

SMALL GRAINS IN 1997

The following are the small grain variety recommendations for Virginia in 1997. 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>			
Callao ^{sb}	Callao	Callao	Callao
Nomini ^a	Nomini	Nomini	Nomini
Pamunkey ^{lb*}	Pamunkey	Pamunkey	Pamunkey
Starling ^a	Starling	Starling	Starling
Mollybloom ^{sb*}	Mollybloom	-----	-----
<i>Wheat</i>			
Pioneer Brand 2691	Pioneer Brand 2691	Pioneer Brand 2691	Pioneer Brand 2691
GA-Gore	GA-Gore	-----	-----
AgriPro Hickory	AgriPro Hickory	AgriPro Hickory	AgriPro Hickory
Pioneer Brand 2684	Pioneer Brand 2684	Pioneer Brand 2684	Pioneer Brand 2684
Pioneer Brand 2580	Pioneer Brand 2580	Pioneer Brand 2580	Pioneer Brand 2580
NK Coker 9803	NK Coker 9803	NK Coker 9803	NK Coker 9803
Madison	Madison	Madison	Madison
FFR 523W	FFR 523W	FFR 523W	FFR 523W
Pioneer Brand 2643	Pioneer Brand 2643	Pioneer Brand 2643	-----
NK-Coker 9835	NK-Coker 9835	-----	-----
Featherstone 520	Featherstone 520	Featherstone 520	Featherstone 520
Jackson	Jackson	Jackson	Jackson
NK Coker 9663	NK Coker 9663	NK Coker 9663	NK Coker 9663
FFR 555W	FFR 555W	FFR 555W	FFR 555W
AgriPro Foster	AgriPro Foster	AgriPro Foster	AgriPro Foster
Wakefield	Wakefield	Wakefield	Wakefield
* a lb sb	These varieties will be dropped from the recommended list after 1997. Awnleted (no beards). Long beards. Short beards.		

COMMERCIAL BARLEY ENTRIES

University of Georgia, GA Station, 1109 Experiment Street, Griffin, GA 30223 - GA-Luttrell.
North Carolina State University and North Carolina Crop Improvement Association, 3709 Hillsborough Street, Raleigh, NC 27607 - Boone and Mollybloom.
Virginia Tech and Virginia Crop Improvement Association, 9142 Atlee Station Road, Mechanicsville, VA 23111 - Callao, Nomini, Pamunkey, Starling and Wysor.

COMMERCIAL WHEAT ENTRIES

Ag-Chem, Inc., PO Box 2178, Salisbury, MD 21802-2178 - DynaGro 422 and DynaGro 424.
AgriPro Seeds, Inc., PO Box 2962, Shawnee Mission, KS 66201-1362 - AgriPro Clemens, AgriPro Elkhart, AgriPro Foster, AgriPro Hickory, AgriPro Mason, and AgriPro Sawyer.
Featherstone Seed Company, 13941 Genito Road, Amelia, VA 23002 - Featherstone 520
University of Georgia, GA Station, 1109 Experiment Street, Griffin, GA 30223 - GA-Gore and Fleming.
Hoffman Seeds, Inc., 144 Main Street, Landisville, PA 17538 - Hoffman 14, Hoffman 57, and Hoffman 95.
Novartis Seeds, Inc., Box 340, Hartsville, SC 29550 - NK Coker 9134, NK Coker 9663, NK Coker 9704, NK Coker 9803, and NK Coker 9835.
Pioneer Hibred International, Inc., Eastern Division, Tipton, IN 47072 - Pioneer Brand 2552, Pioneer Brand 2580, Pioneer Brand 2643, Pioneer Brand 2684, and Pioneer Brand 2691.
Resource Seeds, Inc., 2355 Rice Pike, Union, KY 41091 - Trical 498 (triticale).
Southern States Cooperative, PO Box 26234, Richmond, VA 23260 - FFR 502W, FFR 523W, FFR 525W, FFR 555W, and FFR 568W.
Virginia Tech and Virginia Crop Improvement Association, 9142 Atlee Station Road, Mechanicsville, VA 23111 - Massey, Saluda, Madison, Wakefield and Jackson.

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INTRODUCTION

The attached tables present results from barley and wheat varietal tests conducted in Virginia in 1996-97. 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 1996-97 were grown in seven inch rows planted at 20 seeds per row foot. The plots were trimmed during the winter to either 9 or 12 feet in length. Details about management practices for barley and wheat are included in the bulletin. The only herbicide used at most locations was Harmony Extra®.

Appreciation is expressed to Ag-Chem, Inc., AgriPro Seeds, Inc., Featherstone Seed Co., Hoffman Seeds, Inc., Novartis Seeds, Inc., Pioneer Hibred International, Inc., Resource Seeds, Inc., Southern States Cooperative, Virginia Crop Improvement Association and the Virginia Small Grains Check-Off Board for their financial support of the small grains variety testing program at Virginia Tech.

BARLEY VARIETIES

Virginia's climate makes it possible to produce 110+ bu/acre field yields of well-managed barley most seasons. The better barley varieties entered in Virginia Tech tests have averaged above 110 bu/acre over five locations over three years. Variety selection is one of the most important steps toward achieving high yields in an economic and environmentally sound manner.

Improvement in relative barley prices in the past two seasons has "given barley another chance". Barley price was improved in 1996 due to the severe feed grain shortage. Local barley price in 1997 was improved by the ability to meet international market specifications due to higher than normal test weight. The improved test weight in 1997 was due to good weather luck. Selection of high test weight varieties is critical to meeting international marketing test weight standards in the future.

The importance of Virginia's barley breeding program to the state and region is evident in the yield results. All of the top yielders in 1996-97 were Virginia Tech varieties or lines. Note that five of the top ten entries are Virginia Tech lines that were advanced to the state test for the first time in 1996.

Nomini and Starling continue to perform well and have good but not excellent test weight. Nomini is earlier than average whereas Starling is later than average. The major new variety is Callao. It has EXCELLENT test weight, was the top variety in the 1997 results and the two year averages. In the three year averages it was surpassed by Nomini by one bu/acre (116 vs. 115 bu/acre over four locations and three years). The test weight of Callao averaged 53.7 lbs/bu in 1997, and 48.5 lbs/bu in 1996. This is 3.2 lbs/bu better than Nomini , 3.6 lbs/bu better than Starling, and 2.5 lbs/bu better than Boone. The higher test weight will help meet international market specifications which MAY improve short and long range prices for barley. Callao is early, short, and has good barley yellow dwarf tolerance. It has short beards similar to Boone that generally come off easily during harvest. The major negative characteristic of Callao is its tendency to lodge if fertilized to develop high yields. Callao has similar standability to Boone. The use of the plant growth regulator Cerone® and intensive management should be a part of the decision to grow Callao. Additional good news is the superb performance of a number of new lines that have excellent test weight and improved standability compared to Callao.

Starling is similar to Nomini in yield, but has less than average test weight. Starling is susceptible to net blotch, but generally has the best disease resistance and "stay green" available in any barley. Starling is about three days later than Nomini, and thus should make an excellent companion barley for those wishing to grow barley for silage. It is recommended statewide, but will likely show its maximum benefit in the piedmont and mountainous areas. Seed of Starling barley should be available to producers in adequate quantities for fall 1997 planting.

GA-Luttrell, a University of Georgia release, has yielded well the past three years, but it has less than average test weight, has tough beards, and is about the same maturity as Nomini. GA-Luttrell has good disease resistance. Pamunkey, a Virginia Tech release, had a relatively poor year again in 1996-97. Its two- and three-year yields are less than average. Pamunkey has long beards that can be difficult to remove in humid weather until the crop is "truly mature". Mollybloom continues to perform similarly to Boone under Virginia conditions. It has yielded less than average, lodged more than average and is relatively late. Both Pamunkey and Mollybloom will be dropped from the recommended list after 1997.

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.

Table 1. Yield performance of entries in the Virginia Tech Barley Test, 1997 Harvest.*

Brand/Variety	Blacksburg	Painter	Holland	Warsaw	Orange	Average
	bu/acre					
VA95-42-33	138 +	121	106	118	124 +	124 +
CALLAO	126	128	126 +	129	104	122 +
VA96-41-26	128	128	101	131	111	121 +
STARLING	124	133	105	124	108	120
VA96-44-318	119	138 +	89	125	114	119
VA95-42-58	122	124	100	122	116	119
VA96-44-307	127	125	109	120	110	119
VA96-41-39	122	114	91	128	120 +	118
VA96-41-17	132 +	124	89	122	111	118
VA95-42-28	127	116	93	123	118	118
VA96-44-304	124	129	114	117	105	117
VA95-41-33	125	132	97	122	104	117
VA96-44-278	129	122	107	121	103	117
VA92-44-279	122	125	99	125	108	117
VA95-41-23	123	122	97	120	114	117
VA96-41-25	119	125	105	118	110	116
VA96-44-306	129	115	109	119	104	116
VA95-41-34	130 +	124	87	124	103	116
VA96-41-28	120	124	98	124	109	115
VA96-44-261	122	117	113	119	102	115
WYSOR	116	121	95	118	114	115
VA96-44-321	116	135	101	113	108	115
VA95-41-28	124	120	98	120	106	115
NOMINI	124	123	100	114	102	114
VA94-42-88	119	117	95	124	104	114
VA94-42-35	114	123	103	114	108	114
VA96-44-252	123	115	109	115	103	114
VA96-44-303	113	118	104	124	101	112
VA96-44-309	128	123	97	111	98	112
VA96-44-324	116	124	☆	117	91	111
VA96-44-250	111	123	97	113	106	111
VA96-41-40	126	121	94	114	94	111
VA96-41-34	109	130	99	109	108	111
VA92-42-46	115	115	106	107	106	110
GA-LUTTRELL	121	121	☆	114	88 -	110
VA96-41-44	104 -	130	☆	111	94	108
VA96-44-71	116	112	75 -	116	93	105 -
BOONE	83 -	101 -	113	101 -	101	98 -
PAMUNKEY	95 -	109	☆	100 -	92	98 -
MOLLYBLOOM	94 -	99 -	100	97 -	90 -	95 -
LSD (0.05)	11	16	23	15	15	7
Location Average	119	122	101	118	105	114
Statewide Average	114					

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

☆ These varieties have tough beards that were not adequately removed when combined. The beards would not flow through the grain-weighing mechanism of the combine, so yields were not determined for these lines at this location.

Table 2. Two year average yield performance of entries in the Virginia Tech Barley Tests, 1996 and 1997.*

Brand/Variety	Blacksburg	Holland	Warsaw	Orange	Average
	bu/acre				
CALLAO	115 +	127 +	125	102	116 +
VA95-42-33	105	109	125	112 +	113 +
NOMINI	118 +	108	120	103	113 +
VA95-42-58	107 +	103	121	107	110
VA95-41-33	103	106	124	101	109
VA92-44-279	102	99	126	102	109
STARLING	99	108	122	104	108
GA-LUTTRELL	114 +	116	120	86 -	108
VA95-41-34	101	102	124	99	107
VA95-41-28	101	103	123	100	107
VA95-42-28	91 -	105	120	104	105
WYSOR	98	101	119	101	105
VA95-41-23	90 -	99	122	104	104
VA94-42-88	94	100	125	96	104
VA94-42-35	88 -	106	118	102	103
BOONE	89 -	116	105 -	103	102
MOLLYBLOOM	95	109	106 -	98	101 -
VA92-42-46	89 -	103	111	99	100 -
PAMUNKEY	91 -	104	113	93	100 -
LSD (0.05)	8	14	10	10	6
Location Average	99	106	119	101	107
Statewide Average	107				

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

Table 3. Three year average yield performance of entries in the Virginia Tech Barley Tests, 1995, 1996, and 1997.*

Brand/Variety	Blacksburg	Holland	Warsaw	Orange	Average
	bu/acre				
NOMINI	119 +	107	127	109	116 +
CALLAO	114 +	119 +	123	106	115 +
GA-LUTTRELL	115 +	114	123	96	112
STARLING	97	108	127	106	110
VA92-44-279	103	100	130 +	104	110
VA94-42-88	95	99	126	106	107
WYSOR	100	98	120	107	107
VA94-42-35	96	105	122	103	106
VA92-42-46	98	100	117	104	105
MOLLYBLOOM	92 -	108	109 -	101	102 -
BOONE	88 -	111	108 -	105	102 -
PAMUNKEY	90 -	89 -	116	98	99 -
LSD (0.05)	8	12	7	9	5
Location Average	101	105	121	104	108
Statewide Average	108				

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

Table 4. Summary of performance of entries in the Virginia Tech Barley Test, 1997 Harvest.*

Brand/Variety	Yield (Bu/A) (5)	Test Weight (Lb) (5)	Date Headed (Mar 31+) (3)	Height (In) (2)	Lodging (0.2-10) (3)	Barley Yellow Dwarf Virus (0-9)★ (1)
VA95-42-33	124 +	50.9 -	23 +	40 +	0.5 -	0
CALLAO	122 +	53.7 +	20 -	36 -	5.0 +	0
VA96-41-26	121 +	50.9 -	20 -	40 +	1.3	0
STARLING	120	49.9 -	26 +	41 +	1.2	0
VA96-44-307	119	52.1	19 -	36 -	1.8	1 +
VA95-42-58	119	51.8	24 +	40 +	0.7 -	1 +
VA96-44-318	119	53.2 +	27 +	40 +	1.5	0
VA96-41-17	118	49.9 -	24 +	41 +	0.3 -	0
VA95-42-28	118	50.9 -	23 +	40 +	0.2 -	0
VA96-41-39	118	50.0 -	20 -	41 +	2.3	1 +
VA92-44-279	117	52.0	22	38 -	2.0	0
VA96-44-278	117	54.3 +	19 -	35 -	2.2	0
VA95-41-23	117	51.4	23 +	40 +	0.3 -	0
VA96-44-304	117	53.2 +	16 -	35 -	1.9	1 +
VA95-41-33	117	51.5	22	41 +	1.5	1 +
VA95-41-34	116	50.8 -	22	39	0.7 -	1 +
VA96-41-28	116	51.1	25 +	41 +	0.7 -	1 +
VA96-44-306	116	53.5 +	16 -	35 -	3.8 +	1 +
VA96-41-25	116	50.5 -	20 -	40 +	1.1	1 +
VA95-41-28	115	51.1	18 -	38 -	1.0	0
WYSOR	115	51.7	25 +	43 +	1.6	1 +
VA96-44-321	115	51.9	23 +	37 -	1.2	1 +
VA96-44-261	115	53.3 +	19 -	36 -	4.7 +	0
VA94-42-88	114	51.8	22	40 +	0.8	0
VA94-42-35	114	51.6	24 +	42 +	0.4 -	0
VA96-44-252	114	52.0	26 +	39	2.9 +	0
NOMINI	114	49.3 -	21 -	43 +	1.9	1 +
VA96-44-309	112	53.7 +	19 -	35 -	1.7	1 +
VA96-44-303	112	53.4 +	16 -	36 -	2.0	0
VA96-44-250	111	52.0	20 -	37 -	2.0	0
VA96-41-34	111	50.3 -	24 +	39	0.2 -	2 +
VA96-41-40	111	53.7 +	17 -	36 -	2.5	0
VA96-44-324	111	51.8	19 -	36 -	2.2	0
GA-LUTTRELL	110	51.7	20 -	40 +	2.2	0
VA92-42-46	110	51.0 -	25 +	42 +	0.8	0
VA96-41-44	108	53.7 +	22	39	1.4	0
VA96-44-71	105 -	53.5 +	16 -	35 -	3.5 +	0
PAMUNKEY	98 -	54.1 +	21 -	40 +	2.2	0
BOONE	98 -	50.0 -	30 +	41 +	5.6 +	2 +
MOLLYBLOOM	95 -	50.2 -	30 +	41 +	4.0 +	3 +
LSD (0.05)	7	0.8	1	1	1.1	1
Test Average	114	51.8	22	39	1.8	0

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

★ The 0-9 rating indicates relative disease intensity where 0=none and 9=total plant infection.

SUMMARY OF BARLEY MANAGEMENT PRACTICES FOR THE 1997 HARVEST SEASON

Blacksburg - Planted October 12, 1996. Preplant fertilizer was 25 lbs N, 60 lbs P₂O₅, and 80 lbs K₂O applied September 25, 1996. Harmony Extra® was applied at 0.5 oz on March 7, 1997 with 60-0-0-13. Harvest occurred on June 26, 1997.

Blackstone - Planted October 29, 1996. Preplant fertilizer was 300 lbs 10-20-20 and 1 ton lime on October 28, 1996. Two hundred and fifty lbs 16-0-0 was applied February 14, 1997. Sixty lbs N was applied March 13, 1997. One pt Lannate® was applied April 30, 1997 for control of cereal leaf beetle. Harvest occurred on June 12, 1997.

Holland - Planted October 29, 1996. Preplant fertilizer was 500 lbs 5-15-20 + one ton lime October 25, 1996. On January 21, 1997 0.33 oz Harmony Extra® was applied with forty units N. One qt manganese using a 7% solution was applied February 21, 1997. Sixty units N and 0.33 oz Harmony Extra® were applied March 17, 1997. Malathion® 57EC at 1.5 pt was applied April 21, 1997 and again on May 13 for control of cereal leaf beetle. Harvest occurred June 12, 1997.

Painter - Planted October 28, 1996. Preplant fertilizer was 500 lbs/A 5-10-10 October 17, 1996. Forty lbs N were applied using 30% on February 20, 1997. Sixty lbs N and 0.5 oz Harmony Extra® were applied March 26, 1997. Harvest occurred on June 20, 1997.

Warsaw - Planted October 16, 1996. Preplant fertilizer was 30 lbs N, 60 lbs P₂O₅, and 60 lbs K₂O applied October 7, 1996. Fifty lbs N as 25-0-0-3 and Harmony Extra® at 0.5 oz was applied February 19, 1997. Forty-five lbs N as 25-0-0-3 was applied March 25, 1997. Two oz of Karate® were applied May 18, 1997 for control of cereal leaf beetle. Harvest occurred June 12, 1997.

Orange - Planted October 15, 1996. Preplant fertilizer was 700 lbs 5-10-10 applied October 14, 1996. Sixty lbs N were applied March 24, 1997. Harvest occurred on June 11, 1997.

WHEAT VARIETIES

Wheat did well in another challenging year. The fall was wet, December and January were cold and the crop developed slower than normal. February and March were much warmer than normal resulting in crops planted in a timely fashion getting ahead of schedule. April and May were much cooler than normal resulting in excellent tiller survival and kernel initiation. June was favorable for grain fill and harvest resulting in good yields of excellent quality. The unusual growing season affected performance of some varieties more than others.

Virginia Tech's wheat breeding program continues to be successful as shown by eight of the top fifteen entries being either varieties or lines from the program. The Virginia Tech line VA94-52-60 was the top yielding wheat over both two and three year averages. Several very early Virginia Tech lines have yielded well in the test and may offer potential for the future.

The top yielding released variety over the past two years is NK-Coker 9663 with a two year state-wide average of 86 bu/acre followed by Jackson at 85 bu/acre. Pioneer Brand 2580 is the top yielder over three years. NK-Coker 9663 has excellent test weight, is taller than average with good but not excellent standability, and is later than average. It is moderately susceptible to powdery mildew. Jackson has excellent test weight, is later than average and moderate in height. NK-Coker 9663 and Jackson perform well where large amounts of straw are desirable or when the producer has a "stripper header". It may be desirable to use the growth regulator Cerone® on these varieties when fertilized to achieve their full yield potential or when a conventional header will be used following intensive management and straw will not be baled. Pioneer Brand 2580 is an excellent wheat variety for all levels of management and soil types. Test weight is average.

DynaGro 424, a new variety in the test this year, was the top yielding variety in the Coastal Plain Region and near the top statewide with an average of 81 bu/acre. It did exceptionally well at Painter, Loudoun, and Orange. These yields were obtained even though the variety is susceptible to powdery mildew. It has low test weight which may be a major concern in some years and some markets.

Another new variety that did quite well in the Coastal Plain Region was FFR 502W. It yielded less than average in the Piedmont and Blue Ridge Region. FFR 502W has excellent test weight, is truly earlier than average, shorter than average, and has good resistance to most major diseases. It will be interesting to evaluate the performance of this variety over years.

Other new varieties that performed well were NK-Coker 9134, and NK-Coker 9704. NK-Coker 9134 has excellent test weight, is taller and later than average. It is moderately susceptible to powdery mildew and wheat spindle streak. NK-Coker 9704 has excellent test weight, is earlier and shorter than average, and has good disease resistance.

Other relatively new varieties that offer good yields and special attributes include FFR 523W and Pioneer Brand 2691. FFR 523W is early and short but has only moderate test weight. Pioneer Brand 2691 is very early, short, and only moderate test weight. Both of these varieties should be planted on a timely basis but not early in the fall. Early planting may result in these varieties jointing in March.

The relatively poor yield performance of Pioneer Brand 2643 is related to reduced stand emergence of this variety at several locations and the fact that this variety does not tiller as much as most current varieties. Twenty seeds per row foot was not adequate for this variety this past fall when it was cold and wet after planting. Pioneer Brand 2684 was also thinner at several locations and did not perform as well in 1996-97 as it has in previous years in our test. Both of these varieties have performed at or above average over multiple years.

Trical 498 triticale continues to be a top-yielding variety. Yield performance of this variety gives the feed industry an opportunity to determine how to include it in poultry and swine diets.

Hessian Fly was not a problem in 1996-97 even when wheat was planted no till into wheat stubble that had Hessian Fly in 1996. The data in Table 10 show differences in variety performance but not due to Hessian Fly damage. The importance of adapted varieties is shown by the poor performance of lines from Indiana, Georgia, and Florida that may have Hessian Fly resistance but did not perform well when planted no till.

SUMMARY OF WHEAT MANAGEMENT PRACTICES FOR THE 1997 HARVEST SEASON

Blacksburg - Planted October 12, 1996. Preplant fertilizer was 25 lbs N, 60 lbs P₂O₅, and 80 lbs K₂O applied September 25, 1996. Harmony Extra® was applied at 0.5 oz on March 7, 1997 with 60-0-0-13. Harvest occurred on July 9, 1997.

Warsaw - Planted October 16, 1996. Preplant fertilizer was 30 lbs N, 60 lbs P₂O₅, and 60 lbs K₂O applied October 7, 1996. Sixty lbs N as 25-0-0-3 and Harmony Extra® at 0.6 oz was applied February 19, 1997. Forty-five lbs N as 25-0-0-3 was applied March 25, 1997. Two oz of Karate® were applied May 18, 1997 for control of cereal leaf beetle. Harvest occurred June 24, 1997.

Painter - Planted October 28, 1996. Preplant fertilizer was 500 lbs/A 5-10-10 October 17, 1996. Forty lbs N were applied using 30% on February 20, 1997. Sixty lbs N and 0.5 oz Harmony Extra® were applied March 26, 1997. Harvest occurred on June 24, 1997.

Holland - Planted October 29, 1996. Preplant fertilizer was 500 lbs 5-15-20 + one ton lime October 25, 1996. On January 23, 1997, 0.33 oz Harmony Extra® was applied with forty units N. One qt manganese using a 7% solution was applied February 21, 1997. Sixty units N and 0.33 oz Harmony Extra® were applied March 17, 1997. Malathion® 57EC at 1.5 pt was applied April 21, 1997 and again on May 13 for control of cereal leaf beetle. Harvest occurred June 12, 1997.

Blackstone - Planted October 29, 1996. Preplant fertilizer was 300 lbs 10-20-20 and 1 ton lime on October 28, 1996. Two hundred and fifty lbs 16-0-0 was applied February 14, 1997. Sixty lbs N was applied March 13, 1997. One pt Lannate® was applied April 30, 1997 for control of cereal leaf beetle. Harvest occurred on June 12, 1997.

Orange - Planted October 15, 1996. Preplant fertilizer was 700 lbs 5-10-10 applied October 14, 1996. Sixty lbs N were applied March 17, 1997. Harvest occurred on June 26, 1997.

Loudoun - Planted October 22, 1996. Preplant fertilizer was 50 lbs urea, 100 lbs MAP, and 160 lbs potash applied at planting. Sixty-six lbs N + 2/3 pt ACA were applied February 27, 1997. Thirty lbs N were applied March 7, 1997. Harvest occurred July 7, 1997.

Table 5. Yield performance of entries in the Virginia Tech Wheat Test, 1997 Harvest (bu/acre).*

Brand/Variety	Coastal Plain Region				Piedmont and Blue Ridge Region				Statewide
	Holland	Painter	Warsaw	Average	Blacksburg	Orange	Loudoun	Average	Average
TRICAL 498**	89	116 +	93 +	100 +	118 +	80 +	78	87 +	94 +
VA96-52-67	86	103	76 +	88 +	73	70	68	70	79
DYNA-GR0 424	86	104	67	86 +	55 -	81 +	81 +	76	81 +
VA94-54-479	84	99	75 +	85 +	101 +	70	75	78 +	82
COKER 9663	90	101	65	85 +	87	81 +	78	81 +	83 +
VA94-52-60	83	107 +	65	85 +	83	81 +	72	78 +	82 +
VA94-52-20	87	97	69	84	94 +	74	72	77	81 +
COKER 9663-B	91 +	100	62	84	90	80 +	70	78 +	81 +
FFR 502W-B	85	91	73 +	83	73	64 -	66	67	75
COKER 9803-B	82	104	64	83	73	69	70	70	77
COKER 9134-B	87	102	60	83	85	82 +	73	79 +	81 +
VA96-54-372	79	104	64	83	81	70	76	75	79
VA96-54-326	84	98	67	83	93 +	73	68	75	79
JACKSON-B	83	103	59	82	93 +	77	72	78 +	80 +
JACKSON	80	107 +	59	82	102 +	76	66	77	80 +
GA-GORE	80	98	68	82	82	68	73	73	78
HICKORY	83	102	62	82	76	79	69	74	78
COKER 9704-B	84	97	66	82	75	70	71	71	77
COKER 9803	83	96	68	82	68	69	68	69	76
FFR 555W-B	82	100	64	82	72	69	67	69	76
FFR 523W-B	91 +	95	62	82	70	75	70	72	77
VA96-54-234	82	98	66	82	80	73	74	75	79
VA96-52-66-B	81	93	69	81	88	75	74	77	79
COKER 9835	81	97	64	81	69	76	72	73	77
WAKEFIELD-B	83	96	63	81	72	79	64	72	76
COKER 9835-B	85	95	65	81	71	74	69	71	77
VA93-54-429	80	94	68	81	100 +	72	57 -	72	77
PIONEER 2643-B	77	91	74 +	81	80	64 -	59	65 -	74
PIONEER 2691-B	74	95	68	80	79	74	73	75	77
PIONEER 2552-B	---	67	---	---	---	---	---	---	---
PIONEER 2580-B	75	99	65	80	92 +	79	79	81 +	81 +
MADISON	77	94	68	80	79	68	80	75	78
VA95-52-60	83	105	53 -	80	84	78	68	76	78
HOFFMAN 14	85	92	64	80	74	78	83 +	79 +	80 +
FEATHERSTONE 520-B	82	97	60	79	73	69	76	73	76
AGRIPRO-FOSTER	81	92	66	79	85	80 +	74	78 +	79
SAWYER	81	95	62	79	63 -	78	70	72	76
VA93-52-60	83	102	50 -	78	58 -	62 -	69	64 -	71 -
DYNA-GR0 422	77	94	62	78	61 -	69	71	68	73
CLEMENS	79	89	67	78	69	78	68	72	75
HOFFMAN 95	78	97	60	78	67	72	67	69	74
FFR 523W	83	98	54	78	70	79	67	72	75
PIONEER 2684-B	75	90	67	77	78	72	60	68	73
COKER 9134	78	99	51 -	76	83	83 +	75	80 +	78
FFR 568W	81	90	57	76	45 -	72	75	68	72 -
FLEMING	70	86	68	75	74	69	68	69	72 -
MASON	81	86	60	75	80	67	74	72	74
HOFFMAN 57	73	89	54	72 -	64 -	63 -	65	64 -	68 -
ELKHART	76	89	55	71 -	84	70	67	71	71 -
MASSEY	70	85	58	71 -	68	71	63	67	69 -
FFR 525W-B	75	77 -	59	70 -	77	65	68	68	69 -
SALUDA	71	84 -	42 -	65 -	73	73	69	71	68 -
RSI 92-100**	59 -	39 -	58	51 -	52 -	26 -	42 -	37 -	45 -
LSD (0.05)	11	11	9	6	13	8	12	6	4
Location Average	80	95	62	79	78	72	69	72	76
Statewide Average	76								

* Varieties are ordered by descending coastal plain region averages. A plus or minus sign indicates performance significantly above or below the test average within each region or statewide, respectively.

** These are wheat/rye crosses or triticales, not wheat varieties.

Table 6. Summary of performance of entries in the Virginia Tech Wheat Tests, 1997 Harvest.*

Brand/Variety	Yield		Test Weight		Date Headed		Height		Powdery Mildew		Leaf Rust		Wheat Spindle Streak		Barley Yellow Dwarf		Glume Blotch	
	(Bu/A)	(6)	(Lb)	(6)	(Mar 31+)	(4)	(In)	(3)	(3)	(3)	(3)	(0-9)☆	(1)	(2)	(1)			
TRICAL 498**	94	+	53.7	-	21	-	48	+	0	-	2	0	-	1	-	2	+	
COKER 9663	83	+	60.5	+	34	+	40	+	3	+	0	2	-	2	-	1	-	
VA94-54-479	82	+	60.5	+	32	-	33	-	0	-	2	3	+	1	-	2	+	
VA94-52-60	82	+	59.3	-	34	+	37	-	0	-	5	0	-	4	+	2	+	
VA94-52-20	81	+	58.9	-	31	-	38	+	1	-	7	1	-	2	-	1	-	
PIONEER 2580-B	81	+	59.9	-	32	-	36	-	1	-	2	4	+	3	-	1	-	
COKER 9134-B	81	+	60.6	+	34	+	38	+	3	+	1	3	+	3	-	1	-	
COKER 9663-B	81	+	60.4	+	34	+	41	+	2	-	0	3	+	2	-	1	-	
DYNA-GR0 424	81	+	57.9	-	37	+	38	+	4	+	1	1	-	4	+	2	+	
JACKSON	80	+	60.9	+	34	+	39	+	2	-	3	3	+	2	-	1	-	
JACKSON-B	80	+	61.0	+	34	+	38	+	1	-	2	2	-	2	-	1	-	
HOFFMAN 14	80	+	59.2	-	35	+	34	-	4	+	2	4	+	4	+	2	+	
VA96-54-372	79	-	60.1	-	33	+	34	-	2	-	2	4	+	2	-	1	-	
VA96-52-67	79	-	59.1	-	29	-	37	-	0	-	4	0	-	3	-	2	+	
VA96-54-326	79	-	61.4	+	31	-	37	-	0	-	1	1	-	1	-	1	-	
VA96-52-66-B	79	-	61.3	+	31	-	34	-	3	+	1	3	+	2	-	1	-	
VA96-54-234	79	-	60.6	+	32	-	35	-	0	-	0	1	-	2	-	1	-	
AGRIPRO-FOSTER	79	-	60.5	+	35	+	39	+	1	-	2	1	-	2	-	2	+	
VA95-52-60	78	-	61.2	+	33	+	37	-	2	-	1	6	+	4	+	1	-	
MADISON	78	-	59.3	-	31	-	39	+	3	+	4	0	-	3	-	1	-	
HICKORY	78	-	60.3	+	31	-	39	+	3	+	2	2	-	3	-	1	-	
COKER 9134	78	-	60.5	+	34	+	39	+	3	+	1	4	+	4	+	1	-	
GA-GORE	78	-	60.1	-	29	-	36	-	1	-	1	2	-	4	+	1	-	
COKER 9835-B	77	-	59.4	-	35	+	33	-	2	-	0	3	+	3	-	1	-	
COKER 9835	77	-	59.4	-	36	+	34	-	3	+	0	2	-	3	-	2	+	
COKER 9803-B	77	-	61.6	+	29	-	36	-	2	-	0	0	-	2	-	1	-	
PIONEER 2691-B	77	-	59.9	-	27	-	35	-	0	-	1	2	-	3	-	1	-	
VA93-54-429	77	-	61.8	+	35	+	36	-	0	-	1	2	-	1	-	2	+	
FFR 523W-B	77	-	59.5	-	31	-	33	-	2	-	1	3	+	4	+	2	+	
COKER 9704-B	77	-	61.6	+	29	-	36	-	2	-	1	0	-	2	-	1	-	
WAKEFIELD-B	76	-	59.4	-	36	+	39	+	1	-	2	2	-	4	+	1	-	
FEATHERSTONE 520-B	76	-	61.6	+	32	-	38	+	2	-	3	2	-	4	+	2	+	
COKER 9803	76	-	61.4	+	29	-	36	-	3	+	0	0	-	3	-	1	-	
SAWYER	76	-	58.9	-	33	+	37	-	2	-	2	2	-	4	+	1	-	
FFR 555W-B	76	-	59.6	-	35	+	37	-	4	+	3	1	-	2	-	2	+	
CLEMENS	75	-	60.8	+	38	+	41	+	4	+	1	3	+	2	-	2	+	
FFR 523W	75	-	59.3	-	31	-	33	-	2	-	1	3	+	4	+	2	+	
FFR 502W-B	75	-	60.6	+	28	-	35	-	2	-	0	1	-	2	-	2	+	
HOFFMAN 95	74	-	59.6	-	35	+	38	+	3	+	2	2	-	5	+	2	+	
MASON	74	-	60.1	-	31	-	39	+	3	+	0	3	+	4	+	2	+	
PIONEER 2643-B	74	-	60.5	+	31	-	32	-	0	-	2	1	-	1	-	1	-	
PIONEER 2684-B	73	-	61.5	+	31	-	36	-	1	-	1	2	-	2	-	1	-	
DYNA-GR0 422	73	-	59.6	-	33	+	39	+	4	+	5	0	-	3	-	2	+	
FFR 568W	72	-	60.2	-	35	+	39	+	3	+	4	2	-	5	+	3	+	
FLEMING	72	-	60.7	+	28	-	37	-	1	-	0	3	+	3	-	1	-	
ELKHART	71	-	61.0	+	33	+	40	+	4	+	1	3	+	4	+	1	-	
VA93-52-60	71	-	60.9	+	31	-	36	-	0	-	4	5	+	5	+	1	-	
FFR 525W-B	69	-	60.7	+	32	-	39	+	6	+	2	4	+	3	-	2	+	
MASSEY	69	-	60.2	-	33	+	41	+	1	-	6	0	-	2	-	2	+	
HOFFMAN 57	68	-	59.7	-	32	-	39	+	1	-	4	0	-	3	-	1	-	
SALUDA	68	-	61.9	+	35	+	36	-	5	+	3	6	+	4	+	2	+	
RSI 92-100**	45	-	55.4	-	23	-	32	-	0	-	0	0	-	2	-	3	+	
LSD (0.05)	4		0.3		1		1		1		2	1		1		1		
Test Average	76		60.0		32		37		2		2	2		3		1		

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

☆ The 0-9 ratings indicate relative disease intensity where 0=none and 9=total plant infection.

□ Blotch was caused by *Stagonospora nodorum*.

** These are wheat/rye crosses or triticales, not wheat varieties.

Note: There was no lodging at any test location in 1997.

Table 7. Two year average yield performance of entries in the Virginia Tech Wheat Tests, 1996 and 1997.*

Brand/Variety	Blacksburg	Orange	Holland	Painter	Warsaw	Average
	bu/a					
TRICAL 498**	101 +	87 +	92 +	103 +	88 +	94 +
VA94-52-60	99 +	87 +	83	100 +	75	88 +
PIONEER 2552-B	---	---	---	93	---	---
COKER 9663-B	97 +	85 +	86	95	70	86 +
JACKSON-B	92	80	85	98 +	73	85 +
WAKEFIELD-B	88	86 +	88	93	74	85 +
VA95-52-60	92	83	85	96 +	67	84 +
PIONEER 2580-B	91	85 +	79	90	74	84 +
VA93-54-429	96 +	81	82	91	73	84 +
NC91-1085**	87	74 -	91 +	91	80 +	84 +
VA94-52-20	87	82	86	94	72	84 +
NCV931007	88	82	82	90	72	83
JACKSON	89	81	80	97 +	66	82
FFR 555W-B	88	78	85	92	66	82
VA92-51-12	92	79	81	92	69	82
VA94-52-25	87	76	80	91	75	82
COKER 9835-B	79	82	86	90	73	82
AGRIPRO-FOSTER	93	84	83	88	67	82
VA94-52-28	80	81	83	95	69	81
VA93-52-60	89	79	81	94	66	81
VA94-54-479	88	79	79	86	76 +	81
VA93-52-55	81	74 -	85	86	74	80
COKER 9835	79	80	80	90	73	80
MADISON	87	79	75	86	73	80
PIONEER 2684-B	86	81	75	86	74	80
FFR 523W-B	76 -	82	85	91	67	80
PIONEER 2691-B	86	79	74	87	74	80
GA-GORE	79	77	81	89	75	80
VA94-52-68	91	79	79	87	64 -	79
VA94-52-69	85	78	84	87	66	79
PIONEER 2643-B	86	72 -	75	89	75	79
VA94-54-549	86	76	80	90	63 -	79
HOFFMAN 14	87	85 +	81	82 -	64 -	79
HICKORY	75 -	80	76	93	68	79
MASON	90	74 -	82	85	65	79
COKER 9803	78 -	76	81	88	68	78 -
FEATHERSTONE 520-B	76 -	78	83	88	64 -	78 -
ELKHART	93	79	71 -	84	63 -	77 -
CLEMENS	80	80	75	83	69	77 -
SAWYER	80	83	79	79 -	66	77 -
VA95-51-21	78 -	69 -	77	92	68	77 -
HOFFMAN 95	79	78	77	86	66	77 -
VA93-54-258	90	74 -	77	84	64 -	77 -
FFR 568W	73 -	79	80	84	66	76 -
SALUDA	79	80	75	79 -	50 -	72 -
MASSEY	71 -	72 -	77	79 -	63 -	72 -
LSD (0.05)	8	5	8	7	6	3
Location Average	86	80	81	89	70	81
Statewide Average	81					

* Varieties are ordered by descending coastal plain region averages. A plus or minus sign indicates performance significantly above or below the test average, respectively.

** These are wheat/rye crosses or triticales, not wheat varieties.

Table 8. Three year average yield performance of entries in the Virginia Tech Wheat Tests, 1995, 1996, and 1997.*

Brand/Variety	Blacksburg	Holland	Painter	Warsaw	Orange	Average
	bu/a					
TRICAL 498**	91 +	85 +	100 +	89 +	81 +	89 +
VA94-52-60	89 +	79	100 +	79	79 +	85 +
PIONEER 2580-B	85 +	78	97 +	81	82 +	85 +
VA94-54-479	79	83	95	84	77 +	84 +
VA93-54-429	90 +	77	92	80 +	75	83 +
JACKSON	83 +	79	100 +	74	74	82 +
VA92-51-12	83 +	78	96	76	75	82 +
NC91-1085**	80	90 +	93	83 +	65 -	82 +
WAKEFIELD-B	76	85 +	94	78	73	81
VA94-52-28	72 -	81	99 +	72	76	80
VA94-52-25	81	78	95	83	65 -	80

Table 8. Three year average yield performance of entries in the Virginia Tech Wheat Tests, 1995, 1996, and 1997, continued.*

Brand/Variety	Blacksburg	Holland	Painter	Warsaw	Orange	Average
	bu/a					
PIONEER 2684-B	80	74	92	79	74	80
VA94-52-69	79	82	90	75	72	79
VA94-52-68	82 +	81	89	72	73	79
FFR 555W-B	80	79	91	70 -	74	79
VA94-52-20	74	77	95	77	73	79
PIONEER 2691-B	77	72 -	93	81 +	72	79
COKER 9835	67	78	95	76	76	79
VA94-54-549	78	80	93	71	69	78
PIONEER 2643-B	79	75	90	79	70	78
VA93-52-60	76	77	99	70 -	66 -	78
VA93-52-55	72 -	81	89	80 +	68	78
GA-GORE	71 -	80	90	78	71	78
HICKORY	69 -	75	94	71	75	77
FFR 523W-B	68 -	82	91	70 -	73	77
FEATHERSTONE 520-B	71 -	78	89	70 -	74	77
COKER 9803	74	76	89	70 -	73	77
MADISON	77	72 -	91	79	61 -	76 -
VA93-54-258	81	74	87 -	68 -	65 -	75 -
SAWYER	71 -	75	83 -	68 -	76	75 -
ELKHART	81	71 -	87 -	67 -	69	75 -
CLEMENS	72 -	71 -	83 -	71	73	74 -
FFR 568W	63 -	72 -	86 -	72	69	73 -
MASSEY	64 -	75	81 -	69 -	69	72 -
SALUDA	70 -	70 -	82 -	59 -	74	71 -
LSD (0.05)	5	6	5	5	5	3
Location Average	77	78	92	75	72	79
Statewide Average	79					

* Varieties are ordered by descending statewide averages. A plus or minus sign indicates performance significantly above or below the test average, respectively.

** These are wheat/rye crosses or triticales, not wheat varieties.

MILLING AND BAKING QUALITY

The milling and baking quality data presented here and in Table 9 represent data from four Virginia locations for a single year and, therefore, should not be used as a definitive measure of a given cultivar's milling and baking quality. Because quality of a given cultivar can vary from location to location and between years, data over years and locations is needed to accurately define quality of a given cultivar.

Wheat samples from entries grown in the 1995-96 Virginia State Test at four locations (Blacksburg, Holland, Painter and Warsaw, VA) were evaluated for milling and baking quality at the USDA-ARS Soft Wheat Quality Laboratory in Wooster, Ohio. Quality was assessed for each entry by location using 50 gram samples that were milled with a Quadrumat mill. Quality data averaged over the four locations (Over Location Analyses) are presented in Table 9. In addition, quality data were obtained from analyses of 500 gram composite samples (Composite Analyses), which consisted of 125 grams from each of the four locations.

Milling and baking quality of the entries were compared with the optimal benchmark cultivar Caldwell and with the local check cultivar Massey, which was selected as the standard. In the Over Location Analyses, Massey had slightly-low adjusted-flour yields, but was always higher than the mean at each location. Therefore, Massey was a slightly-lenient standard for milling quality. Massey had slightly-high alkaline water retention capacity and slightly-low softness equivalent, which made it slightly-lenient as a standard for baking quality. Although the standard was somewhat lenient, it is representative of the growing conditions and the effect that crop year has on milling and baking quality. Test weights were low for most of the state trials in 1996 and averaged 56.5 lb/bu over all entries and locations.

Differences in milling quality among entries were consistent across locations and, therefore, were primarily due to variety effect rather than environment. Baking quality was affected by both variety and environment. Baking quality scores were higher for entries from Blacksburg and Holland than from Warsaw and Painter. Thirteen entries had flour yields and milling quality scores that were higher or equal to that of Massey (Over Location Analyses). AgriPro Foster, Pocahontas (VA93-52-60), and FFR 555W had the highest flour yields. Twelve entries had baking quality scores that were higher or equal to that of Massey. Pioneer 2691, Coker 9904, Hoffman 14, and Hickory had the highest baking quality scores.

In the Composite Analyses (Table 9), Massey again was lenient as a milling quality standard with an adjusted flour yield of 71.4% compared to the reference value of 73.6% and the benchmark value of 75.1%. As a baking quality standard, Massey also was lenient with a small cookie diameter of 17.24 cm compared to 17.95 cm for the benchmark. Massey also had a slightly high alkaline water retention capacity. Because the Massey standard was lenient for milling and baking quality, only entries with scores of "A" are considered acceptable based on this year's data. Eight entries had milling quality scores of "A", which were higher or equal to that of Massey. AgriPro Foster, Pocahontas (VA93-52-60), Featherstone 520, and FFR 555W had the highest milling scores and flour yields. Thirteen entries had baking quality scores higher or equal to that of Massey, and 17 entries had higher or similar cookie diameters as Massey. Featherstone 520, FFR 502W, Pioneer 2684, and AgriPro Foster, Hickory, and Sawyer had the highest baking quality scores.

Table 9. Milling and baking quality of entries in the Virginia Tech Wheat Test based on evaluations of the 1996 crop.

ENTRY	Over-Locations Analysis				Composite Analysis			
	Milling Quality	Baking Quality	Flour Yield	Micro Test Weight	Milling Quality	Baking Quality	Flour Yield	Cookie Diameter

	score	score	%	lb/bu	score	score	%	cm	
CALDWELL=BENCHMARK	104.0	110.0	74.07	61.0	108.6	A	110.0	A 75.1	17.95
MASSEY=STANDARD	100.0	100.0	72.86	60.7	100.0	A	100.0	A 71.4	17.24
SALUDA	95.8	99.6	71.59	61.7	96.9	B	80.8	E 70.0	16.66
MOREY	92.2	91.3	70.50	59.7	83.8	E	73.1	F 68.1	16.41
MADISON	100.5	100.3	73.01	60.4	97.6	B	90.1	C 71.0	16.73
WAKEFIELD	98.1	97.6	72.28	60.9	91.6	C	102.3	A 69.4	17.36
VA 92-51-12	95.3	100.2	71.46	61.2	93.3	C	92.1	C 69.0	17.20
VA 94-51-20	99.9	99.6	72.83	59.6	97.3	B	95.0	B 70.8	17.19
VA 93-52-24	99.0	102.3	72.56	62.1	98.3	B	108.2	A 70.7	17.63
VA 93-52-55	91.4	97.8	70.27	60.2	87.9	D	82.1	E 68.2	16.72
VA 93-52-60	104.2	93.4	74.13	60.9	104.6	A	87.1	D 72.7	16.86
VA 94-52-28	97.8	93.7	72.19	59.8	93.2	C	90.8	C 69.8	17.24
VA 93-54-185	100.1	95.3	72.89	60.8	98.2	B	91.2	C 71.0	16.93
VA 93-54-258	95.2	93.4	71.43	60.8	91.7	C	89.0	D 69.6	16.85
VA 93-54-429	91.9	94.3	70.44	62.6	87.8	D	83.3	E 67.9	16.89
VA 94-52-20	99.4	95.5	72.68	58.9	93.8	C	94.3	C 70.0	17.00
VA 94-52-25	98.4	98.8	72.39	60.3	96.5	B	109.8	A 70.2	17.79
VA 94-52-60	95.8	94.3	71.61	59.2	92.5	C	87.6	D 69.5	17.13
VA 94-52-68	93.6	91.8	70.93	60.7	90.2	C	82.1	E 68.8	16.77
VA 94-52-69	94.0	93.5	71.07	60.6	91.2	C	81.0	E 68.9	16.61
VA 94-54-479	92.0	90.4	70.45	59.9	87.4	D	72.9	F 68.2	16.68
VA 94-54-549	93.6	95.6	70.93	50.0	91.5	C	83.4	E 68.6	16.76
VA 95-51-21	100.2	97.3	72.93	61.1	97.9	B	93.6	C 70.8	17.18
VA 95-52-60	100.4	98.7	72.99	61.5	100.1	A	85.4	D 70.8	16.81
VA 95-52-80	97.6	99.4	72.14	61.7	99.5	B	92.4	C 70.5	17.13
NCV 931007	100.8	97.5	73.09	59.8	98.7	B	108.0	A 71.1	17.52
FOSTER	105.0	101.0	74.37	60.7	104.2	A	107.7	A 72.5	17.51
GORE	96.0	94.5	71.65	60.2	92.1	C	90.5	C 69.4	16.95
MASON	98.0	101.9	72.25	61.5	100.8	A	96.3	B 70.6	17.05
HOFFMAN 14	92.8	103.5	70.68	-----	-----	-----	-----	-----	-----
FEATHERSTONE 520	101.4	99.1	73.29	62.9	104.0	A	107.2	A 71.5	17.77
HOFFMAN 95	100.5	96.2	73.03	62.9	97.7	B	101.2	A 71.0	17.62
STUCKEY	90.4	91.9	69.98	60.7	86.7	D	82.4	E 68.2	16.68
FFR 523W-B	101.0	96.4	73.17	61.1	100.6	A	103.4	A 71.2	17.53
FFR 568W	95.3	95.8	71.45	61.0	89.8	D	98.8	B 69.0	17.23
DOZIER	98.6	95.3	72.45	60.7	95.4	B	85.0	D 70.3	16.66
FFR 555W-B	103.5	98.7	73.93	59.8	102.8	A	100.3	A 72.3	17.23
PATRIOT	95.8	101.0	71.61	61.2	97.3	B	102.4	A 70.0	17.25
COKER 9835-B	98.7	101.4	72.46	60.3	98.9	B	91.2	C 70.3	17.16
COKER 9803	99.3	96.4	72.64	62.1	97.1	B	103.7	A 70.4	17.48
COKER 9663	96.9	84.8	71.92	62.5	91.2	C	81.0	E 70.0	16.98
COKER 9904	96.0	104.6	71.65	60.8	97.7	B	95.8	B 70.0	17.09
FFR 502W	96.3	98.3	71.73	62.1	97.8	B	105.3	A 70.2	17.45
PION 2580-B	93.0	90.0	70.75	60.2	86.2	D	82.7	E 68.6	16.89
PION 2684-B	99.6	98.6	72.76	61.8	95.1	B	105.6	A 70.3	17.56
PION 2643-B	97.6	96.4	72.13	61.7	94.7	C	98.8	B 69.9	17.29
JACKSON	96.5	98.7	71.81	62.0	95.6	B	84.0	E 69.8	16.62
PION 2691-B	93.1	105.2	70.78	60.6	96.9	B	98.5	B 69.7	17.27
HOFFMAN 89-B	101.7	83.4	73.39	62.9	95.4	B	58.5	F 71.7	16.44
HICKORY	99.7	102.6	72.78	60.5	101.0	A	105.4	A 70.8	17.51
SAWYER	98.6	101.0	72.44	59.5	92.9	C	105.6	A 69.8	17.39
CLEMENS	99.3	99.2	72.66	61.3	97.8	B	97.5	B 70.2	17.11
ELKHART	100.0	93.4	72.87	61.8	96.8	B	86.7	D 70.8	16.81

Table 10. Summary of performance of entries in the Hessian Fly Wheat Test planted no till in New Kent County in 1996 and harvested in 1997.*

Brand/Variety	Yield (Bu/A)	Test Weight (Lb)	Moisture (%)
JACKSON-B-GAUCHO	77 +	60.8 +	12.2
CK9803-B-GAUCHO	74 +	61.7 +	12.4 +
VA93-54-429	71	62.1 +	12.4 +
CK9134-B	69	59.9	12.5 +
FL92944RCX-9-8-2	67	58.2 -	12.1
CK9803-B	66	61.1 +	12.4 +
JACKSON-B	65	60.5 +	12.3
PIONEER-2684-B	65	60.8 +	12.1
MADISON	65	59.5	12.0 -
CK9663-B	64	60.3	12.5 +
PIONEER_2691-B	63	59.0 -	11.9 -
PIONEER_2643-B	62	59.6	12.2
CK9835-B	62	58.8 -	12.4 +
IN86958RC4-2-1-10	58	59.4	11.8 -
MOLLY	55	59.3	12.1
VA93-52-60	54	60.2	12.3
IN86982E2-4-6-1-21	50 -	58.1 -	11.8 -
GA901136-1-1-15-6	50 -	58.2 -	12.0 -
IN86104RB-14-X-15	41 -	58.2 -	11.9 -
FL931339AS-1-2	40 -	60.1	11.9 -
GA881130-1-7-1**			
LSD (0.05)	11	0.7	0.2
Test Average	61	59.8	12.2

* These varieties/lines were selected to evaluate Hessian Fly resistance but there was very little Hessian Fly pressure. The plots were planted into a field where no till wheat-double crop soybeans had been grown for two previous years. The plots were planted 11 days before the average first frost date of October 25th. Yield performance varied by variety but in general the varieties that yielded best in the state test yielded well no till. The insecticide seed treatment Gaucho® statistically increased the yield of Jackson compared to no Gaucho® seed treatment. This test was conducted in cooperation with Mr. Paul Davis, Extension Agent, New Kent County and Mr. Glenn Chappell, area IPM Extension Agent.

** This wheat line was extremely attractive to deer to the extent that they chose this variety in each replication and consumed it totally.

