Results of the

KENTUCKY GRAIN SORGHUM

PERFORMANCE TESTS

1959

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University of Kentucky
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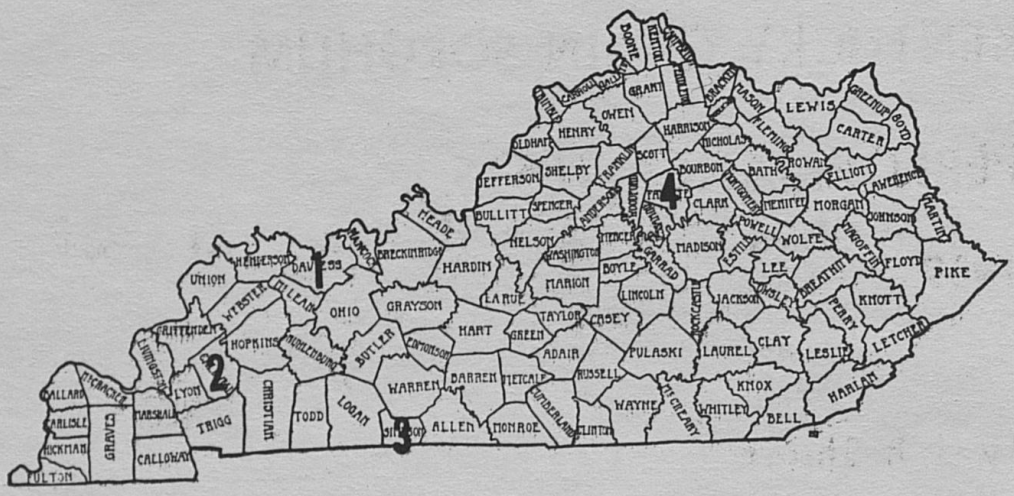
LOCATIONS OF THE 1959 GRAIN SORGHUM PERFORMANCE TESTS



	Location	Fertilizer applied	Row Spacing	Date Planted	Date Harvested
1.	Owensboro Cooperator	Test not harvested. Wayland Givens			
2.	Princeton	30 # N 10T. manure	40"	May 11	Oct. 5
	Cooperator	Western Ky. Substation			
3.	Franklin	80# N 40#P_2O_5 120# K_2O (muriate) 5T manure	42"	June 5	Oct. 14
	Cooperator	Paul T. Garrett			
4.	Lexington Cooperator	400# 12-12-12 Ky. Agr. Exp. Sta.	40"	May 8	Oct. 22

RESULTS OF THE KENTUCKY GRAIN SORGHUM PERFORMANCE TESTS - 1959

J. F. Shane

The objective of the Kentucky Grain Sorghum Performance Test is to provide an estimate of the relative performance of grain sorghum hybrids and varieties.

This report presents yield and other agronomic data obtained from grain sorghum plantings made at various locations in the state. The grain sorghum tests consisted of 18 hybrids and 18 varieties. Each hybrid or variety was planted in 2-row plots 10 feet long in each of 4 replications. Also presented in this report are data from an eleven entry sorghum silage test at Franklin.

Heads in the tests at Franklin and Lexington were bagged to prevent bird damage. When tests are grown near highly populated areas, which serve as roosting places for birds, they are more subject to attack by birds than they are in open fields.

The test at Owensboro was not harvested this year due to flooding of the field in June. Crab grass and weeds were abundant in the tests.

Average yields for the tests at Princeton, Franklin and Lexington were 67.3, 57.3 and 67.9 bushels per acre, respectively. The average yield for all locations was 64.1 bushels per acre.

The following tables present one-year summaries for Princeton, Franklin and Lexington, two-year summaries for Franklin and Lexington, and the summary of the silage test at Franklin.

EXPLANATION OF TERMS USED IN THIS REPORT

1. Yield. Yields of grain sorghum are reported as bushels per acre of threshed grain at 13.0 percent moisture and 56 pounds per bushel. Adjustments were made for bird damage and for significant variations in stand. Silage yields are reported in tons per acre of dry matter.

2. Moisture. Samples for moisture determinations were taken from the bulked grain of all replications.

3. Height. The distance from the base of the plant to the top of the plant is reported in inches for grain sorghum and in feet for silage sorghum.

4. Head Exsertion. The distance between the top leaf and the base of the head. This characteristic is reported as G - good, F - fair, and P - poor. Varieties with good head exsertion are more easily combined because less plant material will be passed through the combine.

5 Lodging. Plants leaning at an angle of more than 30 degrees from the vertical are considered lodged.

6. Broken Peduncles. Plants that are broken between the top leaf and the head.

7. Test Weight. Test weight or weight per bushel is one of the quality factors used in determining the grade that is assigned in commercial marketing of grain. The higher the test weight, the higher the market value unless the grain is down-graded by another factor.

8. Date Headed. The number of days after July 1 when 50 percent of the heads have emerged from the leaf sheath.

9. L. S. D. The abbreviation "L.S.D." means least significant difference. Two varieties differing in yield by less than the L.S.D. cannot be said to differ in yield in that particular test if one wishes to be correct at least 95 percent of the time.

10. Seed Set. An estimate of the amount of seed produced on the head compared to the total which could have been produced.

VARIETIES AND HYBRIDS TESTED

Varieties

Combine 7078	Dwarf Sagrain
Redbine 60	Texas 07
D D Schrock Kafir	2511 (yellow endosperm)
Early Kalo	Combine Shallu
Martin	Caprock
Texas 74	Redlan
Redbine 58	Texas 04
Plainsman	Westland
Midland	Combine Kafir 60

Hybrids	Source of Hybrids
C-44a	DeKalb Agricultural A'ssn. DeKalb, Ill.
D-50a	
D-55	
E-56a	
F-62a	
F-63	
X-49	
P.A.G. 425S	Pfister Associated Growers, Inc. Auroura, Illinois and Huntsville, Alabama
P.A.G. 435S	
P.A.G. 515S	
Texas 601	Texas Agricultural Exp. Substation Lubbock, Texas
Texas 611	
Texas 620	
RS 501	Nebraska Agricultural Experiment Station, Lincoln, Nebraska
RS 590	
RS 608	
RS 610	
RS 650	

Table 1. Performance of grain sorghum grown at Princeton, Ky. 1959.

Variety or Hybrid	Yield Bu/Acre	Moisture	Plant Height Inches	Head Exsertion	Broken Peduncles %	Test Weight lb/Bu
Combine 7078	54.1	Heads were harvested and dried to a uniform moisture content before threshing	37	P	6	51.8
Redbine 60	64.7		41	G	4	54.6
D-50a	80.2		47	F+	2	56.4
Texas 601	76.6		43	G		56.8
RS 610	75.1		41	G	1	53.5
DD Schrock Kafir	30.6		43	F		52.9
Early Kalo	51.7		35	G-		56.5
Martin	65.6		39	G-	2	58.7
Texas 74	74.0		44	G	1	53.5
Redbine 58	60.0		39	G		56.2
RS 501	--		46	F		--
P.A.G. 435S	71.9		36	G	2	55.2
Plainsman	73.4		38	F		55.0
D-55	100.4		42	F+		56.9
Midland	60.9		37	F		55.6
RS 590	76.6		43	G		57.6
Texas 611	75.7		45	G		56.2
F-62a	81.1		41	G	1	54.6
Dw. Sagrain	57.9		50	F+		56.4
Texas 07	61.8		38	G	1	53.3

F-63	68.0		46	G		55.6
P.A.G. 425S	76.3		37	G		55.7
2511	43.7		39	F		51.2
RS 650	76.3		36	F		56.0
Combine Shallu	74.0		47	G	3	59.2
Texas 620	75.7		46	F		57.2
Caprock	74.8		38	F-	2	52.5
Redlan	46.6		44	F		56.6
E-56a	67.1		43	G		52.4
X-49	63.0		44	F+		54.7
Texas 04	62.1		39	G-	3	56.4
Westland	49.3		39	G-		55.4
C-44a	70.7		39	F+		54.3
RS 608	69.8		37	G-		55.3
P.A.G. 515S	78.4		43	G	1	55.9
Combine Kafir 60	66.2		43	F		58.0
Means	67.3		41			55.4
L.S.D.	17.8					

Heads were harvested and dried to a uniform moisture content before threshing

Table 2. Performance of grain sorghum at Franklin, Ky. 1959

Variety or hybrid	Yield Bu/acre	Moisture %	Plant Height Inches	Head Exsertion	Broken Peduncles %
Combine 7078	53.1	9.3	38	F	45
Redbine 60	46.7	9.9	42	G	30
D-50a	69.7	9.7	48	F+	38
Texas 601	60.4	11.2	44	G+	33
RS 610	64.9	10.4	42	G	20
DD Schrock Kafir	52.0	9.7	44	G	21
Early Kalo	54.4	11.3	36	G+	14
Martin	51.0	9.8	40	G+	23
Texas 74	60.7	9.0	45	G+	11
Redbine 58	59.3	9.7	40	G	38
RS 501		--	46	G+	--
P.A.G.435S	56.1	9.4	37	G	29
Plainsman	53.3	9.6	39	G-	32
D-55	66.0	9.8	43	G-	9
Midland	56.1	9.9	38	F+	9
RS 590	65.9	9.9	44	G+	20
Texas 611	58.3	11.2	47	G+	12
F-62a	56.6	9.6	42	G+	26
Dw. Sagrain	41.7	9.4	51	G-	17
Texas 07	52.9	9.7	39	G	44
F-63	69.3	9.9	47	G	24
P.A.G. 425S	56.6	9.1	38	G	36
2511	32.4	8.0	41	P	18

RS 650	71.9	10.8	37	G-	21
Combine Shallu	59.5	9.9	48	G	57
Texas 620	54.6	9.9	47	F+	11
Caprock	56.4	9.1	40	F	33
Redlan	51.3	9.8	46	F	11
E-56a	73.3	9.5	44	G	40
X-49	62.6	11.6	45	G	29
Texas 04	55.9	9.3	40	G	53
Westland	53.5	11.8	40	G-	17
C-44a	60.1	8.9	40	G	27
RS 608	51.3	9.3	38	F+	23
P.A.G. 515S	62.1	9.7	44	G	24
Combine Kafir 60	57.5	11.3	44	F-	8
Means	57.3	9.9	42		26
L.S.D.	17.0				

Table 3. Performance of grain sorghum grown at Lexington, Ky. 1959.

Variety or hybrid	Yield Bu/acre	Moisture %	Plant Height	Head Exsertion	Date Flowered	Test Weight lb/bu
Combine 7078	53.6	12.5	37	F-	31	59.9
Redbine 60	57.8	12.7	41	F+	28	59.8
D-50a	80.2	12.7	47	G-	26	59.7
Texas 601	71.6	13.6	43	F+	28	59.1
RS 610	--	12.5	41	G	25	59.4
DD Schrock Kafir	72.7	12.7	43	F+	39	60.2
Early Kalo	--	12.5	35	G-	21	59.2
Martin	--	12.8	39	G-	26	59.4
Texas 74	63.9	11.9	44	G	33	59.2
Redbine 58	62.1	12.7	39	G	27	59.7
RS 501	--	--	--	F	23	--
P.A.G. 435S	78.2	12.3	36	G	27	59.8
Plainsman	64.1	12.2	38	F-	33	56.6
D-55	80.7	13.0	42	F+	27	55.7
Midland	--	13.4	37	F	25	56.1
RS 590	78.0	13.4	43	G	27	58.1
Texas 611	81.5	13.0	45	G-	30	60.9
F-62a	85.2	12.8	41	G-	29	58.0
Dw. Sagrain	71.5	12.3	50	F	35	58.8
Texas 07	56.1	14.2	38	G-	31	62.7
F-63	70.1	13.1	46	G	34	59.9

(OT)

P.A.G. 425S	65.6	13.8	37	G	26	60.1
2511	54.9	12.9	39	F-	32	59.7
RS 650	67.5	12.4	36	F+	28	57.2
Combine Shallu	66.5	13.1	47	G+	30	59.7
Texas 620	--	12.8	46	G-	27	59.8
Caprock	58.4	12.4	38	F-	33	58.3
Redlan	63.5	12.9	44	F	36	60.4
E-56a	74.1	11.9	43	G-	30	57.6
X-49	64.6	12.5	44	F+	27	59.6
Texas 04	72.7	13.2	39	G-	30	59.1
Westland	46.0	12.7	39	G-	28	58.7
C-44a	59.7	12.8	39	G-	29	58.6
RS 608	--	12.4	37	F+	26	59.9
P.A.G. 515S	83.2	12.5	43	G	30	59.5
Combine Kafir 60	64.2	12.0	43	F	31	60.0
Means	67.9	12.8	41		29	59.2
L.S.D.	19.4					

Table 4. Two-year summary of performance of grain sorghum at Franklin, Ky. 1958-1959

Variety or hybrid	Yield Bu/A	Moisture %	Plant Height Inches	Head Exsertion	Broken Peduncle %
Combine 7078	60.4	11.6	40	P	23
Redbine 60	52.5	12.5	49	G	15
D-50a	81.9	11.9	52	F+	22
Texas 601	67.8	13.3	50	G+	17
RS 610	74.0	12.3	46	G	11
Early Kalo	61.5	12.9	44	G	7
Martin	59.2	11.6	44	G	12
Texas 74	65.6	11.5	47	G	6
Redbine 58	61.6	11.5	47	G	22
P.A.G. 435S	73.3	11.1	43	G	16
Plainsman	70.8	12.8	44	F+	17
Midland	59.6	11.5	43	F	5
RS 590	67.1	12.0	50	G	10
Texas 611	65.0	12.5	51	G	6
F-62a	63.9	11.9	49	G	7
Texas 07	61.5	11.9	44	G	25
P.A.G. 425S	71.4	11.8	44	G	18
RS 650	74.2	11.9	44	F	11
Combine Shallu	65.6	12.3	57	G	41
Texas 620	63.3	11.5	50	F	6
Caprock	72.6	12.4	45	F-	18
Redlan	64.7	12.7	52	F	6
E-56a	70.9	10.9	48	G	21
Texas 04	60.6	12.2	46	G	37
Westland	55.7	12.9	42	G-	9
C-44a	68.1	11.6	44	F+	14
P.A.G. 515S	79.4	11.5	50	G-	12
Combine Kafir 60	62.3	12.7	49	F	4

Table 5. Two-year summary of performance of grain sorghum at Lexington, Ky. 1958-1959

Variety or hybrid	Yield Bu/A	Moisture %	Plant Height Inches	Head Exsertion	Date Headed
Combine 7078	84.9	22.7	43	F-	33
Redbine 60	81.1	21.2	47	G-	29
D-50a	109.8	20.2	51	G-	27
Texas 601	104.4	21.2	48	F+	30
RS 610	---	20.7	47	G-	28
Early Kalo	---	21.4	41	F+	24
Martin	---	19.2	44	G-	29
Texas 74	94.4	21.1	46	G	34
Redbine 58	84.0	21.8	45	G	29
P.A.G. 435S	90.8	21.5	42	G	29
Plainsman	98.8	21.7	42	F	35
Midland	---	20.8	41	F+	28
RS 590	95.0	22.6	48	G-	29
Texas 611	102.8	23.7	48	G	31
F-62a	104.4	20.2	47	G-	30
Texas 07	85.6	22.6	44	F+	33
P.A.G. 425S	95.3	22.8	41	G-	28
RS 650	92.7	20.5	41	G-	29
Combine Shallu	82.3	20.6	54	G+	33
Texas 620	---	20.7	50	G	28
Caprock	83.6	21.7	42	F	35
Redlan	76.6	23.7	48	F	36
E-56a	101.7	20.6	48	F+	30
Texas 04	91.3	20.1	44	F+	32
Westland	68.2	20.1	40	F+	29
C-44a	96.1	21.9	43	F+	30
P.A.G. 515S	104.2	23.6	47	G-	32
Combine Kafir 60	73.9	22.9	49	F	33

Table 6. Sorghum silage experiment grown at Franklin, Ky. 1959

	Dry Matter		Seed Set	Plant Height	Lodging
	Total Tons/A	in head %	%	ft	%
Sart	14.6		0	10.0	6
Tracy	8.5		0	8.0	2
RS 301F	7.2	21	80	8.5	8
RS 303F	8.6		0	8.3	2
FS-1	8.1		50	8.0	1
Atlas	7.3		0	8.3	1
Axtell	5.7		50	8.0	1
Norkan	5.3	25	100	8.0	14
Leoti	5.4	23	100	7.5	19
Rox	8.7	31	100	8.0	2
Hegari	5.0	32	100	5.0	1
Means	7.7			8.0	5.4
L.S.D.	1.7				

3.4M--12-59