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# *Measured Crop Performance*

# SMALL GRAIN

# 1965

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## PERFORMANCE OF SMALL GRAIN VARIETIES IN NORTH CAROLINA

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## INTRODUCTION

Each year evaluation trials are located throughout the small grain producing area of the state. These tests are conducted to determine the value and suitability of commercially available and prospective varieties of wheat, oats, and barley for planting in North Carolina. The results of these tests are intended to aid the growers and agricultural workers in the selection of a variety best suited for their area of the state.

The results of varietal performance are presented from seven test locations in the state, four in the Piedmont and three in the Coastal Plain area. In comparing the performance of varieties, data from the area which most nearly represents the growers' conditions should be used. Due to variation in seasonal conditions from year to year, varieties should be evaluated on the basis of performance over several years rather than the present year's data.

All available data <sup>2/</sup> were used in determining the pathologic and agronomic characteristics of the varieties.

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<sup>2/</sup> Special acknowledge is due Drs. T. T. Hebert, C. F. Murphy and H. G. Small for assistance in describing the characteristics of varieties.

## EXPERIMENTAL PROCEDURE

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. Personnel of the testing program may include entries about which further information is desired.

## Agencies Sponsoring Entries

|   |                   |
|---|-------------------|
| Coker's Pedigreed Seed Company              | Hartsville, S. C. |
| Georgia Agricultural Experiment Sta.        | Experiment, Ga.   |
| Indiana Agricultural Experiment Sta.        | Lafayette, Ind.   |
| North Carolina Agricultural Experiment Sta. | Raleigh, N. C.    |
| South Carolina Agricultural Experiment Sta. | Clemson, S. C.    |
| Virginia Agricultural Experiment Sta.       | Blacksburg, Va.   |

## Test Locations

Seven locations were used in 1965 with four in the Piedmont and three in the Coastal Plain as shown in Figure 1. All tests were located on private farms.<sup>1/</sup> A randomized block design with four replications was used at each location.<sup>2/</sup>

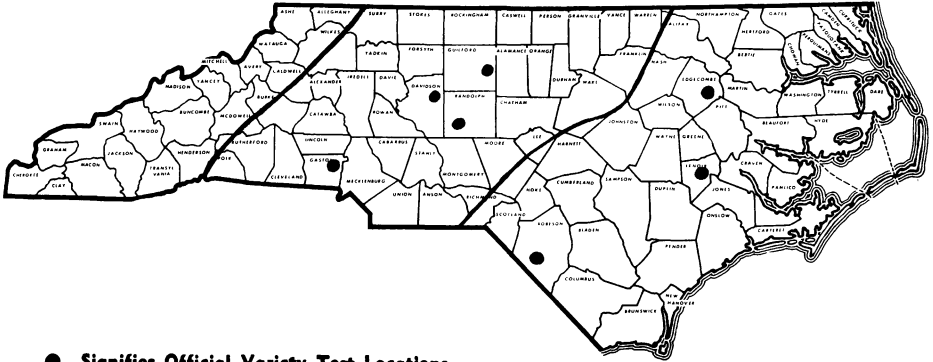
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<sup>1/</sup> The cooperative spirit and civic-minded service rendered by the farmers who provided land and the necessary cultural practices for these trials and the cooperation of the county agents are gratefully acknowledged.

<sup>2/</sup> Statistical analysis were made in the statistical laboratory under the supervision of John O. Rawlings. This assistance is gratefully acknowledged.

# FIGURE 1

## LOCATION OF SMALL GRAIN PERFORMANCE TRIALS



### CO-OPERATORS

#### PIEDMONT

Davidson County: C. A. Smith, Route 7, Lexington, N. C.  
County Extension Chairman, C. E. Barnhardt.

Gaston County: Wade Harris, Route 2, Bessemer City, N. C.  
County Extension Chairman, Max Erwin.

Randolph County: Homer Lanier, Route 3, Denton, N. C.  
County Extension Chairman, B. P. Jenkins, Jr.

Guilford County: Paul & Carson Ingle, Route 1, Burlington, N. C.  
County Extension Chairman, W. H. Kimrey.

#### COASTAL PLAIN

Edgecombe County: Jesse Summerlin, Route 1, Tarboro, N. C.  
County Extension Chairman, J. C. Powell.

Lenoir County: Herman Spence, Jr., Route 1, Kinston, N. C.  
County Extension Chairman, F. J. Koonce.

Robeson County: Klyne Lowery, Route 1, Rowland, N. C.  
County Extension Chairman, W. C. Williford.

## Cultural Practices

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 1.

All test were seeded in a small furrow with a Planet Jr. planter at the rate of one gram of seed per food of row. The rows were spaced one foot apart. Each plot consisted of seven rows twelve feet long with the two outside rows used as borders. The border rows were removed prior to harvest and only the five center rows were harvested.

A seven-foot combine was modified slightly for harvesting individual plots. Grain from individual plots was caught as it came from the elevator and weighed. The combine was stopped at the end of each plot for a short interval of time in order for the machine to clean out between plots prior to weighing the grain from the plot. A sample of grain was taken from each plot for the determination of test weight. The combine was used to more nearly simulate the conditions under which these varieties would be harvested on farms, and it appeared to give very satisfactory results.

## Seasonal Conditions

The 1965 variety tests were considered to be good. All locations had a good seed bed and were planted according to the recommended planting dates. (See table 1 page 12 for specific planting dates). There was very little winter kill as compared to previous years.

The Guilford County test had an excellent stand with good growth and color. This test had the best growth of any of the Piedmont tests. After heading a severe wind storm resulted in considerable lodging on some varieties of oats, wheat and barley.

A heavy rain soon after planting in the Gaston County test caused soil to harden and a hard crust formed. This resulted in some plots having irregular stands with differences in emergence. Later in the season this condition improved, but three experimental varieties of wheat were omitted from the data because of stand count. One replication of the barley also was omitted due to a weaker stand and some washing in these plots.

In the Davidson and Randolph Counties tests the same three experimental wheat entries as noted for Gaston County had poor stands and were omitted from the data. The wheat in the Davidson County test was attacked by disease in early April. This disease complex

was especially severe on some entries, but it was not positively identified by the plant pathologists. Thus, the wheat data at this location was not used. One replication of barley at the Randolph location was not used due to a weak stand.

The weather conditions in the Coastal Plain were about normal. All locations had a good stand with vigorous growth and good color.

The Edgecombe County test had no cold damage but some water damage was noticed on one replication in March. Excessive rains at harvest time delayed harvesting approximately one week.

The Robeson County test was planted under good conditions and a good stand with good growth followed. Extra nitrogen applied by the farmer did not cause excess lodging. This was a uniform test.

The Lenoir County test had some early damage from aphids. The low soil pH. at this location resulted in poor growth on all barley plots. The barley entries at this location were not harvested.

In general the growing conditions for the entire state were conducive to producing good yields. Rains at harvest time delayed the harvest on the Guilford and Edgecombe tests. Other locations were harvested on time. The tests, in general, were very good and representative of their respective areas of production.



## RESULTS AND DISCUSSION

The performance of the 1965 tests along with the previous four years are presented by crop and area in a tabular form in this report. Since the genetic expression of a variety is influenced greatly by the environment, it is best to have several years' data from which to draw conclusions. For example, if a variety appears in the two-year average but not in the three-year average, then it must be compared only within the two years and not with the data in the three-year average, since it is possible that the third year could have been extremely good or poor and not comparable.

The 1965 data presented in this report have been analyzed statistically and the least significant difference (L.S.D.), in terms of bushels per acre and pounds per bushel is given. Unless the difference between two varieties is greater than the L.S.D., the varieties should not be considered as being any different statistically.

## Barley

Table 5 shows the performance of barley in the Piedmont. The yields varied from a high of 73 bushels per acre for the variety Harrison to 51.6 bushels for the variety Davie in the year 1965. The five-year-averages showed less variation with Rogers having the top yield of 53.8 bushels. The highest test weight recorded for 1965 was 45.4 pounds per bushel for the line SC 60-3239.

Rogers also showed the highest test weight average of 45.2 lbs/bushel for the five-year period. Wade also had a high test weight of 43.9 pounds per bushel for the five-year period.

In the Coastal Plain area, Table 6 there was no statistical difference variation in yield between the varieties. The breeding line SC 59-1018 had the top yield of 58.6 bushels per acre. Roger and Colonial 2 yielded better than 53.7 bushels per acre. The line SC 60-3239 had the highest test weight of 46.8 pounds per bushel followed by Harrison and SC 59-1018 with 43.6 pounds per bushel.

Over the five-year average Wade and Colonial 2 showed the higher yields while Wade and Rogers had the top test weights.

#### Oats

Data from the oat trials in the Piedmont are presented in Table 7. All oats yielded well except the variety Arlington which was considerably below the other entries for 1965. All other entries yielded in excess of 77 bushels per acre with Carolee having the highest yield of 103.1 bushels. The test weights were generally good with Roanoke having a top of 35.4 pounds per bushel.

Over the five-year average Carolee, Roanoke and Sumter are all showing high consistent yields. Moregrain showed the highest test weight for the five-year average.

In the Coastal Plain area, Table 8, the oat yields were good for all entries. Statistically there was no difference between any of the entries. All entries averaged better than 64 bushels per acre for 1965 with the line SC 59-9803 showing the highest yield of

95.7 bushels. The test weights were good with Moregrain 62-11 having the highest of 37.5 lbs/bushels followed very closely by Coker 63-18 and Moregrain with a weight of 37.2 lbs/bushel. Over the five-year average Sumter has the highest average of 82.9 bushels Moregrain has the top test weight of 35.3 for five years.

#### Wheat

Data on the wheat trials in the Piedmont are presented in Table 9. The yields were good with all entries yielding above 39 bushels per acre for 1965. The line N.C. 4672 showed a very high yield of 55.0 bushels followed by Knox 62 with a yield of 48.1 bushels per acre. The test weights ranged from 60.3 pounds per bushel for Knox 62 to 56.6 for N.C. 4672. Ga. 1123 led the five-year average with 46.4 bushels per acre. Knox had the highest test weight for the five year period.

The Coastal Plain data are presented in Table 10. N.C. 4672 showed a very high yield of 54 bushels per acre for 1965 followed by Wakeland and Coker Hadden with 47.8 bushels. Other varieties also performed well in this area. Knox 62 again had the highest test weight of 59.2 pounds per bushel. Over the five-year period, 1961-1965, Ga. 1123 had an average yield of 43.4 bushels. Wakeland and Coker Hadden had an average of 57.8 and 57.9 test weight respectively.

Table 1. Cultural practices for small grain tests 1965.

| Area and<br>cooperator              | Fertilizer<br>lbs/A | Topdress $\frac{1}{2}$ /<br>lbs/A and date | Date of<br>planting | Date of<br>harvesting |
|-------------------------------------|---------------------|--|---------------------|-----------------------|
| <u>Piedmont Area</u>                |                     |  |                     |                       |
| Davidson Co.<br>C. A. Smith         | 500<br>4-12-12      | 40 N<br>Feb. 23                            | Oct. 14             | June 10               |
| Gaston Co.<br>Wade Harris           | 800<br>5-10-10      | 65 N<br>Feb. 23                            | Oct. 15             | June 7                |
| Randolph Co.<br>Homer Lanier        | 500<br>5-10-10      | 50 N<br>Feb. 26                            | Oct. 14             | June 7                |
| Guilford Co.<br>Paul & Carson Ingle | 450<br>5-10-10      | 50 N<br>Feb. 23                            | Oct. 29             | June 19               |
| <u>Coastal Plain Area</u>           |                     |  |                     |                       |
| Edgecombe Co.<br>Jesse Summerlin    | 500<br>5-10-10      | 50 N<br>March 1                            | Nov. 3              | June 21               |
| Lenoir Co.<br>Herman Spence, Jr.    | 500<br>5-10-10      | 60 N<br>March 1                            | Oct. 27             | June 11               |
| Robeson Co.<br>Klyne Lowery         | 500<br>5-10-10      | 50 N<br>March 8<br>60 N<br>April 3         | Oct. 28             | June 4                |

$\frac{1}{2}$  All test sprayed with 1 pt./Acre of 2, 4-D for weed control at the time of topdressing with liquid nitrogen.

Table 2. Characteristics of barley varieties.\*

| Variety        | Loose smut resist-<br>ance | Mildew resist-<br>ance | Leaf rust resist-<br>ance | Scalk resist-<br>ance | Lodging resist-<br>ance | Winter Hardiness | Maturity   | Test Weight lb/bu. |
|----------------|----------------------------|------------------------|---------------------------|-----------------------|-------------------------|------------------|------------|--------------------|
| Davie          | Poor                       | Poor                   | Excellent                 | Fair                  | Fair                    | Fair             | Early      | Med.               |
| Rogers         | Poor                       | Excellent              | Fair                      | Fair                  | Good                    | Good             | Late       | High               |
| Early Marconee | Poor                       | Fair                   | Poor                      | Poor                  | Poor                    | Fair             | Very early | Med.               |
| Wade           | Poor                       | Poor                   | Excellent                 | Fair                  | Excellent               | Fair             | Early      | High               |
| Ga-Jet         | Good                       | Fair                   | Poor                      | Fair                  | Fair                    | Fair             | Very early | Med.               |
| Colonial 2     | Poor                       | Poor                   | Poor                      | Poor                  | Fair                    | Fair             | Early      | Med.               |
| Harrison       | Poor                       | Good                   | Fair                      | Fair                  | Excellent               | Good             | Early      | High               |

Table 3. Characteristics of oat varieties.\*

|                   | Crown rust resist-<br>ance | Smut resist-<br>ance | Blight resist-<br>ance | Mosaic resist-<br>ance | Maturity | Winter hardi-<br>ness | Lodging resist-<br>ance | Amount of<br>Straw | Test Weight lb/bu. |
|-------------------|----------------------------|----------------------|------------------------|------------------------|----------|-----------------------|-------------------------|--------------------|--------------------|
| Arlington         | Fair                       | Good                 | Poor                   | Good                   | Late     | Good                  | Poor                    | Tall               | Med.               |
| Sumter            | Fair                       | Good                 | Good                   | Good                   | Med.     | Good                  | Good                    | Tall               | Med.               |
| Moregrain BRS     | Good                       | Good                 | Good                   | Fair                   | Early    | Fair                  | Good                    | Short              | High               |
| Roanoke           | Fair                       | Poor                 | Good                   | Fair                   | Late     | Good                  | Fair                    | Tall               | Med.               |
| Carolee**         | Fair                       | Good                 | Good                   | Fair                   | Med.     | Good                  | Good                    | Med.               | Med.               |
| Suregrain BRS     | Good                       | Excellent            | Good                   | Poor                   | Early    | Poor                  | Good                    | Short              | High               |
| Coker 242 (62-42) | Good                       | Good                 | Good                   | Fair                   | Med.     | Fair                  | Good                    | Med.               | High               |

\* These characteristics based upon all available observations.

\*\* Appears to have tolerance to barley yellow dwarf virus.

Table 4. Characteristics of wheat varieties.\*

| Variety      | Leaf<br>rust<br>resist-<br>ance | Mildew<br>resist-<br>ance | Mosaic<br>resist-<br>ance | Maturity | Winter<br>Hardiness | Lodging<br>resistance | Height<br>of<br>Straw | Test<br>Weight<br>lb/bu. | Soft<br>Wheat<br>Milling<br>Quality |
|--------------|---------------------------------|---------------------------|---------------------------|----------|---------------------|-----------------------|-----------------------|--------------------------|-------------------------------------|
| Knox         | Good                            | Fair                      | Good                      | Early    | Good                | Poor                  | Med.                  | High                     | Good                                |
| Thorne       | Poor                            | Poor                      | Good                      | Late     | Excellent           | Poor                  | Tall                  | Med.                     | Good                                |
| Wakeland     | Fair                            | Good                      | Poor                      | Early    | Fair                | Good                  | Short                 | Med.                     | Fair                                |
| Coker 47-27  | Fair                            | Poor                      | Poor                      | Med.     | Fair                | Good                  | Tall                  | High                     | Fair                                |
| Coker Hadden | Good                            | Excellent                 | Poor                      | Early    | Fair                | Good                  | Short                 | Med.                     | Fair                                |
| Knox 62 **   | Good                            | Fair                      | Good                      | Early    | Good                | Poor                  | Med.                  | High                     | Good                                |
| Ga. 1123     | Fair                            | Poor                      | Good                      | Med.     | Fair                | Good                  | Tall                  | Med.                     | Fair                                |
| Coker 61-19  | Poor                            | Poor                      | Good                      | Late     | Good                | Good                  | Tall                  | Med.                     | Good                                |

\* These characterizations based upon all available observations.

\*\* Resistant to Hessian Fly.

Table 5. Summary of barley performance trials in the Piedmont.

| Variety<br>or Line    | 1 yr. ave. <sup>1/</sup><br>1965 |        | 2 yr. ave. <sup>2/</sup><br>1964-1965 |        | 3 yr. ave. <sup>3/</sup><br>1963-1965 |        | 4 yr. ave. <sup>4/</sup><br>1962-1965 |        | 5 yr. ave. <sup>5/</sup><br>1961-1965 |        |
|-----------------------|----------------------------------|--------|---------------------------------------|--------|---------------------------------------|--------|---------------------------------------|--------|---------------------------------------|--------|
|                       | bu/A                             | lbs/bu | bu/A                                  | lbs/bu | bu/A                                  | lbs/bu | bu/A                                  | lbs/bu | bu/A                                  | lbs/bu |
| Avie                  | 51.6                             | 39.8   | 50.2                                  | 40.9   | 45.0                                  | 40.3   | 42.7                                  | 39.5   | 43.8                                  | 40.0   |
| Burgers               | 66.8                             | 43.1   | 66.8                                  | 44.3   | 55.9                                  | 45.1   | 51.4                                  | 44.9   | 53.8                                  | 45.2   |
| Clade                 | 62.0                             | 42.8   | 61.2                                  | 43.6   | 51.3                                  | 44.2   | 47.8                                  | 43.7   | 50.6                                  | 43.9   |
| Colonial 2            | 58.7                             | 39.7   | 58.5                                  | 40.6   | 49.1                                  | 39.4   | 46.0                                  | 38.9   | 48.7                                  | 39.5   |
| Curly Marconee        | 59.6                             | 42.1   | 55.9                                  | 42.0   | 47.9                                  | 41.4   | 46.6                                  | 40.7   | 45.7                                  | 40.8   |
| 59-1018 <sup>6/</sup> | 62.4                             | 44.0   | 62.2                                  | 44.2   | 58.0                                  | 45.1   | 53.5                                  | 44.3   |                                       |        |
| C. 2900 <sup>6/</sup> | 52.7                             | 41.0   | 55.9                                  | 41.9   |                                       |        |                                       |        |                                       |        |
| C. 1599 <sup>6/</sup> | 53.6                             | 41.2   | 50.6                                  | 41.4   |                                       |        |                                       |        |                                       |        |
| Farrison              | 73.0                             | 44.8   | 74.1                                  | 46.0   |                                       |        |                                       |        |                                       |        |
| 60-3239 <sup>6/</sup> | 58.7                             | 45.4   |                                       |        |                                       |        |                                       |        |                                       |        |
| C. 1907 <sup>6/</sup> | 59.2                             | 43.4   |                                       |        |                                       |        |                                       |        |                                       |        |
| C. 2524 <sup>6/</sup> | 56.7                             | 38.7   |                                       |        |                                       |        |                                       |        |                                       |        |
| C. 2116 <sup>6/</sup> | 60.1                             | 42.8   |                                       |        |                                       |        |                                       |        |                                       |        |
| Jet                   | 55.1                             | 38.7   |                                       |        |                                       |        |                                       |        |                                       |        |
| S.D. (.05)            | N.S.                             | 2.0    |                                       |        |                                       |        |                                       |        |                                       |        |
| (.01)                 | N.S.                             | 2.7    |                                       |        |                                       |        |                                       |        |                                       |        |
| V. (%)                | 15                               | 4      |                                       |        |                                       |        |                                       |        |                                       |        |

Average of Davidson, Randolph, Gaston and Guilford County locations.

Average of eight locations.

Average of ten locations.

Average of thirteen locations.

Average of seventeen locations.

Experimental lines.

Table 6. Summary of barley performance trials in the Coastal Plain.

| Variety<br>or Line       | 1 yr. ave. <sup>1/</sup><br>1965 |        | 2 yr. ave. <sup>2/</sup><br>1964-1965 |        | 3 yr. ave. <sup>3/</sup><br>1963-1965 |        | 4 yr. ave. <sup>4/</sup><br>1962-1965 |        | 5 yr. ave. <sup>5/</sup><br>1961-1965 |        |
|--------------------------|----------------------------------|--------|---------------------------------------|--------|---------------------------------------|--------|---------------------------------------|--------|---------------------------------------|--------|
|                          | bu/A                             | lbs/bu | bu/A                                  | lbs/bu | bu/A                                  | lbs/bu | bu/A                                  | lbs/bu | bu/A                                  | lbs/bu |
| Davie                    | 41.4                             | 39.0   | 51.4                                  | 41.0   | 49.5                                  | 40.2   | 44.3                                  | 39.8   | 47.2                                  | 39.9   |
| Rogers                   | 54.4                             | 42.3   | 56.8                                  | 44.3   | 45.7                                  | 44.1   | 43.7                                  | 44.6   | 46.0                                  | 44.0   |
| Wade                     | 51.4                             | 42.3   | 59.6                                  | 44.2   | 54.9                                  | 44.3   | 49.8                                  | 44.4   | 52.6                                  | 43.9   |
| Colonial 2               | 53.7                             | 40.0   | 57.2                                  | 41.2   | 53.6                                  | 40.4   | 48.9                                  | 40.0   | 51.9                                  | 39.8   |
| Early Marconee           | 50.1                             | 40.8   | 53.0                                  | 42.9   | 47.1                                  | 42.0   | 42.0                                  | 41.6   | 43.7                                  | 41.4   |
| Ga-Jet                   | 48.0                             | 37.9   | 48.1                                  | 40.4   | 45.6                                  | 39.3   | 42.8                                  | 38.6   | 44.4                                  | 38.5   |
| SC 59-1018 <sup>6/</sup> | 58.6                             | 43.6   | 62.8                                  | 44.8   | 60.5                                  | 45.3   | 53.9                                  | 45.0   |                                       |        |
| SC 60-3239 <sup>6/</sup> | 46.5                             | 46.8   | 41.4                                  | --     |                                       |        |                                       |        |                                       |        |
| Harrison                 | 45.8                             | 43.6   | 53.2                                  | 45.0   |                                       |        |                                       |        |                                       |        |
| N. C. 2900 <sup>6/</sup> | 46.3                             | 41.8   | 53.2                                  | 43.0   |                                       |        |                                       |        |                                       |        |
| N. C. 1599 <sup>6/</sup> | 48.8                             | 39.2   | 53.0                                  | 41.5   |                                       |        |                                       |        |                                       |        |
| N. C. 1907 <sup>6/</sup> | 53.1                             | 43.2   |                                       |        |                                       |        |                                       |        |                                       |        |
| N. C. 2524 <sup>6/</sup> | 49.2                             | 38.9   |                                       |        |                                       |        |                                       |        |                                       |        |
| N. C. 2116 <sup>6/</sup> | 52.8                             | 40.7   |                                       |        |                                       |        |                                       |        |                                       |        |
| L.S.D. (.05)             | N.S.                             | N.S.   |                                       |        |                                       |        |                                       |        |                                       |        |
| (.01)                    | N.S.                             | N.S.   |                                       |        |                                       |        |                                       |        |                                       |        |
| C.V. ( % )               | 12                               | 4      |                                       |        |                                       |        |                                       |        |                                       |        |

<sup>1/</sup> Average of Edgecombe and Robeson County locations.

<sup>2/</sup> Average of five locations.

<sup>3/</sup> Average of eight locations.

<sup>4/</sup> Average of eleven locations.

<sup>5/</sup> Average of fourteen locations.

<sup>6/</sup> Experimental lines.



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

| Variety<br>or Line                                    | 1 yr. ave. <sup>1/</sup><br>1965 |        | 2 yr. ave. <sup>2/</sup><br>1964-1965 |        | 3 yr. ave. <sup>3/</sup><br>1963-1965 |        | 4 yr. ave. <sup>4/</sup><br>1962-1965 |        | 5 yr. ave. <sup>5/</sup><br>1961-1965 |        |
|---|----------------------------------|--------|---------------------------------------|--------|---------------------------------------|--------|---------------------------------------|--------|---------------------------------------|--------|
|   | bu/A                             | lbs/bu | bu/A                                  | lbs/bu | bu/A                                  | lbs/bu | bu/A                                  | lbs/bu | bu/A                                  | lbs/bu |
| Arlington   | 38.7                             | 31.2   | 42.6                                  | 32.0   | 44.3                                  | 30.7   | 41.5                                  | 30.6   | 44.5                                  | 31.1   |
| Moregrain   | 81.2                             | 34.7   | 75.1                                  | 34.7   | 75.7                                  | 34.7   | 69.0                                  | 34.2   | 70.5                                  | 34.4   |
| Carolee   | 103.1                            | 31.6   | 87.6                                  | 32.0   | 86.2                                  | 30.9   | 75.7                                  | 30.8   | 74.5                                  | 31.3   |
| Roanoke   | 82.8                             | 35.4   | 77.2                                  | 35.6   | 81.0                                  | 33.7   | 74.4                                  | 33.2   | 73.3                                  | 33.8   |
| Sumter  | 84.9                             | 32.2   | 77.0                                  | 31.9   | 80.5                                  | 32.1   | 72.8                                  | 31.6   | 73.3                                  | 32.0   |
| OC 60-13459 <sup>6/</sup>                             | 87.1                             | 33.6   | 80.4                                  | 33.7   | 72.4                                  | 32.9   |                                       |        |                                       |        |
| Va. 61-31-15<br>Irradiated<br>Arlington <sup>6/</sup> | 85.9                             | 35.0   | 79.4                                  | 35.5   |                                       |        |                                       |        |                                       |        |
| OC 59-9803 <sup>6/</sup>                              | 88.9                             | 33.9   | 80.0                                  | 33.6   |                                       |        |                                       |        |                                       |        |
| oker 63-18 <sup>6/</sup>                              | 77.1                             | 34.4   | 75.4                                  | 34.8   |                                       |        |                                       |        |                                       |        |
| oker 242 (62-42)                                      | 84.9                             | 34.9   | 81.4                                  | 35.0   |                                       |        |                                       |        |                                       |        |
| OC 60-15923 <sup>6/</sup>                             | 82.4                             | 34.1   |                                       |        |                                       |        |                                       |        |                                       |        |
| I. C. 267 <sup>6/</sup>                               | 90.9                             | 32.0   |                                       |        |                                       |        |                                       |        |                                       |        |
| N. C. 2469 <sup>6/</sup>                              | 85.2                             | 32.2   |                                       |        |                                       |        |                                       |        |                                       |        |
| N. C. 2534 <sup>6/</sup>                              | 95.8                             | 33.1   |                                       |        |                                       |        |                                       |        |                                       |        |
| N. C. 1972 <sup>6/</sup>                              | 94.6                             | 34.6   |                                       |        |                                       |        |                                       |        |                                       |        |
| Moregrain 62-11 <sup>6/</sup>                         | 89.8                             | 34.7   |                                       |        |                                       |        |                                       |        |                                       |        |
| S.S.D. (.05)  | 14.3                             | 1.6    |                                       |        |                                       |        |                                       |        |                                       |        |
| (.01)   | 19.1                             | 2.1    |                                       |        |                                       |        |                                       |        |                                       |        |
| S.V. (%)  | 13                               | 3      |                                       |        |                                       |        |                                       |        |                                       |        |

<sup>1/</sup> Average of Davidson, Gaston, Randolph and Guilford County locations.

<sup>2/</sup> Average of seven locations.

<sup>3/</sup> Average of eight locations.

<sup>4/</sup> Average of eleven locations.

<sup>5/</sup> Average of fifteen locations.

<sup>6/</sup> Experimental lines.

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

| Variety<br>or Line                                    | 1 yr. ave. <sup>1/</sup><br>1965 |        | 2 yr. ave. <sup>2/</sup><br>1964-1965 |        | 3 yr. ave. <sup>3/</sup><br>1963-1965 |        | 4 yr. ave. <sup>4/</sup><br>1962-1965 |        | 5 yr. ave. <sup>5/</sup><br>1961-1965 |        |
|---|----------------------------------|--------|---------------------------------------|--------|---------------------------------------|--------|---------------------------------------|--------|---------------------------------------|--------|
|   | bu/A                             | lbs/bu | bu/A                                  | lbs/bu | bu/A                                  | lbs/bu | bu/A                                  | lbs/bu | bu/A                                  | lbs/bu |
| Moregrain   | 82.2                             | 37.2   | 78.9                                  | 36.4   | 72.9                                  | 35.2   | 68.4                                  | 35.4   | 71.5                                  | 35.3   |
| Carolee   | 87.2                             | 33.2   | 72.0                                  | 34.6   | 68.3                                  | 33.3   | 68.6                                  | 33.4   | 71.3                                  | 33.2   |
| Suregrain   | 74.5                             | 35.1   | 73.4                                  | 34.7   | 70.3                                  | 33.5   | 68.0                                  | 33.9   | 72.4                                  | 34.0   |
| Roanoke   | 64.5                             | 33.9   | 56.8                                  | 35.7   | 55.2                                  | 33.9   | 56.8                                  | 33.9   | 61.1                                  | 33.8   |
| Sumter  | 85.3                             | 34.2   | 80.8                                  | 34.2   | 79.3                                  | 33.7   | 79.6                                  | 33.6   | 82.9                                  | 33.7   |
| SC 60-13459 <sup>6/</sup>                             | 75.2                             | 34.9   | 74.1                                  | 34.7   | 70.7                                  | 33.9   |                                       |        |                                       |        |
| Va. 61-31-15<br>Irradiated<br>Arlington <sup>6/</sup> | 70.3                             | 34.9   | 66.4                                  | 36.2   |                                       |        |                                       |        |                                       |        |
| Coker 63-18 <sup>6/</sup>                             | 79.6                             | 37.2   | 77.4                                  | 36.7   |                                       |        |                                       |        |                                       |        |
| Coker 242 (62-42)                                     | 84.9                             | 36.1   | 83.3                                  | 35.6   |                                       |        |                                       |        |                                       |        |
| SC 59-9803 <sup>6/</sup>                              | 95.7                             | 34.8   | 87.0                                  | 35.2   |                                       |        |                                       |        |                                       |        |
| SC 60-15923 <sup>6/</sup>                             | 69.2                             | 34.3   |                                       |        |                                       |        |                                       |        |                                       |        |
| N. C. 267 <sup>6/</sup>                               | 90.4                             | 33.9   |                                       |        |                                       |        |                                       |        |                                       |        |
| N. C. 2469 <sup>6/</sup>                              | 77.1                             | 33.4   |                                       |        |                                       |        |                                       |        |                                       |        |
| N. C. 2534 <sup>6/</sup>                              | 85.1                             | 34.8   |                                       |        |                                       |        |                                       |        |                                       |        |
| N. C. 1972 <sup>6/</sup>                              | 78.3                             | 35.6   |                                       |        |                                       |        |                                       |        |                                       |        |
| Moregrain 62-11 <sup>6/</sup>                         | 86.0                             | 37.5   |                                       |        |                                       |        |                                       |        |                                       |        |
| L.S.D. (.05)  | N.S.                             | 2.1    |                                       |        |                                       |        |                                       |        |                                       |        |
| (.01)   | N.S.                             | 2.8    |                                       |        |                                       |        |                                       |        |                                       |        |
| C. V. (%)   | 11                               | 2      |                                       |        |                                       |        |                                       |        |                                       |        |

<sup>1/</sup> Average of Lenoir, Robeson and Edgecombe County locations.

<sup>2/</sup> Average of six locations.

<sup>3/</sup> Average of nine locations.

<sup>4/</sup> Average of twelve locations.

<sup>5/</sup> Average of fifteen locations.

<sup>6/</sup> Experimental lines.

Table 9. Summary of wheat performance trials in the Piedmont.

| Variety<br>or Line                     | 1 yr. ave. <sup>1/</sup> |        | 2 yr. ave. <sup>2/</sup> |        | 3 yr. ave. <sup>3/</sup> |        | 4 yr. ave. <sup>4/</sup> |        | 5 yr. ave. <sup>5/</sup> |        |
|--|--------------------------|--------|--------------------------|--------|--------------------------|--------|--------------------------|--------|--------------------------|--------|
|  | 1965                     |        | 1964-1965                |        | 1963-1965                |        | 1962-1965                |        | 1961-1965                |        |
|  | bu/A                     | lbs/bu | bu/A                     | lbs/bu | bu/A                     | lbs/bu | bu/A                     | lbs/bu | bu/A                     | lbs/bu |
| Amox                                   | 39.4                     | 60.1   | 43.1                     | 59.8   | 42.7                     | 60.3   | 41.0                     | 59.6   | 41.4                     | 59.2   |
| Wakeland                               | 39.9                     | 58.4   | 39.9                     | 58.3   | 41.6                     | 58.5   | 40.0                     | 57.9   | 41.2                     | 57.8   |
| Ladden BRS                             | 41.3                     | 58.2   | 39.7                     | 58.3   | 39.5                     | 58.3   | 37.8                     | 57.8   | 39.0                     | 57.8   |
| Ma. 1123                               | 46.8                     | 59.2   | 48.2                     | 58.7   | 46.8                     | 58.5   | 44.8                     | 57.7   | 46.4                     | 57.5   |
| Amox 62                                | 48.1                     | 60.3   | 46.0                     | 59.4   | 45.4                     | 60.0   | 41.8                     | 59.4   |                          |        |
| Woker 61-19                            | 45.2                     | 56.9   | 44.2                     | 58.0   |                          |        |                          |        |                          |        |
| W. C. 4672 <sup>6/</sup>               | 55.0                     | 56.6   | 54.9                     | 56.6   |                          |        |                          |        |                          |        |
| W. C. 60-9149 <sup>6/</sup>            | 42.4                     | 59.9   |                          |        |                          |        |                          |        |                          |        |
| Wardue<br>5210B9-12-1-12 <sup>6/</sup> | 44.1                     | 60.1   |                          |        |                          |        |                          |        |                          |        |
| S.D. (.05)                             | 9.0                      | 2.5    |                          |        |                          |        |                          |        |                          |        |
| (.01)                                  | N.S.                     | N.S.   |                          |        |                          |        |                          |        |                          |        |
| V. (%)                                 | 11                       | 2      |                          |        |                          |        |                          |        |                          |        |

<sup>1/</sup> Average of Gaston, Guilford and Randolph County locations.

<sup>2/</sup> Average of six locations.

<sup>3/</sup> Average of eight locations.

<sup>4/</sup> Average of eleven locations.

<sup>5/</sup> Average of fifteen locations.

<sup>6/</sup> Experimental lines.

Table 10. Summary of wheat performance trials in the Coastal Plain.

| Variety<br>or Line                     | 1 yr. ave. <sup>1/</sup><br>1965 |        | 2 yr. ave. <sup>2/</sup><br>1964-1965 |        | 3 yr. ave. <sup>3/</sup><br>1963-1965 |        | 4 yr. ave. <sup>4/</sup><br>1962-1965 |        | 5 yr. ave. <sup>5/</sup><br>1961-1965 |        |
|--|----------------------------------|--------|---------------------------------------|--------|---------------------------------------|--------|---------------------------------------|--------|---------------------------------------|--------|
|  | bu/A                             | lbs/bu | bu/A                                  | lbs/bu | bu/A                                  | lbs/bu | bu/A                                  | lbs/bu | bu/A                                  | lbs/bu |
| Wakeland                               | 47.8                             | 58.7   | 45.5                                  | 57.8   | 44.8                                  | 58.2   | 43.3                                  | 57.8   | 41.7                                  | 57.8   |
| Hadden BRS                             | 47.8                             | 58.4   | 46.9                                  | 57.8   | 45.8                                  | 58.3   | 43.6                                  | 58.0   | 41.5                                  | 57.9   |
| Ga. 1123                               | 46.4                             | 57.5   | 46.5                                  | 56.8   | 46.0                                  | 57.4   | 45.0                                  | 57.3   | 43.4                                  | 57.0   |
| Knox                                   | 40.0                             | 58.9   | 39.0                                  | 58.0   | 36.0                                  | 58.7   |                                       |        |                                       |        |
| Knox 62                                | 39.2                             | 59.2   | 38.0                                  | 58.1   | 34.3                                  | 58.8   |                                       |        |                                       |        |
| Coker 61-19                            | 35.8                             | 58.7   | 42.2                                  | 58.2   |                                       |        |                                       |        |                                       |        |
| N. C. 4761 <sup>6/</sup>               | 40.6                             | 56.4   | 44.3                                  | 55.8   |                                       |        |                                       |        |                                       |        |
| N. C. 4672 <sup>6/</sup>               | 54.0                             | 56.2   | 55.8                                  | 55.8   |                                       |        |                                       |        |                                       |        |
| N. C. 4662 <sup>6/</sup>               | 39.9                             | 53.6   |                                       |        |                                       |        |                                       |        |                                       |        |
| N. C. 3831 <sup>6/</sup>               | 40.1                             | 52.0   |                                       |        |                                       |        |                                       |        |                                       |        |
| SC 60-9149 <sup>6/</sup>               | 40.1                             | 58.8   |                                       |        |                                       |        |                                       |        |                                       |        |
| Purdue<br>5210B9-12-1-12 <sup>6/</sup> | 32.4                             | 58.4   |                                       |        |                                       |        |                                       |        |                                       |        |
| L.S.D. (.05)                           | 10.6                             | 1.4    |                                       |        |                                       |        |                                       |        |                                       |        |
| (.01)                                  | N.S.                             | 1.8    |                                       |        |                                       |        |                                       |        |                                       |        |
| C.V. ( % )                             | 9                                | 1      |                                       |        |                                       |        |                                       |        |                                       |        |

<sup>1/</sup> Average of Lenoir, Robeson and Edgecombe County locations.

<sup>2/</sup> Average of six locations.

<sup>3/</sup> Average of nine locations.

<sup>4/</sup> Average of twelve locations.

<sup>5/</sup> Average of fifteen locations.

<sup>6/</sup> Experimental lines.

Table 11. Lodging Data - 1965

| Variety<br>or Line                    | Lodging Per Cent |
|---------------------------------------|------------------|
| <u>Barley <math>\frac{1}{}</math></u> |                  |
| Early Marconee                        | 63.4             |
| SC 60-3239                            | 8.8              |
| N.C. 2900                             | 5.9              |
| N.C. 1907                             | 39.7             |
| N.C. 2524                             | 16.6             |
| N.C. 2116                             | 23.7             |
| N.C. 1599                             | 53.1             |
| Davie                                 | 47.5             |
| Rogers                                | 48.4             |
| Wade                                  | 10.9             |
| Colonial 2                            | 72.8             |
| Ga-Jet                                | 50.3             |
| Harrison                              | 13.9             |
| SC 59-1018                            | 22.5             |
| <u>Oats <math>\frac{2}{}</math></u>   |                  |
| SC 60-13459                           | 30.7             |
| SC 60-15923                           | 62.6             |
| SC 59-9803                            | 39.1             |
| Sumter                                | 49.5             |
| Va. 61-31-15                          |                  |
| Irradiated Arlington                  | 52.0             |
| N.C. 267                              | 13.6             |
| N.C. 2469                             | 11.3             |
| N.C. 2534                             | 21.1             |
| N.C. 1972                             | 22.9             |
| Moregrain BRS                         | 42.6             |
| Moregrain 62-11                       | 37.6             |
| Coker 242(62-42)                      | 24.0             |
| Coker 63-18                           | 50.7             |
| Carolee                               | 37.8             |
| Roanoke                               | 27.3             |
| Suregrain                             | 57.9             |
| Arlington                             | 82.4             |
| <u>Wheat <math>\frac{3}{}</math></u>  |                  |
| SC 60-9149                            | 25.8             |
| N.C. 4761                             | 5.4              |
| N.C. 4672                             | 1.6              |
| N.C. 4662                             | 3.7              |
| N.C. 3831                             | 2.5              |
| Hadden BRS                            | 17.0             |
| Coker 61-19                           | 34.6             |
| Knox                                  | 51.2             |
| Wakeland                              | 27.0             |
| Ga. 1123                              | 8.7              |
| Knox 62                               | 61.2             |
| Purdue 5210B9-12-1-12                 | 17.5             |

$\frac{1}{}$  Average of four locations.

$\frac{2}{}$  Average of six locations.

$\frac{3}{}$  Average of three locations.