

SMALL GRAINS IN 1994

The following are the small grain variety recommendations for Virginia in 1994. The recommendations are based on the agronomic performance in barley and wheat variety tests conducted by the Research and Extension Divisions of Virginia Tech in the various agricultural regions of the state.

SMALL GRAIN VARIETIES RECOMMENDED			
Arranged in Order of Maturity			
COASTAL PLAIN	PIEDMONT		WEST OF BLUE RIDGE
	South of James River	North of James River	
<i>Barley</i>			
Nomini	Nomini	Nomini	Nomini
Pamunkey	Pamunkey	Pamunkey	Pamunkey
Wysor	Wysor	Wysor	Wysor
Pennco	Pennco	Pennco	Pennco
Mollybloom	Mollybloom	-----	-----
<i>Wheat</i>			
GA-Gore	GA-Gore	-----	-----
NK-Coker 9803	NK-Coker 9803	NK-Coker 9803	NK-Coker 9803
Pioneer Brand 2684	Pioneer Brand 2684	Pioneer Brand 2684	Pioneer Brand 2684
Pioneer Brand 2580	Pioneer Brand 2580	Pioneer Brand 2580	Pioneer Brand 2580
FFR 511W	FFR 511W	FFR 511W	FFR 511W
Madison	Madison	Madison	Madison
NK-Coker 9835	NK-Coker 9835	-----	-----
Saluda*	Saluda*	Saluda*	Saluda*
Pioneer Brand 2548	Pioneer Brand 2548	Pioneer Brand 2548	Pioneer Brand 2548
FFR 568 ¹	FFR 568 ¹	FFR 568 ¹	FFR 568 ¹
Jackson	Jackson	Jackson	Jackson
FFR 555W	FFR 555W	FFR 555W	FFR 555W
Wakefield*	Wakefield*	Wakefield*	Wakefield*
<p>*These varieties have good yield potential but are susceptible to powdery mildew and must be scouted to determine if a fungicide is needed.</p> <p>¹To be dropped from the recommended list after 1994.</p>			

COMMERCIAL BARLEY ENTRIES

Boone, Mollybloom and Mulligan - North Carolina Crop Improvement Association, 3709 Hillsborough Street, Raleigh, NC 27607.

Callao, Nomini, Pamunkey, Starling and Wysor - Virginia Crop Improvement Assoc., 1936 East Parham Road, Richmond, VA 23228-2206.

Pennbar 66 and Pennco - Dept. of Agronomy, Pennsylvania State University, University Park, PA 16802.

Venus - University of Georgia release, College of Agriculture, Athens, GA 30602.

COMMERCIAL WHEAT ENTRIES

NK Coker 916, NK Coker 983, NK Coker 9803, NK Coker 9835, NK Coker 9543, and NK Coker 9904 - Northrup King-Coker, Pedigreed Seed Co., Box 340, Hartsville, SC 29550.

Pioneer Brand 2580, Pioneer Brand 2548, Pioneer Brand 2566, Pioneer Brand 2684 and Pioneer XW522 -Pioneer Hibred International, Inc., Eastern Division, Tipton, IN 47072.

FFR 555W, FFR 511W, FFR 568W, and FFR EXP 392 - Southern States Cooperative, PO Box 26234, Richmond, VA 23260.

Agripro Hickory - Agripro Seeds, Inc., P.O. Box 2962, Shawnee Mission, KS 66201-1362.

Hoffman 21 and Hoffman 89 - Hoffman Seeds, Inc., 144 Main Street, Landisville, PA 17538.

Massey, Saluda, Madison, Wakefield and Jackson - Virginia Crop Improvement Assoc., 1936 East Parham Road, Richmond, VA 23228-2206.

GA-GORE - University of Georgia release, College of Agriculture, Athens, GA 30602. Certified seed is being produced in Virginia.

Pennmore - Dept. of Agronomy, Pennsylvania State University, University Park, PA 16802.

Stine 451 - AgChem, Inc., P.O. Box 2178, Salisbury, MD 21802-2178.

Appreciation is expressed to the Virginia Small Grains Check-Off Program for financial support of this research and Extension variety evaluation program.

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INTRODUCTION

The attached tables present results from barley and wheat varietal tests conducted in Virginia in 1993-1994. Yield data are given for individual locations; yield and other performance characteristics are averaged over the number of locations indicated. Performance of a given variety often varies widely over locations and years which makes multiple location-year averages a more valid indication of expected performance than data from a single year or location. All tests in 1993-94 were grown in seven inch rows planted at 20 seeds per row foot. The plots were trimmed during the winter to 9 feet in length. Details about management practices for barley and wheat may be found on pages 6 and 8, respectively. The only pesticide used at most locations was Harmony Extra.

Appreciation is expressed to Pioneer Hibred International, Northrup King-Coker, Southern States, Agri-Pro Seeds, Hoffman Seeds, Ag-Chem, and the Virginia Small Grains Check-Off Board for their financial support of these tests and to the Virginia Crop Improvement Association for their support of the breeding program at Virginia Tech.

BARLEY VARIETIES

Virginia's climate makes it possible to produce 100+ bu/acre field yields of well-managed barley most seasons. Variety selection is one of the most important steps toward achieving high yields in an economic and environmentally sound manner. One of the biggest problems reducing the profitability of barley in Virginia is the LOW price. Check-off supported research is being initiated at Virginia Tech to evaluate the feed value of the newer varieties of barley. This information will be beneficial toward the objective of developing barley varieties that have higher market value than current varieties. The test weight of some of the newer varieties is excellent! Excellent test weight indicates plump kernels. If high test weight indicates high feed value, the demand for barley should increase in the next decade.

The warm April and cool May of 1994 generally favored later barley varieties. For example, the early variety Nomini averaged 6 bu/acre more than the later Starling variety in 1993 whereas Starling produced an average of 9 bu/acre more than Nomini in 1994. The later barley varieties were especially favored in the Coastal Plains region in 1994. Winter hardiness level of current barley lines was evaluated at two locations in 1993-94. The temperatures at Blacksburg were less than 0°F with no snow cover for several days. Barley varieties that have 98% or better winter survival in Table 5 should have adequate winter hardiness for most areas in Virginia.

Starling, a recently released Virginia Tech barley, produced the highest average yield of any varieties in 1994 and in multiple year averages. Starling averaged 123 bu/acre statewide and ranged in yield from 109 bu/acre at Holland to 150 bu/acre at Orange in 1994. Starling has average test weight and excellent disease resistance including moderate resistance to the new race of leaf rust. It is later than average (similar to Wysor) and moderately tall. Starling could be an excellent choice as a portion of the barley silage acreage when seed becomes available to producers in the fall of 1995.

Nomini continued to perform well in 1994 and continues to be second only to Starling in multi-year multi-location yield performance. The average yield of Nomini over five locations for two years is 117 bu/acre with a low of 91 bu/acre at Holland and over 130 bu/acre at Warsaw and Orange. Nomini has averaged 8 and 9 bu/acre higher than Wysor and Pennco respectively over the past two years. Nomini is early, moderately tall and has average test weight. There should be a good supply of certified Nomini seed.

Pamunkey is a new variety that was released from Virginia Tech because it has excellent test weight. The average test weight for Pamunkey has been over 51 lb/bu each of the past two seasons. The test weight of this variety has exceeded 50 lb/bu at all locations both years except at Orange in 1994 where the test weight was 48.0 lb/bu. Pamunkey has beards that are similar to Barsoy in appearance and ease of removal during combining. Pamunkey is early and moderately tall. It has good standability but tends to bend over at the top node when mature. This should not present major harvest problems since the heads will still be 6-8 inches above ground. A limited supply of certified Pamunkey barley will be available for fall 1994 planting.

Boone had an exceptionally good year in 1994 but was dropped from the recommended list and replaced by Mollybloom, developed at North Carolina State. Mollybloom is similar to Boone but has better leaf rust resistance and slightly better standability. The use of Cerone® could dramatically improve the harvestability and grain quality of Mollybloom.

Pennbar 66 is a new release from Pennsylvania that has yielded well each of the past two seasons. It has good test weight but it is late. It has beards similar to Barsoy and Pamunkey.

Callao, a 1994 release from Virginia Tech, was released because it is early, has excellent yield potential, and excellent test weight. It is

short and has short beards that are easily removed during harvest. However, it lodges more than average and will require Cerone® application when managed to achieve its high yield potential. Certified seed will not be available before the fall of 1996.

The standability of all released barley varieties is greatly improved with the application of Cerone®. Consideration of Cerone® application is recommended when all current barley varieties are fertilized to develop in excess of 100 bu/acre yields.

Close cooperation between the barley breeding programs in Virginia and North Carolina and greater communication with current and potential barley markets can hopefully develop a bright future for a premium quality feed grain.

SUMMARY OF BARLEY MANAGEMENT PRACTICES FOR 1993-1994

Blacksburg - Planted October 6, 1993. Preplant fertilizer was 20 lbs N, 60 lbs P₂O₅, and 100 lbs K₂O. Sixty lbs N/A were applied in the spring. Barley was harvested June 20, 1994.

Blackstone - Planted October 13, 1993. Preplant fertilizer was 600 lb 6-12-18/A applied October 11, 1993. Forty lbs N/A were applied January 10, 1994 and 50 lbs N/A were applied March 17, 1994. Harmony Extra at 0.5 oz/A was applied on February 28, 1994 and 1 lb/A Sevin 80S was applied April 6, 1994 to control cereal leaf beetle. Harvest occurred on June 6, 1994.

Holland - Planted October 21, 1993 following peanuts. Preplant fertilizer was 600 lbs/A 5-10-15 applied October 21, 1993. Lime was applied October 20, 1993 at one ton/A. Using 30% N, sixty lbs and 40 lbs N/A were applied February 28 and March 21, 1994, respectively. Sevin 80WP was applied at 1.5 lbs/A April 29, 1994. Barley was harvested on June 6, 1994.

Painter - Planted October 20, 1993. Preplant fertilizer was 500 lbs/A 5-10-10 applied October 15, 1993. Lime was applied at one ton/A October 5, 1993. Eighty lbs N, 0.5 oz Harmony Extra and 0.75 pts 2,4-D/A were applied March 16, 1994. Malathion 5EC was applied at 1.5 pts/A May 10, 1994. Harvest occurred on June 9, 1994.

Warsaw - Planted October 19, 1993. Preplant fertilizer was 20 lbs N, 60 lbs P₂O₅, 80 lbs K₂O and 10 lbs S/A. Spring fertilizer was 40 lbs N/A at growth stage 25 and 40 lbs N/A at growth stage 30. Barley was harvested June 7, 1994.

Orange - Planted October 14, 1993. Preplant fertilizer was 600 lbs 10-10-10 applied September 30, 1993. Emergence occurred on October 22, 1993. Forty lbs N/A was applied April 8, 1994. Harvest occurred on June 10, 1994.

Table 1. Yield performance of entries in the Virginia State Barley Test, 1993-94.*

Brand/Variety	Blacksburg	Blackstone	Holland Painter	Warsaw Orange	Average
bu/acre					
BOONE 91 114	- 92	- 114	106	+ 131	+ 146
CALLAO 116	112	120	102	100	118 141
MOLLYBLOOM 98 115		96	103	105 +	132 + 147
MULLIGAN 112	97	105	93	106 +	130 + 133
NOMINI 114	111	117	85	91	128 144
PAMUNKEY 110	106	106	86	96	123 137
PENNBAR66 121	101	124	115	113 +	134 + 139
PENNCO 108	108	110	94	89	116 129
STARLING 123	110 +	117	109	116 +	133 + 150
VENUS 103 109		100 96	90	121	138
WYSOR104 113		107 103	91	121	147
GA81814 126	119 +	+ 137	+ 128	+ 114	+ 120 140
NC90-4061 115	98	104	97	106 +	131 + 146
NC90-4062 117	99	111	113	105 +	129 143
VA92-42-6 110	110	102	94	95	109 147
VA92-42-46 110	114	102	96	81 -	112 150
VA92-42-52 111	109	111	89	86	119 146
VA92-44-275 110	96	120	109	90	110 138
VA92-44-279 108	103	116	111	82	113 127
VA93-42-48 113	109	107	94	96	124 142
VA93-44-158 110	108	126 +	109	73 -	114 137
LSD (0.05) 11	10	17	19	12	14 25
Location Average 111	105	109	100	93	116 138

Statewide Average 111

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

Table 2. Two year average yield performance of entries in the Virginia State Barley Tests, 1993 and 1994.*

Brand/Variety	Blacksburg		Holland Painter		Warsaw Orange		State Average			
	bu/a									
BOONE 86	-	97		101		118		129	106	-
CALLAO	114			100		107		121	127	114
MOLLYBLOOM 93	-			95		96		123	135	109
MULLIGAN	96	-		89		102		120	115	105
-										
NOMINI	123	+		91		102		130	135	117
+										
PAMUNKEY	113			91		106		128	122	113
PENNBAR66	108			103		111		130	119	114
PENNSCO	111			90		98		124	115	108
STARLING	114			104		116	+	131	131	120
+										
VENUS 109		88		91	-	124		116		106
WYSOR102	-	95		103		123		122		109
VA92-42-6	110			96		108		122	123	112
VA92-42-46	123	+		93		96		125	125	113
VA92-42-52	115			90		100		129	126	112
VA92-44-275	110			100		103		124	124	112
VA92-44-279	114			104		96		124	122	112
LSD (0.05)	8			10		11		9	16	5
Location Average	110			95		102		124	124	111
Statewide Average		111								

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

Table 3. Three year average yield performance of entries in the Virginia State Barley Tests, 1992, 1993, and 1994.*

Brand/Variety	Holland Painter	Warsaw	Orange	State Average				
	bu/a							
BOONE 103	107		112		119		110	
CALLAO 107		125	+	121		110		116
MOLLYBLOOM 100		109		119		123		113
MULLIGAN 101		113		115	-	108		109
NOMINI 100		120		133	+	121		119
PAMUNKEY 99		124		130	+	112		117
PENNSCO 101		110		125		109		112
STARLING 109		123		135	+	122		123
VENUS 94	-	105	-	120		106		107
WYSOR 105		116		120		112		114
LSD (0.05)	8		10		6		12	
Location Average	102		115		122		113	
Statewide Average		113						

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

Table 4. Test weight (lbs) of entries in the Virginia State Barley Test, 1994.*

Brand/Variety	Blacksburg		Blackstone		Holland Painter		Warsaw Orange		Average		
BOONE 50.0 50.3		51.2		50.0	52.4	+	48.9		49.5		
CALLAO +	52.4 51.0	+	49.9		50.5		49.1	-	51.4	+	52.2
MOLLYBLOOM 50.1	50.4		50.3		49.4		52.4	+	50.3		47.8
MULLIGAN 49.9	49.0		50.8		49.1		51.8		50.5		48.1
NOMINI 48.0	48.8 -		47.5	-	47.0	-	48.9	-	47.8		47.8
PAMUNKEY 51.2	51.5 +		52.1	+	50.9	+	52.5	+	52.1	+	48.0
PENNBAR66 49.7	48.8		52.3	+	51.4	+	54.0	+	47.2		45.7
PENNCO 48.4	48.7		49.5		47.0	-	50.4		47.9		46.9
STARLING 48.7	49.8		50.0		48.2		50.3		48.0		46.2
VENUS 52.6	53.1 +	51.8	+	51.2	+	53.3	+	52.8	+	53.1	+
WYSOR 49.8	50.5	49.4		49.4		51.0		49.0		49.3	
GA81814 -	46.6 47.3	-	46.7	-	47.6		50.3		48.1		44.1
NC90-4061 50.9	48.5 +		52.8	+	51.4	+	53.1	+	51.9	+	48.3
NC90-4062 51.1	49.5 +		52.8	+	52.0	+	53.4	+	50.1		49.7
VA92-42-6 47.9	48.9 -		46.9	-	46.5	-	50.0		47.5		47.2
VA92-42-46 50.4	51.1		50.9		50.6		50.8		50.9		48.1
VA92-42-52 +	52.7 52.5	+	52.8	+	50.4		54.2	+	53.0	+	51.7
VA92-44-275 50.1	50.5		50.2		48.2		50.8		51.0		49.6
VA92-44-279 50.2	50.3		50.1		49.3		52.1		49.8		49.6
VA93-42-48 48.2	47.7	-	49.5		47.6		49.8	-	48.2		46.6
VA93-44-158 50.6	50.8		50.0		50.5		51.5		51.4	+	49.3
LSD (0.05) 1.4	1.8		1.5		1.8		1.2		2.1		2.7
Location Average 49.5	49.9		49.9		49.1		51.1		49.1		48.3

Statewide Average 49.5

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

Table 5. Summary of performance of entries in the State Barley Test, 1993-94.*

Test Brand/Variety (Bu/A)	Date Yield (Lb)	Leaf Weight (Mar 31+)	Winter Headed (In)	Height (In)	Lodging (%)	Rust (%)	Scald (0-9)	Survival (%)	
(6)	(6)	(4)	(4)	(5)	(1)	(2)	(2)		
BOONE	114	50.3		24 +	37 +	44 +	20 +	1 -	95
CALLAO	116	51.0 +		18 -	31 -	32 +	1	3	98
MOLLYBLOOM	115	50.1		24 +	37 +	32 +	4 +	1 -	96
MULLIGAN	112	49.9		22 +	36	13	1	1 -	95
NOMINI	114	48.0 -		19 -	38 +	9	2	2 -	99
PAMUNKEY	110	51.2 +		19 -	34 -	20	1	3	98
PENNBAR66	121	49.7		26 +	37 +	18	1	1 -	97
PENNSCO	108	48.4		22 +	37 +	12	1	1 -	93
STARLING	123 +	48.7		22 +	37 +	10	1	1 -	98
VENUS	109	52.6 +		18 -	35 -	31	8 +	2 -	100 +
WYSOR	113	49.8		21	37 +	11	2	2 -	97
GA81814	126 +	47.3 -		19 -	36	15	2	3	99
NC90-4061	115	50.9 +		24 +	34 -	17	10 +	1 -	89 -
NC90-4062	117	51.1 +		24 +	35 -	22	1	1 -	90 -
VA92-42-6	110	47.9 -		19 -	36	15	1	2 -	97
VA92-42-46	110	50.4		21	39 +	14	0 -	3	99
VA92-42-52	111	52.5 +		20 -	35 -	19	1	3	98
VA92-44-275	110	50.1		21	33 -	14	1	4 +	90 -
VA92-44-279	108	50.2		21	33 -	13	0 -	3	88 -
VA93-42-48	113	48.2		22 +	37 +	9	2	2 -	99
VA93-44-158	110	50.6		21	33 -	10	1	4 +	96
LSD (0.05)	11	1.4		1	1	17	2	1	4
Test Average	111	49.5		21	36	15	2	3	96

* The number in parentheses below column headings indicates the number of locations on which data are based. A plus or minus sign indicates a performance significantly above or below the test average, respectively.

WHEAT VARIETIES

The wet February (3.84") and record rainfall in March (10.13" at Suffolk) reduced the ability to apply nitrogen at optimum times at several locations. The wet season resulted in nitrogen being applied only once at Painter instead of the normal two winter - early spring applications. April was the driest month on record at Suffolk with 0.8" of rainfall. Despite these weather challenges we had a statewide variety test average of 79 bu/acre with yields of the best varieties exceeding 100 bu/acre at several locations.

Special note should be taken that the yield performances of NK Coker 9803 and FFR 568-B (-B indicates Baytan-treated seed) were likely reduced because the seed used had reduced germination and vigor. In general, NK Coker 9803 continues to be an excellent performing wheat statewide. Also, the test at Painter is an excellent source of information about the performance of wheat varieties in fields infested with soil borne viruses. The yield of susceptible varieties such as GA-Gore, Hoffman 21-B, Pioneer 2548 and Saluda was likely reduced significantly by soil borne virus at Painter.

Northrup King Coker 9835, Jackson and Pioneer XW522 had the highest yield average with 84 bu/acre statewide and above 90 bu/acre in at least two locations. NK Coker 9835 had average yields in the state test in the previous three seasons, has average test weight and is shorter than most current varieties. Jackson, the new Virginia Tech release, has been a top yielder each of the past four seasons at most test locations. It has excellent test weight, medium maturity and height, average standability and good disease resistance. Jackson will be available to seedsmen in the fall of 1994 and to producers by the fall of 1995. Pioneer XW522 was in our test for the first time in 1994. It produced excellent yields at all locations. It is shorter than average and would likely produce less straw than other varieties, an advantage in double-cropping. This variety has excellent disease resistance and good test weight.

Other varieties averaging 80 bu/acre or above include: Pioneer 2580 @ 83 bu/acre; FFR 555 and FFR 555-B @ 82 bu/acre; Coker 9543-B, GA-Gore, Saluda-B, and Wakefield-B @ 81 bu/acre; and Coker 9904, FFR EXP 392, and Hickory @ 80 bu/acre. Pioneer 2580 has yielded above average each of the past two seasons and performed well at all locations. It has good test weight, standability and general disease resistance. FFR 555W-B continues to be a top yielding variety at all locations. It has good test weight, medium maturity and average height. NK Coker 9543 has been in our test for several years but this is the first year it was tested with Baytan. It has yielded less than average in previous years without Baytan.

Hickory and GA-Gore are both early wheats that have performed well. They also have good test weight.

Released varieties that have yielded less than average for the past two seasons include: NK Coker 916, NK Coker 983, FFR 511W, FFR 568, Massey, Pioneer 2566 and Saluda without Baytan.

Baytan compared to Vitavax seed treatment on powdery mildew susceptible varieties can dramatically improve performance such as was obtained with Saluda (81 vs 75 bu/acre). Baytan treatment on varieties with moderate resistance to powdery mildew has given little to no yield increases. The greatest benefit of Baytan seed treatment is realized when planting early and in a timely manner.

Trical 498 is a wheat/rye cross (triticale). It is grown as a feed crop instead of a flour crop. It was included in these tests for yield comparisons.

SUMMARY OF WHEAT MANAGEMENT PRACTICES FOR 1993-1994

Blacksburg - Planted October 5, 1993. Preplant fertilizer was 20 lbs N, 60 lbs P₂O₅, and 100 lbs K₂O. Sixty lbs N/A were applied in the spring. Wheat was harvested July 5, 1994.

Warsaw - Planted October 20, 1993. Preplant fertilizer was 20 lbs N, 60 lbs P₂O₅, 80 lbs K₂O and 10 lbs S/A. Spring fertilization included 40 lbs N/A at growth stage 25 and 50 lbs N/A at growth stage 30. Harvest occurred on June 25, 1994.

Painter - Planted October 20, 1993. Preplant fertilizer was 500 lbs/A 5-10-10 applied October 15, 1993. Lime was applied at one ton/A October 5, 1993. Eighty lbs N, 0.5 oz Harmony Extra and 0.75 pts 2,4-D/A were applied March 16, 1994. Malathion 5EC was applied at 1.5 pts/A May 10, 1994. Harvest was on June 22, 1994.

Holland - Planted October 21, 1993. Preplant fertilizer was 600 lbs/A 5-10-15 applied October 21, 1993. Lime was applied October 20, 1993 at one ton/A. Using 30% N, sixty lbs and 40 lbs N/A were applied February 28 and March 21, 1994, respectively. Sevin 80WP was applied at 1.5 lbs/A April 29, 1994. Wheat was harvested on June 16, 1994.

Blackstone - Planted October 13, 1993. Preplant fertilizer was 600 lb/A 6-12-18 applied October 11, 1993. Forty lbs N/A were applied January 10, 1994 and 50 lbs N/A were applied March 17, 1994. Harmony Extra at 0.5 oz/A was applied on February 28, 1994 and 1 lb/A Sevin 80S was applied April 6, 1994 to control cereal leaf beetle. Harvest occurred on June 17, 1994.

Loudoun - Planted October 7, 1993. Eighty lbs N/A were applied April 1, 1994. Harvest occurred July 5, 1994.

Orange - Planted October 14, 1993. Preplant fertilizer was 600 lbs 10-10-10 September 30, 1993. Emergence occurred October 22, 1993. Sixty lbs N/A were applied April 8, 1994. Harvest was on June 22, 1994.

Table 6. Yield performance of entries in the Virginia State Wheat Test, 1993-94.*

Brand/Variety	Blacksburg	Warsaw Painter	Holland Blackstone	Loudoun	Orange	Average			
bu/a									
COKER 916	87	76	71	-	74	76	59		
89	76	-							
COKER 983	83	-	77	81	71	77	65		
87	77								
COKER 9543-B	91	84	88	+	69	79	62		
93	81								
COKER 9835	88	87	93	+	72	83	64		
103	+	84	+						
COKER 9803	86	73	-	77	68	70	56		
81	-	73	-***						
COKER 9904	90	81	85	77	81	81	58		
91	80								
FFR511W	88	77	73	72	72	72	52		
-	91	75	-						
FFR555W	95	86	74	76	85	85	65		
96	82	+							
FFR555W-B	91	87	87	+	72	82	63		
96	82	+							
FFR568	76	-	77	73	70	68	58		
92	73	-							
FFR568-B	76	-	74	-	73	67	62	-	52
-	78	-	69	-***					
FFR EXP 392	87	80	76	79	79	79	64		
94	80								
GA-GORE	96	83	63	-	77	80	65		
104	+	81							
HICKORY	98	76	83	70	75	75	65		
88	80								
HOFFMAN 21-B	80	-	79	55	-	69	68	56	
104	+	73	-						
HOFFMAN 89-B	83	-	75	72	-	64	64	-	57
79	-	72	-						
JACKSON	104	+	82	89	+	74	78	63	
94	84	+							
MADISON	93	81	71	-	72	78	60		
95	79								
MASSEY	86	74	-	78	71	79	56		
85	75	-							
PENNMORE	87	81	68	-	60	-	74	55	
-	95	74	-						
PIONEER 2548	93	81	64	-	70	77	65		
86	76	-							
PIONEER 2548-B	99	+	80	73	71	71	72		
58	88	77							
PIONEER 2566	90	77	73	73	76	76	63		
95	78								
PIONEER 2580	101	+	87	86	+	72	77	65	
93	83	+							

PIONEER 2684	94		78		84		70		75		58
84			78								
PIONEER XW522			92		89	+	92	+	72		87
59			98		84	+					
SALUDA	95		71		-	70	-	67		67	59
92			75		-						
SALUDA-B	98		84					69		75	63
95			81								
STINE 451	92		71		-	71	-	70		64	-
91			75		-						
WAKEFIELD-B	94		87			71	-	79		76	61
100			81								
GA 831585	84		78			71	-	72		77	62
92			76		-						
KY 83C-16-2	93		76			86	+	75		77	61
87			79								
MD80071-56	92		78			61	-	67		72	61
87			74		-						
VA91-51-20	94		85			85		77		86	66
104	+		85	+							
VA92-51-12	99		+	83		90	+	73		80	60
99			84	+							
VA93-52-24	87		89	+		89	+	84	+	79	61
97			84	+							
VA93-52-55	89		86			90	+	78		82	63
95			83	+							
VA93-52-60	102		+	88	+	90	+	85	+	84	68
+	100		88	+							
VA93-54-185	92		82			82		79		84	64
92			82	+							
VA93-54-211	91		89	+		79		79		82	58
93			81								
TRICAL 498**	93		95	+		83		80		104	+
108	+		89	+							
LSD (0.05)	8		7			7		12		11	6
10			3								
Location Average	91		81			79		72		77	61
93			79								
Statewide Average			79								

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

** This is a wheat/rye cross or triticale, not a wheat variety.

*** The poor yield performance of these varieties at some locations in 1994 may have been due to the thin stand obtained because of inferior seed quality.

Table 7. Two year average yield performance of entries in the Virginia State Wheat Tests, 1993 and 1994.*

Brand/Variety	Blacksburg	Warsaw Painter	Holland Blackstone	Orange	Average
	bu/a				
COKER 916	86 -	81 -	74 -	68	69
79	-				90
COKER 983	87	86	71 -	68	74
79	-				90
COKER 9803	93	85	78	66	66
80	-**				89
COKER 9835	89	93	87 +	72	75
+	86 +				99
COKER 9904	86 -	85	80	72	75
81					89
FFR511W	89	81 -	73 -	69	62 -
78	-				89
FFR555W	99 +	95 +	74 -	74	79 +
+	87 +				100
FFR555W-B	95	99 +	85 +	75	77
+	89 +				99
FFR568 82	-	86	72 -	69	64
78	-				89
FFR568-B	79 -	86	75 -	65	58 -
-	76 -**				86
FFR EXP 392	87	85	75 -	72	74
82					94
GA-GORE	91	89	72 -	74	76
84					98
HICKORY	94	82 -	82	72	70
82					88
JACKSON	102 +	94 +	91 +	74	74
89	+				93
MADISON	95	90	77	69	69
83					93
MASSEY	84 -	79 -	78	69	69
-	77 -				84
PIONEER 2548	94	89	74 -	67	74
82					92
PIONEER 2548-B	100 +	90	79	72	71
94	85				
PIONEER 2566	86 -	77 -	79	65	68
79	-				96
PIONEER 2580	101 +	93	88 +	70	74
87	+				92
PIONEER 2684	96	88	85 +	68	72
84					93
SALUDA	92	82 -	75 -	63 -	67
79	-				94
SALUDA-B	97	92	84	70	69
86	+				97
WAKEFIELD-B	92	92	78	76	71
85					97

MD80071-56	88		85		71	-	65		67		88
78	-										
VA91-51-20	95		90		79		76		77		97
86	+										
VA92-51-12	98	+	96	+	92	+	75		73		98
89	+										
LSD (0.05)	6		6		5		7		8		6
3											
Location Average	92		88		80		71		71		93
83											
Statewide Average			83								

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

** The poor yield performance of these varieties at some locations in 1994 may have been due to the thin stand obtained because of inferior seed quality.

Table 8. Three year average yield performance of entries in the Virginia State Wheat Tests, 1992, 1993, and 1994.*

Brand/Variety	Blacksburg	Warsaw Painter	Holland Blackstone	Orange	Average	
bu/a						
COKER 916	85 -	75 -	79 -	68	67	82
-	77 -					
COKER 983	83 -	74 -	74 -	69	71	78
-	75 -					
COKER 9803	89	82	87	69	67	90
82						
COKER 9835	85 -	83	91 +	73	71	84
82						
COKER 9904	83 -	82	82	74	72	86
80	-					
FFR511W	88	76 -	83	69	64	82
-	78 -					
FFR555W	97 +	87 +	85	76	78	96
+	87 +					
FFR555W-B	95 +	91 +	91 +	77	76	100
+	89 +					
FFR568 83	-	80	81	70	70	83
78	-					
FFR EXP 392	87	80	83	75	71	92
82						
GA-GORE	87	84	83	75	76	91
83						
JACKSON	102 +	89 +	95 +	79 +	73	93
89	+					
MADISON	92	82	81	71	70	86
81						
MASSEY	86 -	74 -	80 -	69	65	76
-	76 -					
PIONEER 2548	92	83	80	69	74	90
82						
PIONEER 2548-B	94 +	83 +	86	74	70	
92	84 +					
SALUDA	91	72 -	80 -	68	68	85
78	-					
SALUDA-B	95 +	82	92 +	77	69	92
85	+					
WAKEFIELD-B	96 +	84	87	77	73	91
85	+					
VA91-51-20	90	81	87	74	74	90
84	+					
LSD (0.05)	4	5	5	6	8	6
2						
Location Average	90	81	85	73	71	88
82						
Statewide Average	82					

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

Table 9. Test weight of entries in the Virginia State Wheat Test, 1993-94.*

Brand/Variety	Blacksburg	Warsaw Painter	Holland Blackstone	Loudoun	Orange	Average
	lbs					
COKER 916	56.3	59.0	59.8	59.8	59.2	56.0
60.5	58.6					
COKER 983	56.8	60.4	61.1	61.6	60.4	57.9
+	59.9	59.7	+	+	+	
COKER 9543-B	56.8	59.8	59.9	61.1	61.3	57.9
+	60.4	59.5	+	+	+	
COKER 9803	57.2	59.8	60.7	61.6	62.7	57.2
+	60.9	59.9	+	+	+	
COKER 9835	55.1	57.8	58.1	59.2	61.6	55.4
-	58.4	57.8	-	-	-	
COKER 9904	55.4	57.5	60.4	60.4	58.2	55.1
-	59.7	58.1	+	+	+	
FFR511W	54.2	57.2	58.2	57.8	59.8	55.4
-	58.4	57.2	-	-	-	
FFR555W	54.5	57.9	58.3	59.4	60.6	55.5
-	58.4	57.7	-	-	-	
FFR555W-B	54.6	57.7	58.5	59.3	60.5	55.3
-	57.5	57.0	-	-	-	
FFR568	55.8	58.8	58.8	60.1	61.4	56.0
59.8	58.6					
FFR568-B	56.5	58.4	59.1	60.2	58.6	55.8
59.6	58.3					
FFR EXP 392	56.6	58.8	60.6	61.4	60.7	56.3
60.3	59.2	+	+	+	+	
GA-GORE	54.1	58.4	58.9	59.4	61.5	55.5
-	60.0	58.2				
HICKORY	56.7	59.0	60.2	60.3	60.7	56.6
+	59.9	59.0	+			
HOFFMAN 21-B	51.6	54.0	54.3	58.2	58.0	50.8
-	57.1	54.8	-	-	-	
HOFFMAN 89-B	58.1	60.9	60.9	62.3	60.0	58.3
+	61.5	60.3	+	+	+	
JACKSON	55.8	59.4	60.3	60.8	62.1	56.0
60.8	59.2	+				
MADISON	55.7	57.7	59.0	58.3	57.4	55.2
-	58.6	57.4	-	-	-	
MASSEY	57.0	58.5	60.2	60.4	61.0	56.7
+	60.4	59.1	+			
PENNMORE	56.7	58.5	59.8	60.5	61.3	56.0
58.5	58.7					
PIONEER 2548	54.5	57.8	57.3	60.1	60.8	55.4
-	60.1	57.9	-	-	-	
PIONEER 2548-B	55.2	57.9	57.0	59.7	60.9	55.0
55.5	59.7	57.9	-	-	-	
PIONEER 2566	53.8	57.9	59.2	60.5	60.9	55.0
-	58.3	57.8	-	-	-	
PIONEER 2580	54.6	57.9	58.3	59.8	58.8	54.9
-	60.3	57.7	-	-	-	

PIONEER 2684	56.9	+	59.7	+	59.9		61.5	+	62.6		57.0
+	60.8	+	59.7	+							
PIONEER XW522			55.9		59.0		59.9		60.1		60.6
56.4			60.0		58.8						
SALUDA	56.4		59.5	+	60.5	+	61.6	+	62.2		57.4
+	61.1	+	59.7	+							
SALUDA-B	56.4		59.2		59.6		61.3	+	62.7		57.3
+	61.4	+	59.6	+							
STINE 451	54.0	-	57.4	-	58.7		60.7		60.9		54.0
-	59.6		57.8	-							
WAKEFIELD-B	56.1		57.9		57.5	-	60.0		61.0		56.0
59.9			58.2								
GA 831585	57.0	+	59.4		59.1		61.6	+	61.8		56.8
+	60.6		59.4	+							
KY 83C-16-2	55.9		59.1		59.8		61.0		61.6		56.6
+	60.7	+	59.2	+							
MD80071-56	55.6		58.9		58.1	-	60.2		61.3		56.6
+	59.9		58.6								
VA91-51-20	57.4	+	59.9	+	61.4	+	61.1	+	62.9		56.9
+	60.7	+	59.9	+							
VA92-51-12	56.7	+	59.0		60.0		61.5	+	61.8		56.5
60.2			59.3	+							
VA93-52-24	56.9	+	59.1		60.1		61.2	+	60.6		56.0
59.2			58.9								
VA93-52-55	54.4	-	58.1		59.6		60.3		61.0		55.8
59.3			58.3								
VA93-52-60	55.2		58.3		60.9	+	57.7	-	61.4		56.0
60.1			58.4								
VA93-54-185	56.5		59.1		59.6		60.8		59.7		57.2
+	59.8		58.9								
VA93-54-211	57.1	+	59.5	+	60.8	+	60.7		59.4		57.4
+	60.9	+	59.4	+							
TRICAL 498**	48.4	-	53.6	-	52.1	-	53.0	-	53.8	-	48.0
-	55.3	-	51.9	-							
LSD (0.05)	0.8		1.0		1.1		0.8		3.6		0.5
1.0			0.5								
Location Average	55.9		58.5		59.3		60.3		60.6		56.1
59.7			58.5								
Statewide Average			58.5								

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

** This is a wheat/rye cross or triticale, not a wheat variety.

Table 10. Summary of performance of entries in the State Wheat Test, 1993-94.*

Test Brand/Variety (Bu/A)	Date Yield (Lb)	Leaf Weight (Mar 31+)	Powdery Headed Height (In)	Soil Lodging (%)	Leaf Rust (%)	Mildew (%)	Virus (0-5)	Septoria (0-9)		
(7)	(7)	(3)	(3)	(4)	(2)	(2)	(1)	(2)		
COKER 916	76	-	58.6	30	-	37		10	+	4
16	+	3	+	4	+					
COKER 983	77		59.7	33		35	-	1		50
+	19	+	0	2	-					
COKER 9543-B	81		59.5	31	-	36	-	4		3
9		2	+	4	+					
COKER 9803	73	-	59.9	32	-	34	-	1		4
21	+	0	+	2	-					
COKER 9835	84	+	57.8	33		33	-	1		0
16	+	2	-	4	+					
COKER 9904	80		58.1	31	-	38	+	13	+	0
1	-	2	+	4	+					
FFR511W	75	-	57.2	32	-	37		3		4
4	-	1	-	5	+					
FFR555W	82	+	57.7	34	+	37		0		8
+	29	+	0	2	-					
FFR555W-B	82	+	57.0	35	+	37		1		4
16	+	0	-	2	-					
FFR568	73	-	58.6	36	+	39	+	0		3
13		2	+	3						
FFR568-B	69	-	58.3	36	+	38	+	0		1
2	-	0	+	2	-					
FFR EXP 392	80		59.2	35	+	38	+	0		6
0	-	0	+	2	-					
GA-GORE	81		58.2	29	-	37		10	+	0
4	-	3	+	3						
HICKORY	80		59.0	30	-	38	+	1		8
+	18	+	0	3						
HOFFMAN 21-B	73	-	54.8	35	+	37		0		0
0	-	4	+	2	-					
HOFFMAN 89-B	72	-	60.3	35	+	39	+	0		0
7		4	+	5	+					
JACKSON	84	+	59.2	34	+	38	+	4		4
15	+	0	+	2	-					
MADISON	79		57.4	32	-	38	+	1		0
20	+	0	-	3						
MASSEY	75	-	59.1	34	+	41	+	11	+	4
5	-	0	+	3						
PENNMORE	74	-	58.7	36	+	43	+	2		1
36	+	0	+	2	-					
PIONEER 2548	76	-	57.9	33		36	-	0		3
19	+	1	-	3						
PIONEER 2548-B	77		57.9	-	33		36	-	1	
4		9	+	3	+	1	-			
PIONEER 2566	78		57.8	33		36	-	0		0
17	+	0	-	4	+					
PIONEER 2580	83	+	57.7	32	-	37		0		1

4	-	0		2	-					
PIONEER 2684	78		59.7	+	31	-	37		1	1
11		0		1	-					
PIONEER XW522	84	+	58.8		33		32	-	0	
1		2	-	0		1	-			
SALUDA	75	-	59.7	+	33		36	-	1	4
40	+	2		4	+					
SALUDA-B	81		59.6	+	33		37		2	3
24	+	2		3						
STINE 451	75	-	57.8	-	33		37		2	3
31	+	0		4	+					
WAKEFIELD-B	81		58.2		35	+	41	+	1	4
15	+	2		2	-					
GA 831585	76	-	59.4	+	35	+	37		0	1
11		1		2	-					
KY 83C-16-2	79		59.2	+	34	+	37		1	5
2	-	3	+	2	-					
MD80071-56	74	-	58.6		33		40	+	7	+
3	-	4	+	4	+					
VA91-51-20	85	+	59.9	+	33		38	+	7	+
17	+	0		2	-					
VA92-51-12	84	+	59.3	+	33		38	+	0	1
6		0		1	-					
VA93-52-24	84	+	58.9		35	+	39	+	0	1
1	-	1		4	+					
VA93-52-55	83	+	58.3		34	+	35	-	0	1
0	-	0		3						
VA93-52-60	88	+	58.4		30	-	37		6	4
0	-	0		2	-					
VA93-54-185	82	+	58.9		34	+	35	-	0	0
6		0		2	-					
VA93-54-211	81		59.4	+	33		36	-	1	1
0	-	3	+	3						
TRICAL 498**	89	+	51.9	-	21	-	44	+	0	0
0	-	4	+	5	+					
LSD (0.05)	3		0.5		1		1		5	4
5		2		1						
Test Average	79		58.5		33		37		2	3
10		1		3						

* The number in parentheses below column headings indicates the number of locations on which data are based. A plus or minus sign indicates a performance significantly above or below the test average, respectively.

** This is a wheat/rye cross or triticale, not a wheat variety.

