred June 29, 2015.

Blackstone - Planted October 8, 2014. Preplant fertilizer was 300 lb 10-10-10 on October 2, 2014. Site was fertilized with 60 lb N using UAN + .5 oz. Harmony Extra, on March 18, 2015. Site was fertilized with 60 #N, 60#K using 15-0-14 on April 8, 2015. Cereal leaf beetles were sprayed on May 19th 2015. Harvest occurred June 25, 2015.

Warsaw - Planted October 19, 2014. Preplant fertilizer was 30-60-60-5 applied October 6, 2014. Site was fertilized using 12-0-0-1.5 at 30 lb on December 14, 2014 and at 30 lb on February 6, 2015. Site was treated with 6.5 oz Starane® and .75 oz Harmony Extra SG® plus Scanner surfactant at 1.5 qt/100 gal water on March 24, 2015. Site was fertilized using 24-0-0-3 at 60 lb on April 5, 2015. Site was treated with 2 qt boron and 1.25 pt zinc on April 12, 2015. Harvest occurred June 20, 2015.

Painter - Planted October 23, 2014. Preplant fertilizer was 30 lb N using 30% UAN cut 50/50 on October 20, 2014. Site was fertilized with 60 lb N using 30% UAN and 0.75 oz Harmony Extra SG® March 25, 2015. Site was fertilized with 40 lb N using 30% UAN on April 30, 2015. Site was fertilized with 20 lb N using 30% UAN cut 50/50 to reduce burn May 4, 2015. Harvest occurred June 22, 2015.

Holland - Planted no-till October 21, 2014. Preplant fertilizer was 1/2 ton lime October 18, 2014 and 300 lb 11-16-33 on October 26, 2014. Site was fertilized with 120 units N using 24-0-0-3 plus 0.6 oz Harmony Extra SG® on March 18, 2015. Harvest occurred June 24, 2015.

Orange - Planted October 9, 2014. Preplant fertilizer was 30-80-80 October 2, 2014. Sixty lb N plus 0.6 oz Harmony Extra SG® was applied March 17, 2015. Harvest occurred June 22-23, 2015.

Shenandoah Valley - Planted on October 30, 2014. One hundred lb N plus 0.7 oz Harmony Extra SG® were applied March 18, 2015. Harvest occurred July 1, 2015.

Table 25. Summary of performance of entries in the Virginia Tech Wheat Test over location, 2015 harvest.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Powdery Mildew (0-9)	Barley Yellow Dwarf Virus (0-9)	Hessian Fly Resistance (Biotype) ¹	Awns ²
	(7)	(7)	(2)	(3)	(3)	(2)	(3)	(2)		
Pioneer XW13T	89.2 +	55.5	126.9	29.4 -	1.3	4.0 +	0.6 -	2.3 +		AL
VA10W-119	84.7 +	57.0 +	125.1 -	33.9 +	2.9 +	0.8 -	0.6 -	1.3	BCDOL	A
USG 3895	84.5 +	55.4	127.8 +	31.3 -	1.2 -	0.8 -	2.5 +	0.6 -		A
Pioneer Brand 26R10	83.4 +	55.4	127.8 +	32.2	1.0 -	5.6 +	2.6 +	1.3	BCDOL	A
MAS #32	82.3 +	55.1 -	127.5 +	32.0	1.9	5.9 +	1.5	0.9		A
VA12FHB-8	81.9 +	55.4	127.0	33.5	2.7 +	2.0	0.2 -	0.7	B	AL
AgriMAXX 438	81.5	55.2 -	127.8 +	34.0 +	1.7	6.8 +	3.9 +	1.3		TA
MAS #46	81.5	55.2 -	127.4	32.4	1.3	4.4 +	2.4 +	1.0		A
Hilliard	81.5	56.2	126.1	34.2 +	1.3	1.3	0.4 -	1.3	BC	A
MAS #7	81.3	54.6 -	127.4	32.4	1.5	6.9 +	0.8	1.6	---	TA
USG 3612	81.2	54.9 -	126.9	33.7 +	2.5 +	6.1 +	1.4	0.6 -		TA
Dyna-Gro 9552	81.2	55.7	128.5 +	31.8	0.8 -	5.1 +	2.5 +	1.6	BL	A
VA11W-106	81.2	56.5 +	127.6 +	32.5	1.7	0.1 -	0.8	1.0		A
SS EXP 8530	81.2	54.3 -	126.5	33.0	1.6	0.8 -	0.4 -	1.0		A
VA11W-279	81.1	56.9 +	124.5 -	31.1 -	2.1	0.0 -	0.0 -	0.6 -	BCDOL	AL
VA12W-248	81.1	55.8	125.5 -	34.3 +	2.6 +	0.8 -	0.7	1.4		AL
USG 3523	81.0	55.3 -	128.0 +	33.5	1.9	5.8 +	2.2 +	0.9		A
MAS #37	81.0	55.7	126.6	32.8	3.2 +	5.8 +	1.6	1.0	B	AL
AgriMAXX 427	81.0	54.6 -	127.3	33.2	2.9 +	7.0 +	2.0 +	0.9		TA
AgriMAXX 444	81.0	55.6	128.4 +	32.1	1.3	3.3	2.2 +	0.9		A
AgriMaxx Exp 1450	81.0	54.9 -	127.6 +	33.5	0.8 -	0.4 -	0.9	0.9	BDOL	A
SS 8513	80.9	56.6 +	124.3 -	33.0	3.7 +	4.0 +	0.1 -	1.1		TA
AgriMAXX 446	80.9	55.8	128.4 +	31.6	0.9 -	5.3 +	2.5 +	1.4	BDOL	A
Shirley	80.9	54.6 -	127.6 +	31.5 -	1.2 -	0.1 -	0.0 -	1.3		AL
USG 3404	80.9	55.7	128.6 +	32.4	1.2 -	4.5 +	2.2 +	1.0		A
MBX 15-E-229	80.8	54.4 -	126.9	33.1	1.8	0.4 -	0.9	0.9	---	A
VA12W-31	80.8	56.8 +	127.8 +	31.7	1.7	0.6 -	0.0 -	1.3		A
VA07MAS4-7417-1-3-3	80.8	55.8	124.9 -	31.1 -	1.2 -	0.5 -	0.1 -	1.4		A
SS 8360	80.7	55.7	128.5 +	31.9	0.6 -	6.5 +	2.8 +	1.6	BDOL	A

Table 25. Summary of performance of entries in the Virginia Tech Wheat Test over location, 2015 harvest.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Powdery Mildew (0-9)	Barley Yellow Dwarf Virus (0-9)	Hessian Fly Resistance (Biotype) ¹	Awns ²
	(7)	(7)	(2)	(3)	(3)	(2)	(3)	(2)		
SS 5205	80.7	55.6	125.6 -	29.7 -	2.3	0.5 -	0.2 -	1.4		AL
AgriMAXX EXP 1558	80.7	53.6 -	127.8 +	33.4	2.1	0.8 -	1.3	0.9	---	A
MAS #49	80.7	54.4 -	126.8	33.0	1.8	0.8 -	0.4 -	0.7	B	A
MAS #51	80.7	55.7	128.4 +	31.9	1.5	4.3 +	2.1 +	1.0		A
SY 483	80.7	54.4 -	128.8 +	32.9	1.2 -	3.6 +	0.7	0.7	---	TA
VA12W-97	80.7	57.1 +	123.1 -	31.5 -	3.5 +	0.9 -	0.3 -	1.3	DOL	TA
USG 3013	80.7	54.7 -	128.1 +	33.3	1.6	7.1 +	3.4 +	1.1		TA
MBX11-V-258	80.6	55.6	127.9 +	36.4 +	2.0	0.4 -	1.1	0.6 -	---	TA
VA10W-96	80.5	57.6 +	124.5 -	33.5	2.1	0.3 -	0.0 -	1.1		A
MBX14-S-210	80.5	55.2 -	127.5 +	33.3	1.0 -	0.5 -	0.6 -	0.9	---	A
USG 3438	80.5	53.8 -	126.9	30.9 -	1.3	3.0	1.9	2.3 +	OL	A
SS 520	80.5	54.9 -	124.3 -	33.6 +	3.1 +	2.5	0.6 -	1.9 +		TA
SY 007	80.5	55.9	125.3 -	32.8	2.0	2.9	0.1 -	1.0	---	A
Southern Harvest 4400	80.5	55.5	128.9 +	33.1	1.1 -	5.0 +	3.5 +	2.1 +	BDOL	TA
USG 3251	80.4	55.7	128.5 +	33.6 +	1.5	4.9 +	1.8	1.6		A
VA12W-22	80.4	56.5 +	126.1	31.9	2.0	0.5 -	0.4 -	0.7		AL
Dyna-Gro 9223	80.4	54.8 -	128.1 +	35.0 +	1.5	7.4 +	3.1 +	1.6		TA
Dyna-Gro 9522	80.4	55.6	128.0 +	32.1	1.3	3.3	2.1 +	1.4		A
VA12W-72	80.4	55.0 -	124.9 -	32.1	1.4	0.6 -	0.2 -	0.4 -	BCDOL	A
SY 547	80.4	55.7	127.0	33.7 +	1.7	0.8 -	0.2 -	1.3	---	TA
GA-03564-12E6	80.3	57.6 +	125.8 -	32.2	1.6	0.5 -	0.2 -	1.1	BCDO	A
MBX14-K-297	80.3	55.3 -	127.6 +	34.5 +	1.5	6.1 +	3.4 +	1.0	---	TA
Featherstone VA258	80.2	55.9	127.5 +	35.1 +	2.0	0.5 -	1.1	1.0	O	TA
AgriMAXX 434	80.2	55.0 -	126.9	31.0 -	1.1 -	5.3 +	2.7 +	1.0		A
Pioneer Brand 26R20	80.2	56.6 +	128.1 +	33.5	2.0	3.0	1.0	1.3	O	A
VA11W-313	80.2	54.1 -	123.3 -	30.2 -	2.1	0.5 -	1.8	1.1	BL	A
VA11W-278	80.2	56.9 +	123.8 -	32.1	2.0	0.0 -	0.1 -	1.0	BCDOL	AL
VA13W-124	80.0	55.0 -	126.0	32.7	2.5 +	0.1 -	2.2 +	1.0	BCDOL	TA
AgriMAXX 413	80.0	53.4 -	126.4	31.1 -	1.4	2.3	1.5	1.7	OL	A

Table 25. Summary of performance of entries in the Virginia Tech Wheat Test over location, 2015 harvest.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Powdery Mildew (0-9)	Barley Yellow Dwarf Virus (0-9)	Hessian Fly Resistance (Biotype) ¹	Awns ²
	(7)	(7)	(2)	(3)	(3)	(2)	(3)	(2)		
Southern Harvest 4300	79.9	54.3 -	127.0	31.6	1.5	5.0 +	2.1 +	1.7		A
MAS #42S	79.9	55.6	128.5 +	33.0	1.1 -	6.9 +	3.8 +	1.0		A
AgriMAXX 415	79.8	57.0 +	127.5 +	32.1	1.4	3.1	2.9 +	1.0		A
MD04W249-11-7	79.8	57.3 +	126.3	33.8 +	1.5	3.6 +	0.2 -	1.1		A
VA11W-95	79.6	56.3 +	125.9 -	34.6 +	2.5 +	0.4 -	0.3 -	1.1	BCDL	A
USG 3201	79.2	57.1 +	127.3	32.3	1.5	3.3	2.8 +	0.7		A
VA12W-68	79.2	55.5	125.3 -	32.5	1.2 -	0.6 -	0.5 -	0.4 -	BCDOL	A
MD04W249-11-12	79.2	57.1 +	125.3 -	33.7 +	1.7	3.4	0.0 -	1.3		A
SY 474	79.1	56.6 +	128.9 +	34.8 +	1.7	3.8 +	0.5 -	1.0	---	AL
USG EXP 3756	79.0	55.6	126.3	34.6 +	1.7	2.1	2.8 +	1.0		A
VA08MAS5-39-6-4	79.0	55.6	123.8 -	32.5	1.7	0.6 -	0.5 -	0.7		A
Dyna-Gro 9171	79.0	53.4 -	126.6	31.0 -	1.5	2.5	2.0 +	3.0 +		A
USG 3993	78.9	56.2	127.6 +	32.4	1.7	2.3	0.8	0.9	B	TA
SS 8340	78.9	57.0 +	127.5 +	32.3	1.3	2.5	2.5 +	0.9	DL	A
VA10W-21	78.5	56.3 +	127.3	32.4	1.3	3.6 +	2.0 +	1.0		TA
VA12W-54	78.5	56.1	124.0 -	30.8 -	2.3	0.0 -	0.0 -	0.6 -	BCDOL	AL
VA11W-230	78.2	57.5 +	124.8 -	32.0	1.6	0.0 -	0.5 -	1.1	CDOL	A
USG 3225	78.2	57.5 +	126.4	31.5	2.2	0.3 -	1.4	0.4 -		A
Merl	77.9	56.8 +	126.1	32.9	1.5	3.6 +	0.0 -	1.0		AL
MAS #23	77.9	54.8 -	127.3	30.7 -	1.1 -	6.8 +	2.2 +	1.1	---	A
SS 8415	77.8	55.7	125.8 -	33.0	2.8 +	2.6	0.1 -	1.1	BCD	TA
VA12FHB-55	77.5	54.9 -	127.1	31.5	2.2	1.4	0.2 -	1.3	O	AL
GA-04434-12LE28	77.4	56.0	128.1 +	30.9 -	1.9	0.3 -	0.0 -	1.0	O	A
MAS #59	77.4	55.2 -	125.8 -	32.8	2.8 +	1.5	0.5 -	1.3		AL
LCS NEWS	77.4	57.4 +	127.3	32.1	1.8	1.5	0.0 -	1.7		AL
MBX12-V-251	77.4	55.2 -	126.8	31.5 -	2.5 +	0.1 -	0.7	1.0	---	TA
TN1201	77.3	56.1	127.0	32.9	2.8 +	0.4 -	0.5 -	0.7	O	A
VA08MAS1-188-6-4	77.2	56.3 +	124.9 -	31.7	1.9	0.3 -	0.1 -	0.7		AL
WX15733	77.1	53.7 -	127.4	32.0	2.2	3.3	1.7	1.3	BDOL	A

Table 25. Summary of performance of entries in the Virginia Tech Wheat Test over location, 2015 harvest.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Powdery Mildew (0-9)	Barley Yellow Dwarf Virus (0-9)	Hessian Fly Resistance (Biotype) ¹	Awns ²
	(7)	(7)	(2)	(3)	(3)	(2)	(3)	(2)		
MAS #6	77.1	53.6 -	126.6	30.3 -	1.4	2.9	1.7	2.6 +	---	A
LCS 2214	77.1	55.0 -	125.8 -	32.5	2.3	3.4	0.9	1.3	B	AL
MAS #35	77.0	55.1 -	128.0 +	30.8 -	0.7 -	2.3	2.9 +	1.1		A
NC10-23663	77.0	56.0	126.4	33.1	4.0 +	0.3 -	0.3 -	0.9	C	TA
VA13FHB-5	77.0	57.2 +	125.8 -	31.0 -	0.9 -	0.3 -	0.5 -	0.9		A
Featherstone 73	76.9	56.1	128.9 +	32.6	1.6	0.1 -	0.4 -	0.9		TA
VA12FHB-53	76.9	55.5	127.5 +	31.9	2.4	0.5 -	0.5 -	1.0		AL
Progeny 410	76.4	55.8	127.8 +	34.5 +	1.6	3.3	2.2 +	2.3 +		AL/TA
VA13W-38	76.0	56.9 +	124.3 -	31.5	1.5	0.6 -	0.2 -	0.7		A
MAS #47	76.0	54.4 -	127.6 +	33.5	1.2 -	3.0	0.8	2.0 +		TA
SS EXP 8629	75.9	55.2 -	126.5	30.7 -	3.4 +	1.1 -	1.0	1.0	BCDOL	A
Progeny 870	75.8	54.0 -	126.8	30.7 -	1.3	2.5	2.5 +	2.3 +		A
VA07MAS14-9260-8-2-2	75.3	57.2 +	127.3	32.2	1.3	0.3 -	0.4 -	0.9		A
MAS #45	75.2	55.5	128.4 +	31.0 -	1.6	1.6	4.5 +	1.1		A
VA13W-177	75.1	57.9 +	123.1 -	35.1 +	1.7	0.1 -	0.3 -	1.3	B	A
USG 3315	74.8 -	56.5 +	127.3	33.8 +	2.3	1.6	2.2 +	1.1	B	TA
Pioneer Brand 25R32	74.3 -	55.9	127.8 +	33.6 +	1.5	5.9 +	1.0	1.9 +	BDOL	A
VA12FHB-4	74.2 -	55.1 -	126.3	32.5	1.8	0.3 -	0.9	1.0		AL
VA11W-182	73.9 -	53.7 -	127.0	27.9 -	1.0 -	0.5 -	0.5 -	1.0		AL
VA12W-150	73.9 -	56.7 +	126.6	31.4 -	2.7 +	0.3 -	1.0	1.0	BCD	A
VA08MAS1-190-4-1	73.9 -	56.2 +	125.6 -	34.2 +	2.5 +	0.3 -	0.2 -	1.1		AL
MAS #53	73.7 -	57.5 +	127.4	34.0 +	3.7 +	1.1 -	4.8 +	0.9		TA
VA13W-56	73.7 -	58.4 +	124.3 -	33.4	1.3	0.5 -	0.4 -	1.0	BCD	A
VA13FHB-13	73.7 -	57.0 +	122.8 -	34.7 +	1.5	0.8 -	1.3	1.0		A
Progeny 357	73.2 -	53.3 -	128.5 +	32.6	1.2 -	7.9 +	3.5 +	1.0		A
VA13FHB-11	72.9 -	55.8	126.8	31.2 -	2.0	0.4 -	0.5 -	0.9		A
MBX EXP 1502	72.8 -	55.3 -	127.8 +	33.5	2.3	1.3	3.2 +	0.9	---	A
LCS 2141	72.7 -	55.9	126.9	33.7 +	2.5 +	2.9	3.5 +	0.6 -		TA
Pioneer Brand 26R53	72.6 -	56.9 +	127.9 +	30.2 -	0.7 -	2.1	2.5 +	1.1	B	A

Table 25. Summary of performance of entries in the Virginia Tech Wheat Test over location, 2015 harvest.

Line	Yield (Bu/a) (7)	Test Weight (Lb/bu) (7)	Date Headed (Julian) (2)	Height (In) (3)	Lodging (0-9) (3)	Leaf Rust (0-9) (2)	Powdery Mildew (0-9) (3)	Barley Yellow Dwarf Virus (0-9) (2)	Hessian Fly Resistance (Biotype) ¹	Awns ²
NC10-23720	72.6 -	58.0 +	126.4	31.9	3.0 +	0.4 -	0.3 -	1.3	BCDOL	TA
Pioneer XW13W	72.6 -	55.2 -	127.5 +	32.4	1.3	1.1 -	4.7 +	1.0	BDOL	A
Progeny 117	72.6 -	56.1	124.9 -	34.0 +	3.8 +	4.3 +	2.5 +	1.7		AL
Yorktown	72.5 -	55.7	127.4	32.6	1.6	0.1 -	0.1 -	1.4		TA
SS 8870	72.5 -	56.5 +	127.6 +	33.5	1.8	1.5	2.9 +	2.3 +		TA
MAS #2	72.4 -	56.7 +	128.4 +	35.0 +	2.9 +	0.8 -	1.3	2.0 +		TA
Southern Harvest 3200	72.3 -	55.3	127.4	32.1	1.8	0.1 -	0.0 -	1.3	O	TA
NC09-20986	72.2 -	57.8 +	125.4 -	32.6	2.2	1.1 -	0.0 -	2.0 +	BCDOL	A
Jamestown	72.2 -	58.0 +	124.3 -	31.0 -	1.5	0.9 -	1.5	1.0	BC	A
GA-04417-12E33	72.0 -	57.3 +	126.4	32.2	2.5 +	0.3 -	0.2 -	1.6	BCDOL	A
Massey	72.0 -	56.9 +	127.3	35.8 +	3.3 +	7.5 +	1.4	1.9 +		AL
Average	78.3	55.8	126.7	32.6	1.9	2.3	1.3	1.2		
LSD (0.05)	3.3	0.4	0.7	1.0	0.6	1.1	0.6	0.5		
C.V.	9.0	1.4	0.6	3.8	38.7	47.0	54.5	43.2		

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 or lodging where 0 = highly resistant and 9 = highly susceptible.

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

¹Seedlings were tested for resistance to biotypes B, C, D, O, and L of Hessian Fly. Letter in column indicates varietal resistance. "---" indicates seed had been treated with insecticide and results are not valid.

²A=awned, AL=awnletted, TA=tip awned.

Table 26. Two year average summary of performance of entries in the Virginia Tech Wheat Tests, 2014 and 2015 harvests.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Powdery Mildew (0-9)	Barley Yellow Dwarf Virus (0-9)	Leaf Blotch (0-9)
	(14)	(14)	(4)	(6)	(8)	(3)	(6)	(3)	(1)
Pioneer Brand 26R10	77.7 +	56.8 -	129.9 +	32.2	1.0 -	5.8 +	2.1 +	1.0	1.8
USG 3404	75.8 +	56.9	130.5 +	32.7	1.0 -	3.7	1.9 +	0.6	1.3
AgriMAXX 446	75.7 +	57.1	130.0 +	31.6 -	0.7 -	4.6 +	2.1 +	1.5 +	2.0
SS 8360	75.5 +	57.1	130.3 +	31.8 -	0.9 -	5.1 +	2.2 +	1.0	2.5 +
Shirley	75.0 +	56.2 -	129.7 +	31.3 -	0.9 -	0.6 -	0.0 -	0.8	1.0
AgriMAXX 434	74.9 +	56.2 -	129.0	31.2 -	1.1 -	4.8 +	2.2 +	0.6	1.5
USG 3523	74.7 +	56.6 -	130.0 +	32.6	1.4	4.9 +	1.8 +	0.5	1.0
Hilliard	74.7 +	57.6 +	128.5	34.4 +	1.0 -	1.3 -	0.4 -	0.8	1.0
USG 3612	74.5 +	56.2 -	128.8	33.6 +	1.8	5.5 +	1.1	0.4 -	2.0
MAS #37	74.4 +	57.3	128.5	32.2	2.6 +	5.3 +	1.3	0.7	1.3
Pioneer Brand 26R20	74.1 +	57.9 +	130.1 +	33.7 +	2.0 +	3.1	1.0	0.8	1.0
USG 3251	74.0 +	56.9	130.2 +	34.0 +	1.2	4.8 +	1.5	1.0	1.0
VA11W-106	73.9 +	57.7 +	129.7 +	32.3	1.4	0.5 -	0.8	0.8	1.3
AgriMAXX 427	73.8 +	56.1 -	129.1	33.6 +	2.1 +	5.8 +	1.5	0.5	2.0
AgriMAXX 413	73.6	55.1 -	128.5	31.1 -	1.0 -	2.6	1.5	1.5 +	1.3
AgriMAXX 444	73.4	56.7 -	130.3 +	32.8	1.3	3.1	1.8 +	0.7	1.8
AgriMaxx Exp 1450	73.3	56.4 -	129.4	33.8 +	0.8 -	0.6 -	0.8	0.5	1.8
VA10W-119	72.7	58.6 +	127.5 -	34.0 +	1.7	1.2 -	0.8	0.8	1.0
SS 8513	72.6	58.0 +	126.7 -	33.4	3.2 +	4.1 +	0.2 -	0.7	1.0
MBX14-K-297	72.3	56.3 -	129.9 +	34.6 +	1.4	6.0 +	3.0 +	0.8	1.8
SY 474	72.1	57.9 +	130.7 +	35.2 +	1.3	3.4	0.5 -	0.7	1.0
USG 3013	72.1	56.3 -	130.3 +	34.1 +	1.7	6.3 +	3.0 +	0.9	1.3
MAS #32	71.9	56.7 -	129.5 +	31.6 -	1.6	5.1 +	1.5	0.6	1.3
VA11W-279	71.9	58.7 +	127.3 -	30.6 -	1.6	0.4 -	0.0 -	0.4 -	1.0
MAS #35	71.9	56.5 -	129.8 +	31.0 -	0.8 -	2.0	2.6 +	0.7	1.0
MBX14-S-210	71.8	56.6 -	129.5 +	33.6 +	0.9 -	1.0 -	0.7 -	0.6	1.3
MAS #23	71.8	56.0 -	129.3	31.2 -	0.9 -	6.4 +	1.8 +	0.7	1.8
SS 8340	71.6	58.5 +	129.3	32.3	1.0 -	2.4	2.1 +	0.5	1.8

Table 26. Two year average summary of performance of entries in the Virginia Tech Wheat Tests, 2014 and 2015 harvests.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Powdery Mildew (0-9)	Barley Yellow Dwarf Virus (0-9)	Leaf Blotch (0-9)
	(14)	(14)	(4)	(6)	(8)	(3)	(6)	(3)	(1)
MBX11-V-258	71.6	57.1	129.9 +	35.7 +	1.6	0.8 -	1.0	0.4 -	1.0
MAS #7	71.5	56.3 -	129.5 +	32.0	1.4	5.8 +	0.8	1.2	1.0
Featherstone VA258	71.4	57.3	129.5 +	35.1 +	1.5	1.1 -	0.9	0.6	1.0
Dyna-Gro 9223	71.2	56.4 -	130.2 +	35.2 +	1.6	5.8 +	2.8 +	1.2	1.5
Featherstone 73	71.1	57.8 +	130.7 +	32.6	1.6	0.3 -	0.5 -	0.5	1.0
Progeny 870	71.0	55.4 -	128.8	30.8 -	1.2	2.5	2.1 +	1.7 +	1.8
SS 5205	70.9	57.4	128.0 -	29.3 -	1.6	0.8 -	0.4 -	0.9	2.3 +
SS 8415	70.9	57.4	128.3 -	33.6 +	2.2 +	2.8	0.1 -	0.7	1.3
USG 3438	70.7	55.3 -	128.8	31.0 -	1.0 -	3.1	1.5	1.6 +	1.5
Pioneer Brand 25R32	70.7	57.2	129.7 +	33.6 +	1.5	5.2 +	1.0	1.4 +	1.0
VA12W-72	70.7	56.8 -	127.5 -	32.1	1.1	1.5 -	0.1 -	0.3 -	1.0
VA10W-96	70.6	59.2 +	126.6 -	33.6 +	1.6	0.5 -	0.0 -	0.8	1.5
USG 3201	70.5	58.4 +	129.1	32.6	1.1 -	2.8	2.4 +	0.5	1.8
SY 007	70.4	57.1	127.4 -	32.9	1.5	2.8	0.2 -	0.6	1.8
MAS #6	70.3	55.1 -	128.5	30.6 -	1.1	3.1	1.7 +	1.8 +	1.8
VA11W-182	70.3	55.3 -	129.0	28.0 -	1.0 -	0.9 -	0.5 -	0.6	1.0
VA11W-95	70.1	57.7 +	128.1 -	34.8 +	1.8	0.8 -	0.4 -	0.7	1.5
Dyna-Gro 9171	69.9	55.2 -	128.6	30.7 -	1.3	2.5	1.9 +	2.5 +	2.0
VA11W-278	69.9	58.7 +	126.1 -	32.3	1.3	0.3 -	0.1 -	0.6	1.0
AgriMAXX 415	69.8	58.3 +	129.3	32.5	1.1 -	2.8	2.2 +	0.6	1.8
SY 483	69.7	56.0 -	131.1 +	33.7 +	1.2	3.3	0.7 -	1.0	2.0
VA11W-313	69.6	55.8 -	125.7 -	30.2 -	1.5	1.0 -	1.4	0.7	1.0
Progeny 357	69.2	54.8 -	130.7 +	32.5	1.1	7.5 +	3.3 +	0.7	1.0
SS 520	69.0	56.4 -	126.6 -	34.0 +	2.2 +	2.9	0.6 -	1.8 +	1.8
VA10W-21	69.0	58.3 +	129.2	32.3	1.1	3.1	1.6	0.7	1.0
USG 3993	69.0	57.7 +	129.8 +	33.1	1.7	2.0	1.4	0.6	1.5
MD04W249-11-7	69.0	58.7 +	128.5	34.1 +	1.4	3.5	0.4 -	0.7	1.8
SS 8870	68.9	57.8 +	129.9 +	33.8 +	1.7	1.5 -	2.2 +	1.5 +	1.5

Table 26. Two year average summary of performance of entries in the Virginia Tech Wheat Tests, 2014 and 2015 harvests.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Powdery Mildew (0-9)	Barley Yellow Dwarf Virus (0-9)	Leaf Blotch (0-9)
	(14)	(14)	(4)	(6)	(8)	(3)	(6)	(3)	(1)
MD04W249-11-12	68.9	58.5 +	127.8 -	33.7 +	1.2	3.1	0.0 -	0.8	2.8 +
Pioneer Brand 26R53	68.8	58.1 +	129.7 +	30.7 -	0.8 -	1.9	2.1 +	1.0	2.3 +
USG 3315	68.6	57.9 +	129.4	33.6 +	1.7	1.6 -	1.3	0.8	2.0
VA12W-54	68.2	57.6 +	126.2 -	30.8 -	1.6	0.5 -	0.0 -	0.4 -	1.0
Merl	68.2	58.4 +	128.7	32.6	1.3	3.2	0.2 -	0.6	1.3
VA11W-230	68.2	59.1 +	126.9 -	31.8 -	1.3	0.4 -	0.5 -	0.7	1.5
VA12FHB-53	68.2	57.2	129.2	32.0	1.9 +	0.7 -	0.2 -	0.7	1.0
MBX12-V-251	67.9 -	56.9	128.9	31.6 -	1.8	0.7 -	0.6 -	0.6	1.3
VA12W-150	67.6 -	58.0 +	128.6	31.5 -	2.1 +	0.7 -	1.0	0.6	1.5
Yorktown	66.8 -	57.4	129.3	32.8	2.0 +	0.6 -	0.1 -	0.9	1.8
MAS #2	66.4 -	58.3 +	130.4 +	35.9 +	2.9 +	1.1 -	1.2	1.4 +	2.3 +
Progeny 117	66.3 -	57.5 +	127.0 -	34.1 +	3.0 +	3.9 +	2.2 +	1.4 +	2.5 +
Jamestown	63.8 -	59.3 +	126.1 -	31.2 -	1.3	1.3 -	0.9	0.6	1.8
Massey	61.7 -	58.2 +	129.3	36.7 +	2.6 +	6.8 +	1.0	1.5 +	1.3
Average	71.0	57.2	128.9	32.7	1.5	2.8	1.2	0.9	1.5
LSD (0.05)	2.8	0.3	0.5	0.8	0.4	0.9	0.4	0.5	0.6
C.V.	10.2	1.4	0.5	4.1	51.8	41.8	62.5	63.6	29.0

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages.

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

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

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

Table 27. Three year average summary of performance of entries in the Virginia Tech Wheat Tests, 2013, 2014, and 2015 harvests.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Powdery Mildew (0-9)	Barley Yellow Dwarf Virus (0-9)	Leaf Blotch (0-9)	Early Lodging (0-9)	Glume Blotch (0-9)
	(19)	(18)	(6)	(9)	(12)	(5)	(8)	(4)	(1)	(1)	(1)
Pioneer Brand 26R10	78.7 +	56.5	129.0 +	33.6 -	1.2 -	4.6 +	2.1 +	1.7	1.8	0.0	1.3
USG 3404	78.4 +	56.1 -	129.6 +	34.5	1.8	3.2	2.2 +	0.7 -	1.3	0.3	1.0
Hilliard	77.1 +	56.9	127.6 -	35.7 +	1.3 -	0.9 -	0.4 -	1.1	1.0	0.0	2.0 +
USG 3523	76.7 +	56.4 -	129.2 +	34.6	2.1	4.6 +	1.9 +	1.2	1.0	1.3	1.0
AgriMAXX 434	76.5 +	55.7 -	128.1	32.7 -	1.5 -	4.3 +	2.2 +	0.8 -	1.5	0.3	1.0
USG 3251	75.7 +	56.7	129.9 +	35.9 +	1.9	4.2 +	1.6	1.4	1.0	1.0	1.0
Shirley	75.4 +	55.9 -	129.0 +	33.2 -	1.6 -	0.4 -	0.1 -	1.2	1.0	0.5	1.0
VA11W-106	75.1 +	57.2 +	128.9 +	34.0	2.0	0.4 -	0.8 -	1.3	1.3	1.3	1.3
USG 3612	75.1 +	55.7 -	128.8 +	34.5	2.1	4.1 +	1.2	0.8 -	2.0	---	---
USG 3013	74.9	56.1 -	129.4 +	35.9 +	2.2	5.5 +	3.1 +	1.4	1.3	0.8	1.0
SY 474	74.6	57.5 +	129.9 +	36.7 +	1.8	3.0	0.7 -	1.4	1.0	1.3	1.0
AgriMAXX 413	74.4	54.7 -	127.6 -	32.5 -	1.6 -	2.2	1.5	2.1 +	1.3	0.5	1.0
USG 3438	74.1	55.0 -	127.7	32.3 -	1.4 -	2.2	1.7 +	2.1 +	1.5	0.0	1.0
AgriMAXX 427	73.9	55.6 -	128.2	35.1	2.5 +	5.1 +	1.5	1.1	2.0	1.3	1.0
SS 8340	73.9	57.9 +	128.5	34.1	1.4 -	2.1	2.2 +	0.8 -	1.8	0.0	1.7
Pioneer Brand 26R20	73.8	57.2 +	129.5 +	35.3 +	2.5 +	2.6	0.9 -	1.1	1.0	2.8	1.0
SS 8513	73.7	57.2 +	125.7 -	35.1	3.6 +	3.5 +	0.2 -	1.1	1.0	2.8	1.7
AgriMAXX 415	72.9	57.8 +	128.4	34.1	1.7 -	2.2	2.3 +	1.2	1.8	1.3	1.3
VA10W-119	72.7	57.8 +	126.3 -	35.5 +	2.7 +	0.8 -	1.0	0.9	1.0	4.5 +	1.0
Dyna-Gro 9223	72.7	55.9 -	129.5 +	36.7 +	2.1	5.2 +	3.0 +	1.7	1.5	1.5	1.0
VA10W-96	72.5	58.5 +	125.7 -	35.3 +	2.4	0.3 -	0.1 -	1.0	1.5	3.5	1.3
USG 3201	72.4	57.9 +	128.4	34.0	1.6 -	2.4	2.4 +	0.9	1.8	2.3	1.7
MBX11-V-258	72.4	56.6	129.2 +	37.2 +	2.1	1.2 -	1.2	0.5 -	1.0	0.8	1.0
Progeny 357	72.4	54.3 -	130.0 +	34.5	1.7	6.2 +	3.5 +	1.3	1.0	2.0	1.0
Dyna-Gro 9171	72.2	54.8 -	127.6 -	32.2 -	1.6 -	2.2	2.0 +	2.9 +	2.0	0.8	1.3
Featherstone VA258	72.0	56.6	129.2 +	36.4 +	2.3	1.6 -	1.0	0.7 -	1.0	2.3	1.0
Progeny 870	71.9	54.9 -	127.8	32.2 -	1.4 -	2.1	2.2 +	2.7 +	1.8	1.0	1.3
SS 5205	71.8	56.7	127.2 -	30.9 -	2.3	0.6 -	0.5 -	1.1	2.3 +	2.5	4.3 +

Table 27. Three year average summary of performance of entries in the Virginia Tech Wheat Tests, 2013, 2014, and 2015 harvests.

Line	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Powdery Mildew (0-9)	Barley Yellow Dwarf Virus (0-9)	Leaf Blotch (0-9)	Early Lodging (0-9)	Glume Blotch (0-9)
	(19)	(18)	(6)	(9)	(12)	(5)	(8)	(4)	(1)	(1)	(1)
VA10W-21	71.8	57.1 +	128.3	33.9	1.8	2.0	1.4	1.1	1.0	2.0	1.0
SS 8415	71.7	56.7	127.9	35.0	2.8 +	2.5	0.2 -	1.4	1.3	4.5 +	1.0
Featherstone 73	71.6	57.4 +	130.3 +	34.2	2.3	0.2 -	0.7 -	0.8 -	1.0	4.3 +	1.0
VA11W-278	71.0	57.9 +	125.1 -	33.8 -	2.1	0.2 -	0.3 -	1.1	1.0	2.8	1.3
VA11W-230	70.7	58.3 +	126.3 -	33.3 -	2.2	0.3 -	0.5 -	0.8 -	1.5	4.0	1.3
Pioneer Brand 26R53	70.7	57.6 +	128.9 +	32.2 -	1.2 -	1.8 -	2.1 +	1.2	2.3 +	1.0	1.0
Pioneer Brand 25R32	70.5	57.0	129.5 +	35.2 +	2.0	4.4 +	0.9 -	1.8 +	1.0	0.8	1.0
SS 520	70.0	55.5 -	125.8 -	35.3 +	2.7 +	1.9 -	0.6 -	2.3 +	1.8	1.8	1.0
USG 3993	69.9	57.3 +	128.9 +	35.5 +	2.2	1.6 -	1.6	1.1	1.5	2.5	1.0
SY 483	69.9	55.5 -	130.6 +	35.7 +	1.8	3.3 +	0.8 -	1.8 +	2.0	2.5	1.0
MD04W249-11-7	69.7 -	58.1 +	127.8	35.7 +	2.2	3.8 +	0.3 -	1.2	1.8	5.3 +	1.0
MBX12-V-251	69.2 -	56.3 -	128.1	32.8 -	2.7 +	0.4 -	0.7 -	0.9	1.3	2.8	1.0
Yorktown	68.7 -	57.0	128.4	34.0	2.5 +	0.4 -	0.1 -	1.1	1.8	3.5	1.0
Merl	68.4 -	57.9 +	128.0	33.8 -	2.0	3.1	0.3 -	1.5	1.3	0.8	1.0
Progeny 117	68.4 -	56.6	125.5 -	35.6 +	3.4 +	2.7	2.2 +	1.6	2.5 +	2.5	1.3
Jamestown	65.3 -	58.5 +	124.9 -	33.0 -	2.0	1.2 -	0.7 -	0.7 -	1.8	5.3 +	1.0
Massey	61.0 -	57.3 +	128.1	38.0 +	3.2 +	6.6 +	1.0	1.8 +	1.3	5.8 +	1.0
Average	72.4	56.7	128.2	34.5	2.1	2.5	1.3	1.3	1.4	2.0	1.2
LSD (0.05)	2.5	0.4	0.5	0.6	0.4	0.6	0.4	0.4	0.6	2.2	0.5
C.V.	10.8	1.9	0.6	3.8	44.9	41.1	57.9	47.8	30.5	80.1	25.9

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages.

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

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

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

Table 28. Summary of performance of entries in the Virginia Tech Wheat Test, Eastern VA AREC in Warsaw, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Powdery Mildew (0-9)
Pioneer XW13T	---	---	90.6 +	57.8	125.3	29.8 -	1.0	2.5	1.3
VA11W-278	81.1 +	83.9 +	87.5 +	58.3 +	121.8 -	32.5	1.0	0.0 -	0.3 -
MBX 15-E-229	---	---	87.0 +	56.4	124.8	35.0 +	1.3	0.0 -	1.3
VA12W-54	---	82.7 +	85.8 +	57.6	123.0 -	31.8	0.5	0.0 -	0.0 -
Shirley	78.6	80.0	85.8 +	55.9 -	126.5 +	32.0	0.3 -	0.0 -	0.0 -
VA12W-31	---	---	85.1 +	58.4 +	126.3 +	31.8	0.5	0.0 -	0.0 -
Pioneer Brand 26R20	80.2	83.5 +	84.7 +	58.6 +	126.5 +	34.3	1.0	2.8	2.3
USG 3895	---	---	83.9 +	56.3	125.8	31.0 -	0.0 -	0.5 -	2.5
AgriMAXX 446	---	83.1 +	83.9 +	57.5	126.8 +	32.0	0.5	4.3 +	3.8 +
MAS #49	---	---	83.4 +	56.3	124.8	34.3	1.3	0.0 -	0.3 -
VA12FHB-8	---	---	83.4 +	57.0	125.3	35.3 +	1.8	1.0	0.3 -
MAS #7	---	80.7 +	83.4 +	56.7	125.0	33.3	0.3 -	6.8 +	1.3
Progeny 870	77.2	79.9	83.3 +	55.7 -	125.0	31.3 -	1.3	3.5	4.3 +
VA12W-248	---	---	82.9 +	57.6	124.0 -	35.8 +	1.8	0.8	0.5 -
MBX14-S-210	---	82.4 +	82.7	56.4	126.0 +	34.3	0.5	0.3 -	1.0
VA11W-313	---	76.6	82.7	54.3 -	121.8 -	30.3 -	1.8	0.8	2.8
Hilliard	77.1	78.5	82.4	57.8	124.3 -	35.3 +	0.8	0.8	0.0 -
SY 547	---	---	82.2	56.9	125.0	34.5	1.5	0.5 -	0.5 -
MAS #37	---	80.2	82.0	57.9	125.3	33.0	1.5	5.8 +	2.0
Pioneer Brand 26R10	81.5 +	80.8 +	81.9	56.9	126.3 +	32.8	0.8	5.3 +	4.0 +
MD04W249-11-12	---	75.8	81.8	58.6 +	123.8 -	34.5	0.8	3.0	0.0 -
VA08MAS1-188-6-4	---	---	81.5	57.7	124.3 -	32.5	0.8	0.3 -	0.3 -
AgriMaxx Exp 1450	---	78.5	81.4	56.7	126.0 +	34.3	0.8	0.0 -	2.3
VA11W-279	---	78.6	81.4	58.0	123.3 -	31.8	1.0	0.0 -	0.0 -
AgriMAXX 427	80.6	80.6	81.4	57.3	125.0	34.0	2.5 +	6.5 +	3.0
MBX12-V-251	78.5	77.8	81.1	57.5	125.0	32.3	1.8	0.0 -	0.5 -
SS EXP 8530	---	---	81.1	55.8 -	124.8	33.8	1.0	0.0 -	0.3 -
SS 8415	78.2	77.0	81.0	58.5 +	124.0 -	34.8	2.0	1.5	0.0 -
USG 3612	80.6	80.6	80.9	57.0	124.8	34.3	2.8 +	5.5 +	2.0

Table 28. Summary of performance of entries in the Virginia Tech Wheat Test, Eastern VA AREC in Warsaw, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Powdery Mildew (0-9)
SS 8513	79.8	77.5	80.8	57.6	123.0 -	34.0	2.8 +	2.8	0.0 -
VA11W-106	77.7	77.8	80.7	57.6	126.0 +	33.0	1.5	0.3 -	1.0
AgriMAXX 415	79.0	79.0	80.3	58.7 +	125.3	32.3	1.3	2.8	4.3 +
MD04W249-11-7	74.9	74.6	80.1	59.1 +	124.5	34.5	0.5	2.5	0.5 -
Dyna-Gro 9522	---	---	79.9	57.2	126.5 +	33.3	1.0	2.8	3.8 +
LCS 2214	---	---	79.8	56.6	125.3	33.8	1.5	2.8	1.8
AgriMAXX 438	---	---	79.8	56.9	126.0 +	34.8	0.8	6.5 +	6.0 +
Southern Harvest 4300	---	---	79.8	55.7 -	125.5	32.3	1.3	4.3 +	3.8 +
SS 5205	75.5	76.5	79.8	57.4	124.8	29.8 -	2.3 +	0.8	0.5 -
USG 3251	79.8	78.9	79.8	57.0	126.5 +	33.5	1.0	4.8 +	2.8
Featherstone VA258	78.2	78.8	79.7	56.8	125.3	36.0 +	1.8	0.5 -	1.3
SY 483	76.1	76.6	79.6	55.1 -	127.3 +	33.3	0.5	1.5	0.8
VA10W-96	76.3	75.7	79.6	58.2 +	123.3 -	34.3	1.3	0.3 -	0.0 -
AgriMAXX 434	79.0	78.0	79.5	56.1 -	125.0	31.0 -	1.0	4.5 +	4.0 +
SY 474	77.6	75.8	79.4	57.5	126.8 +	35.8 +	1.5	4.0 +	0.8
VA08MAS5-39-6-4	---	---	79.4	57.5	122.0 -	33.8	0.5	0.5 -	0.8
TN1201	---	---	79.3	56.0 -	125.5	33.5	3.8 +	0.5 -	0.0 -
USG 3523	78.9	79.2	79.2	56.2 -	126.5 +	33.5	1.8	5.0 +	2.8
SY 007	---	79.2	79.2	57.6	124.5	33.5	2.0	2.0	0.3 -
VA12FHB-55	---	---	79.2	56.5	125.0	31.8	1.0	0.8	0.3 -
MBX14-K-297	---	77.9	79.1	56.9	126.0 +	35.0 +	1.0	5.8 +	5.5 +
MBX11-V-258	77.1	74.8	79.1	57.2	125.5	37.8 +	1.5	0.3 -	1.5
MAS #46	---	---	79.0	56.2 -	125.8	33.3	1.0	3.5	3.8 +
USG 3201	75.9	79.2	78.8	58.6 +	125.3	32.5	1.0	3.0	4.5 +
VA10W-119	75.4	75.8	78.7	58.4 +	124.3 -	34.5	2.5 +	0.8	0.3 -
VA12W-22	---	---	78.7	58.6 +	124.8	32.0	1.0	0.3 -	0.3 -
AgriMAXX 413	78.9	78.0	78.4	53.2 -	124.8	31.5 -	0.8	2.0	2.0
VA07MAS4-7417-1-3-3	---	---	78.4	56.1 -	123.0 -	32.0	0.8	0.3 -	0.3 -
SS 520	75.7	78.5	78.2	56.5	122.8 -	35.0 +	2.5 +	1.5	0.8

Table 28. Summary of performance of entries in the Virginia Tech Wheat Test, Eastern VA AREC in Warsaw, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Powdery Mildew (0-9)
USG 3438	77.7	76.7	78.2	54.3 -	125.0	31.3 -	1.0	2.5	2.8
Dyna-Gro 9171	76.8	76.6	78.0	54.9 -	125.0	31.5 -	1.3	3.5	2.8
MAS #59	---	---	78.0	56.8	124.8	34.5	2.3 +	0.8	0.8
Merl	73.8	77.3	77.8	58.5 +	124.8	33.8	0.8	3.5	0.0 -
VA13FHB-13	---	---	77.7	58.5 +	120.5 -	38.0 +	1.3	0.3 -	1.5
Dyna-Gro 9552	---	---	77.6	57.0	127.0 +	32.0	0.5	4.5 +	4.3 +
LCS NEWS	---	---	77.6	58.8 +	125.3	33.8	1.8	0.5 -	0.0 -
VA07MAS14-9260-8-2-2	---	---	77.4	58.2 +	125.3	33.5	0.5	0.0 -	0.5 -
Southern Harvest 4400	---	---	77.2	57.1	127.3 +	33.0	0.3 -	4.0 +	5.0 +
USG EXP 3756	---	---	77.1	57.1	124.8	35.0 +	1.0	1.3	3.5 +
USG 3225	---	---	77.1	59.3 +	124.3 -	31.5 -	1.0	0.3 -	2.3
MAS #51	---	---	77.0	56.6	127.0 +	32.0	0.8	4.3 +	3.0
VA12W-72	---	75.2	76.9	56.4	123.5 -	32.8	1.0	0.0 -	0.3 -
VA13W-177	---	---	76.9	58.8 +	122.0 -	37.5 +	0.8	0.3 -	0.8
GA-03564-12E6	---	---	76.7	58.6 +	124.0 -	32.5	1.0	0.5 -	0.5 -
USG 3013	80.1	76.3	76.7	56.2 -	126.5 +	33.3	1.0	7.0 +	5.0 +
SS 8340	77.0	76.1	76.6	58.0 +	125.5	33.0	0.8	3.8 +	3.8 +
MAS #35	---	78.5	76.6	56.6	126.3 +	32.0	0.0 -	1.0	4.8 +
Featherstone 73	76.3	76.7	76.6	57.7	126.8 +	33.5	0.8	0.3 -	0.0 -
VA12W-97	---	---	76.6	57.5	121.8 -	31.8	2.8 +	0.8	0.8
VA10W-21	78.8	75.2	76.5	58.6 +	124.8	33.3	0.8	1.8	2.3
AgriMAXX 444	---	77.4	76.5	56.8	126.8 +	32.3	1.3	2.8	3.3
USG 3404	81.3 +	77.8	76.5	57.0	127.3 +	31.8	0.3 -	4.0 +	3.0
MAS #42S	---	---	76.5	57.0	127.3 +	33.5	0.8	6.0 +	5.5 +
MAS #6	---	75.6	76.4	54.9 -	125.0	31.3 -	0.8	3.0	2.5
MAS #32	---	75.2	76.3	56.3	125.8	32.5	0.5	7.3 +	1.8
Pioneer Brand 25R32	74.0	75.2	76.3	56.9	126.3 +	34.5	1.0	5.8 +	1.3
VA11W-230	75.8	75.6	76.2	58.3 +	123.5 -	32.0	1.0	0.0 -	1.0
VA13FHB-5	---	---	75.9	58.9 +	124.0 -	31.3 -	0.8	0.0 -	1.0

Table 28. Summary of performance of entries in the Virginia Tech Wheat Test, Eastern VA AREC in Warsaw, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Powdery Mildew (0-9)
VA12FHB-4	---	---	75.7	56.8	124.8	33.3	0.8	0.3 -	1.8
WX15733	---	---	75.5	55.8 -	125.8	32.5	1.0	3.3	2.8
SS 8360	---	77.7	75.4	56.9	127.0 +	31.8	0.3 -	7.5 +	4.8 +
Dyna-Gro 9223	75.3	75.5	75.2	56.6	126.0 +	37.0 +	0.5	7.3 +	4.8 +
VA12W-68	---	---	75.1	56.8	123.8 -	33.3	0.8	0.5 -	0.5 -
USG 3993	73.2	73.4	75.1	57.9	125.5	33.8	0.8	2.0	1.3
VA13W-124	---	---	75.0	56.0 -	124.3 -	34.0	1.8	0.0 -	2.8
VA08MAS1-190-4-1	---	---	74.9	57.3	125.3	36.5 +	2.0	0.3 -	0.5 -
VA11W-182	---	74.6	74.9	54.1 -	126.3 +	26.8 -	0.0 -	0.3 -	0.8
NC10-23663	---	---	74.6	58.2 +	124.8	33.5	3.0 +	0.0 -	0.5 -
Pioneer Brand 26R53	74.7	73.6	74.3	58.6 +	126.0 +	30.5 -	0.0 -	2.5	4.0 +
SS EXP 8629	---	---	74.2	57.8	125.0	30.8 -	2.8 +	1.8	1.8
MBX EXP 1502	---	---	74.0	56.2 -	126.5 +	34.3	2.3 +	0.5 -	4.8 +
NC10-23720	---	---	73.7	59.6 +	125.0	32.3	3.5 +	0.3 -	0.3 -
LCS 2141	---	---	73.7	57.4	125.0	35.3 +	2.5 +	2.0	5.3 +
SS 8870	---	72.3 -	73.5	58.3 +	125.5	35.0 +	2.0	0.5 -	4.8 +
VA11W-95	---	72.3 -	73.3	57.5	123.3 -	34.0	2.5 +	0.3 -	0.0 -
MAS #47	---	---	73.2	55.9 -	126.3 +	35.3 +	1.0	1.8	0.8
VA13W-56	---	---	73.2	59.0 +	123.0 -	35.0 +	0.3 -	0.5 -	0.3 -
USG 3315	---	74.0	72.9	58.7 +	125.0	35.5 +	2.0	0.8	3.3
MAS #23	---	73.1	72.8	56.3 -	125.3	31.0 -	0.8	7.5 +	3.5 +
Southern Harvest 3200	---	---	72.8	56.3	124.8	33.5	0.8	0.0 -	0.0 -
VA12FHB-53	---	74.2	72.8	57.0	125.8	32.3	1.3	0.5 -	1.0
Progeny 117	73.5	71.5 -	72.5	58.3 +	123.8 -	36.0 +	3.8 +	5.0 +	3.8 +
VA12W-150	---	70.0 -	72.1 -	57.8	125.0	31.5 -	1.8	0.0 -	1.0
MAS #45	---	---	71.9 -	56.6	127.0 +	30.0 -	1.0	0.8	5.3 +
Pioneer XW13W	---	---	71.6 -	56.3	125.8	32.8	1.0	1.0	6.8 +
GA-04417-12E33	---	---	71.4 -	58.5 +	124.8	33.0	2.0	0.0 -	0.5 -
GA-04434-12LE28	---	---	71.4 -	57.0	126.5 +	32.5	0.3 -	0.0 -	0.0 -

Table 28. Summary of performance of entries in the Virginia Tech Wheat Test, Eastern VA AREC in Warsaw, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Powdery Mildew (0-9)
AgriMAXX EXP 1558	---	---	71.3 -	54.3 -	125.5	33.3	1.5	0.8	1.0
MAS #2	---	71.5 -	71.0 -	57.7	127.0 +	35.5 +	3.3 +	0.5 -	1.5
MAS #53	---	---	70.8 -	58.8 +	125.8	35.5 +	3.3 +	0.8	6.5 +
Yorktown	70.9	70.9 -	70.1 -	56.5	125.3	33.8	0.3 -	0.0 -	0.3 -
Jamestown	69.6	70.5 -	69.9 -	58.8 +	123.3 -	31.0 -	0.8	1.0	2.8
VA13W-38	---	---	69.5 -	56.7	123.3 -	31.8	1.0	0.8	0.5 -
VA13FHB-11	---	---	69.4 -	56.4	125.0	30.8 -	1.5	0.0 -	0.0 -
Massey	64.9	65.3 -	67.6 -	58.1 +	125.0	39.0 +	3.3 +	7.5 +	2.5
Progeny 410	---	---	67.1 -	56.7	126.0 +	34.8	1.0	2.3	2.3
NC09-20986	---	---	65.0 -	59.0 +	123.5 -	33.0	1.5	1.0	0.0 -
Progeny 357	72.8 -	68.7 -	64.8 -	53.5 -	127.0 +	33.0	1.0	8.5 +	4.8 +
Average	76.8	76.7	77.5	57.1	125.1	33.3	1.3	2.0	1.9
LSD (0.05)	3.8	4.0	5.3	0.9	0.8	1.7	1.0	1.5	1.4
C.V.	5.6	4.9	4.9	1.1	0.4	3.7	55.7	52.6	51.1

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages.

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

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

Table 29. Summary of performance of entries in the Virginia Tech Wheat Test, Eastern Shore AREC, Painter, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Powdery Mildew (0-9)
Pioneer XW13T	---	---	73.2 +	58.2	0.0 -
USG 3895	---	---	72.6 +	58.7	2.3 +
VA12FHB-8	---	---	71.3 +	58.6	0.3 -
USG 3612	73.1	68.6	70.6 +	58.0	1.0
AgriMAXX 438	---	---	70.1	57.8	2.5 +
SS 5205	75.9 +	72.9 +	70.0	58.6	0.0 -
VA10W-119	70.8	66.8	69.6	60.0 +	0.8
USG 3251	72.4	71.4 +	69.2	58.0	1.0
VA11W-313	---	65.8	68.8	56.9 -	1.0
VA10W-96	73.4	68.7	68.1	60.1 +	0.0 -
VA12W-54	---	70.5	68.0	59.2	0.0 -
MAS #7	---	69.0	67.7	57.4 -	0.3 -
AgriMAXX 434	74.9 +	71.9 +	67.6	57.8	2.3 +
VA12W-248	---	---	67.2	59.7 +	0.5
AgriMAXX 427	71.6	70.6	67.2	57.9	1.0
LCS 2214	---	---	66.6	57.8	0.3 -
LCS NEWS	---	---	66.5	61.2 +	0.0 -
VA12W-72	---	68.1	66.4	58.7	0.3 -
WX15733	---	---	66.3	56.7 -	1.3
MAS #32	---	67.8	66.2	58.0	0.8
USG 3013	72.9	69.9	66.0	56.7 -	2.3 +
VA12W-68	---	---	66.0	59.3	0.8
MBX14-S-210	---	65.1	65.8	57.0 -	0.3 -
VA11W-279	---	70.9	65.5	60.3 +	0.0 -
VA13W-124	---	---	65.4	57.9	2.3 +
MBX12-V-251	69.0	63.4	65.4	59.1	1.5
Progeny 870	69.7	68.2	65.4	56.9 -	1.3
GA-03564-12E6	---	---	65.3	61.0 +	0.0 -
MAS #46	---	---	65.1	57.2 -	1.5
Progeny 117	70.5	66.0	65.0	58.5	1.8 +
Pioneer Brand 26R10	73.1	71.5 +	64.9	57.7	2.0 +
SS 520	64.7	59.3	64.8	58.0	0.8
SS 8513	69.5	64.3	64.8	59.6 +	0.3 -
MAS #59	---	---	64.7	57.7	0.0 -
VA07MAS4-7417-1-3-3	---	---	64.7	58.4	0.0 -
VA12FHB-55	---	---	64.2	57.8	0.3 -
Dyna-Gro 9552	---	---	63.9	57.7	1.5
SS EXP 8530	---	---	63.8	57.5 -	0.0 -
AgriMAXX 446	---	66.2	63.8	57.7	1.5
MBX 15-E-229	---	---	63.8	58.1	0.5
MAS #23	---	64.9	63.5	57.4 -	1.5
VA11W-106	72.0	67.8	63.4	59.4 +	0.8
Featherstone VA258	71.5	67.2	63.3	59.1	1.3
SY 547	---	---	63.2	57.7	0.0 -
Dyna-Gro 9522	---	---	63.2	57.7	1.0

Table 29. Summary of performance of entries in the Virginia Tech Wheat Test, Eastern Shore AREC, Painter, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Powdery Mildew (0-9)
VA12W-22	---	---	63.2	60.1 +	0.5
AgriMAXX 413	68.3	66.6	63.1	56.7 -	1.3
MBX14-K-297	---	62.7	63.0	57.2 -	1.8 +
VA13W-38	---	---	62.8	59.6 +	0.0 -
VA11W-95	---	63.8	62.7	58.7	0.5
VA13FHB-5	---	---	62.6	59.8 +	0.0 -
SS 8415	72.1	63.5	62.3	59.0	0.3 -
VA12FHB-53	---	65.2	62.1	58.2	0.0 -
USG 3523	72.1	70.8	62.1	57.3 -	1.8 +
MAS #51	---	---	62.0	57.4 -	1.3
VA12FHB-4	---	---	61.9	58.1	0.5
USG 3315	---	64.3	61.9	58.8	0.8
Pioneer Brand 26R20	70.7	66.6	61.5	58.4	0.0 -
VA08MAS1-188-6-4	---	---	61.5	59.3	0.0 -
SY 007	---	62.7	61.5	58.7	0.0 -
NC10-23663	---	---	61.4	60.2 +	0.3 -
MAS #45	---	---	61.3	57.6 -	3.8 +
VA13FHB-11	---	---	61.2	59.6 +	0.8
AgriMAXX 444	---	64.4	61.1	57.6 -	1.3
VA13FHB-13	---	---	61.1	59.7 +	1.5
Dyna-Gro 9171	70.9	66.6	61.0	56.4 -	1.3
USG 3438	66.0	63.1	60.9	56.1 -	1.0
AgriMAXX 415	69.0	63.9	60.9	59.7 +	2.3 +
VA11W-230	69.1	61.0	60.7	60.0 +	0.5
VA11W-278	68.2	62.7	60.7	59.9 +	0.0 -
Southern Harvest 4400	---	---	60.6	57.7	2.3 +
USG 3993	70.0	65.5	60.6	59.5 +	1.0
Merl	65.4	62.9	60.6	60.1 +	0.0 -
AgriMaxx Exp 1450	---	63.5	60.4	56.7 -	0.0 -
USG 3225	---	---	60.1	60.2 +	0.3 -
MBX EXP 1502	---	---	60.1	58.0	1.8 +
SS 8340	66.0	63.3	60.0	60.2 +	1.8 +
AgriMAXX EXP 1558	---	---	59.9	56.5 -	1.0
Dyna-Gro 9223	72.0	67.5	59.8	56.8 -	1.8 +
VA12W-31	---	---	59.8	58.3	0.0 -
MAS #42S	---	---	59.7	57.1 -	2.5 +
GA-04417-12E33	---	---	59.7	60.5 +	0.0 -
SY 483	65.6	60.7	59.3	56.2 -	0.5
Shirley	71.3	68.2	59.2	57.0 -	0.0 -
MBX11-V-258	70.7	66.1	59.2	58.5	1.0
VA13W-56	---	---	59.2	61.0 +	0.8
MAS #49	---	---	59.2	57.6 -	0.3 -
USG EXP 3756	---	---	59.1	59.0	2.3 +
TN1201	---	---	58.9	58.2	1.0

Table 29. Summary of performance of entries in the Virginia Tech Wheat Test, Eastern Shore AREC, Painter, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Powdery Mildew (0-9)
VA12W-150	---	65.5	58.8	59.5 +	1.3
MAS #6	---	64.3	58.8	55.9 -	0.8
Pioneer XW13W	---	---	58.7	57.3 -	2.5 +
SS 8360	---	62.9	58.7	57.4 -	1.8 +
VA12W-97	---	---	58.7	58.9	0.0 -
SS EXP 8629	---	---	58.6	59.0	1.0
SS 8870	---	64.9	58.5	59.4 +	1.0
MAS #47	---	---	57.9	56.6 -	0.8
Pioneer Brand 25R32	63.9 -	62.7	57.9	57.9	1.0
Hilliard	71.3	67.2	57.9	58.4	0.3 -
VA13W-177	---	---	57.8	59.9 +	0.0 -
USG 3201	68.1	62.7	57.6	59.4 +	2.0 +
MAS #37	---	66.1	57.4	58.0	1.5
MAS #35	---	66.1	57.3	56.7 -	1.0
VA08MAS1-190-4-1	---	---	57.0	59.7 +	0.0 -
MD04W249-11-12	---	62.5	56.8	60.3 +	0.0 -
LCS 2141	---	---	56.2	57.8	2.5 +
SY 474	70.7	65.7	56.1	58.3	0.0 -
NC09-20986	---	---	56.1	61.7 +	0.0 -
USG 3404	71.3	67.9	56.1	57.3 -	1.3
Massey	56.7 -	54.8 -	56.1	60.2 +	0.5
VA10W-21	71.0	62.2	55.9	60.4 +	2.8 +
MD04W249-11-7	68.4	62.7	55.4	60.3 +	0.0 -
VA08MAS5-39-6-4	---	---	55.4	59.7 +	0.5
Featherstone 73	70.2	66.0	55.2	59.5 +	1.0
VA11W-182	---	63.6	55.1	55.9 -	0.0 -
MAS #53	---	---	55.0	60.7 +	3.0 +
Jamestown	61.7 -	53.8 -	54.9	59.8 +	1.0
Southern Harvest 4300	---	---	54.9	56.2 -	1.0
VA07MAS14-9260-8-2-2	---	---	54.7	59.3 +	0.0 -
NC10-23720	---	---	53.8	60.7 +	0.3 -
Pioneer Brand 26R53	63.1 -	63.9	53.8	59.2	1.5
Progeny 357	62.4 -	59.5	53.7	55.4 -	2.5 +
Southern Harvest 3200	---	---	53.1	58.2	0.0 -
GA-04434-12LE28	---	---	52.8	59.7 +	0.0 -
Progeny 410	---	---	52.0 -	58.4	2.0 +
MAS #2	---	58.5 -	51.6 -	58.8	0.8
Yorktown	65.3	57.0 -	49.9 -	58.5	0.0 -
Average	69.3	65.2	61.4	58.5	0.9
LSD (0.05)	5.1	6.0	9.2	0.8	0.6
C.V.	9.0	9.2	10.5	1.0	50.2

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 or lodging where 0 = highly resistant and 9 = highly susceptible.

Table 30. Summary of performance of entries in the Virginia Tech Wheat Test, Southern Piedmont AREC, Blackstone, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Lodging (0-9)	Powdery Mildew (0-9)	Barley Yellow Dwarf Virus (0-9)
GA-04434-12LE28	---	---	73.2 +	56.2	5.0 +	0.0 -	1.7
AgriMaxx Exp 1450	---	75.7 +	72.5 +	54.9	1.5 -	0.3	0.7
VA07MAS4-7417-1-3-3	---	---	68.2 +	56.1	2.5 -	0.0 -	2.0
SS EXP 8530	---	---	67.5 +	53.2 -	3.5	1.0	1.0
MD04W249-11-7	66.0	68.3	65.9 +	56.9 +	3.8	0.0 -	1.3
VA10W-96	68.5	65.4	63.4	56.5 +	4.5	0.0 -	1.0
Southern Harvest 4300	---	---	63.4	54.4 -	2.8	1.3	2.0
SS 8513	66.6	66.9	63.1	55.9	6.5 +	0.0 -	1.0
Pioneer Brand 26R53	62.1	59.5	62.7	57.4 +	2.0 -	1.7	1.3
AgriMAXX 415	67.5	63.5	62.6	56.1	2.5 -	2.0	1.0
VA12W-97	---	---	62.5	57.3 +	6.3 +	0.0 -	1.7
AgriMAXX 446	---	68.1	61.9	56.6 +	2.0 -	2.3 +	1.0
AgriMAXX 413	65.8	65.2	61.3	54.0 -	3.0	1.0	1.3
VA13W-177	---	---	61.0	58.9 +	4.0	0.0 -	1.0
VA11W-278	62.4	61.4	61.0	56.8 +	4.3	0.0 -	1.3
VA11W-279	---	64.9	61.0	56.1	4.5	0.0 -	1.0
SS 8360	---	69.3	61.0	56.7 +	1.5 -	1.7	1.7
VA12W-248	---	---	60.8	54.7 -	5.5 +	1.3	2.3 +
MD04W249-11-12	---	60.1	60.7	56.8 +	4.0	0.0 -	1.7
VA11W-313	---	58.2	60.7	53.0 -	4.0	1.7	1.3
Dyna-Gro 9552	---	---	60.5	56.0	1.8 -	1.3	1.7
MAS #47	---	---	60.3	54.8	2.3 -	1.0	3.3 +
Shirley	68.4	65.7	60.1	55.7	3.0	0.0 -	1.7
AgriMAXX EXP 1558	---	---	59.9	53.5 -	4.3	2.0	1.0
Pioneer Brand 26R10	65.4	66.7	59.8	55.5	2.0 -	1.7	1.7
MBX14-S-210	---	66.4	59.8	55.4	2.3 -	0.7	1.0
SY 547	---	---	59.6	56.0	3.3	0.0 -	2.0
VA11W-106	68.9	67.8	59.4	56.4 +	3.3	0.7	1.0
Hilliard	68.8	66.6	59.3	55.4	2.8	1.0	1.7
MAS #46	---	---	59.0	55.4	2.5 -	1.7	0.7
NC09-20986	---	---	58.7	56.8 +	4.5	0.0 -	3.3 +
GA-03564-12E6	---	---	58.6	57.3 +	3.5	0.0 -	1.3
USG 3523	70.9	65.2	58.5	55.7	3.5	2.0	1.0
VA12W-72	---	54.7 -	58.4	55.1	2.8	0.0 -	0.7
VA10W-119	64.9	62.5	58.3	57.5 +	4.5	1.0	1.0
MAS #37	---	66.4	58.1	54.4 -	6.8 +	1.3	1.3
VA11W-230	65.1	63.8	58.1	56.9 +	3.5	0.0 -	1.0
VA13W-56	---	---	58.1	58.9 +	3.3	0.0 -	1.0
VA12W-68	---	---	58.1	55.7	2.5 -	0.3	0.7
USG 3225	---	---	58.0	56.9 +	5.0 +	1.7	0.3
MAS #32	---	64.2	57.8	53.6 -	4.8	2.0	0.7
VA12W-22	---	---	57.8	55.2	4.5	0.3	0.7

Table 30. Summary of performance of entries in the Virginia Tech Wheat Test, Southern Piedmont AREC, Blackstone, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Lodging (0-9)	Powdery Mildew (0-9)	Barley Yellow Dwarf Virus (0-9)
USG 3438	64.6	58.6	57.7	54.0 -	2.5 -	2.0	2.3 +
SS 520	65.3	62.5	57.7	53.4 -	5.8 +	0.3	2.3 +
USG EXP 3756	---	---	57.4	55.4	3.8	2.7 +	1.0
SY 483	63.6	62.1	57.2	54.8	2.8	1.0	1.0
VA13FHB-5	---	---	57.2	57.3 +	1.8 -	0.3	0.7
GA-04417-12E33	---	---	57.1	57.3 +	4.8	0.0 -	2.3 +
USG 3251	69.9	68.3	57.0	55.9	3.0	1.7	1.3
Pioneer Brand 26R20	63.8	61.2	57.0	56.0	4.5	0.7	1.3
VA11W-182	---	67.0	56.5	53.6 -	2.8	0.7	1.0
MBX 15-E-229	---	---	56.5	53.8 -	3.8	1.0	1.0
USG 3013	67.0	61.9	56.5	55.1	3.5	2.7 +	1.0
SY 474	68.9	66.5	56.2	57.1 +	3.3	0.7	1.0
VA11W-95	---	64.8	56.0	56.1	4.5	0.3	1.3
Yorktown	63.5	63.0	55.9	56.1	4.3	0.0 -	2.7 +
USG 3315	---	60.2	55.8	55.9	4.3	2.7 +	1.3
Pioneer XW13T	---	---	55.7	55.3	2.5 -	0.7	3.3 +
VA08MAS5-39-6-4	---	---	55.6	55.6	4.3	0.0 -	0.7
VA08MAS1-188-6-4	---	---	55.5	55.6	4.5	0.0 -	1.0
USG 3612	69.5	65.0	55.5	54.9	4.3	1.0	0.7
Dyna-Gro 9171	63.1	63.2	55.5	54.5 -	3.0	2.0	4.0 +
SY 007	---	65.5	55.4	54.9	3.5	0.0 -	1.0
USG 3895	---	---	55.4	55.8	3.3	2.7 +	0.3
Jamestown	62.1	59.8	55.4	58.0 +	3.3	0.3	1.3
USG 3993	66.5	64.9	55.2	55.5	4.0	0.0 -	0.7
VA13W-38	---	---	55.1	55.9	3.0	0.0 -	0.3
MAS #2	---	62.8	55.1	58.2 +	4.5	1.7	3.0 +
Progeny 410	---	---	55.1	56.3	3.5	2.3 +	3.3 +
MAS #35	---	63.0	54.8	55.7	2.0 -	3.0 +	1.0
Dyna-Gro 9522	---	---	54.8	56.1	2.5 -	1.3	1.7
USG 3404	67.8	61.9	54.6	56.5 +	3.0	2.3 +	1.0
SS 8415	69.9	64.2	54.6	54.0 -	5.8 +	0.0 -	1.7
MAS #51	---	---	54.3	56.2	3.3	2.0	1.0
LCS NEWS	---	---	54.2	57.6 +	3.3	0.0 -	2.3 +
VA12W-54	---	61.1	54.1	55.2	5.8 +	0.0 -	1.0
AgriMAXX 438	---	---	54.0	54.9	4.0	3.0 +	1.3
VA13FHB-13	---	---	53.9	56.4 +	3.0	0.7	1.0
AgriMAXX 444	---	63.0	53.9	56.0	2.3 -	2.0	0.7
Merl	61.3	58.3	53.7	57.5 +	3.5	0.0 -	1.3
VA12W-150	---	61.6	53.6	55.7	5.8 +	0.7	1.0
SS 8340	66.3	63.4	53.6	56.2	2.8	2.0	1.0
MBX11-V-258	64.9	63.4	53.5	55.6	4.0	0.7	0.7

Table 30. Summary of performance of entries in the Virginia Tech Wheat Test, Southern Piedmont AREC, Blackstone, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Lodging (0-9)	Powdery Mildew (0-9)	Barley Yellow Dwarf Virus (0-9)
MAS #6	---	60.2	53.5	53.8 -	3.0	2.0	3.7 +
NC10-23663	---	---	53.3	54.6 -	7.0 +	0.0 -	0.7
Massey	60.0	58.7	53.3	57.0 +	5.8 +	1.0	1.0
MAS #49	---	---	53.2	53.4 -	3.8	0.7	1.0
VA07MAS14-9260-8-2-2	---	---	53.2	56.6 +	3.0	0.7	1.0
SS 5205	66.0	62.3	53.2	54.5 -	3.8	0.0 -	1.0
MBX14-K-297	---	63.9	53.1	55.3	3.0	2.7 +	1.0
MBX12-V-251	58.3 -	59.2	52.9	53.5 -	5.0 +	0.0 -	1.0
MAS #42S	---	---	52.8	55.7	2.3 -	3.3 +	1.0
AgriMAXX 434	67.0	63.3	52.7	55.5	2.0 -	1.7	1.0
MAS #53	---	---	52.5	56.9 +	7.0 +	5.0 +	1.0
TN1201	---	---	52.5	56.0	3.8	0.3	0.7
VA10W-21	68.6	64.2	52.4	55.0	2.8	0.7	1.3
VA12FHB-8	---	---	52.4	54.7	5.8 +	0.0 -	1.0
MAS #23	---	64.1	52.3	54.9	2.3 -	1.3	1.7
Featherstone VA258	66.0	59.7	52.1	55.8	3.8	0.7	1.0
USG 3201	63.0	58.3	51.9	56.2	3.0	1.7	1.0
VA12FHB-53	---	54.0 -	51.7	55.0	5.3 +	0.3	1.0
Progeny 357	66.6	61.3	51.4	53.4 -	2.3 -	3.3 +	1.3
AgriMAXX 427	63.1	61.4	51.4	53.4 -	5.5 +	2.0	1.0
MAS #59	---	---	51.2	53.8 -	5.5 +	0.7	2.0
VA08MAS1-190-4-1	---	---	51.1	56.6 +	4.8	0.0 -	1.3
VA12FHB-55	---	---	50.9	53.4 -	5.0 +	0.0 -	1.7
NC10-23720	---	---	50.6	58.7 +	4.8	0.3	2.0
WX15733	---	---	50.5	52.7 -	5.0 +	1.0	1.3
Progeny 870	62.5	61.7	50.5	54.2 -	2.3 -	2.0	2.3 +
LCS 2214	---	---	50.5	54.0 -	4.8	0.7	1.7
LCS 2141	---	---	50.5	55.0	4.3	2.7 +	0.7
Dyna-Gro 9223	64.2	62.4	50.4	55.4	3.3	2.7 +	1.7
VA12W-31	---	---	50.4	57.7 +	4.3	0.0 -	1.7
MAS #7	---	62.3	50.2	53.4 -	3.8	1.0	1.7
Pioneer XW13W	---	---	50.1	55.2	2.5 -	5.0 +	1.0
VA13FHB-11	---	---	49.7	54.4 -	4.0	1.0	1.0
Southern Harvest 3200	---	---	49.5	54.7	4.3	0.0 -	2.0
VA13W-124	---	---	49.4	54.8	5.0 +	1.3	1.0
Pioneer Brand 25R32	62.3	59.9	48.8	55.4	3.3	0.7	2.0
SS EXP 8629	---	---	48.7	53.8 -	5.5 +	0.0 -	1.0
VA12FHB-4	---	---	48.3	54.4 -	4.3	0.3	1.0
Progeny 117	60.9	57.0	48.0	54.4 -	5.3 +	2.0	2.3 +
Southern Harvest 4400	---	---	47.6	55.3	2.8	3.3 +	2.3 +
Featherstone 73	64.7	58.5	47.4	56.6 +	3.8	0.0 -	1.3

Table 30. Summary of performance of entries in the Virginia Tech Wheat Test, Southern Piedmont AREC, Blackstone, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Lodging (0-9)	Powdery Mildew (0-9)	Barley Yellow Dwarf Virus (0-9)
MBX EXP 1502	---	---	47.4	55.8	4.0	3.0 +	1.0
MAS #45	---	---	44.6 -	55.5	3.5	4.7 +	1.0
SS 8870	---	59.6	44.5 -	55.9	3.0	3.0 +	4.0 +
Average	65.4	62.9	55.7	55.5	3.8	1.1	1.4
LSD (0.05)	6.0	7.2	10.1	0.8	1.1	0.9	0.9
C.V.	11.2	11.1	12.7	1.0	22.0	52.3	38.6

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.

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

Table 31. Summary of performance of entries in the Virginia Tech Wheat Test, Northern Piedmont Center, Orange, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Height (In)
Southern Harvest 4400	---	---	81.3 +	53.6	31.3
VA12FHB-8	---	---	79.5 +	52.6	30.8
AgriMAXX 444	---	82.6 +	79.4 +	54.8	30.8
Southern Harvest 4300	---	---	78.9 +	54.0	30.0
VA11W-106	86.2 +	81.3 +	78.2 +	54.7	30.8
USG 3895	---	---	78.0 +	53.4	31.0
USG 3404	88.9 +	81.6 +	77.9 +	53.6	31.0
MBX14-K-297	---	79.0	77.5	53.2	31.0
MAS #45	---	---	77.3	54.5	30.3
Pioneer Brand 26R20	84.0	80.8 +	76.9	54.9	30.8
Pioneer Brand 25R32	81.9	79.2	76.4	54.5	31.5
Dyna-Gro 9552	---	---	76.2	54.0	29.8
MAS #6	---	76.6	76.2	53.8	29.0
AgriMAXX 413	83.2	76.3	76.2	51.7 -	30.0
AgriMaxx Exp 1450	---	77.5	76.0	54.3	31.5
AgriMAXX 434	90.2 +	86.9 +	75.9	53.4	29.3
USG 3612	85.6	79.6	75.9	52.0	31.3
MAS #7	---	74.4	75.8	51.8 -	30.3
Pioneer XW13T	---	---	75.5	52.1	29.0
MAS #46	---	---	75.4	54.7	30.8
AgriMAXX 427	86.8 +	83.5 +	75.3	50.6 -	30.0
USG 3201	81.4	74.2	75.1	57.0 +	30.5
Hilliard	88.2 +	81.0 +	74.6	55.7	31.5
MAS #42S	---	---	74.1	53.3	30.5
USG 3438	79.0	71.9	73.8	53.3	29.5
Dyna-Gro 9171	81.1	71.0	73.7	51.6 -	30.0
MAS #51	---	---	73.6	54.5	29.8
SS 8360	---	78.9	73.6	54.7	30.8
AgriMAXX 438	---	---	73.5	53.1	31.5
VA12W-31	---	---	73.3	55.4	29.5
MAS #32	---	71.1	73.2	53.9	30.5
USG 3251	84.1	74.9	73.2	54.0	30.8
MBX 15-E-229	---	---	73.1	52.8	30.3
Pioneer Brand 26R10	89.9 +	82.3 +	73.1	53.5	30.3
USG 3523	87.0 +	77.4	73.1	54.4	30.3
Dyna-Gro 9223	83.1	74.8	72.8	52.4	31.7
SS 8513	80.7	73.6	72.4	54.5	30.3
USG 3013	85.5	74.9	71.9	51.7 -	31.0
MBX EXP 1502	---	---	71.7	54.6	30.5
AgriMAXX EXP 1558	---	---	71.4	51.8 -	31.5
AgriMAXX 446	---	80.3	71.1	53.9	30.5
USG EXP 3756	---	---	70.8	53.3	31.5

Table 31. Summary of performance of entries in the Virginia Tech Wheat Test, Northern Piedmont Center, Orange, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Height (In)
VA08MAS5-39-6-4	---	---	70.8	51.9	30.0
VA11W-279	---	64.6	70.7	55.0	29.8
SS EXP 8530	---	---	70.6	53.7	29.7
MAS #23	---	75.3	70.5	53.1	29.5
VA11W-95	---	74.1	70.5	54.5	33.8 +
Shirley	77.3	71.6	70.4	51.5 -	29.5
MAS #59	---	---	70.4	54.6	30.8
Progeny 870	81.3	75.3	70.3	53.3	29.7
SS 8340	82.4	72.9	70.0	56.8 +	30.3
Dyna-Gro 9522	---	---	69.9	53.4	29.3
USG 3993	77.3	70.0	69.8	53.7	30.0
VA11W-182	---	73.3	69.8	53.4	28.5 -
MAS #53	---	---	69.6	55.8	30.5
SY 007	---	68.3	69.6	54.1	30.0
SS 8415	70.5 -	67.1	69.5	52.9	29.8
SS EXP 8629	---	---	69.5	52.0	29.8
MAS #49	---	---	69.5	52.7	30.0
VA10W-119	72.8 -	67.8	69.2	54.3	31.0
VA12W-150	---	67.4	69.2	57.0 +	29.5
SS 8870	---	71.7	69.2	53.8	29.3
VA07MAS4-7417-1-3-3	---	---	69.1	54.2	29.3
Merl	77.9	70.8	69.0	52.6	31.3
SY 474	78.2	68.9	68.9	54.1	31.3
Progeny 357	85.1	73.4	68.7	52.1	30.5
SY 483	72.3 -	69.1	68.7	52.5	29.8
AgriMAXX 415	74.4	65.6	68.6	56.1 +	30.3
MD04W249-11-7	73.1 -	65.5	68.3	55.1	31.5
VA10W-96	74.7	63.7	68.2	55.9	30.5
VA07MAS14-9260-8-2-2	---	---	68.1	56.2 +	29.5
MBX14-S-210	---	67.4	68.0	54.4	30.8
SS 520	76.9	70.9	68.0	53.3	31.3
USG 3315	---	72.0	68.0	54.2	29.8
Pioneer XW13W	---	---	67.9	54.3	29.3
VA13W-124	---	---	67.7	53.5	28.8
VA12W-68	---	---	67.6	52.5	30.5
TN1201	---	---	67.6	55.4	30.5
VA10W-21	82.3	66.8	67.5	53.9	30.3
WX15733	---	---	67.5	52.6	30.5
LCS 2214	---	---	67.0	53.6	30.3
VA13FHB-11	---	---	67.0	55.1	29.3
VA12W-248	---	---	67.0	52.2	31.0

Table 31. Summary of performance of entries in the Virginia Tech Wheat Test, Northern Piedmont Center, Orange, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Height (In)
NC10-23720	---	---	66.9	54.7	30.0
GA-04434-12LE28	---	---	66.9	54.0	29.0
SS 5205	82.6	75.8	66.9	53.9	29.3
VA12FHB-55	---	---	66.9	52.7	30.3
MAS #35	---	72.5	66.9	52.9	28.5 -
Progeny 410	---	---	66.7	54.1	31.0
MAS #37	---	72.9	66.5	53.1	29.3
SY 547	---	---	66.5	53.4	31.0
MAS #47	---	---	66.3	50.9 -	30.3
VA12W-22	---	---	66.2	53.7	30.0
MBX11-V-258	79.5	68.7	65.9	52.8	33.0 +
NC10-23663	---	---	65.9	51.2 -	30.5
Featherstone VA258	78.2	67.4	65.8	54.1	30.8
Featherstone 73	81.2	74.1	65.8	50.9 -	30.5
VA12W-97	---	---	65.7	55.9 +	30.3
LCS NEWS	---	---	65.6	53.5	29.3
VA12FHB-53	---	72.3	65.0	53.1	30.5
VA08MAS1-190-4-1	---	---	64.9	53.2	29.8
Progeny 117	69.8 -	61.9 -	64.8	54.4	31.0
LCS 2141	---	---	64.7	53.4	30.5
Yorktown	76.5	65.0	64.7	52.5	30.5
VA11W-278	75.8	68.8	64.0	54.3	30.0
VA12W-72	---	69.4	64.0	52.9	29.8
USG 3225	---	---	63.7	55.7	30.8
VA12FHB-4	---	---	63.6	52.4	30.3
Jamestown	72.4 -	65.8	63.3	58.2 +	30.5
MD04W249-11-12	---	66.9	63.2	55.4	31.8
VA11W-230	71.5 -	59.9 -	62.6	55.9 +	29.8
VA13FHB-13	---	---	62.5	54.5	31.3
Pioneer Brand 26R53	74.3	64.7	61.9	55.4	29.0
GA-04417-12E33	---	---	61.6	55.2	30.5
VA13W-177	---	---	61.5	56.5 +	30.5
VA13W-56	---	---	61.1	56.6 +	29.7
VA13FHB-5	---	---	61.1	54.8	29.3
GA-03564-12E6	---	---	60.7	55.0	30.8
VA11W-313	---	61.0 -	60.5	53.7	29.0
Southern Harvest 3200	---	---	60.0 -	53.4	29.5
VA08MAS1-188-6-4	---	---	59.2 -	55.1	29.8
MAS #2	---	66.4	59.0 -	53.3	31.8
VA12W-54	---	61.0 -	58.8 -	55.2	28.0 -
MBX12-V-251	72.0 -	62.2 -	58.0 -	53.0	28.8

Table 31. Summary of performance of entries in the Virginia Tech Wheat Test, Northern Piedmont Center, Orange, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Height (In)
VA13W-38	---	---	57.9 -	56.1 +	29.8
Massey	62.5 -	56.8 -	57.8 -	52.6	30.3
NC09-20986	---	---	57.3 -	55.8	31.0
Average	79.5	71.9	69.0	53.9	30.3
LSD (0.05)	6.4	8.6	8.8	2.0	1.8
C.V.	9.7	11.7	9.1	2.7	4.1

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages.

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

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

Table 32. Summary of performance of entries in the Virginia Tech Wheat Test, Kentland farm, Blacksburg, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Barley Yellow Dwarf (0-9)
MAS #51	---	---	104.2 +	53.7 -	129.8 +	34.7	0.3	4.3 +	1.0
Pioneer Brand 26R10	105.2 +	104.6 +	101.8 +	54.3	129.3	34.0	0.0	6.0 +	1.0
MBX14-K-297	---	101.2	101.6 +	54.4	129.3	37.3 +	0.0	6.5 +	1.0
USG 3013	95.7	103.5 +	101.1 +	54.3	129.8 +	36.3	0.0	7.3 +	1.3
VA13W-124	---	---	100.4 +	53.1 -	127.8	36.3	0.0	0.3 -	1.0
Pioneer Brand 26R20	98.8	110.2 +	100.0 +	56.0 +	129.8 +	36.3	0.0	3.3	1.3
VA10W-119	97.2	103.0	99.6 +	55.4 +	126.0 -	37.0 +	1.3 +	0.8 -	1.5
MAS #37	---	99.9	99.4 +	55.4 +	128.0	36.0	0.7	5.8 +	0.8
Featherstone VA258	89.4	96.8	98.6 +	55.0	129.8 +	39.7 +	0.0	0.5 -	1.0
MBX11-V-258	95.0	100.2	98.5 +	54.9	130.3 +	39.0 +	0.0	0.5 -	0.5
Dyna-Gro 9522	---	97.4	97.9 +	53.9 -	129.5	34.3	0.0	3.8	1.3
VA13W-38	---	---	97.5 +	57.1 +	125.3 -	33.7	0.0	0.5 -	1.0
VA12W-54	---	96.0	97.5 +	55.1	125.0 -	32.3 -	0.0	0.0 -	0.3 -
MAS #32	---	99.4	97.4 +	55.3 +	129.3	33.3	0.0	4.5 +	1.0
USG 3523	95.4	101.2	97.3 +	53.2 -	129.5	37.7 +	0.0	6.5 +	0.8
VA11W-230	92.6	97.3	97.1 +	57.2 +	126.0 -	35.0	0.0	0.0 -	1.3
VA12W-31	---	---	96.8	56.1 +	129.3	34.7	0.0	1.3	1.0
AgriMAXX 438	---	---	96.7	54.3	129.5	36.3	0.0	7.0 +	1.3
MAS #49	---	---	96.5	51.8 -	128.8	35.3	0.0	1.5	0.5
VA11W-106	93.7	97.1	96.2	56.2 +	129.3	34.3	0.0	0.0 -	1.0
WX15733	---	---	96.0	52.5 -	129.0	33.3	0.0	3.3	1.3
USG 3612	101.6 +	101.6	96.0	53.7 -	129.0	36.3	0.0	6.8 +	0.5
VA11W-279	---	94.2	95.9	55.4 +	125.8 -	32.0 -	0.3	0.0 -	0.3 -
VA12W-72	---	98.5	95.6	54.4	126.3 -	34.3	0.0	1.3	0.3 -
USG 3404	98.9	101.5	95.1	54.0 -	130.0 +	35.0	0.0	5.0 +	1.0
VA12W-97	---	---	95.0	56.7 +	124.5 -	32.7	0.7	1.0 -	1.0
Dyna-Gro 9552	---	---	94.8	54.7	130.0 +	34.3	0.0	5.8 +	1.5
SS 520	92.3	99.4	94.4	54.8	125.8 -	35.0	0.3	3.5	1.5
SS 8513	92.3	98.1	94.0	55.6 +	125.5 -	35.3	1.3 +	5.3 +	1.3

Table 32. Summary of performance of entries in the Virginia Tech Wheat Test, Kentland farm, Blacksburg, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Barley Yellow Dwarf (0-9)
AgriMAXX 434	96.9	100.5	94.0	53.1 -	128.8	33.3	0.0	6.0 +	1.0
USG 3895	---	---	93.7	53.1 -	129.8 +	32.0 -	0.0	1.0 -	0.8
Shirley	96.1	102.4	93.5	53.3 -	128.8	33.3	0.0	0.3 -	1.0
VA10W-96	91.1	96.2	93.2	57.6 +	125.8 -	36.3	0.0	0.3 -	1.3
MBX14-S-210	---	101.5	93.1	53.6 -	129.0	35.3	0.0	0.8 -	0.8
Southern Harvest 4400	---	---	93.1	54.7	130.5 +	35.0	0.0	6.0 +	2.0 +
VA12W-248	---	---	93.0	54.8	127.0 -	36.7 +	0.0	0.8 -	0.8
USG 3225	---	---	92.9	57.4 +	128.5	32.7	0.0	0.3 -	0.5
VA12FHB-4	---	---	92.7	55.1	127.8	34.7	0.0	0.3 -	1.0
VA11W-313	---	96.6	92.7	52.2 -	124.8 -	31.7 -	0.0	0.3 -	1.0
VA08MAS1-188-6-4	---	---	92.4	54.9	125.5 -	33.3	0.0	0.3 -	0.5
AgriMAXX EXP 1558	---	---	92.4	51.4 -	130.0 +	36.0	0.0	0.8 -	0.8
Hilliard	101.0 +	100.8	92.1	55.9 +	128.0	36.3	0.0	1.8	1.0
VA11W-95	---	97.4	92.0	55.9 +	128.5	36.7 +	0.0	0.5 -	1.0
USG EXP 3756	---	---	92.0	53.7 -	127.8	38.3 +	0.0	3.0	1.0
Pioneer Brand 25R32	95.5	102.6	91.9	55.2 +	129.3	35.3	0.0	6.0 +	1.8 +
VA13FHB-5	---	---	91.9	55.8 +	127.5	33.0	0.0	0.5 -	1.0
VA12W-150	---	94.2	91.8	56.0 +	128.3	33.7	0.0	0.5 -	1.0
VA12W-22	---	---	91.7	56.2 +	127.5	34.3	0.0	0.8 -	0.8
AgriMAXX 446	---	103.9 +	91.7	54.5	130.0 +	32.7	0.0	6.3 +	1.8 +
Dyna-Gro 9223	89.3	96.6	91.6	54.4	130.3 +	35.7	0.3	7.5 +	1.5
MAS #42S	---	---	91.5	54.7	129.8 +	35.7	0.0	7.8 +	1.0
MAS #46	---	---	91.4	53.1 -	129.0	33.3	0.0	5.3 +	1.3
VA11W-278	90.5	95.0	91.2	55.9 +	125.8 -	34.3	0.3	0.0 -	0.8
TN1201	---	---	91.1	54.3	128.5	35.3	0.3	0.3 -	0.8
GA-03564-12E6	---	---	91.0	57.2 +	127.5	33.7	0.0	0.5 -	1.0
Progeny 117	91.1	95.7	90.9	55.9 +	126.0 -	35.3	2.0 +	3.5	1.3
USG 3438	102.7 +	101.5	90.9	51.1 -	128.8	32.3 -	0.0	3.5	2.3 +
MD04W249-11-12	---	95.9	90.7	56.7 +	126.8 -	35.3	0.0	3.8	1.0

Table 32. Summary of performance of entries in the Virginia Tech Wheat Test, Kentland farm, Blacksburg, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Barley Yellow Dwarf (0-9)
SS 8360	---	100.1	90.7	54.1	130.0 +	33.7	0.0	5.5 +	1.5
Merl	90.0	97.1	90.6	56.3 +	127.5	34.0	0.0	3.8	0.8
USG 3315	---	97.2	90.5	56.0 +	129.5	37.0 +	0.0	2.5	1.0
VA12W-68	---	---	90.4	54.8	126.8 -	34.3	0.0	0.8 -	0.3 -
USG 3251	96.7	102.0	90.3	54.0 -	130.5 +	37.7 +	0.0	5.0 +	1.8 +
MAS #7	---	93.1	90.1	54.5	129.8 +	34.0	0.0	7.0 +	1.5
Featherstone 73	85.3	90.6 -	90.1	55.1	131.0 +	34.3	0.0	0.0 -	0.5
AgriMAXX 427	92.6	96.9	90.0	53.6 -	129.5	36.3	0.0	7.5 +	0.8
AgriMAXX 444	---	100.2	90.0	53.5 -	130.0 +	33.7	0.0	3.8	1.0
MAS #23	---	98.0	89.7	52.9 -	129.3	32.0 -	0.0	6.0 +	0.8
SS 8870	---	97.5	89.6	55.6 +	129.8 +	37.3 +	0.0	2.5	1.0
Pioneer XW13W	---	---	89.6	53.6 -	129.3	35.0	0.0	1.3	1.0
MBX12-V-251	89.1	94.8	89.5	53.8 -	128.5	34.0	0.0	0.3 -	1.0
SY 483	84.7 -	92.3	89.5	53.1 -	130.3 +	36.7 +	0.0	5.8 +	0.5
USG 3201	94.1	98.4	89.4	55.6 +	129.3	34.3	0.0	3.5	0.5
VA13FHB-11	---	---	89.2	55.2 +	128.5	34.3	0.0	0.8 -	0.8
SY 007	---	93.0	89.1	55.6 +	126.0 -	35.7	0.0	3.8	1.0
Pioneer XW13T	---	---	89.0	54.8	128.5	29.3 -	0.0	5.5 +	1.5
SS 8415	91.9	100.5	89.0	55.3 +	127.5	35.0	0.0	3.8	0.8
Southern Harvest 4300	---	---	88.9	52.6 -	128.5	33.0	0.0	5.8 +	1.5
VA07MAS4-7417-1-3-3	---	---	88.8	54.5	126.8 -	32.3 -	0.0	0.8 -	1.0
SS 8340	97.1	95.7	88.8	55.5 +	129.5	34.0	0.0	1.3	0.8
MD04W249-11-7	88.2	95.7	88.7	56.6 +	128.0	36.0	0.0	4.8 +	1.0
SS EXP 8530	---	---	88.7	51.5 -	128.3	35.3	0.0	1.5	1.0
VA07MAS14-9260-8-2-2	---	---	88.4	56.4 +	129.3	34.0	0.0	0.5 -	0.8
MAS #35	---	96.2	88.2	54.0 -	129.8 +	32.3 -	0.0	3.5	1.3
SS EXP 8629	---	---	87.9	54.0 -	128.0	32.0 -	1.3 +	0.5 -	1.0
VA10W-21	89.1	90.9	87.9	55.8 +	129.8 +	34.0	0.0	5.5 +	0.8
USG 3993	88.3	94.9	87.5	55.3 +	129.8 +	33.7	0.0	2.5	1.0

Table 32. Summary of performance of entries in the Virginia Tech Wheat Test, Kentland farm, Blacksburg, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Barley Yellow Dwarf (0-9)
SS 5205	85.8	90.5 -	87.4	55.8 +	126.5 -	30.3 -	0.3	0.3 -	1.8 +
VA08MAS5-39-6-4	---	---	87.3	56.4 +	125.5 -	34.0	0.0	0.8 -	0.8
AgriMaxx Exp 1450	---	95.5	87.1	53.8 -	129.3	35.3	0.0	0.8 -	1.0
SY 474	98.1	95.6	87.1	55.3 +	131.0 +	38.3 +	0.0	3.5	1.0
VA12FHB-8	---	---	86.9	53.8 -	128.8	34.7	0.0	3.0	0.5
NC10-23663	---	---	86.4	55.8 +	128.0	36.0	1.3 +	0.5 -	1.0
SY 547	---	---	86.1	54.1	129.0	36.3	0.0	1.0 -	0.8
AgriMAXX 413	93.8	96.5	86.0	50.4 -	128.0	32.0 -	0.0	2.5	2.0 +
Yorktown	84.8 -	89.6 -	85.6	55.4 +	129.5	34.0	0.0	0.3 -	0.5
MBX EXP 1502	---	---	85.5	52.9 -	129.0	36.7 +	0.0	2.0	0.8
AgriMAXX 415	96.1	95.5	85.4	55.4 +	129.8 +	34.3	0.0	3.5	1.0
Progeny 357	86.5	92.7	85.3	50.8 -	130.0 +	35.0	0.0	7.3 +	0.8
Southern Harvest 3200	---	---	85.1	55.0	130.0 +	33.7	0.0	0.3 -	0.8
MAS #45	---	---	85.0	53.4 -	129.8 +	33.3	0.0	2.5	1.3
VA13FHB-13	---	---	84.8	55.7 +	125.0 -	35.0	0.0	1.3	1.0
MAS #53	---	---	84.8	56.5 +	129.0	36.7 +	0.0	1.5	0.8
MAS #47	---	---	84.8	53.7 -	129.0	35.3	0.0	4.3 +	1.0
VA12FHB-53	---	88.6 -	84.3	53.8 -	129.3	33.3	0.0	0.5 -	1.0
Dyna-Gro 9171	92.2	95.4	83.8	50.4 -	128.3	31.7 -	0.0	1.5	2.3 +
VA12FHB-55	---	---	83.0	53.0 -	129.3	33.0	0.0	2.0	1.0
GA-04434-12LE28	---	---	82.8	54.5	129.8 +	31.3 -	0.0	0.5 -	0.5
GA-04417-12E33	---	---	82.8	55.9 +	128.0	33.3	0.0	0.5 -	1.0
MBX 15-E-229	---	---	82.8 -	51.7 -	129.0	34.3	0.0	0.8 -	0.8
NC10-23720	---	---	82.7 -	57.2 +	127.8	34.0	0.0	0.5 -	0.8
LCS 2214	---	---	82.4 -	54.9	126.3 -	33.7	0.0	4.0	1.0
Progeny 870	94.5	97.1	82.4 -	50.4 -	128.5	31.0 -	0.0	1.5	2.3 +
MAS #6	---	96.1	82.2 -	50.3 -	128.3	30.7 -	0.0	2.8	1.8 +
MAS #59	---	---	81.9 -	54.0 -	126.8 -	33.3	0.0	2.3	0.8
VA13W-56	---	---	81.1 -	57.8 +	125.5 -	35.0	0.0	0.5 -	1.0

Table 32. Summary of performance of entries in the Virginia Tech Wheat Test, Kentland farm, Blacksburg, VA, 2015 harvest.

Line	3-year Av. Yield (Bu/a)	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)	Date Headed (Julian)	Height (In)	Lodging (0-9)	Leaf Rust (0-9)	Barley Yellow Dwarf (0-9)
LCS 2141	---	---	80.9 -	54.7	128.8	36.0	0.0	3.8	0.5
VA13W-177	---	---	80.9 -	57.4 +	124.3 -	38.0 +	0.0	0.0 -	1.5
Jamestown	82.0 -	88.6 -	80.8 -	57.5 +	125.3 -	31.7 -	0.0	0.8 -	0.8
VA11W-182	---	92.2	80.6 -	51.5 -	127.8	28.7 -	0.0	0.8 -	1.0
MAS #2	---	93.7	80.5 -	55.9 +	129.8 +	38.7 +	0.3	1.0 -	1.3
Progeny 410	---	---	80.2 -	54.5	129.5	38.7 +	0.0	4.3 +	1.5
VA08MAS1-190-4-1	---	---	79.5 -	55.2 +	126.0 -	37.0 +	0.0	0.3 -	1.0
LCS NEWS	---	---	79.5 -	55.2 +	129.3	33.7	0.0	2.5	1.3
Pioneer Brand 26R53	95.1	96.3	78.6 -	55.0	129.8 +	31.3 -	0.0	1.8	1.0
Massey	67.2 -	77.8 -	74.5 -	55.2 +	129.5	39.0 +	0.0	7.5 +	2.5 +
NC09-20986	---	---	68.2 -	56.0 +	127.3	34.3	0.0	1.3	1.0
Average	92.6	97.0	89.9	54.6	128.4	34.6	0.1	2.6	1.0
LSD (0.05)	7.4	6.2	7.1	0.6	1.3	2.0	0.8	1.5	0.7
C.V.	9.3	5.9	4.9	0.6	0.7	3.5	591.8	42.6	48.1

Released cultivars are shown in bold print.

Varieties are ordered by descending yield averages.

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

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

Table 33. Summary of performance of entries in the Virginia Tech Wheat Test, planted No-Till at Tidewater AREC, Holland, VA, 2015 harvest.

Line	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)
VA10W-119	56.2	70.3 +	56.4 +
Pioneer XW13T	---	67.5 +	55.2
Dyna-Gro 9223	59.0	66.2 +	55.0
MAS #42S	---	65.3 +	56.1
SS 8513	58.7	64.0	56.8 +
SY 474	60.8	63.3	56.7 +
AgriMAXX 427	58.8	63.0	54.6 -
VA11W-279	63.2 +	62.5	57.0 +
USG 3404	62.7 +	62.3	55.8
Pioneer Brand 26R10	59.8	61.9	56.0
VA11W-313	58.2	61.7	54.1 -
VA12FHB-8	---	61.6	55.6
AgriMAXX 446	58.1	61.6	55.7
Progeny 357	57.0	61.5	54.4 -
Progeny 410	---	61.5	55.9
MAS #23	60.4	61.5	54.3 -
AgriMAXX 413	61.3	61.3	53.8 -
AgriMAXX EXP 1558	---	61.2	53.2 -
SY 007	55.8	60.2	54.9
MAS #37	64.0 +	60.2	55.7
MAS #51	---	59.9	56.0
AgriMAXX 444	62.9 +	59.7	55.9
Southern Harvest 4400	---	59.7	55.8
VA12W-97	---	59.5	57.1 +
USG 3523	59.5	59.4	55.3
MAS #46	---	59.1	55.3
VA12FHB-53	58.0	59.1	56.3 +
VA10W-21	53.4	58.8	55.9
LCS NEWS	---	58.8	57.2 +
Featherstone VA258	54.8	58.8	55.4
SY 483	58.2	58.7	54.6 -
MAS #32	53.7	58.7	54.0 -
Massey	52.2	58.3	57.4 +
VA11W-106	58.1	58.2	56.1
SS EXP 8530	---	58.1	54.0 -
USG 3438	54.9	58.0	54.0 -
MAS #35	59.3	57.9	54.8 -
VA08MAS1-190-4-1	---	57.9	56.2 +
SS 5205	54.4	57.5	55.2
VA11W-230	52.0	57.5	57.3 +
Featherstone 73	56.5	57.3	55.9

Table 33. Summary of performance of entries in the Virginia Tech Wheat Test, planted No-Till at Tidewater AREC, Holland, VA, 2015 harvest.

Line	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)
Dyna-Gro 9552	---	57.3	55.6
USG 3315	56.9	57.1	56.6 +
Hilliard	52.9	57.0	55.7
AgriMAXX 415	52.5	56.9	55.8
SS 8340	58.0	56.9	55.9
USG 3201	53.8	56.7	55.6
USG 3895	---	56.6	55.3
Southern Harvest 4300	---	56.5	54.1 -
AgriMAXX 434	56.3	56.4	54.0 -
GA-03564-12E6	---	56.3	57.0 +
MAS #45	---	56.2	55.8
SS EXP 8629	---	56.2	55.8
VA11W-95	54.8	56.2	56.1
MBX11-V-258	55.1	56.1	55.3
Pioneer XW13W	---	56.1	54.9
MD04W249-11-7	51.6	56.0	56.5 +
USG 3013	54.2	55.8	55.1
VA08MAS5-39-6-4	---	55.7	55.5
Dyna-Gro 9522	---	55.5	56.1
VA12W-248	---	55.4	56.2 +
GA-04434-12LE28	---	55.3	56.1
NC10-23663	---	55.1	55.6
Pioneer Brand 25R32	55.6	55.1	55.6
VA12W-31	---	55.0	56.3 +
MAS #49	---	55.0	54.2 -
Shirley	57.5	54.5	54.6 -
VA12W-150	52.1	54.4	55.7
VA12W-22	---	54.3	55.7
USG 3993	50.7	54.3	55.9
Progeny 870	52.6	54.3	53.9 -
MD04W249-11-12	50.6	54.1	56.0
MAS #53	---	54.0	57.1 +
AgriMaxx Exp 1450	50.3	54.0	54.3 -
USG 3612	57.2	53.9	54.8 -
MBX14-K-297	53.7	53.9	55.0
VA10W-96	53.4	53.7	57.4 +
LCS 2214	---	53.6	54.3 -
VA13FHB-5	---	53.5	56.7 +
MAS #7	54.9	53.4	54.1 -
Yorktown	52.2	53.4	55.4
Merl	51.3	53.1	56.5 +

Table 33. Summary of performance of entries in the Virginia Tech Wheat Test, planted No-Till at Tidewater AREC, Holland, VA, 2015 harvest.

Line	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)
MAS #6	50.7	52.7	52.9 -
MAS #59	---	52.7	54.3 -
TN1201	---	52.6	56.3 +
USG 3225	---	52.6	56.7 +
LCS 2141	---	52.6	56.4 +
MAS #2	50.3	52.6	57.0 +
VA13W-177	---	52.4	57.3 +
SS 8360	60.8	52.2	55.8
SS 520	48.8	52.1	54.6 -
VA11W-182	52.8	52.0	53.6 -
VA13W-56	---	51.9	57.0 +
USG 3251	55.2	51.8	55.8
SY 547	---	51.8	55.1
MBX 15-E-229	---	51.7	53.9 -
VA13W-38	---	51.6	56.0
Dyna-Gro 9171	50.3	51.5	53.7 -
AgriMAXX 438	---	51.4	55.5
VA13FHB-13	---	51.4	56.6 +
VA08MAS1-188-6-4	---	51.2	56.1
VA12FHB-55	---	51.1	55.0
VA07MAS4-7417-1-3-3	---	51.0	56.0
USG EXP 3756	---	51.0	54.9 -
MAS #47	---	50.7	54.5 -
VA07MAS14-9260-8-2-2	---	50.6	57.3 +
SS 8415	51.5	50.3	55.9
VA13FHB-11	---	49.9	55.2
Pioneer Brand 26R20	51.9	49.7	56.4 +
VA12FHB-4	---	49.6	54.1 -
VA11W-278	49.6	49.6	57.2 +
Progeny 117	48.9	49.5	55.3
VA13W-124	---	49.4	54.5 -
MBX EXP 1502	---	49.4	55.7
WX15733	---	49.2	53.5 -
SS 8870	48.7	49.1	56.7 +
Pioneer Brand 26R53	50.9	49.1	56.7 +
VA12W-68	---	48.9	55.0
VA12W-54	49.8	48.6	55.8
MBX14-S-210	48.0 -	48.5	54.4 -
Jamestown	44.4 -	48.5	57.7 +
VA12W-72	48.4	48.2	53.4 -
MBX12-V-251	51.0	48.1	54.7 -

Table 33. Summary of performance of entries in the Virginia Tech Wheat Test, planted No-Till at Tidewater AREC, Holland, VA, 2015 harvest.

Line	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)
Southern Harvest 3200	---	45.7	54.2 -
NC09-20986	---	42.5 -	57.1 +
GA-04417-12E33	---	42.4 -	57.3 +
NC10-23720	---	42.2 -	57.8 +
Average	54.7	55.2	55.5
LSD (0.05)	6.8	10.0	0.6
C.V.	12.2	12.7	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.

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

Table 34. Summary of performance of entries in the Virginia Tech Wheat Test, Shenandoah Valley in Rockingham County, VA, 2015 harvest.

Line	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)
VA12W-22	---	80.4 +	54.9
VA12W-72	88.8 +	77.7 +	52.7 -
MAS #32	73.3	77.5 +	55.4
VA12FHB-8	---	76.0 +	53.2
MAS #7	68.8	74.3 +	53.5
USG 3612	72.8	72.6	53.2
GA-03564-12E6	---	72.0	55.9
VA12W-68	---	71.7	54.4
Featherstone 73	81.2	71.4	57.0 +
MBX11-V-258	81.6	71.3	54.2
Hilliard	76.8	70.7	53.8
VA11W-278	75.1	70.1	55.1
VA12FHB-53	66.9	69.9	54.8
AgriMAXX 438	---	69.8	54.6
USG 3523	76.5	69.6	54.8
USG 3993	67.8	69.2	55.4
VA07MAS4-7417-1-3-3	---	68.8	54.5
VA13W-38	---	68.7	56.8 +
MAS #37	79.7	68.7	54.4
MD04W249-11-7	71.5	68.7	56.2
Dyna-Gro 9223	70.9	68.5	53.2
Southern Harvest 4400	---	68.2	52.9 -
Southern Harvest 3200	---	68.1	55.8
VA13W-124	---	68.0	54.4
Yorktown	72.3	67.8	55.3
Progeny 357	75.9	67.7	52.2 -
VA07MAS14-9260-8-2-2	---	67.7	55.2
VA13W-56	---	67.6	58.4 +
AgriMAXX 415	72.4	67.6	56.6 +
VA10W-119	79.0	67.5	55.8
Progeny 410	---	67.3	55.2
AgriMaxx Exp 1450	76.0	67.3	53.1
SY 547	---	67.2	56.8 +
Shirley	84.8 +	67.2	53.1 -
USG EXP 3756	---	67.2	55.2
VA11W-106	70.8	66.8	54.7
Pioneer XW13T	---	66.6	54.5
Pioneer Brand 26R10	77.2	66.4	53.5
SS 8360	79.2	66.1	53.8
NC09-20986	---	66.0	57.5 +
SY 483	75.2	65.9	54.8

Table 34. Summary of performance of entries in the Virginia Tech Wheat Test, Shenandoah Valley in Rockingham County, VA, 2015 harvest.

Line	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)
VA11W-95	70.5	65.8	54.2
VA13FHB-11	---	65.8	54.3
USG 3438	72.8	65.6	53.0 -
MAS #49	---	65.6	54.1
Dyna-Gro 9522	---	65.5	53.8
VA10W-21	71.9	65.5	53.4
MAS #47	---	65.4	54.5
USG 3404	80.9	65.3	54.2
Pioneer Brand 26R53	76.0	65.3	55.6
Featherstone VA258	80.5	65.2	54.7
VA12FHB-4	---	65.2	54.9
Southern Harvest 4300	---	65.2	52.5 -
VA08MAS1-188-6-4	---	65.0	54.7
MAS #51	---	65.0	54.5
SS 8870	73.3	65.0	54.5
MAS #59	---	64.9	54.9
VA13FHB-5	---	64.7	56.4
Massey	72.5	64.6	57.3 +
SS 5205	69.5	64.5	54.0
MD04W249-11-12	73.4	64.5	56.5 +
MBX 15-E-229	---	64.3	53.3
USG 3201	71.8	64.3	56.7 +
MBX12-V-251	69.9	64.2	53.8
USG 3895	---	64.2	54.2
MAS #53	---	64.1	57.0 +
USG 3013	72.0	64.1	54.0
SS 8340	73.5	63.8	55.7
Merl	65.6	63.5	55.6
SS 520	75.5	63.5	52.6 -
VA13W-177	---	63.5	56.8 +
MAS #46	---	63.4	53.1 -
USG 3225	---	62.8	55.0
Dyna-Gro 9171	72.9	62.6	51.4 -
WX15733	---	62.5	52.5 -
VA12W-31	---	62.4	54.7
AgriMAXX 446	70.7	62.4	54.0
TN1201	---	62.2	56.2
Dyna-Gro 9552	---	62.1	54.1
VA08MAS5-39-6-4	---	62.1	53.5
SY 007	69.6	61.9	54.9
AgriMAXX 434	70.5	61.9	54.4

Table 34. Summary of performance of entries in the Virginia Tech Wheat Test, Shenandoah Valley in Rockingham County, VA, 2015 harvest.

Line	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)
VA12W-97	---	61.9	55.7
USG 3251	71.1	61.8	54.1
MAS #42S	---	61.7	54.9
VA12W-248	---	61.5	55.1
MBX EXP 1502	---	61.2	52.6 -
MBX14-K-297	71.9	61.1	54.5
VA11W-182	73.3	61.1	53.4
VA11W-313	77.8	60.6	54.8
AgriMAXX EXP 1558	---	60.6	54.0
SY 474	76.7	60.4	57.7 +
SS 8415	73.8	60.3	54.0
VA11W-279	73.4	60.1	56.0
MBX14-S-210	78.1	60.1	55.2
MAS #35	71.3	60.0	54.5
VA10W-96	73.6	59.9	57.8 +
AgriMAXX 413	72.0	59.8	53.0 -
LCS 2214	---	59.8	52.7 -
LCS 2141	---	59.7	56.7 +
Pioneer Brand 26R20	66.9	59.6	55.7
AgriMAXX 427	66.9	59.6	54.6
MAS #6	73.0	59.6	52.7 -
AgriMAXX 444	69.8	59.4	53.9
Jamestown	69.4	59.4	55.0
VA08MAS1-190-4-1	---	59.3	56.0
VA13FHB-13	---	59.2	57.2 +
VA12FHB-55	---	58.8	55.3
GA-04434-12LE28	---	58.8	53.5
SS 8513	74.8	57.9	55.5
SS EXP 8530	---	57.9	53.7
MAS #45	---	57.3	53.7
MAS #2	65.4	56.6	56.0
LCS NEWS	---	56.4	57.9 +
VA12W-150	65.1	56.2	55.1
NC10-23720	---	55.7	56.9 +
VA12W-54	64.9	55.4	54.6
NC10-23663	---	55.3	56.0
VA11W-230	72.6	55.0	57.1 +
SS EXP 8629	---	54.8	51.4 -
MAS #23	70.1	54.3	54.5
GA-04417-12E33	---	53.5	55.8
Progeny 117	61.0 -	51.0 -	55.4

Table 34. Summary of performance of entries in the Virginia Tech Wheat Test, Shenandoah Valley in Rockingham County, VA, 2015 harvest.

Line	2-year Av. Yield (Bu/a)	Yield (Bu/a)	Test Weight (Lb/bu)
USG 3315	58.6 -	48.0 -	55.1
Progeny 870	68.0	47.2 -	53.6
Pioneer XW13W	---	47.1 -	55.0
Pioneer Brand 25R32	64.4	46.6 -	55.4
Average	72.7	63.6	54.8
LSD (0.05)	10.2	10.6	1.6
C.V.	12.7	9.7	1.7

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 or lodging where 0 = highly resistant and 9 = highly susceptible.

Section 4: Milling and Baking Quality

Grain samples of 62 entries in Virginia’s 2014 State Wheat Test grown at Blacksburg, VA were submitted to the USDA-ARS Soft Wheat Quality Lab in Wooster, OH for advanced milling and baking quality evaluations. Wheat cultivars and experimental lines (collectively referred to as “varieties” herein) are listed in Table 36 from highest to lowest T-scores for overall milling and baking quality. The soft red winter cultivar Shirley having good milling and pastry baking quality was used as the quality standard check and has an overall quality T-score of zero. Wheat cultivars or experimental lines with T-scores greater than zero have overall quality that is similar to or exceed that of Shirley, while those with T-scores less than zero have overall quality that is similar to or less than that of Shirley. Quality grades (A-F) were also assigned (see Tables below) for flour yield (a key indicator of milling quality) and cookie diameter (a key indicator of pastry baking quality) as varieties having good milling quality may or may not have good baking quality and vice versa.

Flour Yield Grade (Based on +5000 Samples Between 2008 and 2013)

Grade	Range	Percent
A	>71.55	15
B	70.43 to 71.54	20
C	69.10 to 70.42	30
D	67.94 to 69.11	20
F	<67.93	15

Cookie Diameter Grade (Based on +5000 Samples Between 2009 and 2013)

Grade	Range	Percent
A	>19.34	15
B	18.90 to 19.33	20
C	18.35 to 18.89	30
D	17.88 to 18.34	20
F	<17.87	15

Additional Information on Quality Analysis

Of the quality characteristics measured at the Soft Wheat Quality Laboratory, flour milling yield is the most reproducible and perhaps most important because it is genetically and environmentally associated with good soft wheat flour quality. Flour yields of the 62 varieties ranged from 65.7% to 73.3% and 31 varieties had flour yields and grades (A-D) that were similar to or higher than that (68.9%) of quality standard cultivar Shirley (Table 36).

After flour yield, the second trait that we recommend for use in selection is softness equivalent. It tends to have high heritability and is an important predictor of milling break flour yield. Larger values are preferred for most soft wheat manufactured goods, particularly cakes and other high sugar baked products. Softness equivalence scores varied from 43.2% to 65.1%, and a majority of the varieties had scores that were similar to or exceeded that of Shirley (55.5%).

Flour protein concentration of the 62 varieties ranged from 6.55% to 8.62%. The flour protein concentration of Shirley (7.66%) was similar to the mean value of the tested varieties. Gluten strength is measured by the lactic acid SRC and is also correlated to flour protein concentration, but the effect is dependent on genotypes and growing conditions. Weaker gluten strength is desired for most pastry products, such as cookies and cakes, while stronger gluten strength is desired in production of crackers and some bread type products. Lactic acid SRC values ranged from 76.8% to 128% with a test average of 100.4%. Varieties having strong gluten strength and the highest lactic acid SRC values included SY474, Featherstone VA258, and Yorktown. Varieties having weak gluten strength and lactic acid SRC values similar to or lower than that of Shirley (86.4%) included MAS#35, AgriMAXX427, USG 3612, Progeny 870, MAS#6, AgriMAXX413, and Dyna-Gro 9171.

Pastry baking quality was assessed via measurement of cookie spread diameter, which ranged from 16.9 to 19.6 cm with a test average of 18.6 cm. Twenty-three of the 62 varieties had cookie spread diameters (18.4 – 18.9 cm) and grades (C) similar to those of Shirley, while 21 varieties had cookie diameters (18.9 – 19.6 cm) and grades (A or B) that exceeded that of Shirley.

Table 35. Milling and baking quality of entries in the Virginia Tech Wheat Test based on evaluation of the 2014 harvest.

Entry	Test Weight (Lb/bu)	Flour Yield (%)	Flour Yield Grade	Softness Equivalent (%)	Flour Protein (at 14%)	Lactic Acid SRC (%)	Cookie Diameter (cm)	Cookie Diameter Grade	Overall Quality T-Score
AgriMAXX 415	62.3	70.0	C	55.1	7.96	106.8	19.2	B	0.68
SS 8415	61.1	70.9	B	54.3	7.97	100.8	18.1	D	0.65
USG 3201	62.2	69.8	C	54.1	7.83	95.9	19.1	B	0.64
VA10W-119	62.5	70.5	B	53.2	8.52	112.1	18.4	C	0.63
AgriMAXX Exp 1444	59.9	69.1	D	61.5	6.92	100.0	19.4	A	0.63
SS 8340	62.0	69.8	C	54.3	7.75	94.6	18.8	C	0.61
USG 3404	59.2	69.1	D	63.0	6.55	94.4	19.2	B	0.60
SS 5205	62.4	68.4	D	60.4	7.27	107.6	19.2	B	0.57
MBX14-K-297	59.5	69.2	C	62.8	6.78	102.1	18.6	C	0.53
Dyna-Gro 9223	59.3	69.2	C	62.3	6.60	101.1	19.2	B	0.53
USG 3013	59.7	68.9	D	62.8	6.74	99.4	18.9	B	0.47
SS 520	60.5	69.8	C	54.5	7.52	102.8	19.1	B	0.47
VA10W-140	63.5	70.0	C	52.9	7.63	110.9	18.9	C	0.46
USG 3438	59.2	70.0	C	56.4	7.90	88.1	18.3	D	0.41
MAS #37	62.0	69.5	C	58.6	7.28	106.0	18.8	C	0.41
Pioneer Brand 26R53	61.5	68.9	D	58.3	7.62	90.9	19.1	B	0.41
Dyna-Gro 9171	59.3	70.1	C	55.3	7.66	76.8	19.0	B	0.39
Progeny 870	59.2	69.7	C	56.3	7.69	82.1	18.8	C	0.37
SS 8360	60.3	68.7	D	61.4	7.07	99.1	18.4	C	0.37
Massey	61.2	69.9	C	55.3	8.62	113.5	18.6	C	0.36
SS 8870	61.0	68.3	D	57.3	8.02	95.9	18.8	C	0.36
SS 8513	61.2	69.4	C	59.1	7.65	114.6	18.9	B	0.33
AgriMAXX Exp 1465	60.9	68.2	D	61.6	7.02	96.2	18.3	D	0.28
SY 474	62.0	68.6	D	54.2	7.78	128.0	18.2	D	0.23
MAS #6	59.0	69.5	C	55.8	7.82	82.1	19.6	A	0.22
AgriMAXX 413	59.0	69.5	C	56.0	8.04	81.7	19.4	A	0.20
MAS #35	59.8	73.3	A	46.9	7.03	86.2	17.5	F	0.12
Shirley (Quality Std.)	59.8	68.9	D	55.5	7.66	86.4	18.9	C	0.00
USG 3523	60.0	67.6	F	58.9	6.89	102.3	18.7	C	-0.01
VA10W-96	63.5	67.9	F	51.5	8.37	123.9	17.6	F	-0.05
Featherstone 73	62.1	67.9	D	56.9	7.61	102.9	18.0	D	-0.06
Pioneer Brand 26R10	60.0	67.2	F	65.1	7.11	99.7	18.5	C	-0.09
VA11W-230	63.5	68.0	D	55.1	7.95	114.7	18.7	C	-0.10
AgriMAXX 427	60.4	66.7	F	60.9	6.93	82.3	18.9	B	-0.12
USG 3251	60.3	66.9	F	62.7	6.99	90.2	18.7	C	-0.14
VA12W-54	61.7	67.7	F	55.0	7.92	116.1	19.2	B	-0.17
Jamestown	63.8	67.3	F	54.4	8.26	106.6	17.6	F	-0.18
VA12FHB-53	61.3	66.7	F	57.0	8.33	89.5	18.7	C	-0.20

Table 35. Milling and baking quality of entries in the Virginia Tech Wheat Test based on evaluation of the 2014 harvest.

Entry	Test Weight (Lb/bu)	Flour Yield (%)	Flour Yield Grade	Softness Equivalent (%)	Flour Protein (at 14%)	Lactic Acid SRC (%)	Cookie Diameter (cm)	Cookie Diameter Grade	Overall Quality T-Score
MBX14-S-210	60.4	67.7	F	58.6	7.62	101.8	18.5	C	-0.22
AgriMAXX 434	59.5	66.6	F	61.1	7.16	87.6	19.4	A	-0.23
VA11W-182	58.4	67.3	F	60.2	8.15	86.9	18.9	B	-0.24
MAS #2	62.0	66.8	F	57.9	7.96	111.0	18.2	D	-0.26
VA12W-150	61.4	67.1	F	54.4	8.48	96.3	18.3	D	-0.28
VA11W-278	62.1	67.5	F	53.8	8.09	116.9	18.8	C	-0.28
USG 3612	59.4	66.5	F	61.8	7.01	82.2	19.2	B	-0.29
MAS #32	60.9	66.1	F	64.7	7.07	87.8	18.0	D	-0.30
Pioneer Brand 26R20	61.8	67.3	F	58.2	7.12	101.3	18.8	C	-0.31
MAS #7	60.6	67.2	F	58.5	7.43	113.0	18.3	D	-0.31
USG 3315	61.4	66.8	F	60.2	7.70	103.1	18.4	C	-0.33
VA11W-95	61.2	66.4	F	61.2	7.16	95.8	19.0	B	-0.33
VA11W-313	59.8	67.7	F	53.8	8.15	110.1	18.8	C	-0.34
Pioneer Brand 25R32	61.3	72.5	A	43.2	7.83	101.3	17.0	F	-0.36
MAS #23	59.0	66.4	F	61.6	7.26	92.7	19.4	A	-0.36
VA12W-72	61.0	66.3	F	56.3	8.44	104.3	18.8	C	-0.40
VA10W-21	62.9	71.5	B	49.0	7.00	106.8	16.9	F	-0.40
VA11W-106	60.8	66.6	F	59.1	7.40	100.8	18.9	B	-0.44
Featherstone VA258	61.2	67.5	F	54.9	7.72	117.4	18.2	D	-0.49
VA11W-279	61.7	67.4	F	51.7	8.33	119.0	17.7	F	-0.51
SY 007	60.9	65.7	F	60.6	7.54	96.3	18.8	C	-0.54
Progeny 357	57.6	66.7	F	61.9	7.36	88.5	18.7	C	-0.59
Hilliard	60.3	66.4	F	59.7	7.69	103.4	18.5	C	-0.60
Yorktown	61.9	66.3	F	55.5	8.17	114.4	17.8	F	-0.71
Mean (N=62)	60.9	68.3		57.3	7.60	100.4	18.6		
Standard Deviation	1.4	1.6		4.2	0.5	11.5	0.6		

Section 6: Wheat Scab Research

One of the primary research objectives of the Virginia Tech wheat breeding program is to identify and develop cultivars possessing resistance to Fusarium Head Blight (FHB) or scab. Each year all wheat entries in Virginia's Official State Variety Trials are evaluated for FHB resistance in an inoculated, irrigated nursery at the Blacksburg test site. Data from this test for the current crop year and two- and three-year averages for FHB incidence, FHB severity and FHB Index (incidence x severity / 100) are included in this bulletin (Tables 36 – 38) to aid producers in selection of cultivars on the basis of FHB resistance. Cultivars possessing complete resistance or immunity to FHB have not been identified and resistance levels in currently available cultivars vary from moderately resistant to highly susceptible.

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

Entries were inoculated two times by spreading scabby corn seeds in plots at the booting stage and a week later, and by spraying a *Fusarium graminearum* spore suspension directly onto spikes at the 50% flowering stage. Most of the entries in Virginia's Official State Variety Trial were water damaged as the trial was in lower elevation in the field in 2015. Hence, FHB rating for 2015 is not reported. A high FHB incidence and severity were obtained in 2014. Among 116 lines and varieties tested in 2014, the FHB index varied from 0.2 to 63.2 with FHB incidence ranging from 2.6% to 87.5% and FHB severity ranging from 3.5% to 76.8% (Table 36). Thirty-three lines and 41 varieties had FHB index values lower than the mean (<14.7) and expressed moderate resistant to FHB in 2014. Based on two year mean data for 2013 and 2014 (Table 37), four lines and 11 varieties had FHB index values lower than the test mean (<12.1) and DON content lower than 2.0 ppm.

Table 36. Summary of reaction of entries in the Virginia Tech State Wheat Test to Fusarium head blight (scab) and glume blotch resistance, 2014 harvest.

LINE	Powdery Mildew (0-9)	FHB Incidence ¹ (%)	FHB Severity ² (%)	FHB Index ³ (0-100)	DON Content (ppm)
VA11W-313	1.5	25.7	9.1	2.3	1.4
USG 3201	2.0	25.0	12.0	3.0	0.9
Dyna-Gro 9171	1.0	32.5	11.3	3.7	1.9
AgriMaxx Exp 1450	0.5	30.0	13.5	4.1	0.8
MD04W249-11-12	0.0	25.0	13.9	4.2	1.2
Jamestown	0.0	40.0	12.0	4.4	0.6
MBX14-S-210	0.0	30.0	19.2	4.4	0.3
USG 3612	1.0	35.0	12.9	4.6	0.9
SS 8870	0.0	25.0	18.3	4.6	0.6
AgriMAXX 446	3.0 +	37.5	11.9	4.7	---
USG 3438	2.0	35.0	13.9	4.9	1.6
Progeny 870	1.5	38.4	12.9	5.0	1.5
USG 3993	1.0	25.0	18.4	5.1	1.5
SS 8360	1.5	27.5	16.5	5.1	2.8
SS 8513	0.5	27.5	20.5	5.5	---
Hilliard	0.0	37.5	15.2	5.6	1.4
SY 007	0.0	30.0	19.3	5.7	0.5
Massey	0.5	35.0	16.6	5.8	0.8
AgriMAXX 434	2.0	30.0	19.8	5.9	1.3
Pioneer Brand 26R53	2.5	22.5	26.7	6.3	1.0
AgriMAXX 415	4.0 +	32.5	17.4	6.5	0.8
VA10W-96	0.0	37.5	17.1	6.6	1.0
MAS #32	2.0	52.5	11.7	6.6	0.6
AgriMAXX 413	1.5	27.5	38.0	6.9	1.8
Yorktown	1.0	30.0	25.1	7.0	0.6
SY 474	0.5	27.5	24.2	7.2	0.8
USG 3523	1.0	42.5	15.1	7.9	1.4
MAS #35	3.0 +	42.5	18.4	7.9	2.3
Progeny 117	1.0	40.0	20.1	8.1	0.6
VA11W-230	0.0	42.5	19.2	8.2	1.7
VA11W-106	2.0	37.5	19.7	8.3	0.9
VA12W-72	0.5	30.0	35.0	8.3	2.0
MD04W249-11-7	0.5	35.0	23.1	8.4	1.2
SS 8340	2.5	27.5	36.7	8.6	0.6
MAS #37	2.5	37.5	19.7	9.0	1.0
USG 3315	0.0	37.5	24.9	9.2	0.5
VA12W-54	0.5	47.5	18.3	9.3	0.7
AgriMAXX 427	1.0	42.5	23.0	9.7	1.6
MAS #6	2.0	40.0	24.6	9.8	2.2

Table 36. Summary of reaction of entries in the Virginia Tech State Wheat Test to Fusarium head blight (scab) and glume blotch resistance, 2014 harvest.

LINE	Powdery Mildew (0-9)	FHB Incidence ¹ (%)	FHB Severity ² (%)	FHB Index ³ (0-100)	DON Content (ppm)
VA10W-119	1.0	45.0	20.6	10.8	1.7
VA11W-95	0.5	20.0	48.7	11.1	1.1
MBX14-K-297	2.5	52.5	20.7	11.5	0.8
Pioneer Brand 25R32	0.0	57.5	21.0	12.0	0.4
MAS #2	1.5	30.0	39.6	12.8	0.8
VA12FHB-53	0.0	45.0	27.9	13.1	0.9
AgriMAXX 444	2.5	30.0	46.8	13.8	---
Dyna-Gro 9223	2.5	45.0	29.6	13.8	2.0
Pioneer Brand 26R10	2.0	45.0	32.3	14.9	1.3
VA11W-279	0.5	47.5	33.6	15.0	0.8
VA11W-278	0.5	55.0	31.1	15.2	1.4
VA12W-150	0.5	42.5	36.9	15.2	1.3
MAS #7	1.0	27.5	56.0	15.6	1.6
Featherstone 73	1.5	45.0	35.4	15.9	1.3
VA11W-182	0.0	70.0	23.2	16.1	1.0
MAS #23	1.5	57.5	26.6	16.1	1.9
USG 3404	1.0	52.5	33.4	17.3	1.3
USG 3013	2.5	40.0	44.5	17.7	1.1
USG 3251	2.0	47.5	41.9	19.7	1.4
SS 5205	0.0	50.0	36.0	20.0	3.2
MBX12-V-251	0.0	67.5	34.3	23.2	1.0
VA10W-21	0.0	65.0	30.9	23.6	1.7
SY 483	1.0	42.5	61.8 +	26.3	2.9
SS 520	0.5	62.5	33.0	26.4	1.9
Progeny 357	2.5	77.5 +	39.7	30.9	4.3
Merl	1.0	60.0	51.5	30.9	3.5
MBX11-V-258	0.5	77.5 +	45.1	34.8 +	3.2
Pioneer Brand 26R20	1.0	60.0	60.5 +	36.3 +	3.3
SS 8415	0.0	57.5	76.8 +	44.1 +	2.5
Featherstone VA258	0.0	80.0 +	56.9	48.5 +	2.4
Shirley	0.0	87.5 +	58.1 +	53.5 +	5.4
Average ⁴	1.2	43.3	30.3	14.7	
LSD (0.05)	1.6	27.2	27.6	18.2	
C.V.	68.3	31.8	45.9	62.5	

Released cultivars are shown in bold print.

Varieties are ordered by ascending index averages.

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

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

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

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

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

⁴Averages are derived from the entire 2014 harvest data set.

Table 37. Two year average summary of reaction of entries in the Virginia Tech State Wheat Tests to Fusarium head blight (scab) and glume blotch resistance, 2013 and 2014 harvests.

LINE	FHB Incidence¹ (%)	FHB Severity² (%)	FHB Index³ (0-100)	Rank FHB Index	DON⁴ (ppm)
USG 3201	27.5	- 7.6	2.0	1	2.5
USG 3993	22.5	- 10.1	2.7	2	5.4 +
Jamestown	40.0	8.3	3.1	3	1.8
AgriMAXX 434	30.0	- 13.8	4.1	4	3.2
Yorktown	33.8	14.5	4.3	5	3.0
Hilliard	43.8	10.5	4.3	6	2.8
VA10W-96	37.5	11.0	4.3	7	2.9
Progeny 870	44.2	10.2	4.5	8	2.6
Pioneer Brand 26R53	32.5	16.7	4.5	9	2.7
USG 3612	35.0	12.9	4.6	10	7.2 +
MD04W249-11-7	28.8	- 13.1	4.6	11	3.0
VA10W-123	41.3	13.7	4.6	12	1.4
AgriMAXX 415	40.0	11.8	5.0	13	1.9
USG 3438	41.3	12.4	5.1	14	1.8
Progeny 117	37.5	12.7	5.3	15	2.2
Massey	47.5	13.2	6.0	16	2.8
Pioneer Brand 25R32	38.8	11.5	6.2	17	1.4
SY 474	33.8	17.7	6.2	18	1.3
SS 8340	35.0	22.7	6.3	19	2.6
AgriMAXX 427	46.3	14.5	6.3	20	3.6 +
AgriMAXX 413	43.8	24.1	6.5	21	1.8
Dyna-Gro 9171	53.8	12.2	6.8	22	2.4
VA11W-106	56.3	13.8	7.3	23	1.8
Dyna-Gro 9223	43.8	16.8	7.8	24	2.6
USG 3523	50.0	13.6	7.8	25	0.3
VA10W-119	51.3	15.3	8.3	26	2.6
Pioneer Brand 26R10	48.8	19.0	9.0	27	1.9
VA11W-230	55.0	16.7	9.1	28	1.7
USG 3013	46.3	24.6	10.1	29	2.0
USG 3404	48.8	21.2	11.3	30	0.9
VA11W-278	63.8	20.6	11.4	31	2.6
SS 5205	57.5	22.6	13.0	32	5.4 +
VA10W-21	58.8	18.2	13.3	33	3.8 +
SY 483	38.8	34.4	14.4	34	0.1
USG 3251	58.8	27.3	14.4	35	2.8
Featherstone 73	55.0	26.6	14.7	36	3.8 +
MBX12-V-251	65.0	23.5	15.6	37	2.6
SS 520	58.8	24.5	18.2	38	6.8 +

Table 37. Two year average summary of reaction of entries in the Virginia Tech State Wheat Tests to Fusarium head blight (scab) and glume blotch resistance, 2013 and 2014 harvests.

LINE	FHB Incidence ¹ (%)	FHB Severity ² (%)	FHB Index ³ (0-100)	Rank FHB Index	DON ⁴ (ppm)
Merl	61.3	32.2	19.7	39	3.4 +
Progeny 357	73.8 +	27.0	20.5	40	3.2 +
MBX11-V-258	78.8 +	41.9 +	33.4 +	41	9.1 +
Pioneer Brand 26R20	80.0 +	46.6 +	34.5 +	42	3.0
SS 8415	63.8	57.4 +	35.6 +	43	7.8 +
Featherstone VA258	80.0 +	48.1 +	40.0 +	44	2.8
Shirley	90.0 +	44.2 +	40.8 +	45	4.3 +
Average	50.5	21.4	12.1		3.3
LSD (0.05)	19.8	16.3	12.1		
C.V.	27.7	53.2	69.9		

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

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

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

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

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

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

⁴ Don Values were measured (pooled over replications) from the 2013 harvest year.

Table 38. Three year average summary of reaction of entries in the Virginia Tech State Wheat Tests to Fusarium head blight (scab) and glume blotch resistance, 2012 - 2014 harvests.

LINE	Heading date (Julian)	FHB Incidence ¹ (%)	FHB Severity ² (%)	FHB Index ³ (0-100)	Rank FHB Index	DON ⁴ (ppm)
USG 3201	119.0 +	23.3 -	5.5	1.4	1	2.3
Jamestown	109.5 -	29.2 -	5.7	2.1	2	1.3
Yorktown	113.0	30.0 -	10.4	3.0	3	2.2
VA10W-123	112.5 -	35.8	9.8	3.3	4	1.1
AgriMAXX 415	118.5 +	33.3	8.7	3.5	5	2.1
Progeny 117	108.5 -	32.5	9.1	3.7	6	1.4
Pioneer Brand 26R53	118.0 +	35.8	12.7	3.7	7	2.6
Massey	111.0 -	35.8	9.1	4.0	8	1.9
Progeny 870	116.0	48.6	8.8	4.3	9	3.7 +
SS 8340	118.0 +	30.0 -	15.7	4.4	10	2.2
AgriMAXX 427	115.5	39.2	10.3	4.4	11	2.3
Pioneer Brand 25R32	120.5 +	38.3	8.8	4.6	12	1.5
USG 3438	116.0	45.8	10.4	4.9	13	3.8 +
AgriMAXX 413	117.0	44.2	17.5	5.0	14	3.8 +
VA10W-119	110.5 -	40.8	11.0	5.7	15	1.6
Dyna-Gro 9171	116.5	56.7	10.6	6.1	16	3.4 +
Dyna-Gro 9223	119.5 +	47.5	13.6	6.5	17	2.5
Pioneer Brand 26R10	119.0 +	51.7	15.1	7.5	18	3.2 +
SS 5205	112.5 -	48.3	15.8	8.9	19	3.4 +
VA10W-21	115.5	43.3	12.4	8.9	20	2.4
Featherstone 73	117.5	42.5	18.3	9.9	21	2.9 +
USG 3251	121.0 +	59.2	20.4	10.9	22	2.6
MBX12-V-251	112.0 -	53.3	17.2	10.9	23	2.1
SS 520	111.0 -	45.8	17.3	12.4	24	3.8 +
Merl	116.0	57.5	23.9	14.5	25	3.9 +
Progeny 357	120.0 +	70.8 +	21.5	16.1	26	2.5
Pioneer Brand 26R20	120.5 +	74.2 +	33.8 +	24.7 +	27	4.5 +
SS 8415	115.5	57.5	41.0 +	25.0 +	28	4.8 +
Featherstone VA258	114.0	72.5 +	34.8 +	28.6 +	29	2.5
Shirley	117.5	76.7 +	32.0 +	28.8 +	30	3.4 +
Average	115.3	46.5	15.8	8.9		2.7
LSD (0.05)	2.3	16.2	11.7	8.9		3.4
C.V.	1.0	30.5	64.6	87.3		61.2

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

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

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

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

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

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

⁴DON values were measured from the 2012 and 2013 harvest year.

Section 6: Metribuzin Herbicide Injury Evaluation

On March 16, 2015, TriCor herbicide was applied at a rate of 8 oz/ac to one replication of the state wheat variety test conducted in Rockingham County. Plots were evaluated for relative injury at 9 and 14 days after herbicide injury. Very little injury was observed at day 9, but dramatic wheat injury occurred in many cultivars by day 14. Injury was rated on a scale of 0-9 with 0 being no injury and 9 being dead or dying. Because only one replication was treated, statistical analysis was not possible. Wheat cultivars are grouped by relative sensitivity and listed alphabetically within those categories. These ratings are based on a non-replicated preliminary test and cultivar sensitivity to metribuzin will vary. These ratings should be combined with other data and information when making management decisions.

Table 39. Summary of reaction of entries in the Virginia Tech State Wheat Test to metribuzin at the Shenandoah Valley site, 2015 harvest.

Very Sensitive	Sensitive	Prone to Injury	Relatively tolerant	Not rated [†]
AgriMAXX 434	AgriMAXX 413	AgriMAXX 415	LCS 2141	Hilliard
Dyna-Gro 9552	AgriMAXX 427	AgriMAXX EXP 1558	LCS 2214	MAS #2
Featherstone VA258	AgriMAXX 438	MAS #49	MAS #59	MAS #42S
GA-03564-12E6	AgriMAXX 444	MAS #51	MAS #7	SS 8513
GA-04417-12E33	AgriMAXX 446	MAS #53	Merl	VA11W-106
MAS #47	AgriMaxx Exp 1450	Massey	Pioneer Brand 26R10	VA11W-313
NC10-23663	Dyna-Gro 9171	MBX EXP 1502	Pioneer XW13T	
NC10-23720	Dyna-Gro 9223	NC09-20986	Southern Harvest 3200	
Pioneer XW13W	Dyna-Gro 9522	Progeny 357	SS 520	
Progeny 410	Featherstone 73	Progeny 870	SY 007	
Shirley	GA-04434-12LE28	SS 8340	SY 474	
SS 5205	Jamestown	SS EXP 8629	USG 3993	
SS 8870	LCS NEWS	TN1201	VA11W-279	
SY 483	MAS #23	USG 3013	VA12FHB-4	
VA11W-278	MAS #32	USG 3201		
VA11W-95	MAS #35	USG 3523		
VA12FHB-55	MAS #37	USG 3895		
VA12W-54	MAS #45	USG EXP 3756		
VA12W-72	MAS #46	VA07MAS14-9260-8-2-2		
VA13FHB-5	MAS #6	VA10W-21		
VA13W-124	MBX 15-E-229	VA12FHB-8		
VA13W-38	MBX11-V-258	VA12W-248		
VA13W-56	MBX12-V-251	VA13FHB-11		
	MBX14-K-297	VA13FHB-13		
	MBX14-S-210	WX15733		
	MD04W249-11-12	Yorktown		
	MD04W249-11-7			
	Pioneer Brand 25R32			
	Pioneer Brand 26R20			
	Pioneer Brand 26R53			
	Progeny 117			

Table 39. Summary of reaction of entries in the Virginia Tech State Wheat Test to metribuzin at the Shenandoah Valley site, 2015 harvest.

Very Sensitive	Sensitive	Prone to Injury	Relatively tolerant	Not rated [†]
	Southern Harvest 4300			
	Southern Harvest 4400			
	SS 8360			
	SS 8415			
	SS EXP 8530			
	SY 547			
	USG 3225			
	USG 3251			
	USG 3315			
	USG 3404			
	USG 3438			
	USG 3612			
	VA07MAS4-7417-1-3-3			
	VA08MAS1-188-6-4			
	VA08MAS1-190-4-1			
	VA08MAS5-39-6-4			
	VA10W-119			
	VA10W-96			
	VA11W-182			
	VA11W-230			
	VA12FHB-53			
	VA12W-150			
	VA12W-22			
	VA12W-31			
	VA12W-68			
	VA12W-97			
	VA13W-177			

† - these entries were not treated with herbicide and were not rated.

Entries are sorted alphabetically within groupings.

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