1967
Missouri Grain Sorghum Performance Trials

R. D. Horrocks
N. G. Weir
M. S. Zuber

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The authors are R. D. Horrocks, assistant professor of Agronomy, and N. G. Weir, research technician, University of Missouri, and M. S. Zuber, Research Agronomist, Crops Research Division, Agricultural Research Service, United States Department of Agriculture, and Professor of Agronomy, University of Missouri.

The following individuals assisted in making the 1967 Sorghum Performance Trials possible: Larkin Langford, Earl Page, Norman Justus, and Norman Brown.

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SORGHUM PERFORMANCE TRIALS

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INTRODUCTION

Grain sorghum performance trials were conducted at five locations in 1967. They were located at the North Missouri Center near Spickard, Palmyra (northeast), University farm near Columbia, Southwest Missouri Center near Mt. Vernon, and the Delta Center near Portageville (Figure 1).

The test at Spickard was not planted until July 5, 1967, due to wet weather conditions. Late planting coupled with an earlier than usual fall frost did not allow enough time for grain development. Thus, no harvest was made. At Portageville (southeast), the test was destroyed by birds.

The 1967 estimate of harvested acres of grain sorghum was 141.7 percent of the 1966 acreage and 84.9 percent of the 10-year average. The 1967 estimate of 56 bushels is five bushels more than the 10-year average and four bushels less than the estimated 1967 corn yield. These data are presented in Table 1, and were obtained from the Missouri Farm Census Reports.

Comparisons between the yield of corn and grain sorghum at two of the testing sites can be made, since these tests were located either in the same field or in close proximity (Table 2). These comparisons are only suggestive; planting and cultural factors were not the same for corn and sorghum at the two sites.

Table 3 lists seed sources.

ENVIRONMENTAL CONDITIONS

The rainfall and temperature records from May 1 through September 15 at each location are reported in Tables 4 and 5. The temperatures for 1967 ranged from 2.5 to 5.3 degrees below normal at the five testing sites. The rainfall was lowest at the Columbia location and highest at the Portageville site.

FIGURE 1. OUTLINE MAP OF MISSOURI SHOWING TESTING LOCATIONS FOR THE 1967 GRAIN SORGHUM TRIALS.

Environmental Methods

Seed Source

All producers and distributors of grain sorghum seed were eligible to enter the tests in 1967. No limit was placed on the number of hybrids any one company could enter.

Field Design

Entries were planted in 4 plots at each location. Individual plots consisted of 1 row, 25 feet long. The length of the harvested row was 20 feet. Distance between rows was 38 inches at Columbia, 40 inches at Mt. Vernon, Spickard, and Portageville, and 30 inches at Palmyra. Plots were located at random over the testing area to minimize soil and cultural differences.

Yield

The heads from each plot were harvested by hand and weighed. Acre yields were computed on the basis of threshed grain.

Threshing Percentage

Threshing percentage data were determined for one replication of the trial located at Palmyra and Mt. Vernon, and all four replications at Columbia about 2 weeks after harvest.

Date of Blooming

Date of blooming data were collected in 1967 at all locations and are presented in Table 9.

Plant Height

The average height of the plants, in inches, was determined for each entry.

Head Compactness and Exsertion

Compactness was graded from 1 to 5; (1 for most compact or tight head, and 5 for the most lax, or loose head).

Exsertion is the relative distance that the head protrudes above the top leaf blade. Grade 1 indicates the least exsertion and Grade 5 the greatest.

Off-Type Heads, Tall Plants and Lodged Plants

Off-type head, tall plants and lodged plants were counted prior to harvest.

Test Weight

Test weights were determined for all entries at the three locations where tests were successful.

RESULTS

Results of the Palmyra, Columbia, and Mt. Vernon tests for 1967 are reported in Tables 6 through 8. Table 9 presents a summary of bloom-date data for the five locations. Table 10 summarizes the 1967 data from the three harvested locations.

PERIOD-OF-YEARS RESULTS

The best basis for selecting a grain sorghum hybrid is on its performance record over several years. Results of tests at Spickard and Palmyra for the 3-year period 1964, 1965, and 1967 are summarized in Table 11. A summary of 3-year and 4-year performances at Columbia and Mt. Vernon is given in Table 12. In the event that it becomes necessary to make a selection on the performance record for a single year, it is better to use the averages from several locations, such as those presented in Table 10.

TABLE 1. THE AVERAGE NUMBER OF ACRES, TOTAL PRODUCTION, AVERAGE ACRE YIELD FOR GRAIN SORGHUM, AND THE AVERAGE ACRE YIELD FOR CORN DURING THE 10-YEAR PERIOD 1958-1967, AND THE AVERAGE ACRE YIELD OF THE STATE YIELD TESTS FOR BOTH SORGHUM AND CORN FOR THE SAME PERIOD.

	Grain Sorghum				Corn	
Year	Acreage	Total Production (bu)	Average Acre Yield (bu)	State Yield Test Average (bu)	Average Acre Yield (bu)	State Yield Test Average (bu)
1958	688,000	35,088,000	51	89	56	106
1959	507,000	25,350,000	50	66	55	97
1960	452,000	20,340,000	45	80	52	102
1961	208,000	9,776,000	47	110	62	109
1962	177,000	7,965,000	45	134	58	111
1963	209,000	10,450,000	50	71	61	117
1964	205,000	9,430,000	46	104	51	95
1965	223,000	13,380,000	60	90	72	115
1966	187,000	10,472,000	56	81	62	98
1967*	265,000	15,370,000	58	72	69	103
Mean	312,100	15,762,100	51	90	60	105

*Estimated as of December 15, 1967.

TABLE 2. COMPARATIVE ACRE YIELDS OF GRAIN SORGHUM AND CORN AT TESTING LOCATIONS IN MISSOURI IN 1967.

Testing Location	Grain Sorghum Yield, Bushels/A			Corn Yield, Bushels/A		
	Average	High	Low	Average	High	Low
Spickard	No results*			No results**		
Palmyra	37.2	59.1	20.0	No corn yield trials at this location.		
Columbia	80.1	106.7	58.9	87.1	108.9	61.4
Mt. Vernon	99.2	121.1	73.2	88.0	120.0	69.0
Mean	72.2	94.9	55.4	87.1	114.4	65.2

*Prolonged spring rains delayed planting until July 5 and September frost stopped grain development.

**Test abandoned due to water damage and weeds.

TABLE 3. SEED SOURCE AND NAME OF ENTRIES TESTED IN 1967.

Entries	
Advance 76, Advance 91, AMAK R-12	Advance Seed Co., P.O. Box 6738, Phoenix Arizona 85005
AKS 614, AKS 62004	Arkansas Exp. Sta., Fayetteville, Arkansas 72701
Rico, Ranger, H6521	Asgrow Seed Co., P.O. Drawer A, San Antonio, Texas 78211
Dekalb E-57, F-61, F-63, F-64	Dekalb Agric. Asso. Inc., Rt. 2, Lubbock Texas 79415
Frontier 409, 410E, 413, 414	Frontier Hybrids, Inc., Box 366, Scott City, Kansas 67871
Pioneer 820, 828, 845, 846, 848	Garst & Thomas Hybrid Corn Co., Coon Rapids, Iowa 50058
McCurdy 52	W. O. McCurdy & Sons, Fremont, Iowa 52561
NK 222A, 222G, 265, 275, 280	Northrup-King & Co., 1500 Jackson St. N.E., Minneapolis, Minnesota 55413.
TE 66, 77, 88, Mucho, Grainmaster A	Taylor-Evans Seed Co., Box 480, Tulia, Texas 79088
RS 610, RS 625	Texas A & M Expt. Sta., College Station, Texas 77840
Kan 701	Kansas State Expt. Sta., Manhattan, Kansas 66502

TABLE 4. TOTAL RAINFALL, NUMBER OF DAYS WITH RAIN, AND DRY PERIODS FROM MAY 1 TO SEPTEMBER 15, 1967 AT EACH OF THE TESTING LOCATIONS.

Testing Location	Total Rainfall Inches	Days with rain						Dry Periods*
		May	June	July	Aug.	Sept. 1-15	Total	
Spickard	21.43	14	16	7	3	4	44	(5/7-5/27)(8/17-9/12)
Palmyra	18.66	11	8	9	4	2	34	(5/8-5/29)(7/29-8/17) (8/19-9/14)
Columbia	12.08	8	7	6	4	3	28	(5/18-6/2)(6/27-7/14) (8/11-9/2)
Mt. Vernon	18.16	8	11	11	7	3	40	(7/29-8/18)(8/24-9/15)
Portageville	23.55	12	10	9	8	2	41	(5/16-5/31)(8/5-9/7)

*A dry period must have at least 15 consecutive days with less than 0.25 inches of precipitation in any one day.

TABLE 5. COOPERATOR, AVERAGE TEMPERATURE, DEPARTURE FROM NORMAL, AND NUMBER OF DAYS WITH TEMPERATURES OF 90° AND 100° OR ABOVE FROM MAY 1 TO SEPTEMBER 15.

Location	Cooperator	Average Temperature	Departure from Normal	No. of days above 90°	No. of days above 100°
Spickard	Univ. of Mo. N. Mo. Center	68.0	-5.3	17	0
Palmyra	Earl Page	67.7	-4.6	8	0
Columbia	Mo. Agri. Exp. Sta.	70.8	-2.5	16	0
Mt. Vernon	Univ. of Mo. S.W. Center	68.9	-4.8	9	0
Portageville	Univ. of Mo. Delta Center	72.3	-4.5	28	0

TABLE 6. 1967 PERFORMANCE RECORD FOR THE SORGHUM TEST CONDUCTED IN MARION COUNTY, NEAR PALMYRA, MISSOURI. PLANTED MAY 19, 1967. HARVESTED NOVEMBER 10, 1967 (EXP. S2-67).

Entry	Acre Yield (bu.)	Threshing %	Percent Stand	Lodged Plants (%)	Head: Compactness (1-5)	Head: Exertion (1-5)	Per 25' of row: Off-type Heads (no.)	Per 25' of row: Tall Plants (no.)	Plant Height (in.)	Test Weight (lb.)
AKS 614	59.1	60.6	65.8	0.0	4.8	3.8	0.0	0.0	53.8	58.0
AKS 62004	54.9	58.5	49.6	0.8	5.0	4.2	0.0	0.0	54.5	55.0
Frontier 409	50.2	57.3	49.8	0.0	5.0	2.8	0.0	0.0	54.8	55.5
Frontier 414	49.0	57.9	66.0	1.8	2.2	4.2	0.0	0.0	61.0	57.0
Pioneer 845	48.1	54.5	68.6	0.6	2.2	3.0	0.0	0.0	53.2	57.0
Northrup-King NK 275	47.6	57.9	63.8	1.2	2.5	1.8	0.0	0.0	56.5	56.5
Northrup-King NK 222G	46.5	57.3	56.8	0.4	4.0	3.0	0.0	0.2	50.0	57.0
Taylor-Evans T-E 88	46.4	57.6	58.0	0.3	1.5	3.8	1.2	0.0	61.5	56.0
Frontier 413	46.3	59.2	60.4	0.0	2.8	2.2	0.0	0.5	57.2	57.5
Pioneer 828	43.6	55.4	63.2	0.0	3.2	3.8	0.0	0.0	59.5	57.0
Pioneer 820	43.2	56.2	58.0	1.0	3.2	2.5	0.0	0.0	54.0	56.0
Pioneer 848	42.8	56.8	50.0	1.2	4.8	2.5	0.0	0.0	49.2	56.0
Advance AMAK R-12	42.1	54.7	59.2	2.0	2.0	3.0	0.0	0.0	57.8	55.5
Asgrow H6521	41.9	56.4	66.4	2.1	2.8	4.0	0.0	0.0	64.2	55.0
Pioneer 846	41.0	63.0	47.2	0.0	3.5	2.5	0.2	0.0	51.5	56.0
RS 610	40.0	49.2	69.0	1.2	3.0	3.0	0.0	0.2	57.8	55.5
Northrup-King NK 222A	40.0	56.9	51.0	0.4	3.8	2.8	0.0	0.0	51.2	57.0
Dekalb F-61	37.9	51.0	60.4	0.3	4.8	2.8	0.0	0.0	56.8	56.0
Asgrow Ranger	37.8	54.5	60.0	0.3	2.0	3.0	0.0	0.2	52.2	55.0
Dekalb F-64	37.6	50.0	57.4	0.7	4.8	3.5	0.0	0.0	62.2	58.5
Dekalb E-57	34.3	53.3	50.2	0.0	4.8	2.8	0.0	0.8	55.0	56.0
Advance 91	33.8	58.6	53.6	0.7	2.8	3.2	0.0	0.8	53.5	53.0
Northrup-King NK 280	32.4	53.3	43.4	0.5	3.5	3.2	0.0	0.0	52.0	55.0
Advance 76	31.2	52.5	40.0	0.5	3.5	3.5	0.0	0.5	50.2	54.0
Northrup-King NK 265	30.6	58.8	37.8	2.1	3.8	4.2	0.0	0.5	55.5	57.0
Dekalb F-63	30.2	47.6	45.8	2.2	2.8	3.2	0.0	0.5	58.0	56.0
Asgrow Rico	28.9	53.7	53.0	0.4	1.8	4.0	0.0	0.5	56.5	54.5
Taylor-Evans T-E 77	27.2	52.4	61.8	0.0	2.0	4.5	0.0	0.0	61.5	52.5
Martin	26.9	54.3	44.6	0.4	4.5	4.0	0.0	0.2	56.0	57.5
Taylor-Evans T-E 66	26.8	45.2	55.4	0.4	4.2	2.0	0.0	0.2	50.0	52.0
Kansas 701	25.6	43.9	61.4	3.1	2.0	5.0	0.0	0.0	67.5	54.0
Taylor-Evans T-E Grainmaster A	25.6	52.8	37.8	0.0	3.0	2.0	0.5	0.2	53.0	51.5
McCurdy 52	24.3	44.4	51.6	0.0	2.5	2.2	0.0	0.5	49.5	52.0
Frontier 410E	23.8	41.9	45.0	1.8	2.5	1.8	0.0	0.0	50.5	52.0
RS 625	22.8	44.2	46.0	0.0	4.8	2.8	0.0	0.0	49.2	52.0
Taylor-Evans T-E Mucho	20.0	35.3	49.0	1.2	2.8	2.8	0.0	1.2	54.5	53.5
Average	37.2	53.2	54.4	0.8	3.4	3.1	0.1	0.2	55.3	55.3

Differences in yield between any two entries of less than 13.9 bushels per acre are not considered significant.

TABLE 7. 1967 PERFORMANCE RECORD FOR THE SORGHUM TEST CONDUCTED IN BOONE COUNTY, NEAR COLUMBIA, MISSOURI. PLANTED JUNE 8, 1967. HARVESTED OCTOBER 2, 1967 (EXP. S3-67).

Entry	Acre Yield (bu.)	Threshing %	Percent Stand	Lodged Plants (%)	Head		Per 25 ft. row		Plant Height (in.)	Test Weight (lb.)	Planting to 50% Bloom (days)
					Compactness (1-5)	Exertion (1-5)	Off-type Heads (no.)	Tall Plants (no.)			
AKS 614	106.7	70.3	77.6	0.0	4.5	2.2	2.5	0.8	53.5	56.4	67.0
Frontier 409	98.2	69.5	73.6	0.0	4.5	1.0	1.2	0.0	50.0	57.5	64.0
Pioneer 845	97.0	73.9	76.0	0.0	1.8	2.2	0.0	0.0	57.0	58.0	66.0
RS 610	91.7	69.0	68.0	0.0	1.8	2.5	0.0	0.2	48.5	57.9	62.0
Northrup-King NK 222A	91.1	71.6	63.2	0.0	3.5	1.5	0.0	0.2	47.2	57.5	66.0
Pioneer 848	89.6	76.3	67.2	0.0	2.8	1.8	0.2	0.0	44.8	58.9	68.0
Pioneer 846	88.6	73.9	67.2	0.2	2.5	1.8	2.0	0.2	48.2	58.1	64.5
RS 625	87.1	74.0	60.0	0.0	2.8	2.0	0.2	0.0	41.0	57.1	63.0
Asgrow H6521	87.0	70.8	77.6	0.0	2.0	1.5	0.0	0.0	60.5	54.6	72.5
AKS 62004	86.2	64.3	72.0	0.0	5.0	3.2	0.8	1.2	53.8	54.2	71.5
Northrup-King NK 280	85.9	74.4	69.6	0.0	2.2	2.2	0.0	0.0	49.8	57.4	67.0
Dekalb E-57	84.4	73.1	64.0	0.0	3.8	2.2	0.0	0.0	50.8	56.5	68.5
Asgrow Rico	84.0	70.3	77.6	0.0	1.5	2.2	0.0	0.0	50.8	56.9	66.5
Taylor-Evans Mucho	83.2	67.8	65.6	0.0	2.2	1.5	0.0	0.0	44.5	56.4	63.5
Advance 76	81.3	71.5	57.6	0.7	2.5	1.5	0.0	0.0	47.8	57.4	68.5
Advance 91	80.7	70.8	63.2	0.0	1.8	1.0	0.0	0.2	49.2	53.1	73.5
Northrup-King NK 222G	80.4	73.1	70.4	0.0	3.5	2.0	0.2	0.0	48.0	56.1	71.5
Advance AMAK R-12	79.8	69.4	73.6	0.5	1.5	2.2	0.0	0.0	50.0	56.1	69.0
Taylor-Evans Grainmaster A	79.8	69.3	62.4	0.0	2.0	2.0	1.2	0.2	47.5	56.8	62.0
McCurdy 52	79.8	71.3	68.8	0.0	2.2	1.0	0.0	0.0	41.0	57.4	66.0
Northrup-King NK 265	79.4	71.6	56.0	0.0	3.2	2.2	0.0	0.0	51.5	59.1	63.5
Dekalb F-64	79.1	69.9	69.6	0.0	3.8	2.0	0.0	0.2	53.0	57.4	72.5
Taylor-Evans T-E 77	79.0	64.0	61.6	0.0	1.5	1.5	0.0	0.0	50.0	54.3	76.5
Northrup-King NK 275	77.0	69.9	71.2	0.2	2.2	1.5	0.8	0.2	50.8	56.0	71.0
Asgrow Ranger	77.0	65.8	80.0	0.0	2.0	2.8	0.0	0.2	51.2	57.6	69.0
Taylor-Evans T-E 66	76.7	69.5	68.0	0.6	2.2	1.0	0.0	0.5	40.0	56.9	67.0
Frontier 410-E	75.8	70.7	76.8	0.0	1.2	1.2	0.0	0.8	40.0	56.6	69.5
Dekalb F-61	73.0	70.1	70.4	0.0	2.5	1.2	0.5	0.8	47.8	54.6	67.5
Frontier 414	70.8	71.0	72.8	0.0	1.8	1.5	0.2	0.2	48.8	54.8	73.5
Taylor-Evans T-E 88	70.8	68.7	71.2	0.6	2.2	1.8	0.5	0.2	51.5	54.0	71.5
Pioneer 820	70.3	71.0	65.6	0.0	2.0	1.5	0.0	0.2	48.8	56.8	72.5
Martin	66.0	73.4	54.7	0.0	1.5	2.5	0.0	0.2	48.8	59.9	68.5
Frontier 413	65.0	66.9	68.8	0.0	1.0	1.0	0.0	1.0	48.8	57.1	73.0
Kansas 701	62.6	66.5	66.7	0.0	1.5	2.0	0.2	0.2	56.5	54.5	75.0
Dekalb F-63	59.2	67.7	61.6	0.0	2.5	1.0	0.2	0.0	45.5	55.2	72.5
Pioneer 828	58.9	64.0	75.2	0.0	2.2	1.2	0.0	0.0	53.0	54.9	73.0
Average	80.1	70.2	70.0	0.1	2.4	1.8	0.3	0.2	49.1	56.3	68.8

Differences in yield between any two entries of less than 18.3 bushels per acre are not considered significant

TABLE 8. 1967 PERFORMANCE RECORD FOR THE SORGHUM TEST CONDUCTED IN LAWRENCE COUNTY, NEAR MT. VERNON, MISSOURI. PLANTED MAY 27, 1967. HARVESTED OCTOBER 12, 1967 (EXP. S4-67).

Entry	Acre Yield (bu.)	Threshing %	Percent Stand	Lodged Plants (%)	Head		Per 25 ft. row		Plant Height (in.)	Test Weight (lb.)	Planting to 50% Bloom (days)
					Compactness (1-5)	Exertion (1-5)	Off-type Heads (no.)	Tall Plants (no.)			
RS 610	121.1	82.6	74.0	0.0	2.8	3.2	0.2	1.2	53.8	59.0	59.0
AKS 614	118.8	81.4	76.8	0.2	4.0	2.8	1.8	0.8	47.8	59.5	67.5
Frontier 409	118.5	77.6	72.0	0.0	4.0	2.0	0.0	0.2	45.5	59.5	62.5
Dekalb F-64	116.8	80.9	80.0	0.0	4.0	4.2	0.0	0.5	54.8	60.0	62.0
Northrup-King NK 280	114.0	81.4	62.4	0.0	3.5	2.8	0.0	0.0	47.5	58.0	65.0
Taylor-Evans T-E 88	113.9	81.5	70.4	0.2	2.0	3.2	2.8	1.0	50.2	58.5	68.5
Taylor-Evans Grainmaster A	111.0	82.0	61.6	0.0	3.2	3.0	1.8	0.2	49.5	59.0	61.5
Dekalb F-61	110.8	80.1	80.0	0.0	4.0	3.0	0.0	0.0	50.0	60.0	64.5
Asgrow Ranger	110.4	83.3	76.8	0.5	1.8	2.0	0.0	0.5	47.0	59.0	66.0
Advance 76	109.6	80.7	64.0	0.0	3.8	3.8	0.8	1.0	47.8	59.0	61.5
Frontier 414	106.5	82.3	73.6	3.0	2.0	3.2	0.0	0.5	49.2	59.0	68.5
Dekalb E-57	105.9	79.6	69.6	0.0	4.9	3.2	0.8	1.0	50.0	59.5	61.5
Pioneer 828	105.1	86.9	76.0	0.0	2.5	2.5	0.0	0.2	50.5	58.5	70.5
Northrup-King NK 275	103.7	80.6	72.8	0.0	2.2	2.0	0.0	0.2	45.8	57.0	65.0
Advance AMAK R-12	103.6	81.9	76.8	0.0	2.2	2.0	0.0	0.0	46.8	58.5	62.0
Northrup-King NK 222A	102.7	82.0	62.4	0.0	4.0	2.0	0.2	0.0	40.2	60.0	64.0
Taylor-Evans Mucho	102.0	81.0	68.8	0.0	3.0	2.5	0.2	0.0	47.8	58.0	60.5
Frontier 413	101.1	82.6	71.2	0.0	2.2	2.5	0.0	0.0	51.3	60.0	70.0
RS 625	100.6	80.9	70.7	0.0	4.0	1.8	0.8	0.2	43.2	57.5	58.5
Taylor-Evans T-E 77	99.2	79.6	68.8	0.0	1.5	2.5	0.2	0.2	47.8	58.5	68.5
Asgrow H6521	99.2	77.5	68.8	0.0	2.8	2.2	0.0	0.0	48.0	58.0	66.5
Northrup-King NK 222G	98.4	81.0	64.0	0.0	4.0	1.2	0.0	0.2	44.0	59.0	58.0
Northrup-King NK 265	97.3	81.9	48.0	0.0	2.8	2.2	0.0	0.5	49.2	58.5	61.5
Kansas 701	96.9	81.7	71.3	0.2	1.0	3.0	0.0	0.8	51.8	59.0	70.5
Pioneer 845	94.8	81.2	62.4	0.0	2.8	2.8	0.0	0.0	48.5	58.5	62.5
Asgrow Rico	93.1	81.2	64.8	0.0	1.8	2.2	0.2	0.2	42.0	57.0	62.0
McCurdy 52	89.0	79.0	70.4	0.0	2.5	1.2	0.5	1.0	40.8	58.0	68.5
AKS 62004	88.4	75.7	64.8	0.0	4.8	2.2	0.0	0.0	46.5	57.5	64.0
Pioneer 820	87.7	77.3	60.8	0.0	3.2	2.0	0.0	0.0	44.2	55.5	68.5
Dekalb F-63	87.1	79.4	69.6	0.0	2.8	3.0	0.0	0.0	47.5	58.5	70.5
Taylor-Evans T-E 66	83.9	77.0	68.8	0.0	3.2	1.5	0.0	0.0	41.8	55.0	65.5
Frontier 410E	80.4	80.0	61.6	0.0	2.8	1.2	0.2	0.2	39.2	57.5	66.5
Pioneer 848	77.8	78.4	63.2	0.0	3.8	1.8	0.8	0.2	32.2	58.0	68.0
Pioneer 846	74.8	73.8	36.8	0.0	3.8	2.8	0.2	0.2	44.8	58.5	65.5
Advance 91	74.4	77.6	66.4	0.0	2.0	1.8	0.8	0.5	41.0	57.5	65.0
Martin	73.2	78.3	53.3	0.0	3.5	2.0	0.0	0.0	41.2	60.0	68.0
Average	99.2	80.3	68.6	0.3	3.0	2.4	0.3	0.3	46.4	58.4	64.8

Differences in yield between any two entries of less than 16.4 bushels per acre are not considered significant.

TABLE 9. DAYS FROM PLANTING TO 50 PERCENT BLOOM FOR 36 GRAIN SORGHUM ENTRIES GROWN AT FOUR MISSOURI LOCATIONS IN 1967.

Entry	Location (7-5-67)* Spickard	(6-8-67)* Columbia	(5-27-67)* Mt. Vernon	(5-26-67)* Portageville
Advance 76	68	68	62	60
Advance 91	72	74	65	64
Advance AMAK R-12	69	69	62	61
AKS 614	66	67	62	60
AKS 62004	76	71	64	64
Asgrow Rico	68	66	62	60
Asgrow Ranger	69	69	66	62
Asgrow H6521	73	72	66	62
Dekalb E-57	69	68	62	62
Dekalb F-61	71	68	64	60
Dekalb F-63	76	72	70	64
Dekalb F-64	72	72	62	62
Frontier 409	68	64	62	60
Frontier 410E	70	70	66	61
Frontier 413	74	73	70	62
Frontier 414	76	74	68	63
Pioneer 820	71	73	68	62
Pioneer 828	75	73	70	63
Pioneer 845	69	66	62	60
Pioneer 846	72	64	66	61
Pioneer 848	70	68	68	62
McCurdy 52	69	66	68	59
Northrup-King NK 222A	69	66	64	60
Northrup-King NK 222G	70	72	58	60
Northrup-King NK 265	70	64	62	60
Northrup-King NK 275	70	71	65	62
Northrup-King NK 280	69	67	65	60

TABLE 9. CONTINUED.

Taylor-Evans T-E 77	75	76	68	63
Taylor-Evans T-E 88	74	72	68	62
Taylor-Evans T-E Mucho	67	64	60	60
Taylor-Evans T-E Grainmaster A	67	62	62	60
Taylor-Evans T-E 66	67	67	66	60
RS 610	66	62	59	60
RS 625	66	63	59	60
Kansas 701	77	75	70	64
Martin	70	68	68	61
Mean	70	69	65	61

*Planting Date.

TABLE 10. 1967 SUMMARY OF GRAIN SORGHUM TESTS CONDUCTED NEAR PALMYRA, COLUMBIA, AND MT. VERNON, MISSOURI (EXPS. S2-67, S3-67, and S4-67).

Entry	Acre Yield Bu/A.	% Stand	Lodged Plants (%)	Head		Plant Height (in.)
				Compactness (1-5)	Exertion (1-5)	
AKS 614	94.9	73.5	0.0	4.4	2.9	52
Frontier 409	89.0	65.2	0.0	4.5	1.9	50
RS 610	84.2	79.7	0.4	2.5	2.9	53
Pioneer 845	80.0	68.9	0.2	2.2	2.7	53
Dekalb F-64	77.8	69.0	0.2	4.2	3.2	57
Northrup-King NK 222A	77.8	58.8	0.1	3.8	2.1	46
Northrup-King NK 280	77.4	58.6	0.2	3.1	2.8	50
Taylor-Evans T-E 88	77.0	66.6	0.4	1.9	2.9	54
AKS 62004	76.5	62.3	0.3	4.9	3.2	52
Northrup-King NK 275	76.1	69.3	0.4	2.3	1.8	51
Asgrow H6521	76.0	70.5	0.7	2.5	2.6	58
Frontier 414	75.4	70.8	1.6	2.0	3.0	53
Advance AMAK R-12	75.2	69.8	0.8	1.9	2.4	52
Northrup-King NK 222G	75.1	61.7	0.1	3.8	2.1	47
Asgrow Ranger	75.1	72.4	0.3	1.9	2.6	50
Dekalb E-57	74.8	61.2	0.0	4.4	2.8	52
Advance 76	74.0	53.8	0.4	3.2	2.9	48
Dekalb F-61	73.9	70.1	0.1	3.8	2.3	52
Taylor-Evans T-E Grainmaster A	72.1	53.8	0.0	2.8	2.3	50
Frontier 413	70.8	66.7	0.0	2.0	1.9	42
RS 625	70.2	67.8	0.0	3.8	2.2	44
Pioneer 848	70.0	60.0	0.4	3.8	2.0	42
Pioneer 828	69.2	71.3	0.0	2.7	2.5	54
Northrup-King NK 265	69.1	47.5	0.7	3.2	2.9	52
Asgrow Rico	68.7	65.3	0.1	1.7	2.8	50
Taylor-Evans T-E 77	68.4	64.0	0.0	1.7	2.8	53
Taylor-Evans Mucho	68.4	61.2	0.4	2.7	2.2	49
Pioneer 846	68.2	50.1	0.1	3.2	2.3	48
Pioneer 820	67.0	61.4	0.3	2.8	2.0	49
McCurdy 52	66.8	63.6	0.0	2.4	1.5	44
Advance 91	63.0	63.0	0.2	2.1	2.0	48
Taylor-Evans T-E 66	62.4	64.1	0.3	3.2	1.5	44
Kansas 701	61.7	75.6	1.1	1.5	3.3	58
Frontier 410E	60.0	61.3	0.6	2.2	1.4	43
Dekalb F-63	58.8	58.9	0.7	2.7	2.4	50
Martin	55.4	58.0	0.2	3.2	3.8	49
Average	72.2	64.3	0.3	2.9	2.4	50

Differences in yield between any two entries of less than 9.4 bushels per acre are not considered significant.

TABLE 11. SUMMARY OF PERFORMANCE RECORDS FOR GRAIN SORGHUMS TESTED NEAR PALYMYRA AND SPICKARD, MISSOURI, FOR THE YEARS 1964, 1965, and 1967 (SUMMARY OF 5 TESTS).

	Acre Yield (bu.)	Lodged Plants (%)	Head		Plant Height (ins.)
			Compactness (1-5)	Exertion (1-5)	
AKS 614	88.4	0.6	4.7	3.4	55
Taylor-Evans T-E 88	84.0	0.4	1.6	3.0	54
Pioneer 820	82.1	0.5	3.4	3.1	52
Frontier 413	81.2	0.2	2.7	1.7	54
Northrup-King NK 275	80.7	1.0	2.8	1.9	52
Advance AMAK R-12	80.4	1.0	2.2	2.8	55
Pioneer 846	78.8	0.0	3.6	2.9	54
Pioneer 848	77.1	0.6	4.5	2.9	51
Dekalb F-64	76.2	0.4	4.5	3.7	58
Dekalb F-63	75.5	1.9	2.8	2.6	54
Taylor-Evans T-E 77	73.2	0.2	1.7	3.4	52
RS 610	72.4	1.0	2.8	3.4	55
Dekalb E-57	71.2	0.3	4.9	2.8	54
Kansas 701	69.0	1.7	1.8	3.8	56
Taylor-Evans T-E 66	67.3	0.2	3.8	2.2	49
Asgrow Rico	66.4	0.2	1.6	3.2	52
Martin	57.1	0.2	4.0	3.6	53
Mean	75.3	1.0	3.1	3.0	54

TABLE 12. SUMMARY OF PERFORMANCE RECORDS FOR GRAIN SORGHUMS TESTED NEAR COLUMBIA AND MT. VERNON, MISSOURI, FOR THE YEARS 1963, 1964, 1965, and 1967 (SUMMARY OF 8 TESTS).

	3-Year Average					4-Year Average				
			Head					Head		
Entry	Acre Yield (bu.)	Lodged Plants (%)	Compact-ness (1-5)	Exer-tion (1-5)	Plant Height (ins.)	Acre Yield (bu.)	Lodged Plants (%)	Compact-ness (1-5)	Exer-tion (1-5)	Plant Height (ins.)
RS 610	99.4	0.3	2.6	3.1	51	97.5	1.0	2.4	2.9	50
AKS 614	98.0	3.0	4.6	2.4	51	----	---	---	---	--
Northrup-King NK 275	96.0	0.4	2.4	1.6	47	----	---	---	---	--
Asgrow Rico	95.2	0.2	2.2	2.4	47	----	---	---	---	--
Taylor-Evans T-E 77	94.8	0.6	2.5	2.4	50	88.9	0.8	1.8	2.4	50
Taylor-Evans T-E 88	94.8	0.2	2.1	2.6	50	92.2	0.6	2.2	2.5	50
Dekalb F-64	94.5	0.7	4.1	3.3	54	----	---	---	---	--
Asgrow AMAK R-12	94.2	0.6	2.4	2.4	49	----	---	---	---	--
Dekalb E-57	89.8	0.0	4.6	2.5	50	----	---	---	---	--
Pioneer 846	89.4	1.3	3.4	2.4	47	85.0	1.1	3.2	2.4	46
Dekalb F-63	88.5	0.2	2.8	2.1	49	79.1	0.2	2.6	2.1	47
RS 625	87.9	0.7	3.5	2.4	45	86.3	1.5	3.2	2.9	43
Pioneer 820	87.1	1.7	3.0	2.1	47	82.8	1.2	2.8	2.2	46
Pioneer 848	86.6	0.7	3.8	2.3	42	82.4	0.7	3.6	2.0	41
Frontier 413	86.3	0.1	2.1	1.7	48	----	---	---	---	--
Taylor-Evans T-E 66	84.5	0.3	2.9	1.6	42	81.4	0.7	2.9	1.6	42
Kansas 701	79.5	0.8	1.6	2.7	52	78.9	0.6	1.5	2.6	52
Martin	72.1	0.6	3.2	2.7	47	68.6	1.5	2.0	2.2	46