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Research Report No. 92
July, 1983

Measured Crop Performance

SMALL GRAIN

1983

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AT RALEIGH

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PERFORMANCE OF SMALL GRAIN VARIETIES IN NORTH CAROLINA^{1/}

INTRODUCTION

Across the State of North Carolina during the spring of 1982, growers harvested 63,000 acres of barley, 85,000 acres of oats, and 600,000 acres of wheat. Average yields across the state were 52, 57, and 36 bushels per acre for barley, oats, and wheat, respectively.

With the large number of commercially available and prospective varieties of barley, oats, and wheat, it becomes difficult for growers to select a superior variety suited for their particular area of the state. To make this decision the grower needs up-to-date, unbiased, reliable information. The Official Variety Testing Program, through this report, seeks to provide that type of information.

Information on varietal performance is presented from five test locations in the state--two in the Piedmont, and three in the Coastal Plain. Also included are multiple-year performance data on a selected number of varieties.

COMPARING VARIETIES

Performance of a variety cannot be determined with absolute precision. Even though the tests are conducted in a uniform manner, as much as possible, uncontrollable variability exists among experimental plots due to soil, fertility, moisture, insects, diseases, and other sources of variation. Because this variability exists, statistics are used as a tool

^{1/}Research technicians, Ray Adams, Saunders Bennett, and G. C. Oliver, assisted in conducting these tests. Carey Parsons prepared the text and tables for this bulletin.

to determine differences among varieties. The size of difference among varieties which may have been due to chance variation is listed in each table as the B.L.S.D. (least significant difference). Those varieties which do not differ by more than the B.L.S.D. are not statistically different.

Varietal performance may appear inconsistent among locations within an area or among years at a particular location, thus it is important for the reader to examine results from more than one location within an area or more than one year at a particular location to obtain a more accurate picture of relative varietal performance. An effort has been made to facilitate comparisons among locations and years in this report.

The varieties which do not yield significantly less than the highest yielding variety are denoted by an asterisk (*) next to their yields. The relative performance of a variety across locations within an area can be easily evaluated by going across the table; those varieties which are most frequently marked by an asterisk would be highly desirable. Other agronomic characteristics may be as equally important as yield. All available data regarding pathologic and agronomic characteristics of the varieties are found in Table 1, 2, and 3 for barley, oats, and wheat, respectively.^{2/}

It is suggested that the grower plant a small number of acres in a new variety when first determining if it is adapted to his farm.

^{2/}Special acknowledgment is due Drs. T. T. Hebert, C. F. Murphy, and Ron Jarrett for their assistance in describing the characteristics of the varieties.

Table 1. Characteristics of barley varieties*

Variety	Mildew resist- ance	Rust resist- ance	Scald resist- ance	Lodging resist- ance	Winter hardi- ness	Maturity	Test Weight lb/bu	Length of awns
Anson	Fair	Good	Fair	Good	Good	Medium	Medium	Awnless
Boone	Fair	Good	Fair	Good	Good	Medium	High	Short
Clayton	Good	Excellent	Fair	Good	Good	Medium	Medium	Awnless
Keowee	Good	Poor	Fair	Good	Good	Medium	High	Short
Milton	Fair	Good	Poor	Excellent	Good	Early	Medium	Short
Redhill	Good	Good	Fair	Good	Good	Early	Medium	Awnless
Sussex	Excellent	Poor	Excellent	Good	Fair	Early	Low	Short

Table 2. Characteristics of oat varieties*

Variety	Rust resist- ance	Smut resist- ance	Mosaic resist- ance	Maturity	Winter hardi- ness	Lodging resist- ance	Test Weight lb/bu
Brooks	Fair	Good	Good	Early	Good	Good	Med. High
Coker 716	Fair	Good	Good	Medium	Good	Good	Med. High
Madison	Fair	Good	Good	Med. Early	Fair	Excellent	Medium
Coker 80-20	Good	Good	Good	Very Early	Fair	Excellent	Med. High

*These characteristics based upon all available observations.

Table 3. Characteristics of wheat varieties*

Variety	Leaf rust resist- ance	Mildew resist- ance	Mosaic resist- ance	Maturity	Winter Hardi- ness	Lodging resist- ance	Height of Straw	Test Weight lb/bu	Soft Wheat Milling Quality
Coker 747	Good	Fair	Good	Medium	Good	Good	Semi-Dwarf	High	Fair
Coker 762	Good	Excellent	Good	Medium	Fair	Fair	Semi-Dwarf	Medium	Fair
Coker 797	Good	Excellent	Fair	Early	Fair	Excellent	Semi-Dwarf	High	Fair
Coker 916	Good	Excellent	Good	Med. Early	Good	Excellent	Semi-Dwarf	High	Good
Hunter	Good	Excellent	Good	Early	Fair	Excellent	Semi-Dwarf	High	Good
Massey	Poor	Excellent	Good	Medium	Good	Good	Medium	Medium	Good
McNair 1003	Poor	Good	Good	Medium	Good	Excellent	Medium	Medium	Good
Pioneer brand 2550	Good	Good	Excellent	Medium	Good	Good	Medium	High	Fair
Roy	Good	Poor	Good	Medium	Good	Excellent	Semi-Dwarf	Medium	Good
Southern Belle	Good	Fair	Good	Early	Fair	Excellent	Semi-Dwarf	High	Good
Tyler	Poor	Excellent	Good	Late	Good	Good	Medium	High	Good
Wheeler	Poor	Fair	Good	Medium	Good	Good	Medium	High	Excellent

*These characteristics based upon all available observations.

EXPERIMENTAL PROCEDURE

The state is divided into physiographic regions and tests were located in the Piedmont and Coastal Plain (Figure 1). Two tests were located on private farms^{3/} and three were on research stations.

Entries: Commercial varieties and experimental lines developed by public and private agencies are included in these tests. Any individual or firm may make application for having entries included by writing the Department of Crop Science, North Carolina State University at Raleigh. A fee is charged on an entry basis for all private entries. Entries about which further information was desired may have been included on a no-fee basis. A total of 10, 7, and 23 commercial varieties and experimental lines of barley, oats, and wheat, respectively, were evaluated in the 1982-83 season.

Field Plot Design: A randomized, complete block design with four or six replications was used at each location.^{4/} Each plot consisted of seven rows, seven inches apart, sixteen feet long with two feet between each plot.

Crop Management: Cultural practices, such as seed bed preparation, date of planting, fertilization and topdressing were in accord with good farming practices and were uniform for all entries at a given location (Table 4). Several months prior to planting each test, soil samples were obtained from the test field and fertilizer and lime applications were made accordingly (Table 5).

^{3/} The cooperative spirit and civic-minded service rendered by the farmers who provided the land and the necessary cultural practices for these trials and the cooperation of the county agents are gratefully acknowledged.

^{4/} Statistical analyses were made in the statistical laboratory under the supervision of Dr. J. O. Rawlings and Mrs. Sandra Donaghy. This assistance is gratefully acknowledged.

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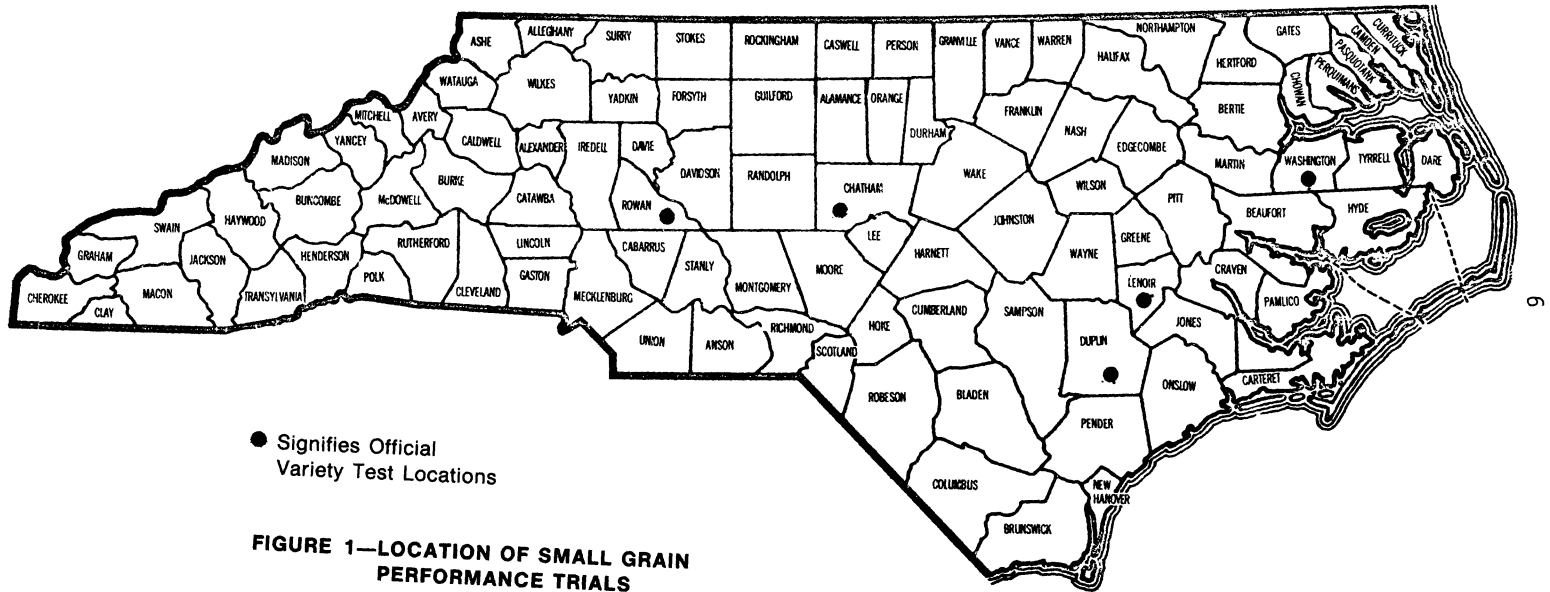


Table 4. Cultural practices for small grain tests, 1982-83.

Cooperator	Fertilizer lbs/A & Grade	Topdress lbs/A	Soil Type	Date of Planting	Date of Harvest
<u>Piedmont Area</u>					
Chatham County	300 lbs. 10-20-20	150 lbs. 33.5% N		October 18	6-27
Rowan County	700 lbs. 10-20-20		Cecil Sandy Loam	October 20	6-28
<u>Coastal Plain Area</u>					
Lenoir County	300 lbs. 10-10-20	230 lbs. 33.5% N	Norfolk Loamy Sand	November 2	6-14
Duplin County	500 lbs. 5-10-30 100 lbs. 30% Nit. Solution 186 lbs. K_2O 57 lbs. P_2O_5	190 lbs. 33.5% N	Marlboro Fine Sandy Loam	October 19	6-13
Washington County	200 lbs. 10-20-20	200 lbs. 33.5% N	Portsmouth Sandy Loam	November 23	6-15

Table 5. Soil test results from test sites, 1982-83.

	OM %	W-V	CEC	BS %	Ac	pH	P-I	K-I	Ca %	Mg %	Mn-I	Zn-I	Cu-I
<u>PIEDMONT AREA</u>													
Chatham	0.2	.96	5.7	65	2.0	5.2	076	112	42.4	12.4	166	043	025
Rowan	0.1		5.3	77	1.2	5.5	41	108	45.3	21.9	166	52	73
<u>COASTAL PLAIN AREA</u>													
Duplin	0.6	1.23	7.1	83	1.2	6.1	166	84	68.0	9.1	129	195	124
Lenoir	1.0	1.30	4.9	83	1.1	5.8	128	108	52.1	20.4	37	46	23
Washington						5.8	106	56					

Agencies Sponsoring Entries

Coker's Pedigreed Seed Company
 Illionis Agricultural Experiment Station
 Maryland Agricultural Experiment Station
 Missouri Agricultural Experiment Station
 Northrup King Company
 North American Plant Breeders
 North Carolina Agric. Experiment Station
 Pioneer Hi-Bred International, Inc.
 Rohm and Haas Company
 South Carolina Agric. Experiment Station
 Virginia Agricultural Experiment Station

Entries

Coker
 Scotty
 Potomac, Severn, MD
 Pike
 McNair 1003
 Hunter, Southern Belle
 Anson, Boone, Clayton, Milton
 Brooks, Madison, Roy, NC
 Pioneer brand 2550
 HW
 Keowee, Redhill
 Sussex, Massey, Tyler, VA
 Wheeler

CooperatorsPiedmont

Chatham County: Edd Johnson, Route 3, Pittsboro, North Carolina
 County Extension Chairman, Carl Outz.

Rowan County: Billy Ayscue, Superintendent, Piedmont Research
 Station, Salisbury, North Carolina
 Agricultural Extension Agent, Steven Gatton.

Coastal Plain

Lenoir County: Sandy Barnes, Superintendent, Lower Coastal Plain
 Tobacco Research Station, Kinston, North Carolina
 Agricultural Extension Agent, Johnnie Jones.

Duplin County: Jack Williams, Route 2, Faison, North Carolina
 Agricultural Extension Agent, J. Michael Moore.

Washington County: John Smith, Superintendent, Tidewater Research
 Station, Plymouth, North Carolina
 Agricultural Extension Agent, Cole Knotts.

SEASONAL CONDITIONS

The 1982-83 small grain growing season was characterized by above normal rainfall and above normal temperatures in the winter and below normal temperatures during the spring. Rainfall at three locations is shown below:

Monthly Rainfall Totals (Inches)

<u>Location</u>	<u>October</u>	<u>No- vember</u>	<u>De- cember</u>	<u>Jan- uary</u>	<u>Feb- ruary</u>	<u>March</u>	<u>April</u>	<u>May</u>
Lenoir County	3.30	3.56	3.50	3.93	6.05	7.26	4.40	2.22
Rowan County	4.41	2.54	4.75	2.31	2.74	4.61	6.32	3.16
Washington County	2.90	4.66	4.36	3.27	7.63	9.31	4.81	2.98

The above normal rainfall during the fall of 1982 delayed planting of small grains at several locations and prevented planting of small grains at certain locations altogether. Late spring freezes severely damaged the early maturing barley varieties and the early maturing wheat varieties. Cool, wet weather in the spring set the stage for powdery mildew which was evident at all locations. Scald, barley yellow dwarf virus, and leaf rust appeared later in the season at numerous locations, particularly in the Coastal Plain. Leaf rust and powdery mildew ratings were taken in the Coastal Plain. Cereal leaf beetle was evident at the Rowan location although extent of damage was not assessed.

Heavy rains in February and March delayed topdressing and caused nitrogen leaching at some locations. Untimely rains in June delayed harvest of small grains in the Piedmont.

RESULTS AND DISCUSSION

Barley

Barley performance is summarized across the state in Table 6. Two experimentals, NC 79-65 and NC 80-1, were the top yielders. Test weights appeared somewhat low which may have been a consequence of the cool, wet spring experienced across the state. Redhill and Sussex suffered from the late spring freezes as evidenced by their yields; insufficient grain in the heads prevented observations of reliable maturity data.

Clayton and NC 79-65 were the high yielders in the Piedmont; both averaging 78 bushels per acre (Table 7). Test weights were fair for most entries and poor for those that suffered from the cool spring weather. Yields in the Coastal Plain were good at Duplin County, fair at Lenoir County, and poor at Washington County (Table 8). Heavy rains leached nitrogen from the test at Washington County. Boone and Anson appear to be the multi-year yield leaders in the Coastal Plain while a highly significant location x variety interaction prevented any one variety from significantly outyielding all others across locations in 1983.

Oats

Oat yields were below average across the state (Table 9), although test weight were excellent. The Chatham County oats appeared to mature later than is normally experienced; climatic conditions may have been responsible, preventing normal drying of the heads. The short Madison variety was 10 days to two weeks earlier than the remaining varieties.

The majority of plots in Chatham County experienced freeze damage causing erratic stands, consequently that test was not harvested for yield. The 1983 Piedmont data consists of Rowan County where Coker 716 was the highest yielder (Table 10). This particular variety is also the multi-year

leader in yield for the past five years consecutively. In the Coastal Plain, Madison significantly outyielded all other varieties when averaged across locations and was the highest yielder at each location (Table 11). This particular variety is also the two and three year yield leader in the Coastal Plain.

Wheat

Wheat yields averaged across the state ranged from 52 bushels per acre for the experimental Va. 79-54-254 to a low of 25 bushels per acre for Severn which was severely damaged by the late spring freezes (Table 12). Test weights were fair to good and lodging was minimal. Potomac appeared to mature one to two weeks later than all other entries. No entry was immune or highly resistant to the race(s) of leaf rust which appeared in the Coastal Plain tests, although many were moderately resistant.

Tyler appeared to perform better in the Piedmont than in the Coastal Plain (Tables 13 and 14). It was significantly the highest yielder in the Piedmont in 1983 and is the highest multi-year yielder for this region. The experimental Va. 79-54-254 was the or one of the top yielders in the Coastal Plain tests (Table 14). Yields were poor at the Washington County location and good at the other test sites. Test weights were fair to excellent. Pioneer brand 2550, along with Va. 79-54-254, were the two top yielders across the Coastal Plain in 1983.

Wheat and Flour Analyses

Coded samples of wheat were submitted for wheat and flour analyses to Statesville Flour Mills in Statesville. Such analyses are helpful in determining whether released varieties or potential varieties are suitable for the mills in terms of quality. Test weight of 60 pounds per bushel or greater are desired. Moisture should not be over 15% because of keeping qualities. In general, a protein content of 8-11% is desirable for soft red winter wheat. One thousand kernel weight is a general indicator of milling quality. Extraction is a measure of flour yield and calculated as grams of flour/grams of wheat. Ash is a measure of the mineral content of the flour and the lower values are desired. Table 15 lists the results of these tests. Special acknowledgment is due Statesville Flour Mills and Terry Selleck, in charge of Statesville Flour Mill Laboratory, for their assistance in making available these data.

Table 6. Summary of barley performance across the state.

Variety or Line	Yield bu/A	Test Wt. lbs/bu	Lodging %	Plant Ht. in.	Date ^{1/} Mature
Anson	59	40.5	6	43	June 7
Boone	59	42.3	6	40	June 7
Clayton	58	41.0	4	42	June 6

Keowee	54	39.9	0	40	June 7
Milton	46	37.8	14	36	June 6
Redhill	24	39.4	10	32	NA

Sussex	35	40.5	5	32	NA
+NC 79-28	53	42.4	1	40	June 6
+NC 79-65	62	39.2	1	43	June 6
+NC 80-1	60	42.9	6	41	June 7

^{1/}Data taken from Chatham County test.

+Experimental.

NA - Data not available.

Table 7. Summary of barley performance trials in the Piedmont.

Variety or Line	Chatham County bu/A	Rowan County bu/A	1983 Average		Two Year Average		Three Year Average		Four Year Average		Five Year Average	
			Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu
Anson	73	74*	73*	42.6	67	40.1	75	41.3	75	41.8	73	42.3
Boone	88**	68*	75*	45.2	72	43.9	79	44.8	79	45.1	79	45.0
Clayton	78*	79**	78**	43.9	70	42.0	73	42.5	72	42.8	69	42.7
Keowee	82*	65	71*	45.5	67	44.0	73	45.0	73	45.4	73	45.5
Milton	53	66*	61	43.1	59	41.1	72	43.1	74	44.1	76	44.7
Redhill	17	22	20	38.3	45	37.4						
Sussex	36	42	40	41.1	45	39.7						
*NC 79-28	75	56	62	46.7								
NC 79-65	79	78*	78**	44.0								
NC 80-1	77	72	73*	46.1								
<u>Mean of Test</u>	<u>66</u>	<u>62</u>	<u>63</u>									
B.L.S.D. K-50	11	14	10									
C.V. (%)	12	24	21									

**Highest yielder in test.

*Not significantly different from highest yielder.

+Experimentals.

Table 8. Summary of barley performance trials in the Coastal Plain.

Variety or Line	Duplin County bu/A	Lenoir County bu/A	Washington County bu/A	1983 Average		Two Year Average		Three Year Average		Four Year Average		Five Year Average	
				Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu
Anson	92*	48*	23**	50*	39.1	71	41.5	81	42.3	78	43.3	73	42.6
Boone	97*	51*	20*	51*	40.4	71	43.3	78	44.4	75	45.1	74	44.6
Clayton	74	52*	19*	45*	39.1	65	41.3	73	43.5	71	44.1	69	43.3
Keowee	74	49*	18*	44*	36.2	61	40.8	71	43.0	70	44.2	70	44.7
Milton	53	44*	21*	37*	34.2	54	38.4	70	41.6	70	43.2	68	43.2
Redhill	23	34	20*	26*	40.1	54	41.8						
Sussex	36	46*	18*	33*	40.1	51	41.0						
NC 79-28	87	46*	22*	48*	39.6								
*NC 79-65	100**	55*	17*	52*	36.1								
NC 80-1	96	57**	20*	53**	40.8								
<u>Mean of Test</u>	<u>73</u>	<u>48</u>	<u>20</u>	<u>44</u>									
B.L.S.D. K-50	16	14	NS	NS									
C.V. (%)	19	21	19	21									

**Highest yielder in test.

*Not significantly different from highest yielder.

+Experimentals.

Table 9. Summary of oat performance trials across the state.

Variety or Line	Yield bu/A	Test Wt. lbs/bu	Lodging %	Plant Ht. in.	Date ^{1/} Mature
Brooks	67	32.0	7	39	June 19
Coker 716	92	34.7	0	42	June 17
Madison	94	33.6	0	34	June 5
Coker 80-20 ^{2/}	79	37.2	3	45	

+NC 77-3	84	33.7	1	42	June 14
+NC 79-5	84	35.4	0	47	June 20
+NC 79-43	73	33.9	16	40	June 18

^{1/}Data taken from Chatham County test.

^{2/}Entered only in Coastal Plain tests.

+Experimentals.

Table 10. Summary of oat performance trials in the Piedmont.

Variety or Line	1983 Average		Two Year Average		Three Year Average		Four Year Average		Five Year Average	
	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/ba	Yield bu/A	Test Wt. lbs/bu
Brooks	84	31.8	91	31.0	107	32.8	103	33.1	105	33.2
Coker 716	102**	35.0	112	31.8	120	35.1	111	35.2	114	35.2
Madison	83	31.8	80	29.3	95	31.7				

+NC 77-3	96*	34.9	108	31.6	114	33.6				
+NC 79-5	83	36.4								
+NC 79-43	92*	35.8								

<u>Mean of Test</u>	90									
B.L.S.D. K-50	16									
C.V. (%)	15									

**Highest yielder in test.

*Not significantly different from highest yielder.

+Experimentals.

Table 11. Summary of oat performance trials in the Coastal Plain.

Variety or Line	Duplin County bu/A	Lenoir County bu/A	Washington County bu/A	1983 Average		Two Year Average		Three Year Average		Four Year Average		Five Year Average	
				Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu
Brooks	76	60	51*	61	32.0	85	32.6	103	34.0	100	34.3	99	33.8
Coker 716	109	108*	53*	88	34.6	107	33.5	122	35.3	114	35.6	109	35.0
Madison	146**	112**	54**	99**	34.2	111	32.6	126	34.1				

Coker 80-20	82	109*	45*	79	37.2	87	34.6	99	36.1				
+NC 77-3	97	96	51*	80	33.3	96	32.7	112	34.1				
+NC 79-5	119	97	47*	84	35.0								
+NC 79-43	98	65	47*	67	33.3								

<u>Mean of Test</u>	<u>100</u>	<u>87</u>	<u>49</u>	<u>76</u>									
B.L.S.D. K-50	16	9	NS	5									
C.V. (%)	13	11	12	13									

**Highest yielder in test

*Not significantly different from highest yielder.

+Experimentals.

Table 12. Summary of wheat performance trials across the state.

Variety or Line	Yield bu/A	Test Wt. lbs/bu	Lodging %	Plant Height in.	Date ^{1/} Mature	Powdery ^{4/} Mildew Rating	Leaf ^{4/} Rust Rating
Coker 747 ^{3/}	56	60.1	0	34	June 13		
Coker 762 ^{2/}	43	55.0	0	33	June 13	HR	MR
Coker 797 ^{2/}	21	56.3	0	35		HR	MR
Coker 916 ^{2/}	43	58.3	0	37	June 15	HR	MR
Hunter ^{2/}	38	60.5	0	36		HR	MR
HW 3006	35	57.9	0	40	June 13	VS	MR

HW 3007	47	57.3	0	43	June 14	I	VS
Massey	39	58.0	0	42	June 15	HR	VS
McNair 1003	39	55.9	0	39	June 10	R	VS
Pike	37	56.2	0	39	June 10	VS	VS
Pioneer brand 2550	51	57.9	1	40	June 18	R	S
Potomac	42	55.4	1	47	June 24	R	MR

Roy	40	56.0	0	39	June 14	VS	MR
Scotty	47	58.0	0	39	June 15	R	MR
Severn	25	53.4	2	40	June 12	S	VS
Southern Belle ^{2/}	31	55.9	0	36		S	MR
Tyler	50	53.9	0	46	June 18	HR	VS
Wheeler	45	58.8	0	42	June 12	I	S

+Md. 183-08	42	56.7	0	44	June 13	R	S
+NC 77-12	35	53.1	0	38	June 12	S	VS
+NC 80-36	45	54.1	0	40	June 14	HR	MR
+NC 80-121	36	55.8	1	40	June 18	HR	VS
+NAPB 316A-78	39	56.4	0	38		HR	MR
+Va. 79-54-254	52	59.8	0	37	June 17	R	MR

^{1/}Data taken from Chatham County test.^{2/}Coastal Plain tests only.^{3/}Piedmont tests only.

+Experimentals.

^{4/}HR - Highly Resistant.

R - Resistant.

MR - Moderately Resistant.

I - Intermediate.

S - Susceptible.

VS - Very Susceptible.

Table 13. Summary of wheat performance trials in the Piedmont.

Variety or Line	Chatham County bu/A	Rowan County bu/A	1983 Average		Two Year Average		Three Year Average		Four Year Average		Five Year Average	
			Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu
Coker 747	54	57	56	60.1	48	55.0	54	56.7	52	57.8	54	57.7
Coker 762	36	60*	52	55.0	42	52.5	51	55.0	50	56.5	51	56.7
Coker 916	37	43	41	57.7	44	53.3	53	55.5				
HW 3006	40	47	45	57.4	37	52.1						
HW 3007	63	61*	62	57.0								
Massey	31	43	39	59.0	44	53.6						
McNair 1003	44	44	44	56.1	48	52.0	58	54.3	55	55.3	57	55.5
Pike	47	53	51	57.5								
Pioneer brand 2550	62	62*	62	57.9	54	54.7						
Potomac	47	53	51	53.5								
Roy	59	56	57	57.1	47	50.8	55	53.5	54	54.6	54	54.8
Scotty	60	58	58	57.7								
Severn	27	35	32	49.4								
Tyler	74**	64**	67**	51.5	57	51.0	64	53.9	61	55.2	61	54.6
Wheeler	55	57	56	57.9	55	55.2	58	56.9	55	57.9		
+Md. 183-08	56	55	56	57.7								
+NC 77-12	35	48	44	53.6	45	48.8						
+NC 80-36	52	54	54	54.3								
+NC 80-121	47	54	52	56.7								
Va. 79-54-254	58	58	58	60.0								
Mean of Test	49	53	52									
B.L.S.D. K-50	8	5	4									
C.V. (%)	13	11	12									

**Highest yielder in test.

*Not significantly different from highest yielder.

+Experimentals.

Table 14. Summary of wheat performance trials in the Coastal Plain.

Variety or Line	Duplin County bu/A	Lenoir County bu/A	Washington County bu/A	1983 Average		Two Year Average		Three Year Average		Four Year Average		Five Year Average	
				Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu	Yield bu/A	Test Wt. lbs/bu
Coker 762	47	50	22**	39	55.0	42	54.3	50	55.7	51	56.0	50	55.4
Coker 797	17	26	18*	21	56.3	32	54.9	43	57.0				
Coker 916	57	59**	21*	44	58.6	53	57.3	59	58.5				
Hunter	46	52	20*	38	60.5	43	58.2						
HW 3006	35	33	21*	29	58.3	29	55.2						
HW 3007	55	45	20*	38	56.8								
Massey	45	52	21*	39	57.4	47	55.9						
McNair 1003	40	50	20*	36	55.7	45	55.1	56	57.0	54	57.4	54	56.9
Pike	35	42	19*	29	55.4								
Pioneer brand 2550	69*	56*	19*	46*	57.8	49	56.9						
Potomac	53	46	17	37	56.6								
Roy	42	35	17	30	55.2	35	52.0	48	54.8	47	55.2	47	54.8
Scotty	53	52	19*	40	58.2								
Severn	20	29	13	21	56.0								
Southern Belle	35	42	16	31	55.9	34	53.6	44	56.3	45	57.7		
Tyler	55	51	19*	40	55.4	46	56.6	53	58.3	52	58.5	52	58.1
Wheeler	58	44	19*	38	59.4	46	56.1	54	57.5	53	58.3		
+Md. 183-08	37	48	17	34	56.0								
+NC 77-12	27	45	17	30	52.8	41	51.9						
+NC 80-36	59	50	20*	41	54.0								
+NC 80-21	28	37	14	26	55.2								
+NAPB 316A-78	66	47	13	39	56.4								
+Va. 79-54-254	73**	59**	22**	48**	59.7								
Mean of Test	46	45	18	35									
B.L.S.D. K-50	6	4	5	3									
C.V. (%)	13	10	23	14									

**Highest yielder in test.

*Not significantly different from highest yielder.

+Experimentals.

Table 15. Comparison of wheat entries for wheat and flour qualities (1983 data).

Variety or Line	Wheat Analysis				Flour Analysis			
	% Moisture	% Protein	Test Weight	1000 Kernel Wt.	Wheat ^{1/} Appearance	Extraction	Ash	% Protein
Coker 762	12.7	12.4	57.8	34.8	G	.666	.410	9.6
Coker 797	12.1	12.6	NA	29.2	VP			
Coker 916	13.0	9.3	58.2	36.4	G	.606	.404	8.1
HW 3006	12.7	10.1	58.9	33.6	F			
HW 3007	13.1	12.5	59.2	36.8	VG	.650	.422	8.6
Hunter	12.8	11.7	60.1	35.6	VG			
Massey	12.8	10.5	59.3	36.4	G	.656	.428	8.9
McNair 1003	12.6	9.8	55.0	34.8	P	.546	.384	8.0
Pike	12.7	9.0	56.4	30.0	F			
Pioneer brand 2550	12.7	9.3	60.1	36.4	VG	.642	.414	8.1
Potomac	13.0	9.7	60.7	36.4	VG	.610	.390	8.4
Roy	12.5	9.1	55.9	31.2	F	.616	.394	7.9
Scotty	13.1	10.0	60.0	34.0	VG	.732	.422	8.6
Severn	12.7	10.3	NA	32.8	F			
Southern Belle	12.5	12.1	NA	34.8	VG			
Tyler	13.5	9.3	58.9	32.8	F	.556	.358	8.1
Wheeler	12.8	9.3	59.6	38.0	VG	.660	.390	8.0
+MD 183-08	13.0	10.7	NA	34.4	F	.598	.412	9.1
+NAPB 316A-78	12.4	10.0	60.0	32.0	G			
+NC 77-12	12.3	11.0	NA	30.0	F			
+NC 80-36	12.6	9.6	54.3	30.8	P	.736	.404	8.2
+NC 80-121	12.5	9.8	NA	28.0	VP			
+VA 79-54-254	13.3	8.6	60.1	34.4	G			

^{1/}Wheat Appearance: G = Good, VG = Very Good, F = Fair, P = Poor, VP = Very Poor.

NA - Data not available.

+ Experimentals.