

Results of the
KENTUCKY GRAIN SORGHUM
PERFORMANCE TESTS
1960

By J.F. Shane, H.R. Richards
and Leo A. Link



Progress Report 96

(Filing Code: 1-1)

University of Kentucky
Kentucky Agricultural Experiment Station
Lexington

LOCATION OF THE 1960 GRAIN
SORGHUM PERFORMANCE TESTS



<u>Location</u>	<u>Fertilizer applied</u>	<u>Row Spacing</u>	<u>Date Planted</u>	<u>Date Harvested</u>
1. Owensboro Cooperator: Beverly Gregory	Test not harvested			
2. Princeton Cooperator: Western Ky. Substation	400 lb superphosphate 40 lb N	40"	June 17	Sept. 27
3. Franklin Cooperator: Paul T. Garrett	Test not harvested			
4. Lexington Cooperator: Ky. Agr. Exp. Sta.	400 lb 6-6-18	40"	May 24	Sept. 13

RESULTS OF THE KENTUCKY GRAIN SORGHUM
PERFORMANCE TESTS - 1960

J. F. Shane, H. R. Richards and Leo A. Link

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 17 hybrids and 9 varieties. Each hybrid or variety was planted in 2-row plots 10 feet long in each of 4 replications.

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 Lexington was harvested early to avoid damage by birds and eliminate the necessity of bagging or standing guard with a shotgun.

The test at Owensboro was completely destroyed by birds. The test at Franklin was not harvested because of damage by water and weeds early in the season.

Average yields for the tests at Princeton and Lexington were 66.2 and 89.5 bushels per acre, respectively. The average yield for both locations was 77.9 bushels per acre.

The following tables present one-year summaries for Princeton and Lexington, a two-year summary for Princeton and a three-year summary for Lexington. Data for results at Franklin, Ky. are available in previous reports.

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.
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.
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 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 Flowered. The number of days after July 1 when 50 percent of the heads have flowered.
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. Head Type. Heads are classed as O-open, I-intermediate or C-compact. Open type heads are more desirable since they are less likely to mold and harbor insects.

VARIETIES AND HYBRIDS TESTED

Varieties

Martin
Texas 74
Redbine 58
Plainsman
Midland

Combine Shallu
Caprock
Westland
Combine Kafir 60

Hybrids

P.A.G. 425S
P.A.G. 515S
P.A.G. 605S
P.A.G. 3153S

Texas 601
Texas 611
Texas 620

RS 501
RS 590
RS 608
RS 610
RS 650

Lindsey 744
Lindsey 788

NK 140
NK 210
NK 310

Source of Hybrids

Pfister Associated Growers, Inc.,
Aurora, Ill. and Huntsville,
Ala.

Texas Agricultural Exp. Substation
Lubbock

Nebraska Agricultural Experiment
Station, Lincoln.

Lindsey Seed Company
Lubbock, Texas

Northrup, King Co.
Minneapolis 13, Minn.

Table 1. Performance of grain sorghum at Princeton, Ky. 1960

Variety or hybrid	Yield bu/acre	Mois. %	Plant height inches	Head Type	Test weight lb/bu
Combine Kafir 60	52.6		44	C	59.8
RS 590	53.9		42	I	56.0
NK 210	89.2		45	I	57.3
Midland	56.5		38	C	54.5
Lindsey 788	85.6		46	I	55.5
P.A.G. 425S	71.8		39	I	57.3
Texas 611	63.8		51	I	58.8
NK 140	66.0		43	O	56.0
RS 608	73.3		38	I	54.4
P.A.G. 515S	80.9		44	I	55.9
Caprock	70.0		36	C	55.6
NK 310	69.2		45	I	58.1
P.A.G. 3153S	77.8		38	-	57.7

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

Westland	47.0	32	C	56.8
RS 650	72.2	41	I	56.4
P.A.G. 605S	90.4	47	I	57.0
Redbine 58	66.2	40	I	58.2
Texas 74	40.4	37	C	56.1
Combine Shallu	50.3	41	O	58.3
Texas 620	71.6	47	I	57.2
RS 610	78.5	46	C	55.2
RS 501	38.8	50	I	57.0
Texas 601	74.7	45	I	58.6
Martin	67.6	39	I	59.2
Lindsey 744	75.0	37	I	57.0
Plainsman	36.9	31	C	56.7
Mean	66.2	42		56.9
L.s.d. 5%	14.1			

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

(2)

Table 2. Performance of grain sorghum at Lexington, Ky. 1960

Variety or hybrid	Yield bu/acre	Mois. %	Plant height inches	Date Flowered	Test weight lb/bu
Combine Kafir 60	72.1	33.0	57	36	54.5
RS 590	103.7	31.0	57	30	56.6
NK 210	97.1	31.0	55	31	56.9
Midland	71.0	22.9	48	34	56.7
Lindsey 788	97.2	33.0	61	34	55.0
P.A.G. 425S	86.7	22.7	48	27	57.7
Texas 611	111.5	31.6	62	31	57.4
NK 140	79.6	21.9	55	27	56.2
RS 608	85.4	27.6	50	31	57.3
P.A.G. 515S	119.2	26.5	53	33	56.0
Caprock	74.9	34.9	45	35	53.8
NK 310	124.5	34.1	61	37	56.1
P.A.G. 3153S	80.4	25.2	47	29	56.1

Westland	65.6	43	29	56.1
RS 650	79.9	53	30	53.4
P.A.G. 605S	100.8	60	33	56.7
Redbine 58	84.3	54	30	57.6
Texas 74	64.1	48	36	52.0
Combine Shallu	95.9	56	37	61.6
Texas 620	98.9	58	29	56.5
RS 610	97.3	56	29	55.9
RS 501	101.9	60	24	58.3
Texas 601	97.2	58	31	59.4
Martin	75.6	52	30	56.3
Lindsey 744	85.4	50	29	56.0
Plainsman	75.7	47	35	53.0
Mean	89.5	54	31	56.3
L.s.d. 5%	10.9			

(9)

Table 3. Two-year summary of performance of grain sorghum at Princeton, Ky. 1959-60

Variety or hybrid	Yield bu/acre	Plant height inches	Broken peduncles %	Test weight lb/bu
Combine Kafir 60	59.4	44		57.6
RS 590	65.3	43		57.0
Midland	58.7	38		55.6
P.A.G.425S	74.1	38		56.6
Texas 611	69.8	48		57.2
P.A.G.515S	79.7	44	0.5	56.0
Caprock	72.4	37	1.0	53.6
Westland	48.2	36		56.0
RS 650	74.3	39		55.0
Redbine 58	63.1	40		57.1
Texas 74	57.2	41	0.5	53.8
Combine Shallu	62.2	44	1.5	59.6
Texas 620	73.7	47		57.1
RS 610	76.8	44	0.5	54.6
Texas 601	75.7	44		57.9
Martin	66.6	39	1.0	58.3
Plainsman	55.2	35		55.0
Mean	66.6	41		56.4

Table 4. Three-year summary of performance of grain sorghum at Lexington, Ky.
1958-1960

Variety or hybrid	Yield bu/acre	Moist. %	Plant height inches	Date flowered	Head Exsertion	Test weight lb/bu
Combine Kafir 60	73.3	28.0	53	35	F	58.8
RS 590 <u>1/</u>	97.9	25.4	53	30	G	57.4
Midland <u>1/</u>	83.7	21.5	45	31	F	56.4
P.A.G. 425S	92.4	22.8	45	28	G	58.9
Texas 611 <u>1/</u>	105.7	26.3	55	31	G	59.2
P.A.G. 515S	109.2	24.6	50	33	G	57.8
Caprock	80.7	26.1	44	35	F	56.1
Westland	67.3	22.2	42	29	F+	57.4
RS 650	88.4	23.1	47	30	F+	55.3
Redbine 58	84.1	24.1	50	30	G	58.7
Texas 74	84.3	27.0	47	35	G	55.6
Combine Shal lu	86.8	23.7	55	35	G+	60.7
Texas 629 <u>1/</u>	111.3	23.3	54	29	G	58.2
RS 610 <u>1/</u>	115.4	23.4	52	29	G	57.7
Texas 601 *	102.0	24.0	53	31	F+	59.3
Martin <u>1/</u>	80.5	20.2	48	30	G-	57.9
Plainsman	91.1	25.0	45	35	F-	54.8
Mean	91.4	24.2	49	32		57.7

(11)

1/ Two year data on yield.

3.4M-1-61

3.4M-1-61