

Results of the
KENTUCKY GRAIN SORGHUM
PERFORMANCE TESTS
1953-1955

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The tests reported herein were designed for the evaluation of existing grain sorghum varieties which were developed by state and federal agencies. Performance records for the varieties tested are given in Tables 1 - 7. The summary for the period 1953-1955 is given in Tables 8 - 9.

EXPERIMENTAL PROCEDURE

Row Spacing was 36 inches in the Lexington test, 42 inches in the Hopkinsville test, and 21 and 42 inches in the Princeton test.

Planting rates were 6 to 8 pounds of seed per acre. No stand counts were made in the Lexington and Hopkinsville tests. Stands at Princeton are given in Table 6 with other pertinent agronomic data.

Yields are recorded as bushels per acre of threshed grain at 13.0 percent moisture. Corrections were made for major differences in stands, but not for minor differences.

Plant height was measured as it is important in relation to combining.

INTERPRETATION OF DATA

The difference necessary to assure reasonably that a significant difference in yield exists between varieties has been calculated and is given at the foot of each table as the least significant difference (L. S. D.). Unless the yields of two varieties being compared differ by as much as or more than the L. S. D., little confidence can be placed in the superiority of one variety over the other in that particular test.

Agronomic data other than yield have not been subjected to a statistical analysis; however, small differences between varieties should not be considered strongly indicative of a true difference.

Grain Sorghum Yield Trials, Lexington, Kentucky.

Table 1. 1953 - Planted June 8, 1953

Variety	Yield per Acre 13.0% Moisture bu	Date Headed	Height to:		Test wt. per bushel lb
			Top Leaf in.	Top of Plant in.	
Early Combine Hegari	70.9	8/9	39	50	57.7
Early Hegari	62.3	8/6	44	55	58.3
Martins	43.7	8/2	29	42	58.6
Redbine - 56	43.6	7/30	29	43	58.2
Plainsman	51.8	8/4	32	44	57.8
Means	54.5	8/4	35	47	58.1
L. S. D.	11.8				

Table 2. 1954 - Planted June 21, 1954

Variety	Yield per acre 13.0% moist. bu	Date Headed	Lodging %	Test wt. per bu. lb
Early Combine Hegari	43.6	8/24	28	56.3
Early Hegari	44.9	8/20	4	57.3
Martins	41.6	8/19	3	59.6
Redbine - 56	31.4	8/17	3	58.7
Plainsman	33.8	8/24	1	56.1
Midland	50.8	8/26	0	56.9
Westland	43.0	8/19	1	58.2
Means	41.3	8/21	6	57.6
L. S. D.	10.2			

Table 3. 1955 - Planted June 3, 1955

Variety	Yield per Acre 13.0% Moisture bu	Height to		Test wt. per bushel lb
		Top Leaf in.	Top of Plant in.	
Early Combine Hegari	88.4	46	58	56.3
Early Hegari	69.5	44	55	55.8
Martins	66.1	37	50	57.2
Redbine - 56	83.0	41	58	56.8
Plainsman	80.7	35	49	56.8
Midland	67.3	43	55	55.2
Westland	70.6	33	47	58.7
Norghum	66.6	35	47	51.4
Darset	83.1	31	47	53.0
Early Hegari (Tall)	81.3	54	66	58.3
Means	75.7	40	53	56.0
L. S. D.	12.9			

Grain Sorghum Yield Trials, Hopkinsville, Kentucky.

Table 4 1954 - Planted May 27, 1954

Variety	Yield per	Moisture	Height to:	
	Acre 13.0% Moisture	at Harvest	Top Leaf	Top of Plant
	bu	%	ins.	ins.
Early Combine Hegari	61.0	15.0	40	50
Early Hegari	56.6	19.0	38	46
Martins	58.6	17.0	26	40
Redbine - 56	59.5	17.0	25	37
Plainsman	73.9	15.0	29	39
Midland	61.2	17.0	31	42
Westland	68.	17.0	26	38
Double Dwarf Early Hegari	58.6	19.0	28	36
Means	62.2	17.0	30	41
L. S. D.	8.4			

Table 5 1955 - Planted May 31, 1955

Variety	Yield per	Moisture	Date	Height to:		Test wt.	Head
	Acre 13.0% Moisture	at Harvest	Head - ed	Top leaf	Top of Plant	per bushel	Exser- tion Grade
	bu	%		in.	in.	lb	
Early Combine Hegari	61.0	10.8	7/31	39	55	56.9	G
Early Hegari	58.2	10.9	7/26	41	54	55.3	G
Martins	62.2	11.2	8/2	31	45	57.5	F
Redbine - 56	75.4	12.2	7/31	31	47	57.0	G-
Plainsman	63.8	17.4	8/8	31	46	54.0	F
Midland	62.3	11.4	8/2	39	54	52.6	G
Westland	58.5	11.9	8/4	32	47	56.1	G
Norghum	43.8	9.0	7/26	37	50	52.6	G
Darset	55.0	12.1	8/8	33	43	53.5	P
Double Dwarf Early Hegari	68.6	12.0	8/8	30	40	58.0	P
Means	60.9	11.9	8/2	34	48	55.4	
L. S. D.	13.1						

Grain Sorghum Yield Trails, Princeton, Kentucky.

Table 6. Row spacing - 42" Planted May 31, 1955.

Variety	Yield per Acre 13.0% Moisture bu	Moisture at Harvest %	Date Head- ed	Height to:		Plants /ft. of row no.	Test wt./ bu. lb
				Top Leaf in.	Top of Plant in.		
Plainsman	42.2	15.0	8/10	28	40	3.1	55.4
Darset	41.4	16.0	8/6	30	38	3.6	55.8
Midland	33.9	15.0	8/2	36	46	4.0	54.8
Norghum	31.8	14.0	7/25	34	44	5.4	53.8
Redlan	28.1	15.0	8/12	36	46	3.0	53.0
Westland	42.7	14.0	8/6	28	37	3.0	57.3
Early Combine Hegari	40.9	13.0	7/28	42	54	4.9	55.6
Means	37.3	14.6	8/4	33	44	3.9	55.1
L. S. D.	10.4						

	Row spacing - 21"						
	bu	%	Date	in.	in.	no.	lb
Plainsman	42.1	12.0	8/10	30	40	2.7	53.9
Darset	42.8	12.0	8/6	28	38	2.8	55.1
Midland	33.4	15.0	8/2	36	46	3.2	53.3
Norghum	32.6	12.0	7/25	33	42	3.1	54.0
Redlan	28.4	16.0	8/12	36	44	2.1	52.6
Westland	44.4	14.0	8/6	30	40	2.5	56.2
Early Combine Hegari	38.0	16.0	7/28	44	54	2.7	53.4
Means	37.4	13.9	8/4	34	43	2.7	54.1
L. S. D.	Not Significant.						

Performance of Grain Sorghums in Late Planting at
Lexington and Hopkinsville.

Table 7. Lexington Planted July 1, 1955

Variety	Yield per Acre 13.0% Moisture bu	Height to:		Test wt. per Bushel lb
		Top Leaf in.	Top of Plant in.	
Martins	70.7	32	50	57.4
Redbine - 56	70.0	36	52	56.4
Norghum	67.0	40	53	57.4
Westland	66.3	30	47	58.1
Reliance	65.5	39	53	57.6
Early Kalo	61.1	40	55	58.8
Early Hegari	56.6	47	58	52.7
Midland	53.1	38	52	55.2
Plainsman	52.3	34	46	54.9
Means	62.5	37	52	56.5
L. S. D.	15.3			

Hopkinsville Planted June 28, 1955

Variety	Yield per Acre 13.0% Moisture bu	Moisture at Harvest %	Date Head- ed	Height to:		Test wt. per bushel lb
				Top Leaf in.	Top of Plant in.	
Early Hegari	37.0	15.2	7/19	43	54	51.9
Martins	47.6	13.9	7/16	29	41	54.8
Redbine - 56	41.8	14.0	7/14	30	42	54.9
Plainsman	52.8	15.0	7/19	28	40	53.6
Midland	41.2	14.4	7/20	35	44	54.1
Westland	49.6	14.8	7/15	30	44	56.4
Norghum	29.5	12.5	7/11	34	46	56.1
Early Kalo	47.4	14.9	7/16	36	50	55.2
Reliance	30.1	13.8	7/13	36	50	53.5
Means	41.9	14.3	7/16	33	46	54.5
L. S. D.	7.0					

Summary of Performance at Lexington, 1953-1955 ^{1/}

Table 8. Normal Planting Date

Variety	Yield per Acre 13.0% Moisture	Date Head- ed	Height to:		Test wt. per bushel
			Top Leaf	Top of Plant	
3-year Ave.	bu		in.	in.	lb
Early Combine Hegari	67.6	8/15	42	54	56.8
Early Hegari	58.9	8/13	44	55	57.1
Martins	50.5	8/10	33	46	58.5
Redbine - 56	52.7	8/9	35	50	57.9
Plainsman	55.4	8/14	33	46	56.9
2-year Ave.					
Midland	59.0	-	-	-	56.0
Westland	56.8	-	-	-	58.4

^{1/} Lodging was negligible except in 1954 and plant height was not measured, therefore no data are given for these characteristics for Midland and Westland as a 2-yr. average.

Summary of Performance at Hopkinsville, 1954-1955.

Table 9. Normal Planting Date

Variety	Yield per Acre 13.0% Moisture	Moisture at Harvest	Date ^{1/} Headed	Height to:	
				Top Leaf	Top of Plant
	bu	%		in.	in.
Early Combine Hegari	61.0	12.9	7/31	39	52
Early Hegari	57.4	14.9	7/26	39	50
Martins	60.4	14.1	8/2	28	42
Redbine - 56	67.4	13.6	7/31	28	42
Plainsman	68.8	16.2	8/8	30	44
Midland	61.8	14.2	8/2	35	48
Westland	63.4	14.4	8/4	29	42
Double Dwarf Early Hegari	63.6	15.5	8/8	29	38

^{1/} Data from 1 year's test.