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Measured crop performance

SMALL GRAIN 1959

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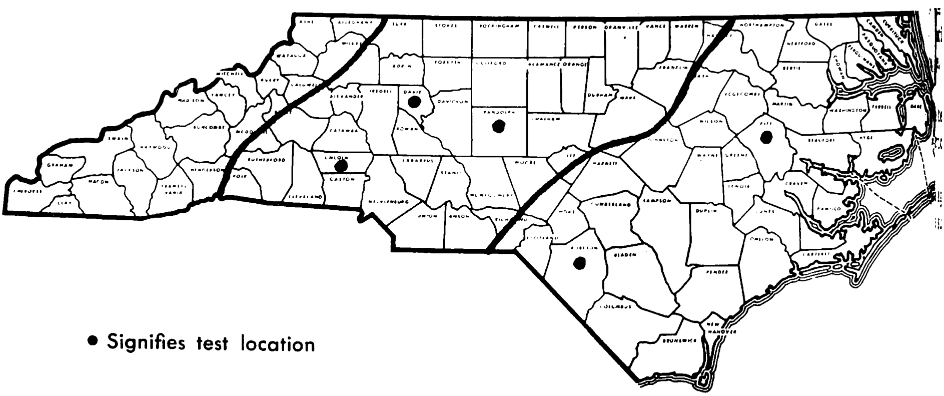
Location of Small Grain Tests
1959



• Signifies test location

SMALL GRAIN VARIETY TRIALS IN NORTH CAROLINA

1959

Official small grain variety trials are conducted each year by the North Carolina Agricultural Experiment Station.

The objectives of these tests are to obtain performance information on commercially available varieties and to evaluate experimental strains that may have possibilities of equaling or excelling those now in general production.

Test Locations. The tests were conducted at five locations in 1959, three being in the Piedmont Area and two in the Coastal Plain Area. The location of these tests can be observed on the state map opposite this page.

The testing agency recognizes the co-operative spirit and civic-minded service rendered by the farmers who have furnished land for these tests.

The agricultural workers in their respective areas contribute greatly to the success of these tests by aiding in the location of test sites, observing the tests during the growing season, holding field meetings at the locations, and also by utilizing the information contained herein.

The tests were located on the following private farms:

Farm of Clyde Leagans, Davie County, Route 5, Mocksville.
County Agricultural Agent, L. F. Williams and Assistants, cooperating.

Farm of Ralph Wise, Lincoln County, Route 1, Lincolnton.
County Agricultural Agent, G. A. Stoudemire and Assistants, cooperating.

Farm of V. B. Luther, Randolph County, Route 3, Denton.
Vocational Agricultural Teacher, R. C. Adams, and County Agricultural Agent, B. P. Jenkins, Jr., cooperating.

Farm of Arch J. Flanagan, Pitt County, Farmville.
County Agricultural Agent, S. C. Winchester and Assistants, cooperating.

Farm of Burleigh Lowery, Robeson County, Route 1, Rowland.
County Agricultural Agent, O. P. Owens and Assistants, cooperating.

Agencies Sponsoring Entries.

Coker Pedigreed Seed Company, Hartsville, South Carolina

North Carolina Agricultural Experiment Station, Raleigh, North Carolina

T. W. Wood and Sons, Richmond, Virginia

Management of Test Plots. Cultural practices, such as seedbed preparation, date of planting, and fertilization were in accord with good farming practices and were the same for all entries in a given test. Planting, harvesting, and yield measurements were directly supervised by personnel of the North Carolina Agricultural Experiment Station.

Growing Conditions. The overall growing conditions for small grain during the 1958-1959 small grain growing season were good. The fall provided excellent conditions for preparation of land as there were no prolonged wet periods. At the time of seeding soil moisture was adequate.

The tests included in this report were planted during the last week in October. Good stands for all entries were obtained with the exception of oats in Randolph and Davie Counties. The early cold weather that persisted throughout the winter caused a large amount of differential soil heaving. As a result, the Randolph County oat test was abandoned due to extremely poor stands.

Winter Hardiness. The less winter hardy oat and wheat varieties that are not injured by prevailing temperatures of the Coastal Plains are often damaged, and stands reduced, when grown in the northwestern Piedmont. Only the most winter hardy varieties will survive in the mountains.

Low temperatures (18-28 degrees) that occur in the spring (March 15 to April 15) cause greater damage and reduction in yield to early maturing varieties than to those that mature later. The fact that spring freezes are likely to occur about once every five years should be kept in mind when selecting extremely early maturing varieties for planting.

The evaluation of prospective new varieties for winter hardiness is conducted by the small grain breeding program, which utilizes the Mountain Research Station near Waynesville. In conjunction with this, a small variety test is conducted and used as a basis for evaluating small grain varieties for the mountain area. Since small grain occupies a relatively small acreage in the mountain counties, official variety tests are not conducted in this area.

Interpreting Yield Differences. At the bottom of each table of the 1959 data, an L.S.D. value of .05 is given. This value is used for comparing the yields of different varieties. The L.S.D. value should be used in the following manner: First, determine the difference in yield between a variety in question and an established variety of known performance. If this difference is less than the L.S.D. value, it can be stated with 95% confidence that no differences exist between the two varieties. If the difference is greater than the L.S.D. value, it can be said with 95% confidence that there is a true difference between the two varieties. The L.S.D. value should not be applied to differences among three or more varieties. The L.S.D. comparison method gives a correct test only when comparing two varieties.

Selecting a Variety. Variety selection should be based on average yields of at least three years. It is risky to use only one year's data as your basis of selection. For this reason, three-year averages are given along with the one-year information.

In selecting a variety to plant, yield usually receives first consideration. It should be remembered, however, that other characteristics contributing to yield may be as important as yield itself. Such characteristics as disease resistance, winter hardiness, lodging resistance, height of straw, ease of harvesting, maturity, and market quality, are all essential and should be considered.

CHARACTERISTICS OF OAT VARIETIES*

Variety	Rust Resistance	Smut Resistance	Blight Resistance	Mosaic Resistance	Maturity	Winter Hardiness	Lodging Resistance	Amount of Straw	Test Weight per Bushel
Arlington	Fair	Good	Poor	Good	Medium	Good	Fair	Heavy	Good
Victorgrain 48-93	Fair	Good	Poor	Good	Early	Fair	Good	Medium	Good
Fulgrain	Fair	Good	Poor	Good	Early	Fair	Good	Light	Good
Fulwood	Fair	Good	Poor	Good	Early	Good	Good	Light	Good
Forkedeer	Poor	Poor	Good	Good	Late	Excellent	Fair	Medium	Good
Woodgrain	Fair	Good	Poor	Good	Early	Fair	Good	Light	Good
Suregrain	Good	Excellent	Good	Poor	Early	Poor	Good	Light	Good
Moregrain	Good	Good	Good	Fair	Early	Fair	Good	Light	Good

CHARACTERISTICS OF BARLEY VARIETIES*

Variety	Loose Smut Resistance	Mildew Resistance	Rust Resistance	Scald Resistance	Lodging Resistance	Winter Hardiness	Maturity	Amount of Straw	Test Weight per Bushel
Colonial 2	Poor	Poor	Poor	Poor	Good	Fair	Medium	Light	Good
Davie	Poor	Fair	Excellent	Fair	Fair	Fair	Early	Light	Fair

* These characterizations based upon all available observations.

CHARACTERISTICS OF WHEAT VARIETIES*

Variety	Leaf Rust Resist-ance	Mil-dew Resist-ance	Mosaic Resist-ance	Maturity	Winter Hardi-ness	Late Spring Freeze Toler-ance	Lodging Resist-ance	Height of Straw	Test Weight per Bushel
Atlas 50	Fair	Good	Poor	Medium	Fair	Fair	Good	Medium	Fair
Atlas 66	Good	Fair	Poor	Medium	Fair	Fair	Good	Medium	Fair
Coker 47-27	Fair	Poor	Poor	Medium	Fair	Fair	Good	Tall	Good
Anderson	Good	Fair	Fair	Medium	Good	Good	Good	Tall	Good
Thorne	Poor	Poor	Good	Late	Excellent	Good	Fair	Tall	Good
Seneca	Poor	Poor	Good	Late	Excellent	Good	Fair	Tall	Good
Knox	Excellent	Good	Good	Early	Good	Poor	Good	Short	Good
Taylor 49	Fair	Poor	Good	Medium	Good	Fair	Fair	Medium	Good
Wakeland	Good	Good	Poor	Early	Fair	Fair	Good	Short	Good

*These characterizations based upon all available observations.

PERFORMANCE OF BARLEY ENTRIES

3-Year Average (1957-1959) 9 Locations - Piedmont

Entries	1957 Yield 3 Tests Bu/Acre	1958 Yield 3 Tests Bu/Acre	1959 Yield 3 Tests Bu/Acre	Average Yield Bu/Acre
Calhoun x Bolivia-954	38.7	45.2	41.1	41.6
Colonial x Bolivia-1341	33.8	40.3	39.2	37.7
Colonial 2	25.1	40.8	45.6	37.1
Davie	29.7	39.4	35.2	34.7
Mean of Tests	27.4*	40.7	41.7	36.6

* Standards (1957) were Colonial 2 and Davie

PERFORMANCE OF BARLEY ENTRIES

Piedmont - 1959

Entries	Davie County Bu/Acre	Lincoln County Bu/Acre	Randolph County Bu/Acre	Average Yield Bu/Acre
Colonial 2	49.8	42.9	44.2	45.6
Kenbar x Davie-392	40.8	35.6	56.5	44.3
Rogers	41.2	43.5	47.5	44.0
Davie x Harbine-1487	43.6	40.8	42.8	42.4
Taylors 502-4255	37.9	48.8	40.3	42.3
Harbine	34.7	42.1	46.8	41.2
Calhoun x Bolivia-954	37.6	36.4	49.3	41.1
Colonial x Bolivia-1341	42.3	38.1	37.4	39.2
Davie	34.3	37.2	34.2	35.2
Mean of Test	40.2	40.6	44.4	41.7
L.S.D. (.05)	10.4	10.2	13.2	

PERFORMANCE OF BARLEY ENTRIES

3-Year Average (1957-1959) 6 Locations - Coastal Plain

Entries	1957 Yield 2 Tests Bu/Acre	1958 Yield 2 Tests Bu/Acre	1959 Yield 2 Tests Bu/Acre	Average Yield Bu/Acre
Colonial x Bolivia 1341	37.2	31.0	35.8	34.6
Colonial 2	29.2	35.6	35.6	33.4
Calhoun x Bolivia 954	30.8	33.1	30.2	31.3
Davie	31.6	21.2	35.7	29.5
Mean of Tests	30.4*	30.2	37.0	32.5

*Standards (1957) were Colonial 2 and Davie

PERFORMANCE OF BARLEY ENTRIES

Coastal Plain - 1959

Entries	Pitt County Bu/Acre	Robeson County Bu/Acre	Average Yield Bu/Acre
Rogers	55.0	42.8	48.9
Davie x Harbine-1487	42.8	39.2	41.0
Harbine	40.4	35.2	37.8
Kenbar x Davie-392	37.4	35.0	36.2
Colonial x Bolivia-1341	29.2	42.5	35.8
Davie	36.5	35.0	35.7
Colonial 2	32.6	38.7	35.6
Taylors 502-4255	25.3	39.2	32.2
Calhoun x Bolivia-954	30.7	29.7	30.2
Mean of Test	36.7	37.5	37.0
L.S.D. (.05)	11.3	8.0	

PERFORMANCE OF OAT ENTRIES

3-Year Average (1957-1959) 7 Locations - Piedmont

Entries	1957 Yield 3 Tests Bu/Acre	1958 Yield 2 Tests Bu/Acre	1959 Yield 2 Tests Bu/Acre	Average Yield Bu/Acre
Fulwood	58.0	58.6	62.4	59.6
Moregrain	45.8	69.0	60.5	58.4
C.I.6994	42.7	68.6	56.8	56.0
Arlington	57.1	66.4	44.2	55.9
Woodgrain	49.0	62.0	51.0	54.0
Victorgrain 48-93	43.2	60.0	49.9	51.0
Fulgrain	45.8	48.4	57.1	50.4
Mean of Tests	50.6*	62.3	54.2	55.7

*Standards (1957) were Victorgrain 48-93, Fulgrain, Fulwood, Woodgrain and Arlington

PERFORMANCE OF OAT ENTRIES

Piedmont - 1959

Entries	Davie County Bu/Acre	Lincoln County Bu/Acre	Average Yield Bu/Acre
Fulwood	61.9	62.9	62.4
Letoria (C1_2-SF)-64	48.9	73.5	61.2
Wintok (C1_2-SF)-536	66.1	55.4	60.8
Moregrain	71.0	50.0	60.5
Moregrain 55-25	65.5	52.8	59.2
Fulgrain	64.2	50.1	57.2
C.I.6994	71.1	42.6	56.9
Coker 58-7	72.6	40.2	56.4
Ga.H1617 x 2	56.5	53.8	55.2
Coker 57-11	54.4	53.4	53.9
Coker 58-17	58.2	48.2	53.2
Woodgrain	49.6	52.4	51.0
Victorgrain 48-93	58.5	41.3	49.9
Fork. x (H-J x(R-R)x SF)-1681	37.4	56.7	47.1
Moregrain 58-22	52.1	41.0	46.6
(Fla.167 x Land.)x Arl.-1336	37.9	53.8	45.9
Arlington	43.7	44.7	44.2
Mean of Test	57.0	51.3	54.2
L.S.D. (.05)	13.1	14.5	

PERFORMANCE OF OAT ENTRIES

3-Year Average (1957-1959) 6 Locations - Coastal Plain

Entries	1957 Yield 2 Tests Bu/Acre	1958 Yield 2 Tests Bu/Acre	1959 Yield 2 Tests Bu/Acre	Average Yield Bu/Acre
Moregrain	57.0	64.9	62.5	61.4
Fulwood	59.0	61.5	63.1	61.2
Suregrain	57.7	63.7	59.4	60.2
Woodgrain	51.2	61.8	61.9	58.3
Arlington	49.9	63.0	44.9	52.6
C.I.6994	40.7	61.4	50.2	50.7
Victorgrain 48-93	44.5	59.5	47.2	50.4
Fulgrain	44.7	52.1	47.9	48.2
Mean of Tests	49.9*	61.0	54.4	55.1

*Standards (1957) were Victorgrain 48-93, Fulgrain, Fulwood, Woodgrain, and Arlington

PERFORMANCE OF OAT ENTRIES

Coastal Plain - 1959

Entries	Pitt County Bu/Acre	Robeson County Bu/Acre	Average Yield Bu/Acre
Moregrain 58-25	63.1	69.4	66.2
Coker 57-11	61.3	71.0	66.1
Fulwood	60.1	66.1	63.1
Moregrain	52.4	72.6	62.5
Woodgrain	65.3	58.5	61.9
Suregrain	49.2	69.6	59.4
Coker 58-7	59.5	58.0	58.7
Moregrain 58-22	54.3	59.9	57.1
Coker 58-17	39.7	68.9	54.3
C.I.6994	34.8	65.7	50.2
Wintok $(Cl^2$-SF)-536	32.9	64.2	48.5
(Fla.167 x Land)x Arl.1336	32.4	64.5	48.4
Fulgrain	43.4	52.5	47.9
Victorgrain 48-93	33.8	60.6	47.2
Atl.(Cl-SF)-505	28.3	62.5	45.4
Arlington	32.1	57.7	44.9
Ga.H1617 x 2	26.7	60.9	43.8
Mean of Test	45.2	63.6	54.4

PERFORMANCE OF WHEAT ENTRIES

3-Year Average (1957-1959) 8 Locations - Piedmont

Entries	1957 Yield 3 Tests Bu/Acre	1958 Yield 2 Tests Bu/Acre	1959 Yield 3 Tests Bu/Acre	Average Yield Bu/Acre
Taylor 49	34.1	38.9	37.0	36.6
Seneca	30.7	40.6	36.1	35.8
Knox	34.6	35.4	34.0	34.6
Anderson	30.3	37.9	33.3	33.8
Thorne	26.2	37.1	36.5	33.2
Wakeland	27.4	33.3	35.9	32.2
Coker 47-27	22.9	40.6	33.2	31.5
Atlas 66	24.6	32.8	34.3	30.5
Coker 55-3	23.6	33.6	33.3	30.1
Atlas 50	24.8	33.4	30.2	29.4
Redhart	12.3	36.4	34.3	27.6
Mean of Tests	28.4*	34.0	34.5	32.3

*Standards (1957) were Atlas 50, Atlas 66, Anderson, Taylor, Taylor 49, Knox and Coker 47-27

PERFORMANCE OF WHEAT ENTRIES

Piedmont - 1959

Entries	Davie County Bu/Acre	Lincoln County Bu/Acre	Randolph County Bu/Acre	Average Yield Bu/Acre
Wakeland 215	37.2	39.5	34.6	37.1
Taylor 49	35.3	44.0	31.9	37.0
Thorne	38.3	38.3	33.1	36.5
Seneca	33.9	36.5	38.0	36.1
Wakeland	39.5	33.4	34.9	35.9
Dual	36.8	37.6	32.8	35.7
T1123-3-20	34.0	38.7	31.8	34.8
Redhart	36.9	35.9	30.1	34.3
Atlas 66	31.1	38.5	33.5	34.3
Knox	34.2	33.7	34.2	34.0
White Anderson	32.0	37.2	31.6	33.6
Anderson	30.7	38.6	30.7	33.3
Coker 55-3	37.9	28.4	33.7	33.3
Coker 47-27	31.2	37.9	30.7	33.2
C.I.12651 x At.66-4049	36.6	28.0	34.9	33.1
Atlas 50	30.6	33.5	26.7	30.2
Mean of Test	34.8	36.2	32.7	34.5
L.S.D. (.05)	5.2	12.1	6.9	

PERFORMANCE OF WHEAT ENTRIES

3-Year Average (1957-1959) 6 Locations Coastal Plain

Entries	1957 Yield 2 Tests Bu/Acre	1958 Yield 2 Tests Bu/Acre	1959 Yield 2 Tests Bu/Acre	Average Yield Bu/Acre
Wakeland	33.0	31.2	40.8	35.0
Taylor 49	29.7	35.2	33.1	32.6
Atlas 50	30.1	32.9	33.2	32.0
Atlas 66	29.1	31.1	35.8	32.0
Coker 55-3	31.8	32.7	28.4	30.9
Redhart	22.2	33.8	34.2	30.0
Coker 47-27	24.1	33.7	30.0	29.2
Anderson	27.2	31.1	27.4	28.5
Mean of Tests	27.6*	27.9	33.0	29.2

*Standards (1957) were Atlas 50, Atlas 66, Anderson, Coker 47-27.

PERFORMANCE OF WHEAT ENTRIES

Coastal Plain - 1959

Entries	Pitt County Bu/Acre	Robeson County Bu/Acre	Average Yield Bu/Acre
Wakeland	46.0	35.6	40.8
(L x A)x At.-13314	39.6	33.4	36.5
Atlas 66	38.9	32.8	35.8
.I.12651 x At.66-4049	37.8	32.4	35.1
akeland 215	34.5	34.2	34.3
edhart	34.4	34.1	34.2
1123-3-20	36.6	31.8	34.2
(L x A)x At.-18167	36.7	31.5	34.1
tlas 50	35.6	30.8	33.2
aylor 49	36.0	30.2	33.1
hite Anderson	34.8	25.7	30.2
oker 47-27	34.1	26.0	30.0
oker 55-3	28.4	28.4	28.4
al	33.9	23.0	28.4
derson	23.7	31.1	27.4
Mean of Test	35.4	30.7	33.0
L.S.D. (.05)	6.0	5.1	