

Results from the 2023 small grain Virginia official variety trials

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The following tables present results from the wheat and barley variety trial conducted in Virginia for the 2023 harvest season. These small grain variety performance tests are conducted each year in Virginia by the Virginia Tech School of Plant and 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.

Soft Red Winter Wheat in 2023

The 2022-2023 growing season was an unusual one for small grains. A cooler than average grain fill period led to delayed maturation but very high yields for the region as well as high test weight. Unfortunately, this was also coupled with prevalent precipitation that caused delays in dry down and the ability to harvest. Sites that did dry down, but then received significant rainfall suffered from reduction in test weight (and likely falling number). Disease pressure was generally low, but powdery mildew was observed in eastern (Warsaw) and south central (Blackstone) Virginia. Leaf rust was very heavy on the eastern shore (Painter), and also resulted in low test weight for susceptible lines. Fusarium head blight (scab) pressure was low to moderate across most of the state due to the cooler weather, but was higher than usual in southwestern Virginia. High yields lead to significant lodging in some regions (e.g. Shenandoah valley).

Table 1: Virginia state soft winter wheat official variety test at 5 sites across Virginia in 2023. Sites included Blacksburg, Blackstone, Orange, Painter, and Warsaw VA. Holland was not included due to poor establishment and excessive deer damage. Plots at Shenandoah valley were not harvested due to excessive lodging.

Line	Grain Yield bu/ac (5)	Test Weight lb/bu (5)	Heading Date Julian (2)	Height in (2)	Lodging 0-9 (2)	Powdery Mildew 0-9 (3)	Leaf Rust 0-9 (2)	FHB 0-9 (1)	FDK % (1)	DON ppm (1)	BYDV 0-9 (1)	Awns A-TA-AL
15VTK-1-101	126.3+	59.0	118	33-	1.8	1.3-	0.1-	4.0	60	9	0	A
Dyna-Gro WX23444	125.3+	57.6-	114-	37	1.5	0.9-	2.6	5.0	55	3	2	AL
VA20FHB-18	125.0+	59.0	116	38+	0.6	1.9-	0.4-	4.0	45	9	2	A
17VDH-SRW01-077	123.7+	59.4+	115-	38+	0.6	0.3-	0.1-	4.5	20-	6	0	A
VA20W-135	122.8+	59.2+	117	39+	0.9	3.0	-0.1-	4.5	68	13+	1	A
USG 3661	122.3+	59.1+	118+	34-	1.5	2.9	0.4-	4.0	55	10	1	AL
SH 9520	122.0	58.6	119+	36	0.6	1.7-	4.6	3.5	55	6	1	A
Dyna-Gro Shirley	121.3	58.0	117	35-	0.6	0.6-	0.1-	6.0+	75	14+	0	TA
18VTK10-23	121.3	60.2+	114-	37	0.4	3.4	-0.1-	4.0	45	7	0	A
EPIX 1365	121.2	56.8-	117	36	0.5	2.6	1.9	6.5+	60	5	5	A
17VDH-SRW02-125	120.7	59.8+	120+	37	1.2	0.3-	0.1-	4.0	45	11	1	A
15VDH-FHB-MAS25-15	120.7	59.5+	116	35-	1.0	2.4	-0.1-	3.5	25	5	0	A
Phoenix 29	120.5	59.6+	118+	36	1.3	2.1	1.4	4.0	75	10	1	A
HILLIARD	120.5	58.3	116-	38+	0.5	2.3	0.4-	3.5	53	10	1	A
VA19FHB-36	120.4	59.1+	116	40+	1.1	2.1	0.6-	3.0	30	8	1	A
SH 5123	120.3	59.4+	118	37	1.8	4.9+	0.1-	3.5	30	5	2	AL
mean	112.8	58.4	117	37	1.0	3.2	2.8	4.2	51	8	1	NA
LSD	9.4	0.7	1	1	1.2	1.2	2.0	1.7	29	5		NA
CV	13.3	1.8	1	4	122.2	35.4	50.4	21.1	29	33		NA

continued ...

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain	Test	Heading	Height	Lodging	Powdery	Leaf	FHB	FDK	DON	BYDV	Awns
	Yield	Weight	Date			Mildew	Rust					
EXP 3354	120.2	57.6-	114-	37	2.4+	1.3-	2.1	4.5	65	4	1	AL
18VTK10-110	120.2	60.8+	119+	36	0.5	1.7-	0.1-	2.5	45	5	1	A
USG 3673	120.0	59.3+	117	36	1.4	4.6+	0.1-	3.5	30	4	2	AL
USG 3451	120.0	59.2+	115-	37	2.1	3.0	1.4	4.5	15-	3	0	AL
18VTK12-111	118.9	59.6+	120+	34-	1.4	0.7-	0.4-	4.0	30	7	0	TA
USG 3783	118.9	58.0	119+	35-	0.5	4.0	3.6	4.5	50	8	0	A
GP 543	118.7	57.4-	115-	38+	1.4	0.6-	2.6	5.0	50	4	1	TA
Dyna-Gro 9393	118.5	57.9	119+	35-	0.4	4.1	2.9	4.5	45	7	1	A
18VTK6-3	118.4	59.4+	118	37	0.5	2.0-	0.1-	3.5	58	7	0	A
16VDH-SRW09-025	118.4	58.8	116	38	0.5	1.6-	1.4	4.0	55	11	1	A
Dyna-Gro 9120	118.4	59.9+	116	37	0.9	4.1	2.9	4.5	18-	5	0	A
VA20FHB-22	118.2	59.0	117	40+	1.3	1.6-	0.4-	4.5	55	9	2	A
AgriMAXX 535	118.2	59.1+	118	36	0.9	2.6	3.6	4.5	45	7	1	A
17VDH-SRW05-169	117.7	57.9	115-	31-	0.8	1.4-	0.6-	5.5	70	10	0	A
VA20W-142	117.6	59.1+	117	38+	1.9	2.4	0.1-	4.0	50	6	1	AL
GA151313-20E48	117.3	59.4+	120+	34-	0.4	2.6	-0.1-	5.0	78	8	1	A
EPIX 1375	117.3	59.8+	114-	37	1.8	0.1-	0.1-	4.0	40	9	2	AL
17VDH-SRW03-204	117.1	59.7+	116	38	1.0	0.9-	-0.1-	5.0	70	13+	3	A
Pioneer 26R59	117.0	58.1	117	34-	0.6	3.0	4.6	5.5	68	8	3	TA
VA21W-59	116.9	58.3	119+	36	2.1	2.4	-0.1-	6.5+	90+	30+	0	TA
AgriMAXX 514	116.8	57.1-	119+	37	1.3	4.1	1.9	4.5	60	7	2	A
18VTK5-95	116.6	59.8+	117	36	0.6	0.6-	0.1-	3.5	45	6	1	AL
mean	112.8	58.4	117	37	1.0	3.2	2.8	4.2	51	8	1	NA
LSD	9.4	0.7	1	1	1.2	1.2	2.0	1.7	29	5		NA
CV	13.3	1.8	1	4	122.2	35.4	50.4	21.1	29	33		NA

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Line	Grain Yield	Test Weight	Heading Date	Height	Lodging	Powdery Mildew	Leaf Rust	FHB	FDK	DON	BYDV	Awns
Pioneer 26R33	116.5	58.4	119+	37	1.0	2.6	5.6+	2.5	43	7	3	A
18VTK10-77	116.5	59.9+	113-	37	1.9	3.4	0.9	3.0	30	3	0	A
KWS495	116.2	58.5	115-	35-	0.3	5.3+	0.6-	2.0-	35	5	3	A
VA21W-112	116.1	57.1-	117	35	1.1	1.9-	0.4-	5.5	83+	19+	0	A
17VTK4-29	116.1	58.9	116	36	1.5	0.4-	0.1-	5.0	65	8	2	TA
18VTK10-188	116.0	59.2+	115-	36	1.3	2.4	-0.1-	2.8	15-	3-	1	A
GP 282	116.0	58.8	117	34-	1.1	5.6+	3.6	6.0+	80	10	2	A
USG 3352	115.9	57.6-	120+	37	0.5	4.7+	4.9+	4.5	58	15+	1	A
VA19W-29	115.4	58.4	117	39+	0.9	3.1	4.6	6.0+	73	14+	1	A
MAS #190	115.2	57.7-	121+	35-	0.8	3.3	4.1	5.0	55	9	2	A
Dyna-Gro 9422	115.1	57.1-	117	37	1.1	2.6	8.4+	5.5	70	13+	1	A
16VDH-SRW03-018	115.1	60.7+	117	38+	0.8	2.4	0.1-	5.0	50	7	1	A
VA18HRW-96	115.0	59.2+	119+	39+	0.1	2.3	2.1	4.0	90+	14+	3	A
VA19W-87	114.9	59.2+	118	38+	0.5	1.0-	0.1-	3.0	40	10	0	A
EPIX 2356	114.8	57.5-	119+	37	0.8	4.0	5.6+	4.5	75	13+	3	A
Revere 2277	114.7	58.6	120+	36	0.4	1.1-	5.7+	4.5	50	7	0	A
CROPLAN CP9606	114.6	57.2-	117	37	0.5	4.7+	2.6	4.5	63	6	1	A
18VDH-FHB-MAS07-173-03	114.5	58.8	117	37	2.4+	0.7-	0.1-	4.5	45	10	0	A
USG 3363	114.3	57.5-	118	38	0.4	2.7	6.4+	3.5	30	5	1	A
USG 3234	114.3	60.3+	119+	40+	0.9	3.9	4.4	3.5	35	3	1	AL
HR 5210	114.3	57.9	120+	34-	0.1	1.7-	0.9	4.5	90+	17+	3	A
MAS #178	114.2	57.8	119+	38+	1.1	4.6+	3.6	4.0	60	7	0	AL
mean	112.8	58.4	117	37	1.0	3.2	2.8	4.2	51	8	1	NA
LSD	9.4	0.7	1	1	1.2	1.2	2.0	1.7	29	5		NA
CV	13.3	1.8	1	4	122.2	35.4	50.4	21.1	29	33		NA

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Line	Grain Yield	Test Weight	Heading Date	Height	Lodging	Powdery Mildew	Leaf Rust	FHB	FDK	DON	BYDV	Awns
KWS477	114.1	59.3+	116	38+	0.6	6.0+	2.6	6.0+	25	1-	5	TA
MBX 120	114.1	58.5	120+	36	0.2	1.6-	4.1	5.0	55	5	1	A
MAS #155	113.8	57.0-	118	38	1.6	2.7	8.4+	5.0	75	8	0	A
MAS #86	113.8	56.8-	117	38	0.6	4.9+	4.1	3.5	40	3	1	A
DH17SRW136-066	113.4	57.5-	118	36	1.4	0.6-	5.4+	4.0	73	6	0	TA
AgriMAXX 525	113.3	57.5-	119+	35	0.6	3.6	6.6+	4.5	40	4	3	A
VA19MAS7-519-1WS-R110	113.3	59.7+	120+	37	0.5	2.7	0.9	4.0	40	21+	3	A
18VTK12-60	113.3	58.1	113-	36	2.3+	3.6	0.1-	4.0	50	4	3	AL
Revere 2347	112.8	57.8	118	37	0.3	3.0	5.9+	5.0	20-	5	2	A
Dyna-Gro 9231	112.8	57.9	118	38	0.6	3.4	3.9	5.0	28	3	2	A
Viking 822	112.8	57.6-	117	38+	0.8	3.1	2.6	4.0	30	3	2	A
CP8224	112.7	60.1+	119+	35	0.3	6.9+	3.9	4.5	45	13+	1	AL
MAS #133	112.6	55.8-	118	37	1.1	4.7+	4.9+	3.5	75	12	2	A
USG EXP 3000	112.6	59.3+	118+	36	0.8	4.7+	0.1-	4.0	65	12	3	AL
AGS 4043	112.6	59.6+	116	34-	1.0	0.6-	0.1-	4.0	35	4	1	A
MBX 230	112.6	57.8	117	38	0.3	2.1	6.9+	4.5	35	4	4	A
KWS482	112.4	58.4	118	35	0.4	2.1	6.6+	2.5	10-	3	1	A
MBX 176	112.2	56.4-	118+	37	0.6	2.6	7.9+	4.5	60	6	4	A
15VDH-FHB-MAS38-01	112.2	57.4-	111-	33-	2.9+	0.6-	0.1-	3.0	18-	4	2	A
MBX 127	112.1	57.0-	118	37	0.5	4.3	6.9+	4.0	35	4	1	A
VA19W-89	112.1	58.7	118	37	0.4	1.7-	0.6-	3.5	75	7	1	A
MBX 245	112.1	57.5-	116	34-	0.6	4.0	4.6	5.0	65	10	3	TA
mean	112.8	58.4	117	37	1.0	3.2	2.8	4.2	51	8	1	NA
LSD	9.4	0.7	1	1	1.2	1.2	2.0	1.7	29	5		NA
CV	13.3	1.8	1	4	122.2	35.4	50.4	21.1	29	33		NA

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Line	Grain Yield	Test Weight	Heading Date	Height	Lodging	Powdery Mildew	Leaf Rust	FHB	FDK	DON	BYDV	Awns
Pioneer 26R45	112.1	58.3	115-	38	0.4	3.7	3.4	2.0-	40	4	3	A
MAS #139	112.0	56.8-	119+	35	0.4	3.9	6.4+	5.0	70	10	0	A
VA20FHB-20	111.8	59.9+	116	38	0.5	1.9-	2.6	3.5	28	6	2	A
VA18HRW-57	111.7	58.5	120+	40+	0.9	4.7+	0.6-	2.5	80	5	3	A
AgriMAXX 513	111.4	57.9	117	37	2.4+	3.1	5.1+	3.5	38	4	2	A
SH 4222	111.3	57.7	118	37	0.5	2.9	6.1+	4.5	40	4	1	A
Dyna-Gro 9172	111.3	57.3-	117	36	0.9	4.6+	6.6+	3.0	40	4	2	A
Dyna-Gro 9290	111.2	57.6-	116	39+	0.6	4.3	1.6	4.5	45	7	4	A
VA18HRW-58	111.1	60.0+	120+	39+	1.6	2.0-	0.6-	3.5	70	7	3	A
USG 3463	111.0	56.9-	117	34-	0.5	2.4	4.9+	4.0	65	5	0	A
USG 3633	110.6	59.1+	115-	39+	0.9	4.6+	1.4	1.5-		11	1	A,AL
MAS #67	110.3	56.9-	114-	36	0.5	6.1+	2.4	5.0	23	2-	1	AL
LIBERTY 5658	110.3	59.0+	114-	39+	1.4	4.0	1.1	4.0	40	6	0	A
CPX92394	110.1	58.8	115-	39+	1.0	4.1	0.9	4.5	23	7	0	A
EXP 3904	110.1	58.8	121+	37	0.6	3.9	2.6	3.0	70	8	0	A
18VDH-FHB-MAS07-164-01	110.0	59.5+	114-	35-	2.4+	2.0-	0.1-	7.5+	80	9	1	AL
SH 7222	110.0	59.8+	118+	36	0.0	1.4-	0.1-	3.0	80	8	1	A
AgriMAXX 516	110.0	57.0-	118	36	0.6	4.6+	7.9+	5.0	55	6	1	A
Dyna-Gro 9151	109.8	58.6	118	38	1.5	3.7	7.6+	4.5	60	8	2	A
MAS #143	109.8	56.9-	119+	37	1.0	4.3	6.1+	4.0	55	5	1	A
EPIX 4372	109.4	57.3-	119+	36	0.5	4.6+	7.9+	3.5	40	4	3	A
16VDH-SRW03-023	109.2	58.4	116	37	0.5	3.3	0.6-	4.5	45	7	1	TA
mean	112.8	58.4	117	37	1.0	3.2	2.8	4.2	51	8	1	NA
LSD	9.4	0.7	1	1	1.2	1.2	2.0	1.7	29	5		NA
CV	13.3	1.8	1	4	122.2	35.4	50.4	21.1	29	33		NA

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Line	Grain	Test	Heading	Height	Lodging	Powdery	Leaf	FHB	FDK	DON	BYDV	Awns
	Yield	Weight	Date			Mildew	Rust					
EXP 3574	109.1	56.5-	120+	35	0.4	1.1-	4.6	2.5	55	5	0	AL
FS 743	109.1	57.6-	117	38+	0.5	3.1	6.4+	5.0	45	5	0	A
Revere 2148	109.0	58.3	118	37	0.9	5.0+	5.9+	4.0	20-	3	1	AL
VA19W-02	108.9	58.7	116	37	1.4	4.6+	0.4-	4.5	70	12	0	A
DH17SRW136-038	108.7	56.8-	117	35-	1.4	1.3-	5.6+	4.5	60	12	1	A
AgriMAXX 503	108.4	58.4	118	36	0.6	5.4+	4.4	2.0-	28	2-	2	AL
Featherstone 3000	108.0	59.4+	118	36	0.5	4.7+	1.1	4.0	78	14+	4	AL
16VDH-FHB-MAS60-7-03	108.0	59.0	116	35-	1.3	0.4-	5.4+	3.0	70	12	2	AL
GA131218-20E15	108.0	58.4	115-	34-	2.8+	4.9+	0.9	6.5+	90+	25+	0	A
AgriMAXX 502	107.9	57.5-	116	38	0.6	2.6	6.1+	4.5	70	6	1	A
FS 855	107.9	59.3+	114-	38+	0.4	4.6+	1.1	4.5	50	7	0	A
EPIX 2392	107.9	57.5-	117	38+	0.8	3.6	5.9+	5.5	55	7	2	A
CP8045	107.8	57.0-	118	36	0.4	4.4+	5.9+	4.0	45	3	3	A
MAS #316	107.4	57.7-	119+	37	1.3	4.9+	4.4	3.0	45	5	1	A
Dyna-Gro 9481	107.4	57.1-	116	35-	0.8	3.9	1.1	4.0	15-	1-	0	AL
KWS459	107.3	58.3	117	34-	1.3	5.7+	1.4	4.0	35	7	1	A
AgriMAXX 505	107.2	58.9	119+	37	0.9	3.9	5.1+	4.0	45	6	3	A
GA161240-20LE6	107.1	59.9+	118	38	2.3+	0.1-	0.1-	3.0	73	13+	3	AL
MAS #164	107.1	55.4-	119+	35-	0.4	4.3	5.1+	4.5	68	5	2	A
SH 7200	107.0	58.8	113-	37	1.9	3.9	0.4-	6.5+	80	25+	2	A
VA21FHB-8	107.0	59.2+	116-	37	1.3	2.0-	1.1	3.0	63	9	0	TA
FS 891	106.9	58.3	117	37	0.8	4.4+	3.4	5.0	70	7	5	A
mean	112.8	58.4	117	37	1.0	3.2	2.8	4.2	51	8	1	NA
LSD	9.4	0.7	1	1	1.2	1.2	2.0	1.7	29	5		NA
CV	13.3	1.8	1	4	122.2	35.4	50.4	21.1	29	33		NA

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Line	Grain Yield	Test Weight	Heading Date	Height	Lodging	Powdery Mildew	Leaf Rust	FHB	FDK	DON	BYDV	Awns
USG 3472	106.5	56.8-	118	36	0.5	4.9+	8.4+	4.0	45	3	1	A
GA12230-20E36	106.2	58.3	116-	35-	0.5	3.1	0.1-	4.5	60	9	1	A
FS 745	106.1	57.0-	119+	36	0.6	4.6+	6.9+	4.0	43	6	2	A
GP 747	105.9	55.6-	118	36	1.0	4.3	5.1+	3.5	70	12	2	A
FS 597	105.9	57.3-	117	37	0.5	4.3	1.9	5.0	45	5	5	A
AGS 3026	105.3	59.5+	120+	35	1.1	7.1+	0.1-	3.5	83+	29+	1	A
Pioneer 26R36	105.1	58.1	116	38+	0.7	8.0+	2.1	5.5	60	7	1	A
Dyna-Gro 9002	105.0	56.9-	117	38+	1.4	6.3+	3.6	4.5	55	5	0	A
Featherstone 125	104.9	60.3+	118	37	1.0	5.9+	0.4-	5.5	58	8	1	A
VA21W-18	103.6	58.7	111-	35-	0.5	2.7	1.4	5.0	45	10	0	A
Revere 2169	102.9-	56.8-	118	36	0.5	4.1	6.6+	3.5	15-	4	1	A
MAS #189	100.4-	59.5+	110-	38	1.3	1.6-	4.1	3.0	28	2-	1	A
MAS #2	99.9-	59.3+	119+	43+	4.4+	5.1+	3.9	3.0	35	5	1	AL
AGS 3040	97.7-	58.7	115-	37	0.3	7.7+	1.4	4.5	55	10	6	TA
MAS #106	92.6-	58.2	111-	37	1.9	7.0+	3.4	4.0	25	3-	1	TA
MASSEY	88.2-	57.8	117	41+	3.3+	2.1	7.9+	4.5	60	10	1	TA
mean	112.8	58.4	117	37	1.0	3.2	2.8	4.2	51	8	1	NA
LSD	9.4	0.7	1	1	1.2	1.2	2.0	1.7	29	5		NA
CV	13.3	1.8	1	4	122.2	35.4	50.4	21.1	29	33		NA

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Table 2: Virginia state soft winter wheat official variety test in Blacksburg, VA in 2023.

Line	Grain Yield bu/ac	Test Weight lb/bu	Heading Date Julian	Height in	Lodging 0-9	Awns A-TA-AL
MAS #155	143.1+	60.4	125	41	3.2	A
MAS #139	140.7+	59.8	127+	40	0.8	A
VA20FHB-18	137.0+	61.1	123	43+	1.3	A
LIBERTY 5658	136.3+	61.3+	121-	43+	1.5	A
Dyna-Gro 9422	135.9+	60.0	125	41	2.3	A
CPX92394	135.4+	61.3+	122-	44+	1.8	A
SH 9520	133.7	60.7	127+	39	1.3	A
AgriMAXX 525	133.4	61.2+	127+	39	1.3	A
MAS #143	133.1	60.0	126	40	2.0	A
VA19W-29	133.1	60.6	125	42+	1.8	A
EPIX 1365	133.1	59.3-	124	39	1.0	A
EPIX 2356	132.8	60.2	127+	41	1.5	A
EXP 3574	132.0	59.4-	128+	38-	0.8	AL
CROPLAN CP9606	131.9	59.3-	124	40	1.0	A
AgriMAXX 514	131.6	59.3-	127+	39	2.3	A
MAS #164	131.5	59.4-	127+	38-	0.8	A
Dyna-Gro 9290	131.4	59.3-	123	42+	1.3	A
VA19FHB-36	131.4	61.2+	124	44+	2.2	A
DH17SRW136-066	131.0	59.4-	125	39	2.7	TA
17VDH-SRW01-077	130.9	61.3+	123-	42	1.2	A
MBX 127	130.9	59.7-	125	41	1.0	A
VA19W-02	130.9	60.3	123-	41	2.7	A
Pioneer 26R36	130.5	61.6+	122-	42+	1.5	A
USG 3673	130.3	60.8	124	39	2.3	AL
GA151313-20E48	130.1	61.4+	128+	37-	0.7	A
Dyna-Gro 9151	130.0	60.9	126	42+	3.0	A
15VDH-FHB-MAS25-15	129.9	61.2+	123	39	2.0	A
SH 5123	129.8	61.0	125	40	3.5	AL
VA20W-135	129.8	60.8	125	44+	1.7	A
GP 543	129.4	59.0-	122-	41	2.8	TA
Dyna-Gro 9172	128.9	60.1	124	39	1.5	A
mean	124.4	60.4	125	40	1.7	NA
LSD	10.2	0.7	2	2	2.0	NA
CV	5.9	0.8	1	3	82.7	NA

continued ...

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.
FHB = Fusarium Head Blight Score (0-9)
FDK = Fusarium Diseased Kernels (percent)
DON = Deoxynivalenol concentration in the kernels (ppm)
Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Heading Date	Height	Lodging	Awns
Dyna-Gro 9002	128.8	58.5-	124	41	2.8	A
AgriMAXX 516	128.6	59.7-	124	40	1.3	A
17VTK4-29	128.6	59.6-	123	40	3.0	TA
EPIX 1375	128.6	61.6+	120-	41	2.7	AL
MAS #133	128.5	58.2-	125	40	2.3	A
VA20FHB-22	128.3	60.3	125	43+	2.5	A
VA21W-59	128.2	60.2	127+	39	4.3+	TA
USG 3783	127.8	60.7	127+	38	1.0	A
DH17SRW136-038	127.7	58.5-	124	38-	1.8	A
VA21W-112	127.6	58.7-	124	38	1.0	A
Pioneer 26R59	127.5	60.0	123	38-	1.3	TA
18VTK12-60	127.4	59.3-	120-	40	2.7	AL
USG 3633	127.3	61.2+	121-	42+	0.7	A,AL
Phoenix 29	127.3	61.6+	126	39	2.5	A
Dyna-Gro 9393	127.3	60.4	127+	38	0.7	A
17VDH-SRW03-204	127.2	61.2+	124	41	1.8	A
CP8045	127.1	60.0	126	39	0.7	A
Pioneer 26R45	126.9	61.1	120-	43+	0.8	A
FS 855	126.9	61.4+	120-	42+	0.5	A
USG 3352	126.9	60.4	127+	39	1.0	A
MAS #178	126.9	59.5-	126+	42+	1.5	AL
KWS495	126.7	60.5	124	37-	0.5	A
KWS477	126.6	61.3+	123	41	1.3	TA
MAS #67	126.0	59.6-	121-	39	0.8	AL
CP8224	126.0	62.3+	127+	38-	0.5	AL
18VTK10-23	125.9	62.1+	121-	40	0.7	A
HILLIARD	125.9	59.2-	123	42	1.0	A
MAS #86	125.8	58.7-	123	41	1.3	A
Dyna-Gro 9120	125.5	61.6+	123	39	1.0	A
Revere 2277	125.4	60.5	128+	39	0.8	A
MBX 176	125.4	59.1-	127+	40	1.2	A
Dyna-Gro Shirley	125.2	59.4-	125	38	1.2	TA
USG 3234	125.1	62.0+	126	42+	1.8	AL
SH 4222	125.0	61.2+	125	40	1.0	A
mean	124.4	60.4	125	40	1.7	NA
LSD	10.2	0.7	2	2	2.0	NA
CV	5.9	0.8	1	3	82.7	NA

continued ...

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.
FHB = Fusarium Head Blight Score (0-9)
FDK = Fusarium Diseased Kernels (percent)
DON = Deoxynivalenol concentration in the kernels (ppm)
Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Heading Date	Height	Lodging	Awns
USG 3451	124.9	61.4+	123	40	4.2+	AL
FS 891	124.8	60.5	125	40	1.5	A
15VDH-FHB-MAS38-01	124.8	58.1-	118-	37-	3.5	A
18VTK10-77	124.7	60.9	119-	40	2.7	A
16VDH-SRW03-023	124.7	60.2	124	39	0.5	TA
VA20FHB-20	124.6	61.9+	124	42	1.0	A
FS 743	124.6	61.2+	125	41	1.0	A
USG 3363	124.5	61.2+	126	41	0.8	A
AgriMAXX 503	124.5	60.2	126	40	1.2	AL
16VDH-SRW03-018	124.5	61.9+	123	42+	1.5	A
GA131218-20E15	124.5	60.3	122-	38-	3.0	A
VA19MAS7-519-1WS-R110	124.5	62.1+	127+	41	1.0	A
MBX 120	124.3	60.8	128+	38-	0.2	A
18VTK12-111	124.3	60.9	128+	38-	2.8	TA
MBX 230	124.3	61.1	125	40	0.5	A
Dyna-Gro 9231	124.2	61.6+	126	40	1.3	A
18VTK6-3	124.0	61.1	127+	40	1.0	A
Pioneer 26R33	123.9	60.7	126	41	1.5	A
VA18HRW-57	123.9	60.4	128+	43+	1.8	A
Dyna-Gro WX23444	123.7	59.0-	121-	40	3.0	AL
KWS459	123.6	59.8	125	38	2.5	A
FS 745	123.6	59.9	126	39	1.2	A
EPIX 2392	123.6	61.3+	125	41	1.5	A
Revere 2347	123.3	61.4+	126	40	0.5	A
Viking 822	123.3	60.0	125	41	1.5	A
AgriMAXX 502	123.3	59.9	123-	40	1.3	A
GP 282	123.1	60.0	124	37-	2.3	A
MAS #316	123.1	60.9	127+	40	2.5	A
15VTK-1-101	122.4	60.6	126	37-	2.5	A
Revere 2169	122.2	60.0	125	39	1.0	A
AgriMAXX 505	122.2	61.6+	127+	41	1.8	A
HR 5210	122.2	60.4	127+	38	0.2	A
VA20W-142	122.0	60.8	125	40	3.0	AL
Dyna-Gro 9481	122.0	59.4-	124	38	1.5	AL
mean	124.4	60.4	125	40	1.7	NA
LSD	10.2	0.7	2	2	2.0	NA
CV	5.9	0.8	1	3	82.7	NA

continued ...

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.
FHB = Fusarium Head Blight Score (0-9)
FDK = Fusarium Diseased Kernels (percent)
DON = Deoxynivalenol concentration in the kernels (ppm)
Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Heading Date	Height	Lodging	Awns
MBX 245	121.6	59.3-	122-	38-	1.3	TA
USG 3661	121.5	60.1	127+	37-	3.0	AL
FS 597	121.4	59.4-	124	41	1.0	A
EPIX 4372	121.4	60.1	126	39	1.0	A
MAS #190	121.4	60.3	128+	38-	1.5	A
Revere 2148	121.4	60.3	126	41	1.7	AL
18VTK10-188	120.8	60.5	121-	40	2.0	A
USG 3472	120.7	60.1	125	39	0.8	A
VA19W-89	120.5	60.2	126	41	0.8	A
18VDH-FHB-MAS07-164-01	120.4	60.7	120-	38-	3.5	AL
AgriMAXX 535	120.2	61.6+	126	38	0.5	A
EXP 3354	120.0	59.1-	120-	40	4.5+	AL
AGS 3026	120.0	61.7+	128+	39	2.2	A
USG 3463	119.9	59.5-	125	38	1.0	A
18VTK10-110	119.9	61.7+	127+	38	1.0	A
VA18HRW-96	119.7	61.2+	127+	42+	0.0	A
17VDH-SRW02-125	119.6	61.0	128+	41	2.3	A
SH 7222	119.5	60.9	126	39	-0.0	A
16VDH-SRW09-025	119.2	60.0	124	41	1.0	A
17VDH-SRW05-169	118.8	58.9-	121-	35-	1.5	A
AGS 3040	118.1	60.7	122-	40	0.5	TA
EXP 3904	117.7	60.6	128+	39	0.8	A
VA21FHB-8	117.6	60.4	122-	40	2.5	TA
MAS #106	117.4	59.8	114-	41	2.3	TA
SH 7200	117.3	60.3	120-	40	2.2	A
AgriMAXX 513	116.7	59.6-	124	40	3.0	A
18VTK5-95	116.5	61.2+	125	39	1.3	AL
GP 747	116.5	57.9-	125	39	2.0	A
Featherstone 3000	115.9	61.1	125	39	1.0	AL
VA18HRW-58	115.7	60.9	127+	43+	3.3	A
USG EXP 3000	115.6	61.0	126	39	1.5	AL
GA12230-20E36	115.3	60.3	123	39	1.0	A
16VDH-FHB-MAS60-7-03	114.9	60.9	124	39	2.5	AL
VA21W-18	114.9	60.3	118-	38	1.0	A
mean	124.4	60.4	125	40	1.7	NA
LSD	10.2	0.7	2	2	2.0	NA
CV	5.9	0.8	1	3	82.7	NA

continued ...

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.
FHB = Fusarium Head Blight Score (0-9)
FDK = Fusarium Diseased Kernels (percent)
DON = Deoxynivalenol concentration in the kernels (ppm)
Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Heading Date	Height	Lodging	Awns
KWS482	114.4	60.7	124	38	0.8	A
Featherstone 125	114.1-	61.8+	125	40	2.0	A
MAS #189	114.1-	60.9	116-	41	1.5	A
VA19W-87	113.4-	61.2+	126	41	1.0	A
AGS 4043	111.9-	60.9	124	37-	2.0	A
18VDH-FHB-MAS07-173-03	109.3-	60.0	126	39	3.8+	A
MASSEY	104.3-	60.2	125	44+	4.3+	TA
GA161240-20LE6	104.1-	61.4+	126	41	2.8	AL
MAS #2	101.4-	60.3	126	47+	7.0+	AL
mean	124.4	60.4	125	40	1.7	NA
LSD	10.2	0.7	2	2	2.0	NA
CV	5.9	0.8	1	3	82.7	NA

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Table 3: Virginia state soft winter wheat official variety test in Blackstone, VA in 2023.

Line	Grain Yield bu/ac	Test Weight lb/bu	Powdery Mildew 0-9
Dyna-Gro WX23444	131.1+	56.1	1.0-
18VTK10-23	127.7+	58.1+	4.3
SH 7222	126.4+	57.5+	1.3-
18VTK12-111	124.6+	57.3+	0.0-
17VDH-SRW02-125	124.3+	57.6+	-0.0-
17VDH-SRW01-077	124.0+	56.7+	-0.0-
18VDH-FHB-MAS07-173-03	124.0+	56.6+	0.0-
18VTK10-110	121.7	59.4+	1.7
15VTK-1-101	121.4	56.6+	0.0-
18VTK5-95	121.4	57.5+	0.7-
VA19FHB-36	120.4	56.6+	1.3-
VA20FHB-18	119.6	56.2	2.3
GA151313-20E48	119.4	56.8+	2.7
SH 9520	119.2	56.7+	1.3-
Revere 2277	118.7	57.1+	0.3-
KWS482	118.6	56.8+	2.0
18VTK6-3	118.6	56.6+	1.7
MBX 230	117.5	55.2-	1.7
MBX 120	117.5	56.6+	0.3-
USG 3352	117.4	54.6-	5.0+
USG 3673	117.3	56.7+	5.0+
USG 3661	117.3	57.1+	3.7
Phoenix 29	117.3	56.9+	2.3
Dyna-Gro Shirley	117.2	55.9	0.0-
VA19W-29	117.1	55.0-	3.7
Pioneer 26R33	116.9	56.4	2.3
Revere 2347	116.8	55.0-	2.0
VA20W-135	116.7	57.5+	3.0
AGS 4043	116.6	57.8+	-0.0-
16VDH-SRW03-018	116.5	58.1+	2.7
mean	107.9	55.8	3.2
LSD	14.3	0.6	1.7
CV	9.4	0.8	32.5

continued ...

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Powdery Mildew
EPIX 1375	116.5	57.7+	0.0-
18VTK10-188	116.1	57.5+	3.3
EXP 3354	115.7	56.0	0.7-
Dyna-Gro 9422	115.5	54.5-	2.3
Viking 822	115.4	54.7-	2.7
HR 5210	115.3	54.4-	2.0
VA18HRW-96	115.1	56.7+	1.7
VA20FHB-22	114.9	56.2	1.7
17VTK4-29	114.7	57.3+	0.3-
Dyna-Gro 9120	114.3	58.0+	3.3
SH 7200	114.0	56.8+	3.3
15VDH-FHB-MAS25-15	114.0	56.7+	3.3
AgriMAXX 502	113.9	55.5	2.3
SH 5123	113.5	57.1+	5.3+
SH 4222	113.3	55.1-	2.0
GP 543	113.2	55.8	0.0-
16VDH-SRW09-025	113.2	56.5	1.7
USG 3234	113.1	58.0+	4.0
EPIX 2356	113.1	54.4-	5.0+
VA21W-59	112.5	56.3	2.3
17VDH-SRW05-169	112.5	56.5	1.0-
17VDH-SRW03-204	112.5	56.9+	0.0-
Featherstone 3000	112.4	56.8+	5.0+
MBX 176	112.4	55.0-	2.0
EPIX 1365	112.3	53.6-	2.3
AgriMAXX 535	111.9	55.9	2.3
VA19W-87	111.9	57.2+	0.7-
HILLIARD	111.7	56.1	2.0
EXP 3904	111.7	55.6	4.0
MAS #133	110.7	52.5-	4.7
VA21W-112	110.5	54.3-	2.0
Dyna-Gro 9231	110.4	54.9-	3.0
USG 3363	110.2	55.2-	2.0
mean	107.9	55.8	3.2
LSD	14.3	0.6	1.7
CV	9.4	0.8	32.5

continued ...

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Powdery Mildew
USG EXP 3000	110.1	55.9	4.7
MAS #190	110.0	55.1-	3.3
CP8045	110.0	54.2-	4.0
USG 3451	109.3	55.7	2.3
GP 282	109.2	56.4	5.7+
DH17SRW136-038	108.8	54.9-	1.3-
FS 743	108.6	55.1-	2.0
VA19MAS7-519-1WS-R110	108.4	56.0	1.7
FS 745	108.2	54.2-	4.3
USG 3463	108.0	54.1-	2.3
VA20W-142	108.0	56.0	2.3
Dyna-Gro 9172	107.9	54.0-	5.0+
EXP 3574	107.8	53.9-	2.3
Dyna-Gro 9393	107.8	55.3	4.7
MBX 245	107.7	55.4	4.7
18VTK10-77	107.5	58.2+	3.0
MAS #155	107.5	53.7-	2.3
AgriMAXX 516	107.5	54.2-	5.0+
VA19W-89	107.4	56.0	1.3-
Dyna-Gro 9151	107.3	55.9	3.3
Pioneer 26R59	107.2	56.0	3.7
USG 3783	107.0	55.4	4.0
16VDH-SRW03-023	106.9	55.1-	3.3
AgriMAXX 513	106.8	55.5	2.0
CP8224	106.8	57.2+	8.0+
DH17SRW136-066	106.7	56.3	0.7-
FS 891	106.5	56.0	4.0
AgriMAXX 503	106.3	55.6	5.3+
GP 747	105.9	52.8-	3.7
AgriMAXX 514	105.3	53.9-	3.7
Featherstone 125	105.2	58.1+	5.7+
VA21FHB-8	105.1	56.6+	2.0
USG 3633	105.0	56.7+	5.7+
mean	107.9	55.8	3.2
LSD	14.3	0.6	1.7
CV	9.4	0.8	32.5

continued ...

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Powdery Mildew
Dyna-Gro 9290	104.8	54.8-	4.3
EPIX 4372	104.4	54.6-	5.0+
18VDH-FHB-MAS07-164-01	104.3	56.8+	2.0
GA161240-20LE6	104.3	57.4+	0.0-
VA20FHB-20	104.0	57.4+	1.7
VA18HRW-57	103.2	56.4	5.3+
CPX92394	103.2	55.6	5.0+
VA18HRW-58	103.1	57.9+	2.0
MAS #86	103.0	54.1-	5.7+
KWS477	102.9	56.9+	6.7+
CROPLAN CP9606	102.6	54.4-	5.3+
USG 3472	102.6	53.8-	4.7
Revere 2148	102.6	55.8	5.3+
MAS #143	102.3	53.9-	4.3
AgriMAXX 505	102.2	56.1	3.7
VA19W-02	102.2	55.8	5.0+
MBX 127	102.0	54.5-	4.3
KWS459	102.0	55.4	6.7+
AgriMAXX 525	101.7	55.1-	4.0
MAS #316	101.2	54.2-	5.7+
KWS495	100.7	54.9-	6.3+
MAS #67	100.2	53.6-	7.3+
EPIX 2392	99.9	54.6-	2.7
MAS #139	99.8	54.3-	4.7
FS 855	99.7	56.8+	5.3+
LIBERTY 5658	99.3	57.1+	4.0
GA12230-20E36	99.2	54.7-	5.0+
Pioneer 26R45	98.9	56.2	4.0
FS 597	97.4	54.7-	4.0
Revere 2169	95.6	53.7-	4.7
AGS 3026	95.6	56.7+	8.0+
MAS #178	95.4	55.7	5.0+
Dyna-Gro 9481	92.8-	53.7-	3.3
mean	107.9	55.8	3.2
LSD	14.3	0.6	1.7
CV	9.4	0.8	32.5

continued ...

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Powdery Mildew
MAS #164	92.4-		4.7
MAS #189	89.8-	57.4+	1.7
16VDH-FHB-MAS60-7-03	89.8-	56.9+	0.0-
18VTK12-60	89.3-	56.1	3.7
Dyna-Gro 9002	88.9-	54.1-	7.3+
VA21W-18	88.3-	55.7	4.0
MASSEY	83.6-	55.6	1.7
GA131218-20E15	83.5-	55.3	6.0+
MAS #2	82.9-	56.7+	5.0+
15VDH-FHB-MAS38-01	82.3-	54.0-	0.7-
AGS 3040	82.2-	56.1	8.3+
Pioneer 26R36	74.4-	54.0-	9.0+
MAS #106	68.9-	55.7	8.3+
mean	107.9	55.8	3.2
LSD	14.3	0.6	1.7
CV	9.4	0.8	32.5

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Table 4: Virginia state soft winter wheat official variety test in Holland, VA in 2023. Significant no-till establishment issues and excessive deer damage were observed at this location. This location was not included in the over location analysis.

Line	Grain Yield bu/ac	Test Weight lb/bu
15VTK-1-101	92.9+	55.4
16VDH-SRW03-018	91.1+	56.4+
EPIX 4372	90.8+	54.3
AgriMAXX 502	89.6+	53.2
MAS #86	89.2+	51.3-
15VDH-FHB-MAS25-15	88.4+	55.5
SH 4222	87.6+	54.1
FS 745	86.4+	53.8
MAS #143	86.3+	53.5
CP8045	85.1+	54.3
GA151313-20E48	84.8+	54.2
CROPLAN CP9606	84.8+	52.8
FS 743	84.4+	53.7
EPIX 2392	84.3+	53.4
Dyna-Gro 9393	82.3	54.9
USG 3783	81.3	54.9
17VDH-SRW01-077	81.2	54.6
USG 3363	80.8	54.0
SH 7200	80.8	53.9
18VTK12-111	80.7	55.1
Viking 822	80.7	53.0
MBX 127	80.1	53.7
AgriMAXX 535	80.0	54.0
MAS #133	79.6	51.6
Dyna-Gro 9002	79.4	53.7
18VTK10-110	79.0	56.6+
Dyna-Gro 9172	78.9	53.2
mean	66.1	53.6
LSD	16.4	2.1
CV	16.9	2.7

continued ...

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight
17VTK4-29	78.9	54.8
VA19W-29	78.2	52.2
16VDH-SRW03-023	78.1	53.3
MAS #316	77.7	53.2
VA21W-112	77.4	50.1-
Revere 2347	76.8	54.0
AgriMAXX 516	76.8	51.6
Revere 2169	76.6	54.0
18VDH-FHB-MAS07-173-03	76.2	51.0-
MAS #190	76.0	53.9
AgriMAXX 505	75.8	55.4
SH 5123	75.4	55.7+
17VDH-SRW02-125	75.1	55.8+
MBX 230	74.9	54.2
SH 9520	74.0	55.4
16VDH-SRW09-025	74.0	53.4
Dyna-Gro 9231	73.5	53.5
KWS482	73.4	54.7
Dyna-Gro 9120	73.4	55.7+
USG 3472	73.3	54.4
DH17SRW136-038	72.9	53.4
Dyna-Gro Shirley	72.5	54.5
GA12230-20E36	72.4	51.6
VA19FHB-36	72.4	52.9
VA19W-02	72.0	54.0
VA20W-135	71.3	54.6
18VTK10-23	70.9	54.6
VA18HRW-96	69.9	52.6
VA21W-59	68.5	52.9
FS 891	68.5	54.4
17VDH-SRW03-204	67.4	54.0
VA20FHB-20	66.7	57.0+
mean	66.1	53.6
LSD	16.4	2.1
CV	16.9	2.7

continued ...

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight
VA19W-87	66.6	55.4
EXP 3904	66.5	53.8
MAS #139	66.2	54.0
AGS 3026	66.0	55.9+
MBX 120	65.9	54.7
Pioneer 26R33	65.5	55.1
15VDH-FHB-MAS38-01	65.5	50.7-
AgriMAXX 513	65.5	53.1
VA20W-142	65.3	54.8
AgriMAXX 525	64.9	54.5
SH 7222	64.7	54.3
GA131218-20E15	64.3	53.2
Featherstone 125	64.3	57.2+
LIBERTY 5658	63.7	55.2
USG 3673	63.5	55.7
Dyna-Gro 9422	63.4	50.8-
18VTK6-3	63.3	54.0
GP 747	62.9	51.7
HILLIARD	62.8	52.8
VA20FHB-18	62.6	51.7
AGS 4043	62.5	54.2
18VTK10-77	62.4	54.3
CPX92394	62.2	55.2
Dyna-Gro 9151	62.1	54.6
Pioneer 26R59	62.1	52.4
Dyna-Gro 9290	61.7	51.6
GP 282	60.9	54.2
FS 855	60.7	55.3
VA18HRW-57	60.5	54.7
17VDH-SRW05-169	60.2	51.9
18VTK10-188	60.1	55.1
EPIX 1375	60.0	55.5
mean	66.1	53.6
LSD	16.4	2.1
CV	16.9	2.7

continued ...

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight
Revere 2277	59.8	55.3
VA20FHB-22	59.6	54.5
Pioneer 26R36	58.9	53.3
EPIX 2356	58.4	51.8
MAS #2	58.1	54.6
AgriMAXX 514	57.8	51.5-
DH17SRW136-066	57.6	53.9
USG 3633	57.4	55.4
VA19MAS7-519-1WS-R110	57.1	52.8
KWS495	57.0	49.0-
EPIX 1365	57.0	50.7-
VA18HRW-58	56.9	56.2+
KWS459	56.4	53.6
MBX 176	56.3	53.2
USG 3661	56.1	55.4
FS 597	56.0	52.1
USG 3463	54.9	50.7-
MAS #155	53.5	51.4-
Phoenix 29	52.6	54.9
USG 3352	52.5	50.3-
GA161240-20LE6	51.7	55.7+
MAS #164	51.6	48.8-
VA21W-18	51.6	52.4
MAS #178	51.5	53.9
USG 3234	51.5	55.6
EXP 3354	51.4	53.2
VA19W-89	51.3	54.1
18VTK12-60	50.4	52.4
AGS 3040	50.4	53.2
Featherstone 3000	49.9	55.0
USG EXP 3000	49.8	55.3
18VTK5-95	49.7-	54.4
mean	66.1	53.6
LSD	16.4	2.1
CV	16.9	2.7

continued ...

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight
VA21FHB-8	49.6-	51.7
KWS477	49.1-	53.6
Dyna-Gro WX23444	49.0-	52.8
MAS #189	48.1-	53.7
CP8224	47.9-	53.4
MASSEY	47.9-	53.8
HR 5210	47.3-	51.8
Dyna-Gro 9481	44.8-	53.0
MAS #67	43.5-	50.9-
EXP 3574	42.2-	50.4-
16VDH-FHB-MAS60-7-03	41.3-	52.9
GP 543	39.4-	53.5
18VDH-FHB-MAS07-164-01	37.0-	51.9
AgriMAXX 503		55.5
MAS #106		49.9-
MBX 245		52.0
Pioneer 26R45		55.4
Revere 2148		52.0
USG 3451		51.5-
mean	66.1	53.6
LSD	16.4	2.1
CV	16.9	2.7

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Table 5: Virginia state soft winter wheat official variety test in Orange, VA in 2023.

Line	Grain Yield bu/ac	Test Weight lb/bu
CROPLAN CP9606	147.1	55.9-
MAS #190	144.6	57.5
Dyna-Gro WX23444	144.5	56.9
USG 3363	143.6	57.0
USG 3661	142.3	58.4+
AgriMAXX 514	140.2	56.7
AgriMAXX 525	139.3	57.1
Pioneer 26R59	138.6	56.8
MAS #178	138.3	57.1
EXP 3354	138.0	56.8
USG 3783	137.3	57.3
SH 9520	136.9	57.8
Dyna-Gro 9393	136.3	57.2
AgriMAXX 513	136.1	56.8
MBX 245	135.7	56.6
MAS #164	135.7	54.4-
MAS #139	135.5	57.1
USG 3451	133.8	57.0
15VTK-1-101	133.1	57.1
Revere 2347	132.6	57.2
KWS477	132.3	58.5+
Dyna-Gro Shirley	132.1	56.6
AgriMAXX 535	131.4	57.9
Dyna-Gro 9151	131.4	58.0
USG EXP 3000	131.4	58.3+
Pioneer 26R36	131.0	56.2-
EPIX 2356	130.8	56.0-
Pioneer 26R33	130.6	57.6
Dyna-Gro 9231	130.6	57.2
mean	119.5	57.3
LSD	31.6	1.0
CV	18.8	1.2

continued ...

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

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Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight
16VDH-FHB-MAS60-7-03	130.3	57.9
Dyna-Gro 9172	130.1	56.7
SH 5123	129.8	58.3+
MAS #2	129.8	58.1
VA20FHB-18	129.8	57.3
18VTK5-95	129.8	58.4+
17VDH-SRW02-125	129.6	58.1
16VDH-SRW09-025	129.5	57.4
MAS #143	129.5	56.6
AgriMAXX 516	129.4	57.3
MBX 127	129.0	56.6
VA20W-135	128.4	58.0
HILLIARD	128.1	57.0
GP 543	126.4	57.0
VA19W-89	126.3	58.0
EPIX 1365	126.3	55.3-
GP 282	125.9	58.2
KWS482	125.7	57.5
USG 3673	125.3	58.3+
MAS #316	124.2	55.9-
18VTK10-23	124.0	58.1
MAS #86	124.0	55.7-
SH 4222	123.5	57.5
GA131218-20E15	123.4	57.1
Dyna-Gro 9120	123.1	58.5+
VA20W-142	123.0	58.1
MAS #155	122.9	56.7
18VTK10-110	122.7	59.0+
AgriMAXX 505	122.2	57.3
USG 3472	122.2	56.7
USG 3352	122.1	56.1-
HR 5210	121.7	57.3
mean	119.5	57.3
LSD	31.6	1.0
CV	18.8	1.2

continued . . .

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight
17VDH-SRW05-169	121.6	56.8
15VDH-FHB-MAS25-15	121.6	57.3
CP8224	121.1	59.2+
Dyna-Gro 9481	121.0	56.7
MBX 176	120.5	55.7-
VA19MAS7-519-1WS-R110	120.4	58.1
EPIX 4372	120.2	56.8
VA21W-59	120.0	57.1
Pioneer 26R45	119.9	56.9
VA18HRW-96	119.8	58.2
AGS 4043	119.4	58.1
Revere 2169	119.0	56.8
Revere 2148	119.0	56.5
MBX 230	118.8	57.5
VA18HRW-57	118.7	56.7
Phoenix 29	118.4	58.2
MAS #133	118.4	56.1-
EPIX 2392	118.1	56.6
Dyna-Gro 9422	117.9	56.3
17VTK4-29	117.4	58.2
MAS #67	117.4	55.1-
Featherstone 3000	117.2	58.5+
USG 3234	116.9	58.4+
VA20FHB-22	116.9	58.5+
CP8045	116.8	56.6
15VDH-FHB-MAS38-01	116.7	56.8
18VTK10-77	115.5	58.8+
18VDH-FHB-MAS07-173-03	115.4	57.2
GA161240-20LE6	115.4	59.1+
Dyna-Gro 9290	115.3	55.9-
FS 597	115.3	56.0-
17VDH-SRW01-077	115.0	57.3
mean	119.5	57.3
LSD	31.6	1.0
CV	18.8	1.2

continued ...

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight
Revere 2277	114.8	57.9
VA21W-112	114.5	56.0-
17VDH-SRW03-204	114.5	57.9
USG 3463	114.2	55.5-
KWS495	114.1	57.0
EXP 3904	113.8	57.2
FS 745	113.7	56.7
VA19FHB-36	113.3	56.7
EPIX 1375	113.3	58.3+
18VTK12-111	113.1	58.0
18VTK6-3	112.3	57.2
SH 7200	112.1	56.8
VA19W-87	112.0	57.5
USG 3633	111.5	57.3
AGS 3026	111.0	58.5+
18VTK10-188	110.9	57.8
VA18HRW-58	110.5	58.7+
FS 891	110.4	57.4
18VDH-FHB-MAS07-164-01	110.0	57.8
MBX 120	109.3	57.1
DH17SRW136-066	109.1	56.8
FS 743	109.0	57.3
VA21FHB-8	108.5	57.5
FS 855	108.5	57.6
GP 747	107.5	55.6-
18VTK12-60	107.2	57.0
VA20FHB-20	107.2	58.1
KWS459	107.0	58.2
Dyna-Gro 9002	106.6	56.4
16VDH-SRW03-018	105.7	59.1+
VA19W-29	105.5	57.4
GA12230-20E36	105.2	56.5
mean	119.5	57.3
LSD	31.6	1.0
CV	18.8	1.2

continued ...

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight
Viking 822	105.2	56.6
AGS 3040	103.7	57.6
MAS #189	102.9	57.6
DH17SRW136-038	102.9	56.7
Featherstone 125	102.8	59.1+
AgriMAXX 503	101.6	56.8
CPX92394	101.4	57.3
16VDH-SRW03-023	100.1	56.7
GA151313-20E48	99.5	58.2
LIBERTY 5658	99.2	57.7
MASSEY	98.5	57.4
EXP 3574	96.3	55.5-
AgriMAXX 502	95.3	56.3
MAS #106	94.4	56.9
VA21W-18	94.3	56.6
SH 7222	84.0-	58.2
VA19W-02	78.7-	57.0
mean	119.5	57.3
LSD	31.6	1.0
CV	18.8	1.2

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Table 6: Virginia state soft winter wheat official variety test in Painter, VA in 2023.

Line	Grain Yield bu/ac	Test Weight lb/bu	Leaf Rust 0-9
17VDH-SRW01-077	131.8+	60.5+	-0.3-
15VTK-1-101	125.8+	59.2+	-0.3-
15VDH-FHB-MAS25-15	124.0+	60.6+	-0.3-
VA20W-135	120.9+	58.8	-0.3-
18VTK12-60	119.2+	58.7	-0.3-
VA20FHB-18	115.9+	59.1	0.2-
18VTK6-3	115.8+	60.6+	-0.3-
18VTK12-111	115.7+	60.5+	-0.3-
17VDH-SRW02-125	114.0+	60.8+	-0.3-
VA19W-87	113.5+	58.8	-0.3-
16VDH-SRW03-018	113.2+	61.7+	-0.3-
17VDH-SRW05-169	113.2+	57.2	0.2-
USG 3451	112.8+	60.7+	2.2
16VDH-SRW09-025	112.2+	59.4+	-0.3-
HILLIARD	112.0+	58.7	0.2-
USG 3661	111.8+	59.2+	0.2-
VA19FHB-36	111.8+	59.4+	0.2-
18VTK10-110	111.4+	61.5+	-0.3-
Phoenix 29	111.2+	60.1+	1.7
VA20FHB-22	111.0+	59.2+	0.2-
18VTK10-188	110.7+	59.1+	-0.3-
KWS495	110.4+	59.1+	1.2-
17VDH-SRW03-204	110.0	60.7+	-0.3-
18VTK10-77	109.6	60.0+	-0.3-
18VTK10-23	109.3	60.7+	-0.3-
18VDH-FHB-MAS07-173-03	109.2	59.8+	-0.3-
VA18HRW-58	108.0	60.6+	0.7-
VA21W-112	107.4	57.9	0.2-
VA20FHB-20	105.8	60.0+	2.2
VA20W-142	105.3	59.3+	-0.3-
mean	93.4	57.8	3.1
LSD	16.6	1.4	1.6
CV	12.7	1.7	25.8
continued ...			

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Leaf Rust
VA19W-29	105.1	58.4	6.2+
Dyna-Gro WX23444	105.1	57.1	2.7
15VDH-FHB-MAS38-01	104.9	58.4	-0.3-
VA21W-59	104.7	58.0	-0.3-
GA151313-20E48	104.1	59.2+	-0.3-
AgriMAXX 535	103.9	58.7	1.7
GA131218-20E15	103.6	59.0	0.7-
Dyna-Gro Shirley	103.2	58.4	-0.3-
EPIX 1375	103.1	59.9+	0.2-
17VTK4-29	102.9	59.4+	-0.3-
VA19W-02	102.8	58.7	0.2-
GP 282	102.4	58.5	3.2
Dyna-Gro 9120	101.5	59.6+	3.2
EPIX 1365	100.7	56.3-	1.7
18VDH-FHB-MAS07-164-01	100.6	60.6+	0.2-
SH 5123	100.2	59.4+	-0.3-
USG 3463	100.1	55.8-	5.7+
VA19MAS7-519-1WS-R110	99.4	60.4+	0.7-
SH 9520	99.2	57.7	5.2+
LIBERTY 5658	99.1	58.1	1.7
USG 3783	99.0	56.2-	4.7
VA21W-18	98.9	59.9+	0.2-
EXP 3354	98.9	57.1	2.7
Dyna-Gro 9393	98.8	56.6	3.7
USG 3673	97.9	59.2+	-0.3-
Pioneer 26R59	97.7	57.7	2.7
AgriMAXX 514	97.5	56.2-	2.2
USG EXP 3000	97.3	60.0+	-0.3-
MBX 120	97.1	58.0	5.2+
SH 7222	97.0	60.1+	-0.3-
VA18HRW-96	96.9	58.5	2.2
GP 543	96.8	55.5-	3.2
GA12230-20E36	96.6	59.2+	-0.3-
mean	93.4	57.8	3.1
LSD	16.6	1.4	1.6
CV	12.7	1.7	25.8

continued ...

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

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Line	Grain Yield	Test Weight	Leaf Rust
KWS477	96.5	58.9	1.2-
Viking 822	96.4	57.3	1.7
Pioneer 26R45	96.1	57.7	3.7
GA161240-20LE6	96.0	60.3+	-0.3-
MAS #86	96.0	56.4-	4.2
16VDH-SRW03-023	95.9	59.1	-0.3-
AGS 4043	95.8	59.7+	-0.3-
VA19W-89	95.2	59.4+	-0.3-
VA18HRW-57	94.7	58.4	0.7-
KWS459	94.1	57.4	1.2-
MAS #178	93.7	57.2	3.2
AGS 3026	93.3	59.5+	0.2-
VA21FHB-8	92.6	60.2+	0.7-
MAS #189	92.4	59.9+	7.2+
18VTK5-95	91.5	60.5+	-0.3-
FS 855	91.5	59.5+	1.7
Featherstone 125	91.3	60.7+	0.2-
USG 3352	91.2	56.8	6.2+
CPX92394	91.1	58.9	1.2-
FS 597	90.5	56.5	2.7
USG 3633	90.5	59.4+	2.2
EXP 3904	90.2	59.7+	1.7
HR 5210	89.5	57.0	1.2-
SH 7200	89.4	59.8+	0.2-
MAS #67	88.8	56.7	4.2
Dyna-Gro 9290	88.6	57.7	2.2
MBX 245	88.2	56.9	5.2+
Dyna-Gro 9481	88.2	56.8	1.7
EPIX 2356	88.1	57.4	5.7+
Pioneer 26R33	87.9	56.8	7.2+
DH17SRW136-066	87.1	55.1-	6.7+
Dyna-Gro 9002	87.1	56.3-	5.2+
16VDH-FHB-MAS60-7-03	86.2	58.0	6.2+
mean	93.4	57.8	3.1
LSD	16.6	1.4	1.6
CV	12.7	1.7	25.8

continued ...

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Line	Grain Yield	Test Weight	Leaf Rust
MAS #133	85.9	53.5-	5.7+
AGS 3040	85.7	58.3	1.7
Revere 2277	84.9	57.0	8.6+
USG 3234	84.8	60.4+	4.7
GP 747	84.8	53.4-	4.2
AgriMAXX 502	84.5	56.1-	7.7+
CP8224	83.5	59.8+	4.7
AgriMAXX 503	83.4	58.7	4.7
Featherstone 3000	83.4	58.9	-0.3-
MAS #106	83.2	58.7	3.7
MAS #190	83.0	56.0-	5.2+
Revere 2148	81.6	58.8	5.7+
CROPLAN CP9606	81.1	56.7	4.2
EPIX 4372	79.3	55.1-	7.2+
MBX 127	79.2	54.5-	7.7+
KWS482	78.8	56.1-	8.7+
Dyna-Gro 9422	78.6	54.4-	8.7+
FS 891	78.5	57.0	4.7
AgriMAXX 505	78.3	58.1	5.7+
DH17SRW136-038	78.3	54.9-	6.7+
Pioneer 26R36	78.1	57.8	3.7
AgriMAXX 513	77.4	57.3	5.2+
MAS #2	77.3	60.0+	4.2
MAS #155	77.3	54.2-	8.7+
MBX 230	77.2	54.5-	8.2+
FS 743	76.0-	54.1-	8.2+
FS 745	74.9-	54.7-	8.2+
CP8045	74.9-	54.6-	7.2+
AgriMAXX 516	74.8-	54.4-	8.2+
Revere 2347	74.1-	54.5-	8.2+
Dyna-Gro 9151	73.6-	56.6	7.7+
Dyna-Gro 9231	73.4-	55.4-	6.7+
EPIX 2392	72.8-	54.1-	7.7+
mean	93.4	57.8	3.1
LSD	16.6	1.4	1.6
CV	12.7	1.7	25.8

continued ...

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.

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FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Leaf Rust
SH 4222	72.6-	54.2-	8.7+
Dyna-Gro 9172	72.4-	56.1-	8.2+
USG 3363	72.4-	53.7-	8.2+
EXP 3574	72.3-	54.5-	5.7+
MAS #316	71.5-	56.9	5.7+
MBX 176	71.4-	53.3-	8.2+
USG 3472	70.2-	53.9-	8.7+
AgriMAXX 525	70.0-	54.4-	7.7+
MAS #139	68.6-	53.4-	8.7+
MAS #164	66.8-	51.8-	7.2+
MAS #143	63.7-	53.1-	8.2+
Revere 2169	62.9-	53.0-	8.7+
MASSEY	59.0-	54.9-	8.7+
mean	93.4	57.8	3.1
LSD	16.6	1.4	1.6
CV	12.7	1.7	25.8

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FHB = Fusarium Head Blight Score (0-9)

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DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Table 7: Virginia state soft winter wheat official variety test in Warsaw, VA in 2023.

Line	Grain Yield bu/ac	Test Weight lb/bu	Heading Date Julian	Height in	Lodging 0-9	Powdery Mildew 0-9	BYDV 0-9
EXP 3574	137.1+	59.3-	112+	33	-0.0	-0.0-	0
EPIX 1365	133.4+	59.5-	110	34	0.0	2.5	5
USG 3234	131.6	62.7+	111+	37+	-0.0	4.0	1
DH17SRW136-066	130.1	59.9	111	33	0.0	-0.0-	0
USG 3673	129.3	61.5+	111	34	0.5	4.0	2
KWS495	129.0	61.3	107-	32	-0.0	5.0+	3
Dyna-Gro Shirley	128.7	59.4-	110	32	0.0	-0.0-	0
VA20W-142	128.7	61.1	110	36+	0.8	2.5	1
EXP 3354	128.7	59.2-	107-	35	0.3	1.5	1
Phoenix 29	128.4	61.4	111	33	-0.0	1.5	1
SH 5123	128.0	61.4	110	34	0.0	3.5	2
GP 543	127.6	59.5-	108-	35	0.0	-0.0-	1
Dyna-Gro 9422	127.6	61.0	110	33	0.0	2.0	1
Dyna-Gro 9120	127.5	61.7+	110	34	0.8	4.5	0
GA151313-20E48	127.4	61.4	113+	31-	0.0	1.0	1
FS 743	127.2	60.8	110	35	-0.0	3.0	0
Revere 2277	127.0	60.5	113+	33	-0.0	1.0	0
AgriMAXX 525	126.9	60.3	112+	32	0.0	2.5	3
18VTK5-95	126.5	61.7+	110	34	0.0	1.0	1
MBX 176	126.0	59.2-	110	34	-0.0	2.5	4
EPIX 2392	126.0	61.2	110	35	-0.0	3.5	2
15VDH-FHB-MAS38-01	125.9	59.7-	105-	30-	2.2+	-0.0-	2
CP8224	125.9	62.2+	112+	33	-0.0	7.0+	1
AgriMAXX 503	125.9	60.7	110	33	-0.0	6.5+	2
DH17SRW136-038	125.7	59.4-	110	32	1.0	1.0	1
Dyna-Gro 9231	125.6	61.0	110	35	0.0	2.5	2
18VTK10-77	125.3	61.5+	107-	34	1.0	3.0	0
MBX 230	125.0	60.9	110	35	-0.0	3.0	4
VA19FHB-36	125.0	61.7+	109	37+	-0.0	2.0	1
EPIX 1375	124.9	61.4+	108-	33	0.8	-0.0-	2
KWS482	124.6	60.8	111	33	0.0	1.0	1
mean	118.6	60.6	110	33	0.3	2.7	1
LSD	14.1	0.8	1	2	1.2	2.3	
CV	8.5	0.8	1	4	339.1	41.7	

continued ...

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

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Line	Grain Yield	Test Weight	Heading Date	Height	Lodging	Powdery Mildew	BYDV
15VTK-1-101	124.6	61.4	111	29-	1.0	1.0	0
18VTK10-110	124.2	62.4+	111	33	-0.0	1.0	1
18VTK12-60	123.9	59.2-	107-	32	1.8+	2.5	3
Viking 822	123.8	59.7-	110	35+	-0.0	3.5	2
Pioneer 26R33	123.7	60.4	111	33	0.5	1.5	3
AgriMAXX 502	123.6	59.8-	109	36+	0.0	2.5	1
MAS #143	123.5	60.4	112+	34	-0.0	3.5	1
VA18HRW-96	123.5	61.6+	112+	35	0.2	1.5	3
AgriMAXX 535	123.4	61.1	110	33	1.3	2.0	1
USG 3783	123.3	60.5	111	32	-0.0	3.5	0
HILLIARD	123.2	60.6	109	35+	0.0	2.0	1
SH 7222	122.9	62.7+	111	34	-0.0	1.0	1
VA20FHB-18	122.7	61.5+	109	34	-0.0	1.0	2
HR 5210	122.7	60.8	112+	31-	-0.0	0.5	3
16VDH-SRW09-025	122.3	60.9	108-	35	-0.0	2.0	1
Dyna-Gro 9393	122.3	60.3	111	32	-0.0	3.0	1
Dyna-Gro WX23444	122.1	58.6-	107-	35	-0.0	-0.0-	2
SH 4222	122.1	60.9	110	34	-0.0	2.5	1
MBX 120	122.0	60.1	113+	33	-0.0	2.0	1
USG 3352	122.0	60.2	112+	34	-0.0	4.0	1
17VDH-SRW05-169	121.7	60.3	108-	28-	-0.0	0.0-	0
EPIX 4372	121.7	60.0	111+	33	-0.0	4.5	3
18VTK10-188	121.5	61.0	108-	33	0.5	1.0	1
18VTK6-3	121.4	61.5+	110	34	0.0	1.5	0
17VDH-SRW03-204	121.1	62.0+	109	34	0.3	0.0-	3
AgriMAXX 513	121.0	60.7	109	34	1.8+	3.0	2
SH 9520	120.9	60.4	112+	33	-0.0	1.0	1
USG 3363	120.7	61.0	110	35	0.0	3.0	1
VA19W-02	120.6	61.9+	110	34	0.0	3.5	0
VA21W-112	120.5	58.6-	109	33	1.2	1.0	0
VA19W-87	120.4	61.8+	110	36+	0.0	1.0	0
Revere 2148	120.4	60.2	111	33	-0.0	5.0+	1
MAS #86	120.1	59.2-	111	35	-0.0	4.5	1
VA20FHB-22	119.9	60.4	110	36+	-0.0	0.5	2
mean	118.6	60.6	110	33	0.3	2.7	1
LSD	14.1	0.8	1	2	1.2	2.3	
CV	8.5	0.8	1	4	339.1	41.7	

continued ...

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Line	Grain Yield	Test Weight	Heading Date	Height	Lodging	Powdery Mildew	BYDV
MAS #133	119.7	58.8-	110	34	0.0	4.5	2
MBX 127	119.6	60.2	111	33	-0.0	4.0	1
CPX92394	119.5	61.3	108-	35	0.2	3.0	0
GP 282	119.4	60.8	110	31-	0.0	6.0+	2
18VTK10-23	119.3	62.0+	107-	34	0.0	2.0	0
USG 3451	119.1	61.0	108-	33	0.0	3.0	0
VA21W-18	119.0	61.1	105-	32	0.0	1.5	0
VA21W-59	119.0	60.1	111+	33	-0.0	1.5	0
16VDH-SRW03-023	118.9	61.0	109	35	0.5	2.0	1
USG 3633	118.9	60.6	109	35	1.0	4.0	1
USG 3661	118.8	60.7	110	30-	-0.0	2.0	1
16VDH-FHB-MAS60-7-03	118.7	61.2	109	31-	-0.0	-0.0-	2
Pioneer 26R45	118.6	59.2-	110	33	-0.0	3.0	3
MAS #155	118.3	60.4	111+	35	-0.0	2.0	0
VA18HRW-58	118.3	61.7+	113+	36+	-0.0	1.5	3
VA20W-135	118.1	60.6	110	35	-0.0	2.0	1
MAS #67	118.0	59.8-	108-	32	0.3	6.0+	1
VA18HRW-57	117.9	60.4	113+	37+	0.0	3.5	3
Revere 2347	117.4	61.2	111	34	0.0	3.0	2
LIBERTY 5658	117.4	61.1	108-	35	1.3	4.0	0
VA20FHB-20	117.3	62.1+	109	34	-0.0	1.5	2
EXP 3904	117.1	61.2	114+	35+	0.5	3.0	0
17VTK4-29	117.1	59.9-	109	32	-0.0	-0.0-	2
Dyna-Gro 9172	117.1	59.5-	110	34	0.2	3.5	2
MAS #316	117.0	60.8	111+	35	-0.0	4.5	1
18VTK12-111	117.0	61.5+	112+	31-	0.0	-0.0-	0
MAS #178	117.0	59.3-	111+	35	0.7	3.5	0
MAS #190	116.9	59.5-	113+	32	-0.0	2.5	2
USG 3472	116.9	60.0	111	33	0.3	5.0+	1
17VDH-SRW01-077	116.7	61.2	107-	35	-0.0	0.5	0
AGS 4043	116.2	61.7+	109	31-	-0.0	0.0-	1
17VDH-SRW02-125	116.1	61.3	112+	34	0.3	-0.0-	1
VA19W-29	116.0	61.0	108-	35	0.0	2.0	1
Dyna-Gro 9290	115.9	60.5	109	35	0.0	4.0	4
mean	118.6	60.6	110	33	0.3	2.7	1
LSD	14.1	0.8	1	2	1.2	2.3	
CV	8.5	0.8	1	4	339.1	41.7	

continued ...

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Line	Grain Yield	Test Weight	Heading Date	Height	Lodging	Powdery Mildew	BYDV
GA161240-20LE6	115.7	60.9	110	35	1.8+	-0.0-	3
MAS #139	115.5	59.9	111	31-	0.0	2.5	0
16VDH-SRW03-018	115.4	62.6+	110	34	0.0	2.0	1
VA19MAS7-519-1WS-R110	115.1	62.3+	113+	33	0.0	3.5	3
GA12230-20E36	114.8	60.9	108-	32	0.0	1.5	1
USG 3463	114.8	59.6-	109	31-	0.0	2.0	0
GP 747	114.7	58.5-	112+	34	-0.0	4.5	2
18VDH-FHB-MAS07-164-01	114.7	61.4	107-	33	1.3	2.0	1
18VDH-FHB-MAS07-173-03	114.5	60.3	109	34	1.0	-0.0-	0
FS 891	114.2	60.9	110	34	0.0	4.5	5
Pioneer 26R59	114.1	60.0	111	30-	-0.0	1.5	3
15VDH-FHB-MAS25-15	114.0	61.9+	109	31-	-0.0	1.0	0
Dyna-Gro 9481	113.7	59.0-	109	32	-0.0	3.5	0
FS 855	113.0	61.3	108-	34	0.2	4.0	0
KWS477	112.5	60.9	110	35+	-0.0	6.0+	5
Dyna-Gro 9002	112.3	59.2-	109	36+	0.0	6.5+	0
Featherstone 125	112.2	61.7+	110	35	0.0	7.0+	1
VA21FHB-8	111.9	61.3	109	34	-0.0	1.5	0
Pioneer 26R36	111.4	61.1	110	34	0.0	8.0+	1
Featherstone 3000	111.3	61.6+	111	34	-0.0	4.5	4
VA19W-89	111.0	60.4	110	34	0.0	2.0	1
AgriMAXX 505	111.0	61.9+	111	33	-0.0	3.0	3
CP8045	110.1	59.6-	111	32	0.0	4.0	3
CROPLAN CP9606	110.0	59.7-	109	34	-0.0	4.0	1
FS 745	109.9	59.5-	111+	33	-0.0	4.5	2
KWS459	109.8	60.7	110	30-	-0.0	5.0+	1
Revere 2169	109.5	59.9	111+	33	0.0	3.0	1
AgriMAXX 516	109.4	59.6-	111	32	0.0	4.0	1
AgriMAXX 514	109.3	59.4-	111+	34	0.2	4.5	2
EPIX 2356	109.1	59.5-	112+	33	0.0	2.5	3
MAS #164	108.9	58.8-	111	32	-0.0	3.5	2
USG EXP 3000	108.7	61.0	111	33	0.0	4.0	3
MBX 245	107.2	59.1-	110	31-	-0.0	2.0	3
Dyna-Gro 9151	106.9	62.0+	111	34	0.0	3.0	2
mean	118.6	60.6	110	33	0.3	2.7	1
LSD	14.1	0.8	1	2	1.2	2.3	
CV	8.5	0.8	1	4	339.1	41.7	

continued ...

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Heading Date	Height	Lodging	Powdery Mildew	BYDV
AGS 3026	106.7	61.0	113+	32	0.0	8.0+	1
MAS #189	105.7	62.0+	104-	34	1.0	1.5	1
FS 597	105.2	60.0	109	33	0.0	4.0	5
MAS #2	104.9	61.3	111+	38+	1.7+	5.5+	1
GA131218-20E15	104.9	60.2	108-	31-	2.5+	4.0	0
SH 7200	102.3-	60.3	107-	33	1.5+	4.0	2
AGS 3040	97.2-	61.1	108-	33	-0.0	8.5+	6
MASSEY	95.8-	61.4	109	38+	2.2+	1.0	1
MAS #106	92.7-	59.9	107-	33	1.5+	6.5+	1
mean	118.6	60.6	110	33	0.3	2.7	1
LSD	14.1	0.8	1	2	1.2	2.3	
CV	8.5	0.8	1	4	339.1	41.7	

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Barley

The 2022-2023 growing season for barley was more favorable than for wheat. Cool temperatures lead to excellent yields, and because barley mature 1-2 weeks earlier than wheat, there was sufficient time for most growers to harvest their barley before precipitation in late June. Leaf rust was seen on the eastern shore at relatively high pressure, but in most areas there was little to no disease pressure. High yields lead to significant lodging in some regions, especially high yielding varieties prone to lodging.

Table 8: Virginia state winter barley official variety test at 5 sites across Virginia in 2023. Sites included Blacksburg, Blackstone, Orange, Painter, and Warsaw VA. Holland was not included due to poor establishment and excessive deer damage. Plots at Shenandoah valley were not harvested due to excessive lodging.

Line	Grain Yield bu/ac (4)	Test Weight lb/bu (4)	Heading Date Julian (2)	Height in (2)	Lodging 0-9 (4)	Leaf Rust 0-9 (1)	FHBPlant Response 0-9 (1)
Marouetta	162+	49.3-	113	40+	0.687	1-	4+
VA21BFHB-19DH0143	158+	51.2	115+	32.9-	0.125-	3-	1-
VA20B-35 LA	155+	51.8	115+	38.6	1.25	7.25+	2
VA20BFHB-18DH495 LX	150+	52	107-	40.6+	2.75+	6	2
VA18B-34	149+	52.3	111	36.9	1.25	3.75	3.5
Thoroughbred	148+	51.2	113	39.6	0.813	8+	3
VA20B-37 LA	148+	51	111	40.8+	1.44	2.75-	1.5
VA20B-40 LA	148+	51.4	114+	40+	1.19	8+	2.5
VA20BFHB-18DH442 SA	147+	51.3	110-	35-	2.12	5.75	4+
VA21B-7 LA	146	51.1	112	39.9+	1.31	3.5	3
VA18B-39	146	51.9	111	36.4	1.38	2.5-	2
VA19B-20 LA	145	51.5	114+	37.8	0.75	3.5	4+
Hirondella	144	48.1-	116+	35.5-	0.812	1.25-	2
VA21BFHB-19DH0303	144	50.2	118+	35.4-	1.5	1.75-	1-
VA17B-166 LA	143	53+	110-	37.5	1.69	5.5	3
SB255	143	52.7+	112	41+	1.31	5.25	2.5
VA21BFHB-19DH0184	143	50.9	116+	31.9-	0.0625-	3.25-	0.5-
VA18B-52 LA (Dec.)	142	52.9+	110-	36	1.44	2.75-	3.5
VA21B-6 LA	141	53.1+	110-	40.5+	1.5	3-	2.5
FS 945	141	52.4	113	40.6+	1.44	3.75	3.5
VA18BFHB-80 LA	140	52.5	112	39.1	1.56	3-	2
Flavia	140	50.3	117+	31.5-	0.5	4.25	3.5
VA21BFHB-19DH0314	139	50.6	119+	34.8-	1.96	1-	1-
VA21B-10 LA	139	50.8	111-	38	1.69	5.5	2
VA21B-5 LA	139	50.8	113	40+	2.75+	7.25+	3
Secretariat	139	49.8	110-	34.9-	2.19	1-	4+
VA20BFHB-18DH362 SA	135	51.2	106-	31.5-	1.56	7.25+	2.5
mean	136	51	112	37.8	1.46	4.71	2.61
LSD	11.6	1.57	1.15	1.87	1.02	1.37	1.25
CV	12.3	4.41	1.04	5.01	99.8	20.8	23.8

continued ...

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Heading Date	Height	Lodging	Leaf Rust	FHBPlant Response
VA18B-43 LA	135	52.1	112	36.9	0.25-	3.5	2.5
VA21B-11 LA	134	51.1	112	41.3+	1.19	5	3
Atlantic	133	50.4	107-	33.6-	2.5+	7+	4.5+
VA21BFHB-19DH0300	132	52.8+	115+	34.6-	2e-15-	5.75	1-
Avalon	132	52.6+	114+	38.6	1.77	4	1-
VA21BFHB-19DH0302	131	53.4+	115+	33.4-	0.312-	6	1-
VA18B-23 LA	129	51.2	112	38.4	2.13	4.25	3.5
VA17M-13DH1720 (LX)	129	48.9-	116+	36	3.06+	4.25	3
VA20BFHB-18DH480 SA	127	49.9	108-	33.3-	0.562	6.25+	3.5
VA21B-12 LA	125	50	109-	37.1	1.75	7+	3
Barsoy	121-	51.2	108-	37.6	2.75+	7+	3.5
VA21BFHB-14 NA	116-	47.3-	112	45.3+	1.12	5.5	2
VA16BFHB-266 NA-19	113-	47.2-	111	43.1+	1.13	3.75	2.5
VT Beahm	113-	48-	107-	44.6+	1.06	5.25	3.5
Wysor	107-	48.3-	109-	40.9+	2.94+	8+	4+
20211573 (Greg)	107-	59.7+	116+	40.8+	1.44	6.5+	0.5-
Nomini	106-	46.8-	106-	39.9+	1.94	7.5+	3.5
VA92-42-46	102-	48.2-	110-	39.9+	2.94+	4.75	3
mean	136	51	112	37.8	1.46	4.71	2.61
LSD	11.6	1.57	1.15	1.87	1.02	1.37	1.25
CV	12.3	4.41	1.04	5.01	99.8	20.8	23.8

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Table 9: Virginia state winter barley official variety test in Blacksburg, VA in 2023.

Line	Grain Yield bu/ac	Test Weight lb/bu	Heading Date Julian	Height in	Lodging 0-9
Marouetta	171.1+	47.4	123+	43+	0.5
VA20B-40 LA	166.1+	50.5	123+	43+	0.0
Thoroughbred	165.4+	49.5	121	42	0.5
VA20BFHB-18DH495 LX	164.8+	51.3	117-	44+	2.2
VA20BFHB-18DH442 SA	164.7+	49.2	118-	38-	0.2
VA21B-7 LA	163.2+	50.7	120	43+	0.7
VA21B-10 LA	160.5	48.9	120-	41	0.2
Hirondella	159.9	45.7-	126+	37-	-0.0
VA21BFHB-19DH0143	158.1	49.7	124+	35-	0.0
VA18B-39	156.9	50.3	119-	39-	1.0
VA20B-37 LA	156.7	51.1	120	44+	1.0
VA19B-20 LA	154.6	49.1	123+	41	-0.0
VA21B-5 LA	154.4	48.8	122	45+	4.5+
VA17B-166 LA	153.4	51.7	119-	40	1.0
VA21BFHB-19DH0303	153.3	47.8	129+	38-	3.3+
FS 945	153.0	50.8	121	43+	0.3
VA18B-34	151.1	52.0	120-	40	-0.0
Secretariat	151.1	50.5	118-	39-	1.7
VA18BFHB-80 LA	150.0	51.2	121	42	0.0
VA20B-35 LA	149.2	48.2	124+	42	0.7
VA20BFHB-18DH362 SA	149.2	48.8	116-	34-	0.5
Flavia	149.2	48.1	126+	33-	-0.0
SB255	147.6	51.2	121	44+	0.0
VA21B-11 LA	147.5	51.0	120	45+	-0.0
VA18B-52 LA (Dec.)	143.9	51.5	118-	39	-0.0
Atlantic	143.6	48.5	116-	38-	2.8
VA21B-12 LA	142.8	47.5	118-	39	0.5
VA20BFHB-18DH480 SA	142.6	48.9	117-	35-	-0.0
VA21BFHB-19DH0184	141.7	48.9	125+	34-	0.0
VA21B-6 LA	140.8	51.3	119-	43+	0.0
mean	142.4	49.3	121	41	1.0
LSD	20.7	2.7	1	2	2.0
CV	10.4	3.9	1	4	134.8

continued ...

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Heading Date	Height	Lodging
VA21BFHB-19DH0300	140.6	52.0+	125+	37-	-0.0
Barsoy	138.1	49.3	116-	42	1.5
VA18B-23 LA	137.6	49.3	121	42	0.0
VA17M-13DH1720 (LX)	135.9	45.3-	127+	40	5.0+
VA21BFHB-19DH0302	135.4	51.8	124+	35-	-0.0
VA21BFHB-19DH0314	135.0	47.9	130+	37-	5.0+
VA18B-43 LA	132.3	49.0	121	37-	-0.0
Avalon	125.8	51.1	123+	43	1.3
20211573 (Greg)	120.0-	57.9+	126+	45+	2.2
Wysor	108.1-	47.4	118-	46+	1.7
VA16BFHB-266 NA-19	107.7-	46.1-	120	46+	1.0
VT Beahm	106.6-	44.2-	117-	48+	1.8
VA21BFHB-14 NA	100.5-	43.7-	119-	49+	0.5
VA92-42-46	92.8-	46.8	119-	46+	1.7
Nomini	87.0-	44.4-	116-	43+	3.2+
mean	142.4	49.3	121	41	1.0
LSD	20.7	2.7	1	2	2.0
CV	10.4	3.9	1	4	134.8

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Table 10: Virginia state winter barley official variety test in Blackstone, VA in 2023.

Line	Grain Yield bu/ac	Test Weight lb/bu	Lodging 0-9
VA20B-35 LA	170.4+	54.9+	0.5
VA21BFHB-19DH0143	162.7	53.2	-0.0
VA20BFHB-18DH495 LX	158.6	54.5	1.5
Marouetta	157.4	51.4-	0.0
VA18BFHB-80 LA	154.1	54.8+	0.0
VA21BFHB-19DH0303	154.0	53.1	0.0
Hirondella	153.5	51.5-	0.0
VA18B-34	153.2	54.0	-0.0
VA21BFHB-19DH0314	151.2	52.4	-0.0
FS 945	150.3	54.6+	1.2
Thoroughbred	149.1	53.8	-0.0
Flavia	148.9	52.5	0.0
VA17B-166 LA	147.5	54.8+	-0.0
VA20BFHB-18DH442 SA	146.4	53.0	0.0
Secretariat	145.8	53.8	-0.0
SB255	145.6	55.0+	-0.0
VA21B-7 LA	145.1	54.0	0.7
VA20B-37 LA	144.3	53.5	0.0
VA21BFHB-19DH0184	142.2	53.4	0.0
VA21B-6 LA	141.7	54.1	0.0
VA20B-40 LA	141.2	53.6	0.5
VA18B-52 LA (Dec.)	140.6	55.3+	0.0
VA20BFHB-18DH362 SA	140.3	52.9	0.0
Avalon	139.4	53.9	0.5
Atlantic	137.8	52.5	0.0
VA19B-20 LA	136.9	53.9	0.0
VA18B-39	136.4	54.1	0.0
VA21BFHB-14 NA	135.8	48.0-	0.0
VA21B-11 LA	135.1	54.5	-0.0
VA21B-5 LA	132.6	53.2	0.0
mean	137.0	53.4	0.3
LSD	27.3	1.2	1.3
CV	14.1	1.6	354.6
continued ...			

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Lodging
VA16BFHB-266 NA-19	129.4	51.4-	-0.0
Barsoy	127.3	52.8	1.2
VA21BFHB-19DH0302	123.4	54.3	-0.0
VA18B-43 LA	123.1	54.4	0.0
VA18B-23 LA	123.0	53.8	1.3
VA21BFHB-19DH0300	122.0	54.3	-0.0
VA21B-12 LA	121.9	52.4	0.8
VA20BFHB-18DH480 SA	119.3	53.0	0.0
VA21B-10 LA	119.2	52.5	0.5
VA17M-13DH1720 (LX)	119.1	52.5	1.3
VT Beahm	116.2	51.5-	-0.0
Wysor	107.5-	51.8-	1.2
Nomini	106.3-	51.5-	-0.0
20211573 (Greg)	106.0-	60.7+	0.0
VA92-42-46	102.0-	51.0-	0.5
mean	137.0	53.4	0.3
LSD	27.3	1.2	1.3
CV	14.1	1.6	354.6

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awne, TA = Tip-Awne, and AL = Awnless

Table 11: Virginia state winter barley official variety test in Holland, VA in 2023. Excessive deer damage to awnless lines were observed at this location. This location was not included in the over location analysis.

Line	Grain Yield bu/ac	Test Weight lb/bu	Lodging 0-9
Flavia	122.9+	51.3	0.0
VA20B-35 LA	122.6+	52.8	0.0
VA21B-5 LA	118.5	53.2	2.0
VA20BFHB-18DH495 LX	115.8	53.1	0.0
VA21BFHB-19DH0300	113.6	53.4	0.0
VA20B-40 LA	110.5	52.7	0.0
VA21B-7 LA	109.4	52.1	0.0
VA20B-37 LA	109.3	49.8-	0.0
VA18B-23 LA	108.2	51.9	0.0
VA18B-52 LA (Dec.)	105.4	52.9	0.0
VA21B-10 LA	105.0	51.7	0.0
20211573 (Greg)	104.4	60.4+	0.0
VA18B-43 LA	103.5	52.9	0.0
VA21BFHB-19DH0143	103.1	52.0	0.0
VA21B-6 LA	100.5	54.5+	0.0
VA21BFHB-19DH0184	100.4	48.3-	0.0
VA19B-20 LA	99.4	53.1	0.0
Thoroughbred	99.3	51.9	0.0
VA21BFHB-19DH0314	98.9	50.3	0.0
VA21B-11 LA	98.3	53.5	0.0
VA21BFHB-19DH0303	97.6	51.0	0.0
SB255	97.3	53.6	0.0
FS 945	94.9	54.2	0.0
Avalon	94.8	53.4	0.0
VA18BFHB-80 LA	92.8	52.8	0.0
VA21B-12 LA	91.7	51.6	0.0
Secretariat	90.6	51.4	0.0
Marouetta	90.3	50.1	0.0
mean	95.8	52.2	0.2
LSD	22.9	2.2	
CV	16.6	3.0	

continued ...

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Lodging
VA21BFHB-19DH0302	88.1	53.7	0.0
VA18B-34	87.4	52.5	0.0
VA17B-166 LA	86.5	53.4	0.0
Atlantic	86.3	50.6	0.0
Barsoy	82.2	51.2	0.0
VA17M-13DH1720 (LX)	81.4	50.8	7.0
Hirondella	72.1-	50.1	0.0
VA20BFHB-18DH442 SA	68.8-	51.8	0.0
VA18B-39	67.6-	52.4	0.0
VA20BFHB-18DH480 SA	66.0-	51.0	0.0
VA20BFHB-18DH362 SA	49.3-	48.9-	0.0
Nomini			0.0
VA16BFHB-266 NA-19			0.0
VA21BFHB-14 NA			0.0
VA92-42-46		52.0	0.0
VT Beahm			0.0
Wysor			0.0
mean	95.8	52.2	0.2
LSD	22.9	2.2	
CV	16.6	3.0	

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Table 12: Virginia state winter barley official variety test in Orange, VA in 2023. Inconsistent plot lengths were observed at this location. This location was not included in the over location analysis.

Line	Grain Yield bu/ac	Test Weight lb/bu	Lodging 0-9
VA20BFHB-18DH442 SA	206.6+	52.9	0.0
VA20B-35 LA	205.6+	53.1	0.0
VA17M-13DH1720 (LX)	199.5	53.7	0.0
VA21B-12 LA	193.2	53.7	0.0
VA17B-166 LA	192.7	56.2+	0.0
VA20BFHB-18DH495 LX	189.6	54.0	0.0
VA21B-11 LA	188.2	54.1	0.0
VA19B-20 LA	186.6	53.6	0.0
Thoroughbred	184.4	54.1	0.0
VA21B-5 LA	183.0	54.8+	0.0
VA21B-10 LA	183.0	53.6	5.0
VA21B-7 LA	182.7	54.3	0.0
FS 945	181.3	53.9	0.0
Marouetta	179.2	52.4	0.0
Barsoy	178.9	53.7	0.0
VA20B-37 LA	178.9	54.2	0.0
VA21BFHB-19DH0143	178.8	53.8	0.0
Hirondella	174.9	52.9	0.0
VA18B-52 LA (Dec.)	174.1	54.6	
VA18B-39	173.2	52.7	5.0
VA18B-34	173.2	53.7	0.0
VA21B-6 LA	169.4	54.8+	0.0
Secretariat	168.5	54.2	0.0
VA21BFHB-19DH0302	167.1	54.6	0.0
VA20BFHB-18DH362 SA	165.5	53.2	0.0
VA18B-43 LA	163.3	53.9	0.0
VA18B-23 LA	162.5	53.4	0.0
SB255	162.5	54.4	0.0
mean	166.1	53.4	
LSD	35.1	1.4	
CV	15.0	1.8	
continued ...			

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Lodging
Atlantic	161.5	53.6	0.0
VA18BFHB-80 LA	160.2	53.9	0.0
Flavia	159.3	54.4	0.0
VA21BFHB-19DH0300	159.2	54.7	0.0
VA21BFHB-19DH0314	156.7	53.0	0.0
VA20BFHB-18DH480 SA	156.7	52.3	0.0
VA20B-40 LA	156.4	53.6	0.0
VA21BFHB-19DH0303	155.8	52.3	0.0
Avalon	152.1	55.7+	0.0
VA21BFHB-19DH0184	149.9	53.1	0.0
VA21BFHB-14 NA	139.8	49.5-	0.0
VT Beahm	132.9	49.5-	0.0
Wysor	132.3	48.6-	0.0
Nomini	125.3-	49.0-	0.0
20211573 (Greg)	116.1-	60.2+	0.0
VA16BFHB-266 NA-19	110.7-	49.6-	0.0
VA92-42-46	101.4-	49.8-	0.0
mean	166.1	53.4	
LSD	35.1	1.4	
CV	15.0	1.8	

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Table 13: Virginia state winter barley official variety test in Painter, VA in 2023.

Line	Grain Yield bu/ac	Test Weight lb/bu	Lodging 0-9	Leaf Rust 0-9
Marouetta	140.8+	48.9	0.2	1.0-
VA21BFHB-19DH0143	135.2	48.9	0.0	3.0-
SB255	132.7	52.5	2.2	5.2
VA21B-6 LA	131.4	53.7	1.8	3.0-
VA18B-34	131.3	51.5	1.5	3.8
VA20B-35 LA	130.7	52.1	1.2	7.3+
VA20B-37 LA	130.1	47.6	1.2	2.7-
VA18B-39	128.5	50.6	1.9	2.5-
VA19B-20 LA	127.0	51.3	0.7	3.5
VA18B-43 LA	126.4	52.6	0.8	3.5
VA18B-52 LA (Dec.)	125.2	53.2	0.8	2.8-
VA17M-13DH1720 (LX)	124.4	49.3	0.5	4.2
VA20BFHB-18DH442 SA	124.2	51.7	2.7+	5.7
Avalon	120.6	52.8	0.3	4.0
VA21BFHB-19DH0314	119.3	50.6	0.2	1.0-
VA18BFHB-80 LA	118.4	52.5	2.0	3.0-
VA20BFHB-18DH495 LX	118.3	50.1	2.3	6.0
VA17B-166 LA	117.7	53.0	2.5	5.5
VA21B-10 LA	117.3	51.0	2.2	5.5
VA21B-5 LA	116.9	50.6	1.8	7.2+
VA21B-7 LA	116.7	48.0	0.7	3.5
Atlantic	116.0	50.6	2.7+	7.0+
VA21BFHB-19DH0303	114.8	48.2	0.0	1.8-
VA20BFHB-18DH362 SA	114.8	51.0	0.7	7.2+
VA21BFHB-19DH0302	113.8	53.2	0.0	6.0
Thoroughbred	113.8	49.8	0.5	8.0+
VA21BFHB-19DH0184	113.3	48.5	-0.0	3.2-
Secretariat	112.1	44.7-	1.0	1.0-
FS 945	111.9	51.7	1.0	3.7
VA21BFHB-19DH0300	110.9	51.0	-0.0	5.7
mean	114.5	50.2	1.3	4.7
LSD	25.1	5.2	1.4	1.4
CV	15.7	7.5	75.7	20.8
continued ...				

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Lodging	Leaf Rust
VA18B-23 LA	110.0	52.0	1.8	4.2
VA20B-40 LA	108.2	50.0	1.7	8.0+
Flavia	105.6	50.6	-0.0	4.2
VA20BFHB-18DH480 SA	105.1	47.3	0.7	6.2+
VA21B-11 LA	103.0	47.0	1.7	5.0
Wysor	102.7	48.2	3.0+	8.0+
Nomini	102.6	44.5-	2.7+	7.5+
VT Beahm	102.2	48.6	0.7	5.2
VA21B-12 LA	101.6	50.5	1.5	7.0+
Hirondella	98.0	46.3	0.0	1.2-
VA21BFHB-14 NA	97.7	48.5	1.0	5.5
VA92-42-46	95.4	48.1	3.0+	4.7
Barsoy	91.9	52.1	4.5+	7.0+
VA16BFHB-266 NA-19	89.8	43.4-	0.5	3.7
20211573 (Greg)	82.5-	60.2+	0.2	6.5+
mean	114.5	50.2	1.3	4.7
LSD	25.1	5.2	1.4	1.4
CV	15.7	7.5	75.7	20.8

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Table 14: Virginia state winter barley official variety test in Warsaw, VA in 2023.

Line	Grain Yield bu/ac	Test Weight lb/bu	Heading Date Julian	Height in	Lodging 0-9
Marouetta	178.8+	49.6-	103	37	2.0
VA20B-40 LA	177.4+	51.5	105+	37	2.5
VA21BFHB-19DH0143	175.7+	52.8+	105+	31-	0.5-
VA21BFHB-19DH0184	173.1+	52.6+	107+	29-	0.2-
VA20B-35 LA	169.9+	52.0	106+	36	2.5
Thoroughbred	165.7+	51.6	104+	38+	2.2
Hirondella	165.5+	48.9-	106+	34	3.3
VA20B-37 LA	162.5	51.7	102	37	3.5
VA19B-20 LA	161.9	51.8	105+	35	2.3
VA21B-10 LA	160.1	50.7	102-	35	3.7
VA20BFHB-18DH495 LX	159.4	52.0+	97-	37	5.0
VA21B-7 LA	159.3	51.7	104+	36	3.0
VA18B-34	158.7	51.9	102	34	3.5
VA18B-39	158.1	52.4+	102	34	2.8
VA18B-43 LA	157.3	52.1+	103	36	0.3-
VA18B-52 LA (Dec.)	156.4	51.5	102	33	5.0
VA21BFHB-19DH0300	156.3	54.0+	106+	32	0.0-
Flavia	154.7	50.1-	107+	30-	2.0
VA20BFHB-18DH442 SA	154.6	51.5	101-	32-	5.5
VA17B-166 LA	154.2	52.6+	102-	35	3.3
VA21BFHB-19DH0303	153.7	51.6	107+	33	2.8
VA21B-5 LA	153.0	50.4	104+	35	4.7
VA21BFHB-19DH0302	152.6	54.3+	106+	31-	1.2
FS 945	152.2	52.3+	104+	38+	3.3
VA21B-6 LA	152.0	53.5+	102	38+	4.3
VA21BFHB-19DH0314	151.9	51.6	107+	32-	2.3
VA21B-11 LA	150.5	52.0+	103	38+	3.0
Secretariat	145.7	50.3	102	31-	6.0+
VA18B-23 LA	145.5	49.6-	104	35	5.5
SB255	145.0	52.0+	102	38+	3.0
mean	149.1	51.1	103	35	3.3
LSD	13.5	0.9	1	2	2.3
CV	6.5	1.3	1	5	49.1

continued ...

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.

FHB = Fusarium Head Blight Score (0-9)

FDK = Fusarium Diseased Kernels (percent)

DON = Deoxynivalenol concentration in the kernels (ppm)

Awns, A = Awned, TA = Tip-Awned, and AL = Awnless

Line	Grain Yield	Test Weight	Heading Date	Height	Lodging
VA20BFHB-18DH480 SA	141.2	50.4	99-	32-	1.5
Avalon	140.9	52.6+	105+	34	4.8
VA18BFHB-80 LA	139.0	51.3	104	36	4.3
Atlantic	135.7	49.8-	98-	30-	4.5
VA21B-12 LA	135.6-	49.5-	100-	35	4.2
VA17M-13DH1720 (LX)	135.4-	48.6-	105+	32-	5.5
VA20BFHB-18DH362 SA	135.2-	52.1+	95-	29-	5.0
VA21BFHB-14 NA	133.2-	48.4-	104+	42+	3.0
Barsoy	128.1-	50.5	99-	33	3.8
Nomini	128.0-	46.6-	96-	37	1.7
VT Beahm	126.9-	47.9-	98-	41+	1.8
VA16BFHB-266 NA-19	125.1-	47.9-	102	40+	3.0
20211573 (Greg)	118.4-	60.1+	106+	36	3.3
VA92-42-46	116.0-	47.0-	100-	34	6.5+
Wysor	111.2-	45.8-	101-	36	5.7+
mean	149.1	51.1	103	35	3.3
LSD	13.5	0.9	1	2	2.3
CV	6.5	1.3	1	5	49.1

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.

FHB = Fusarium Head Blight Score (0-9)

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