

# Grain Sorghum

2000 Missouri  
Crop Performance



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# MISSOURI CROP PERFORMANCE

2000

## GRAIN SORGHUM

This report is a contribution of the Department of Agronomy, Plant Science Unit, University of Missouri College of Agriculture, Food and Natural Resources. The work received significant support through fees paid by the companies submitting hybrids for evaluation.

The University of Missouri began its performance testing program for grain sorghum hybrids in 1958. The number of commercial entries in the program increased from 40 in 1958 to 134 in 1982. The number has declined during recent years and was 39 hybrids in 2000.

The large number of commercial hybrids available makes selection of a superior hybrid difficult. To select intelligently, producers need a reliable, unbiased, up-to-date source of information that will permit valid comparisons among available hybrids. The objective of the University of Missouri's performance testing program is to provide this information. The tests are conducted under as uniform conditions as possible. Small plots are used to reduce the chance of soil and climatic variations occurring from one plot to another. Results obtained should aid the individual grower in judging the relative merits of many of the commercial grain sorghum hybrids available in Missouri today.

### COMPARING HYBRIDS

The performance of a hybrid cannot be measured with absolute precision. Uncontrollable variability is involved in the determination of each yield average. This variability sometimes occurs because the soil is not uniform, but many other conditions may contribute to it. Because variability exists in all field experimentation, statistics are used as a tool to assist in making decisions. The statistical tool used in these trials is the test of least significant difference (L.S.D.). The L.S.D. is quite simple to apply. When two entries are compared and the difference between them is greater than the L.S.D., the entries are judged to be significantly different. Differences smaller than the L.S.D. may have occurred by chance and are judged to be not significant.

Hybrid performance may seem inconsistent from location to location and from year to year because of differences in rainfall, temperature, soil fertility, diseases, insects, and other factors. To obtain an improved estimate of relative hybrid performance, results from more than one location or year should be considered. In this publication, the authors have tried to facilitate comparisons across years and locations.

In each trial, the "top yielding" hybrids have been identified. These hybrids are those that did not yield significantly less than the highest yielding hybrid in the test. They are denoted in the tables by an asterisk (\*) next to their yields. Thus, by going down a column, readers can readily identify the highest yielding hybrids in a trial. By going across, readers can evaluate the relative performance of a hybrid during several years or at several locations. From the standpoint of yield, the most desirable hybrids will be those that are among the "top yielding" hybrids (that is, those that have an asterisk) the greatest number of times. To further facilitate, a visual summary of two-year yield data is provided for each region. In this summary, hybrid means are converted to percentages of the regional trial mean, ranked, and plotted from lowest to highest. A bar about each mean shows the range in which the entry's yield occurred 80% of the time. This range is an indication of yield stability. The smaller the range, the more stable the hybrid is in the tested environments.

Although yield usually receives first consideration, other agronomic characteristics may be equally important when selecting a grain sorghum hybrid. Moisture content at harvest, stalk strength and resistance to insects and diseases are among the hybrid characteristics that deserve careful consideration. High moisture content at harvest, whether due to later maturity or slow dry-down, may indicate an increased drying requirement. Poor stalk strength or susceptibility to pests may decrease harvestable yield because of lodging or stand loss. Therefore, when selecting a hybrid, producers should also consider the data presented on agronomic characteristics other than yield.

The Missouri Agricultural Experiment Station does not recommend specific hybrids. Farmers growing a new hybrid for the first time should consider the information contained in this report and then grow a small acreage to determine adaptability. This should be the practice for all new hybrids regardless of origin.

## EXPERIMENTAL PROCEDURES

**Entries.** All producers of hybrid seed were eligible to enter hybrids in the 2000 evaluation trials. Participation was voluntary. The testing coordinator exercised no control over which hybrids or how many hybrids were entered. However, to help finance the evaluation program, a fee of \$100 per location was charged for each hybrid entered by the seed producer.

**Locations.** On the basis of geographical characteristics, the state is divided into regions. Grain sorghum hybrid evaluation trials are located in the north-central, southwestern and southeastern regions of the state. In 2000, the locations for these trials were:

- (1) Bud & Ron Beetsma farm near Mooresville in Livingston County
- (2) Emery Garrish farm near Shelbina in Shelby County
- (3) Jim Jerman farm near Vandalia in Audrain County
- (4) Kenny Tevis farm near Hughesville in Pettis County
- (5) Kurt Gretzinger farm near Urich in Henry County
- (6) Wally Norton farm near Lamar in Barton County
- (7) Tom Obermann farm near Chaffee in Cape Girardeau County
- (8) Jack Allen farm near Grayridge in Stoddard County
- (9) Delta Research Center near Portageville in Pemiscot County



**Field Plot Design.** Each test was arranged in a lattice field plot design with three replications. All plots were four rows wide and 20 feet long. The between-row spacing was 30 inches at all locations. Only the center two rows were harvested to determine yield.

**Plot Management.** The tests were planted and harvested with equipment designed for small-plot work. Fertilizer was applied at each site at the discretion of the farmer. Herbicides and cultivation were used for weed control and plots were hand weeded as necessary. Management details varied from location to location and are specified on individual yield tables.

**Data Recorded.** Agronomic characteristics were evaluated at harvest. Head compactness was scored on a scale of 1 to 5. A score of 1 indicates the most compact or tight head, while 5 indicates the most lax or loose head. Lodging was determined by counting the number of culms inclined more than 30 degrees from vertical. This value was converted to a percentage of the total number of culms in each plot. The off-types heads are those heads in the plot rows which have a different head type. Yield was measured in number of bushels per acre at a moisture content of 14.0 percent. An electronic moisture tester was used for all moisture readings. To convert yield to pounds/acre, multiply bushels/acre by 56.

**Electronic Accessibility of Data.** Results of the Missouri Crop Performance Trials are now available in three forms: this printed Special Report, the Missouri Agricultural Electronic Bulletin Board (AgEBB) and the World Wide Web at <http://agebb.missouri.edu/cropperf/g/>. On the AgEBB, variety test information is accessible from the MAIN MENU of the AgEBB under "CROP PERFORMANCE TESTING". The phone number for the AgEBB is 573/882-8289. If you need assistance in accessing the system call 573/882-4827 for the system staff's help.

## SUMMARY OF RESULTS

Results for each location include data on grain moisture at harvest, plant height, percent off-type heads, head compactness, percent lodging, and yield adjusted to 14.0 percent moisture.

Significant yield variation was observed among hybrids at each location. Individual hybrid performance across the three north-central, three southwestern and three southeastern locations are summarized in Tables 5, 9, 13 and in Figures 1, 2, and 3. Yield averages and ranges for each trial are summarized in Table 1. The spring weather of 2000 was warm and dry. Summer rainfall was above normal for most of the state, while temperatures remained normal. Because environmental conditions influence the performance of hybrid sorghums, the reader is encouraged to give more weight to results from several locations or years than to those from a single test.

TABLE 1. 2000 YIELD SUMMARY

LOCATION	NUMBER OF ENTRIES	IRRI-GATED	<u>YIELD RANGE</u>	<u>(BU/ACRE) AVERAGE</u>	DATA TABLE
Mooreville	22	No	122-154	137	2
Shelbina	22	No	75-106	90	3
Vandalia	22	No	71-133	114	4
Hughesville	21	No	124-172	152	6
Urich	21	No	108-149	130	7
Lamar	21	No	119-149	133	8
Chaffee	21	No	76-116	98	10
Grayridge	21	Yes	114-171	146	11
Portageville	21	No	110-152	128	12

An indication of hybrid maturity is moisture content of the grain at harvest. Because high moisture at harvest is generally a disadvantage, growers should give preference to hybrids within a yield group with the lowest moisture content.

TABLE 2. Performance of Grain Sorghum Hybrids evaluated near Mooresville (Livingston County) on the Beetsma Farm during 1998-2000.

Planted: 16 May 2000  
 Harvested: 11 October 2000  
 Planted Population: 104,500  
 Row Spacing: 30 inches  
 Soil Type: Putnam Silt Loam

Fertilizer: N=120, P<sub>2</sub>O<sub>5</sub>=20, K<sub>2</sub>O=150  
 Herbicide: Bicep + Atrazine, Buctril  
 Insecticide: None  
 Previous Crop: Soybean  
 Soil Test: pH=6.4, OM=2.9%, P=109, K=694

Growing Season Rainfall: May=2.4, June=0.8, July=4.0, Aug.=3.1, Sept.=3.7 TOTAL=14.0 in.

Brand-Hybrid	2000					Yield (Bu/Acre)			Means	
	Moisture (%)	Plant Ht. (In.)	Off-type Heads (%)	Com-pactness Score	Lodg-ing (%)	2000	1999	1998	2 Yr.	3 Yr.
	Pioneer hybrid 84G62	12.4	58	0.0	3.0	0.0	154.1**	160.0**	--	157.1
Dekalb DK53	13.4	64	0.0	1.3	0.0	149.9*	144.5	124.5	147.2	139.6
Dekalb DK54	11.9	65	0.0	1.7	0.0	147.5*	145.5	131.5*	146.5	141.5
Asgrow Missile	12.2	56	0.0	2.0	0.0	146.7*	--	--	--	--
Pioneer hybrid 85G85	11.9	59	0.0	1.7	0.0	145.5*	--	--	--	--
Novartis K-59-Y2	10.2	62	0.0	5.0	0.0	144.0	--	--	--	--
Novartis K 73-J6	9.7	60	0.0	2.7	0.0	141.9	--	--	--	--
Penngrain DR	9.8	60	0.0	2.3	0.0	139.5	--	--	--	--
Asgrow A459	11.8	62	0.0	4.3	0.0	139.4	150.0*	--	144.7	--
Triumph TR65-G	12.5	58	0.0	3.3	0.0	137.2	153.4*	129.9*	145.3	140.2
Novartis K 585	11.0	56	0.0	3.3	0.0	136.8	--	--	--	--
Garst 5515	11.8	61	0.0	4.0	0.0	136.4	--	--	--	--
Dekalb DK47	12.1	62	0.0	1.3	0.0	134.9	142.6	141.3**	138.8	139.6
Midland Gen. X-4788	12.4	67	0.0	2.3	0.0	134.4	--	--	--	--
Golden World GW6080	9.7	60	0.0	3.0	0.0	133.3	--	--	--	--
Golden World GW1472	10.2	56	0.0	3.7	2.5	132.0	--	--	--	--
Midland Gen. X-4677	12.2	55	0.0	3.7	0.0	130.9	--	--	--	--
Golden World GW3080	11.1	63	0.0	3.0	0.0	127.5	--	--	--	--
Midland Gen. X-4834	11.7	51	0.0	4.7	0.0	126.9	--	--	--	--
Golden World GW3068	11.6	55	0.0	1.0	0.0	126.3	--	--	--	--
Asgrow A571	11.0	62	0.0	2.7	0.0	124.3	148.2	116.7	136.3	129.7
Triumph TR438	10.6	54	0.0	4.0	0.0	122.0	--	--	--	--
<b>TRIAL AVERAGE</b>	<b>11.4</b>	<b>59</b>	<b>0.0</b>	<b>2.9</b>	<b>0.1</b>	<b>136.9</b>	<b>143.6</b>	<b>126.2</b>	<b>140.3</b>	<b>135.6</b>
L.S.D. AT .10	0.7	3	NS	1.0	NS	9.4	10.0	13.2		
C.V. %	4.5	4.1		26.3		5.0	5.0	7.6		

-- Data not available.

\*\* Highest yielding hybrid in the test.

\* Hybrid which did not yield significantly less than the highest yielding hybrid in the test.

NS Not Significant.

TABLE 3. Performance of Grain Sorghum Hybrids evaluated near Shelbina (Shelby County) on the Emery Garrish Farm during 1998-2000.

Planted: 15 May 2000  
 Harvested: 11 October 2000  
 Planted Population: 104,500  
 Row Spacing: 30 inches  
 Soil Type: Putnam Silt Loam

Fertilizer: N=120, P<sub>2</sub>O<sub>5</sub>=40, K<sub>2</sub>O=50  
 Herbicide: Bicep + Atrazine, Roundup  
 Insecticide: None  
 Previous Crop: Wheat  
 Soil Test: pH=6.8, OM=2.7%, P=41, K=147

Growing Season Rainfall: May=2.3, June=0.7, July=3.5, Aug.=4.4, Sept.=2.5 TOTAL=13.4 in.

Brand-Hybrid	2000					Yield (Bu/Acre)			Means	
	Moisture (%)	Plant Ht. (In.)	Off-type Heads (%)	Compactness Score	Lodging (%)	2000	1999	1998	2 Yr.	3 Yr.
	Asgrow A459	12.5	62	0.0	3.0	0.0	106.4**	53.8	--	80.1
Pioneer hybrid 84G62	14.4	57	0.0	2.3	0.4	103.6*	63.8**	--	83.7	--
Dekalb DK53	15.7	60	0.0	1.7	0.4	99.0*	52.0	107.4*	75.5	86.1
Dekalb DK47	14.1	60	0.0	1.3	0.0	97.0*	57.2*	91.5	77.1	81.9
Dekalb DK54	14.7	67	0.2	1.7	0.0	96.9*	58.6*	103.8*	77.8	86.4
Asgrow Missile	15.0	58	0.0	1.3	0.1	96.7*	--	--	--	--
Garst 5515	13.3	58	0.0	3.0	0.6	95.2*	--	--	--	--
Triumph TR65-G	13.3	57	0.0	2.0	2.1	93.6	51.9	109.1*	72.8	84.9
Golden World GW1472	12.5	58	0.0	1.3	0.4	92.0	--	--	--	--
Golden World GW3068	12.3	54	0.0	1.0	0.7	91.0	--	--	--	--
Golden World GW6080	12.2	59	0.0	2.0	0.0	91.0	--	--	--	--
Novartis K 585	12.7	57	0.0	3.3	1.0	87.7	--	--	--	--
Pioneer hybrid 85G85	13.4	57	0.0	1.7	0.6	87.5	--	--	--	--
Asgrow A571	13.4	59	0.0	2.3	0.5	86.7	58.3*	106.2*	72.5	83.7
Penngrain DR	12.0	58	0.0	2.0	0.0	85.7	--	--	--	--
Novartis K-59-Y2	11.4	65	0.0	2.7	0.7	85.3	--	--	--	--
Golden World GW3080	12.5	65	0.0	1.3	0.4	84.9	--	--	--	--
Novartis K 73-J6	13.3	57	0.0	2.7	2.0	84.3	--	--	--	--
Triumph TR438	11.4	57	0.2	2.7	0.5	81.5	--	--	--	--
Midland Gen. X-4834	15.1	49	0.0	2.7	0.8	79.0	--	--	--	--
Midland Gen. X-4788	12.9	60	0.0	2.0	0.4	78.3	--	--	--	--
Midland Gen. X-4677	14.7	53	0.0	2.7	2.0	75.3	--	--	--	--
<b>TRIAL AVERAGE</b>	<b>13.3</b>	<b>58</b>	<b>0.0</b>	<b>2.1</b>	<b>0.6</b>	<b>89.9</b>	<b>54.2</b>	<b>101.9</b>	<b>72.1</b>	<b>82.0</b>
L.S.D. AT .10	1.1	3	NS	0.8	1.1	12.3	7.4	14.1		
C.V. %	5.8	3.5		28.8		9.9	9.8	10.1		

-- Data not available.  
 \*\* Highest yielding hybrid in the test.  
 \* Hybrid which did not yield significantly less than the highest yielding hybrid in the test.  
 NS Not Significant.



TABLE 4. Performance of Grain Sorghum Hybrids evaluated near Vandalia (Audrain County) on the Jim Jerman Farm during 2000 and near Martinsburg on the Richard Primus Farm during 1998-99.

Planted: 15 May 2000  
 Harvested: 11 October 2000  
 Planted Population: 104,500  
 Row Spacing: 30 inches  
 Soil Type: Mexico Silt Loam

Fertilizer: N=150, P<sub>2</sub>O<sub>5</sub>=80, K<sub>2</sub>O=120  
 Herbicide: Bicep + Atrazine, Buctril  
 Insecticide: None  
 Previous Crop: Soybean  
 Soil Test: pH=6.8, OM=2.4%, P=73, K=435

Growing Season Rainfall: May=4.3, June=7.2, July=2.8, Aug.=6.7, Sept.=1.8 TOTAL=22.8 in.

Brand-Hybrid	2000					Yield (Bu/Acre)			Means	
	Mois- ture (%)	Plant Ht. (In.)	Off-type Heads (%)	Com- pactness Score	Lodg- ing (%)	2000	1999	1998	2 Yr.	3 Yr.
	Golden World GW6080	12.0	58	0.0	3.0	12.3	133.4**	--	--	--
Asgrow Missile	14.2	62	0.0	1.0	2.8	130.5*	--	--	--	--
Dekalb DK54	13.8	66	0.0	2.0	17.4	123.5*	62.2	118.0	92.9	101.2
Novartis K 73-J6	12.7	61	0.0	2.3	2.5	121.7*	--	--	--	--
Midland Gen. X-4834	13.1	56	0.0	5.0	1.0	121.6*	--	--	--	--
Pioneer hybrid 85G85	13.2	57	0.0	2.3	2.9	121.0	--	--	--	--
Midland Gen. X-4788	12.6	64	0.0	3.3	3.1	120.9	--	--	--	--
Pioneer hybrid 84G62	13.2	60	0.0	2.7	14.5	120.8	63.0	--	91.9	--
Novartis K-59-Y2	12.0	64	0.0	3.7	14.4	120.7	--	--	--	--
Dekalb DK53	15.2	63	0.2	1.7	14.2	120.2	50.4	124.4*	85.3	98.3
Garst 5515	12.7	57	0.0	4.3	10.6	120.0	--	--	--	--
Asgrow A571	13.7	61	0.0	3.7	11.7	118.7	71.4**	131.8**	95.1	107.3
Golden World GW3080	12.7	63	0.0	2.3	18.6	116.9	--	--	--	--
Midland Gen. X-4677	13.1	61	0.0	3.7	4.6	116.0	--	--	--	--
Dekalb DK47	13.7	60	0.0	1.7	11.8	115.5	56.9	105.6	86.2	92.7
Triumph TR65-G	13.5	58	0.0	2.7	5.7	113.8	59.4	120.7*	86.6	98.0
Penngrain DR	12.1	59	0.2	2.3	12.9	107.1	--	--	--	--
Golden World GW3068	13.0	54	0.0	1.7	5.2	103.8	--	--	--	--
Triumph TR438	12.0	56	0.0	4.7	0.0	102.5	--	--	--	--
Asgrow A459	13.4	60	0.2	4.0	5.5	100.4	64.9*	--	82.7	--
Golden World GW1472	13.2	61	0.0	1.7	23.2	90.0	--	--	--	--
Novartis K 585	12.7	55	0.4	1.7	34.4	71.4	--	--	--	--
<b>TRIAL AVERAGE</b>	<b>13.1</b>	<b>60</b>	<b>0.0</b>	<b>2.8</b>	<b>10.4</b>	<b>114.1</b>	<b>62.1</b>	<b>118.2</b>	<b>88.1</b>	<b>98.1</b>
L.S.D. AT .10	0.7	2	NS	0.9	9.2	11.9	8.1	12.9		
C.V. %	3.8	2.6		25.7		7.5	9.3	8.0		

-- Data not available.

\*\* Highest yielding hybrid in the test.

\* Hybrid which did not yield significantly less than the highest yielding hybrid in the test.

NS Not Significant.

TABLE 5. Performance of Grain Sorghum Hybrids evaluated at Three North-Central Missouri Locations (Mooresville, Shelbina and Vandalia) during 2000.

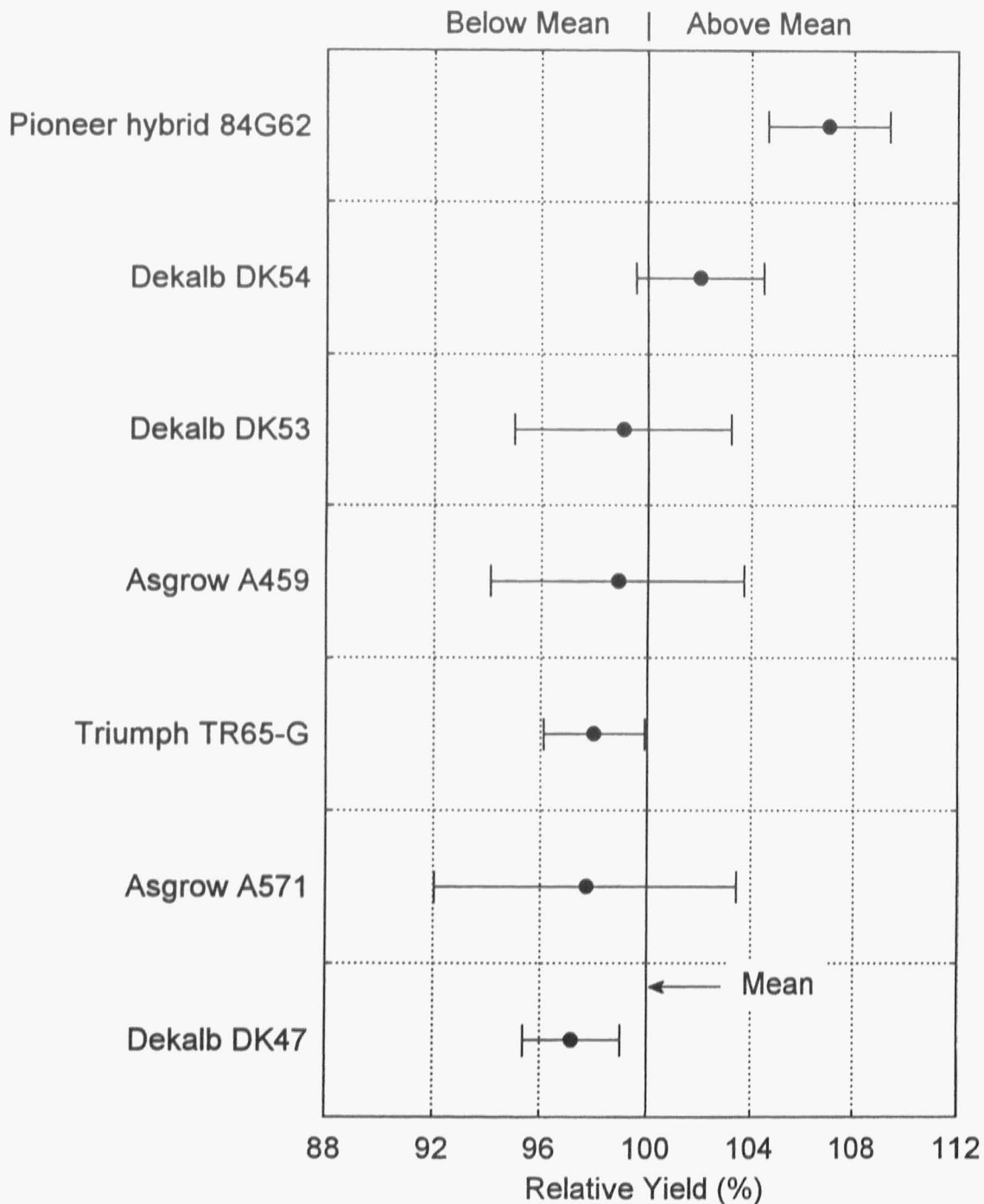
	<u>Mooresville</u>				<u>Shelbina</u>				<u>Vandalia</u>			
	Planted: 16 May 2000 Harvested: 11 October 2000 Planted Pop.: 104,500 seeds/A. Row Spacing: 30 inches Soil Type: Putnam Silt Loam				Planted: 15 May 2000 Harvested: 11 October 2000 Planted Pop.: 104,500 seeds/A. Row Spacing: 30 inches Soil Type: Putnam Silt Loam				Planted: 15 May 2000 Harvested: 11 October 2000 Planted Pop.: 104,500 seeds/A. Row Spacing: 30 inches Soil Type: Mexico Silt Loam			
	Growing Season Moisture: 14.0"				Growing Season Moisture: 13.4"				Growing Season Moisture: 22.8"			
Brand-Hybrid	Lodging (%)				Yield (Bu/Acre)							
	Mooresville	Shelbina	Vandalia	Mean	Mooresville	Shelbina	Vandalia	Mean				
Pioneer hybrid 84G62	0.0	0.4	14.5	5.0	154.1**	103.6*	120.8	126.2**				
Asgrow Missile	0.0	0.1	2.8	1.0	146.7*	96.7*	130.5*	124.6*				
Dekalb DK53	0.0	0.4	14.2	4.9	149.9*	99.0*	120.2	123.0*				
Dekalb DK54	0.0	0.0	17.4	5.8	147.5*	96.9*	123.5*	122.6*				
Golden World GW6080	0.0	0.0	12.3	4.1	133.3	91.0	133.4**	119.2				
Pioneer hybrid 85G85	0.0	0.6	2.9	1.2	145.5*	87.5	121.0	118.0				
Garst 5515	0.0	0.6	10.6	3.7	136.4	95.2*	120.0	117.2				
Novartis K-59-Y2	0.0	0.7	14.4	5.0	144.0	85.3	120.7	116.7				
Novartis K 73-J6	0.0	2.0	2.5	1.5	141.9	84.3	121.7*	116.0				
Dekalb DK47	0.0	0.0	11.8	3.9	134.9	97.0*	115.5	115.8				
Asgrow A459	0.0	0.0	5.5	1.8	139.4	106.4**	100.4	115.4				
Triumph TR65-G	0.0	2.1	5.7	2.6	137.2	93.6	113.8	114.9				
Midland Gen. X-4788	0.0	0.4	3.1	1.2	134.4	78.3	120.9	111.2				
Penngrain DR	0.0	0.0	12.9	4.3	139.5	85.7	107.1	110.8				
Asgrow A571	0.0	0.5	11.7	4.1	124.3	86.7	118.7	109.9				
Golden World GW3080	0.0	0.4	18.6	6.3	127.5	84.9	116.9	109.8				
Midland Gen. X-4834	0.0	0.8	1.0	0.6	126.9	79.0	121.6*	109.2				
Midland Gen. X-4677	0.0	2.0	4.6	2.2	130.9	75.3	116.0	107.4				
Golden World GW3068	0.0	0.7	5.2	2.0	126.3	91.0	103.8	107.0				
Golden World GW1472	2.5	0.4	23.2	8.7	132.0	92.0	90.0	104.7				
Triumph TR438	0.0	0.5	0.0	0.2	122.0	81.5	102.5	102.0				
Novartis K 585	0.0	1.0	34.4	11.8	136.8	87.7	71.4	98.6				
<b>TRIAL AVERAGE</b>	<b>0.1</b>	<b>0.6</b>	<b>10.4</b>	<b>3.7</b>	<b>136.9</b>	<b>89.9</b>	<b>114.1</b>	<b>113.6</b>				
L.S.D. AT .10	NS	1.1	9.2	5.2	9.4	12.3	11.9	6.7				
C.V. %					5.0	9.9	7.5	7.5				

\*\* Highest yielding hybrid in the test.

\* Hybrid which did not yield significantly less than the highest yielding hybrid in the test.

NS Not Significant.

Figure 1. Graphic Summary of Two-year (99/2000) Results of Grain Sorghum Hybrids at North and Central Missouri Locations



The "dot" shows average relative yield percentage from the 99/2000 tests at Mooresville, Shelbina, 1999 test at Martinsburg and 2000 test at Vandalia. The bar about each "dot" gives the range in which relative yield percentage will be expected 80% of the time.

TABLE 6. Performance of Grain Sorghum Hybrids evaluated near Hughsville (Pettis County) on the Kenny Tevis Farm during 1998-2000.

Planted: 12 May 2000  
 Harvested: 12 October 2000  
 Planted Population: 104,500 seeds/A  
 Row Spacing: 30 inches  
 Soil Type: Summit Silt Loam

Fertilizer: N=100, P<sub>2</sub>O<sub>5</sub>=55, K<sub>2</sub>O=50  
 Herbicide: Guardsman  
 Insecticide: None  
 Previous Crop: Wheat  
 Soil Test: pH=6.0, OM=2.6%, P=116, K=381

Growing Season Rainfall: May=8.6, June=1.0, July=4.9, Aug.=2.1, Sept.=3.4 TOTAL=20.0 in.

Brand-Hybrid	2000					Yield (Bu/Acre)			Means	
	Mois- ture (%)	Plant Ht. (In.)	Off-type Heads (%)	Com- pactness Score	Lodg- ing (%)	2000	1999	1998	2 Yr.	3 Yr.
	Pioneer hybrid 84G62	9.0	58	0.0	3.6	0.0	172.0**	99.5*	--	135.8
Asgrow Missile	9.9	60	0.0	2.7	0.0	166.8*	--	--	--	--
Dekalb DK53	10.8	64	0.3	0.9	0.0	161.2	92.6*	135.1*	126.9	129.6
Dekalb DK54	8.3	69	0.0	1.7	1.4	160.3	91.7*	126.1	126.0	126.0
Garst 5515	8.4	59	0.0	5.0	0.0	160.1	96.1*	--	128.1	--
Novartis K 73-J6	6.8	62	0.0	2.3	0.0	158.0	--	--	--	--
Asgrow A459	8.8	62	0.0	3.7	0.0	157.9	76.1	--	117.0	--
Golden World GW6080	6.9	61	0.0	3.7	0.0	155.9	--	--	--	--
Asgrow A571	8.8	63	0.0	3.1	0.0	155.9	97.5*	130.7	126.7	128.0
Novartis K 735	7.5	60	0.0	4.0	0.0	152.2	--	--	--	--
Pioneer hybrid 85G85	8.6	57	0.0	1.1	0.7	151.6	--	--	--	--
Dekalb DK44	7.8	59	0.0	3.3	0.0	151.3	101.2**	116.6	126.3	123.0
Triumph TR461	8.5	58	0.0	3.7	0.0	149.4	--	--	--	--
Penngrain DR	7.0	60	0.0	3.3	0.0	149.3	95.2*	--	122.3	--
Triumph TR82-G	9.8	64	0.0	3.0	0.0	148.2	91.1*	126.3	119.7	121.9
Garst 5440	9.8	64	0.0	3.0	0.0	148.2	100.5*	146.0**	124.4	131.6
Mycogen M3838	8.0	51	0.0	3.6	0.0	146.7	--	--	--	--
Novartis K 585	8.6	56	0.0	3.0	0.0	142.2	--	--	--	--
Golden World GW3080	7.8	64	0.0	2.0	0.0	141.6	--	--	--	--
Mycogen 3696	7.9	52	0.0	5.0	0.0	141.5	--	--	--	--
Triumph TR438	6.8	55	0.0	3.9	0.0	123.6	--	--	--	--
<b>TRIAL AVERAGE</b>	<b>8.4</b>	<b>60</b>	<b>0.0</b>	<b>3.1</b>	<b>0.1</b>	<b>152.1</b>	<b>91.7</b>	<b>123.8</b>	<b>121.9</b>	<b>122.5</b>
L.S.D. AT .10	1.1	2.5	NS	0.9	NS	10.4	11.9	15.2		
C.V. %	9.2	3.0		22.1		5.0	9.5	8.9		

-- Data not available.

\*\* Highest yielding hybrid in the test.

\* Hybrid which did not yield significantly less than the highest yielding hybrid in the test.

NS Not significant.

TABLE 7. Performance of Grain Sorghum evaluated near Urich (Henry County) on the Kurt Gretzinger Farm during 1998-2000.

Planted: 3 May 2000  
 Harvested: 21 September 2000  
 Planted Population: 104,500 seeds/A  
 Row Spacing: 30 Inches  
 Soil Type: Hartwell Silt Loam

Fertilizer: N=145, P<sub>2</sub>O<sub>5</sub>=50, K<sub>2</sub>O=100  
 Herbicide: Bicep II + Atrazine  
 Insecticide: None  
 Previous Crop: Soybean  
 Soil Test: pH=6.8, OM=3.0%, P=26, K=256

Growing Season Rainfall: May=6.0, June=0.6, July=3.2, Aug.=0.9, Sept.=3.9 TOTAL=14.6 in.

Brand-Hybrid	2000					Yield (Bu/Acre)			Means	
	Moisture (%)	Plant Ht. (In.)	Off-type Heads (%)	Compactness Score	Lodging (%)	2000	1999	1998	2 Yr.	3 Yr.
	Pioneer hybrid 84G62	14.3	58	0.0	3.0	2.1	149.1**	98.8	--	124.0
Triumph TR461	14.3	60	0.0	4.7	0.0	142.5*	--	--	--	--
Garst 5440	14.7	64	0.0	3.9	3.5	140.4*	97.7	127.2**	119.1	121.8
Triumph TR82-G	14.7	64	0.0	3.9	3.5	140.4*	106.7*	111.9*	123.6	119.7
Mycogen M3838	14.8	53	0.0	3.7	1.0	138.4*	--	--	--	--
Dekalb DK53	14.4	63	0.0	1.7	0.9	136.5*	108.1*	106.4	122.3	117.0
Novartis K 735	14.4	61	0.0	2.4	2.0	133.8	--	--	--	--
Garst 5515	14.1	56	0.0	4.3	1.9	133.3	106.5*	--	119.9	--
Asgrow A459	13.9	62	0.0	4.7	1.2	132.8	110.5**	--	121.7	--
Mycogen 3696	14.8	55	0.0	3.6	0.0	131.9	--	--	--	--
Novartis K 73-J6	14.6	60	0.0	0.9	0.0	129.3	--	--	--	--
Pioneer hybrid 85G85	14.4	57	0.0	2.1	0.8	128.2	--	--	--	--
Asgrow A571	13.8	64	0.0	3.4	0.0	128.0	103.3*	112.8*	115.7	114.7
Golden World GW6080	13.3	60	0.0	2.4	5.0	127.6	--	--	--	--
Penngrain DR	14.6	59	0.0	3.0	3.1	126.3	85.8	--	106.1	--
Novartis K 585	14.2	54	0.0	1.1	2.6	124.5	--	--	--	--
Asgrow Missile	14.7	60	0.0	3.1	0.0	123.7	--	--	--	--
Dekalb DK54	13.9	65	0.0	2.8	4.4	121.3	107.8*	102.4	114.6	110.5
Golden World GW3080	14.3	65	0.0	1.7	4.8	119.9	--	--	--	--
Dekalb DK44	14.6	61	0.0	2.7	1.2	114.9	104.5*	98.6	109.7	106.0
Triumph TR438	13.6	55	0.0	2.6	0.0	108.5	--	--	--	--
<b>TRIAL AVERAGE</b>	<b>14.3</b>	<b>60</b>	<b>0.0</b>	<b>2.9</b>	<b>1.8</b>	<b>130.1</b>	<b>99.1</b>	<b>109.3</b>	<b>114.6</b>	<b>112.8</b>
L.S.D. AT .10	0.9	4	NS	0.8	NS	12.8	9.4	19.1		
C.V. %	4.7	5.0		21.1		7.2	6.9	12.6		

-- Data not available.

\*\* Highest yielding hybrid in the test.

\* Hybrid which did not yield significantly less than the highest yielding hybrid in the test.

NS Not significant.

TABLE 8. Performance of Grain Sorghum Hybrids evaluated near Lamar (Barton County) on the Wally Norton Farm during 1998-2000.

Planted: 4 May 2000  
 Harvested: 19 September 2000  
 Planted Population: 104,500 seeds/A  
 Row Spacing: 30 inches  
 Soil Type: Parson Silt Loam

Fertilizer: N=80, P<sub>2</sub>O<sub>5</sub>=40, K<sub>2</sub>O=80  
 Herbicide: Bicep II + Atrazine  
 Insecticide: None  
 Previous Crop: Soybean  
 Soil Test: pH=5.7, OM=2.4%, P=80, K=284

Growing Season Rainfall: May=5.1, June=2.6, July=6.8, Aug.=0.0, Sept=3.3 TOTAL=17.8 in.

Brand-Hybrid	2000					Yield (Bu/Acre)			Means	
	Moisture (%)	Plant Ht. (In.)	Off-type Heads (%)	Compactness Score	Lodging (%)	2000	1999	1998	2 Yr.	3 Yr.
Pioneer hybrid 84G62	12.5	51	0.0	2.7	0.0	148.7**	79.9	--	114.3	--
Garst 5440	12.8	56	0.0	4.7	0.0	146.6*	93.5*	107.5	120.1	115.9
Triumph TR82-G	12.8	56	0.0	4.7	0.0	146.6*	82.0*	94.6	114.3	107.7
Asgrow A571	12.8	57	0.0	1.7	0.0	145.3*	69.8	105.5	107.6	106.9
Dekalb DK54	11.8	63	0.0	3.3	0.0	143.7*	78.3	125.5*	111.0	115.8
Asgrow A459	12.2	54	0.0	4.3	0.0	141.9*	76.3	--	109.1	--
Asgrow Missile	13.2	54	0.0	2.7	0.0	139.3*	--	--	--	--
Penngrain DR	11.5	50	0.0	2.7	0.0	134.5*	74.6	--	104.6	--
Novartis K 73-J6	13.3	52	0.0	1.7	0.0	133.3	--	--	--	--
Dekalb DK53	13.8	59	0.7	2.0	0.0	133.2	95.9**	134.1*	114.6	121.1
Dekalb DK44	12.3	52	0.0	3.7	0.0	131.9	85.1*	118.7*	108.5	111.9
Triumph TR461	12.2	50	0.0	4.7	0.0	131.5	--	--	--	--
Novartis K 585	12.3	43	0.0	3.3	0.0	127.2	--	--	--	--
Golden World GW6080	11.1	50	0.0	3.7	0.0	125.7	--	--	--	--
Novartis K 735	12.7	53	0.0	3.7	0.0	125.4	--	--	--	--
Garst 5515	11.9	49	0.0	4.0	0.0	124.4	89.5*	--	107.0	--
Triumph TR438	11.9	48	0.2	3.7	0.0	123.8	--	--	--	--
Mycogen 3696	12.3	46	0.6	4.0	0.0	123.0	--	--	--	--
Pioneer hybrid 85G85	12.3	44	0.0	1.3	0.0	120.5	--	--	--	--
Golden World GW3080	11.8	52	0.0	2.3	0.0	119.8	--	--	--	--
Mycogen M3838	13.3	45	0.4	1.3	0.0	119.0	--	--	--	--
<b>TRIAL AVERAGE</b>	<b>12.4</b>	<b>52</b>	<b>0.1</b>	<b>3.2</b>	<b>0.0</b>	<b>132.6</b>	<b>79.0</b>	<b>110.0</b>	<b>105.8</b>	<b>107.2</b>
L.S.D. AT .10	1.0	4	NS	1.2	NS	15.2	14.4	17.6		
C.V. %	5.7	5.1		29.3		8.4	13.3	11.7		

-- Data not available.

\*\* Highest yielding hybrid in the test.

\* Hybrid which did not yield significantly less than the highest yielding hybrid in the test.

NS Not significant.

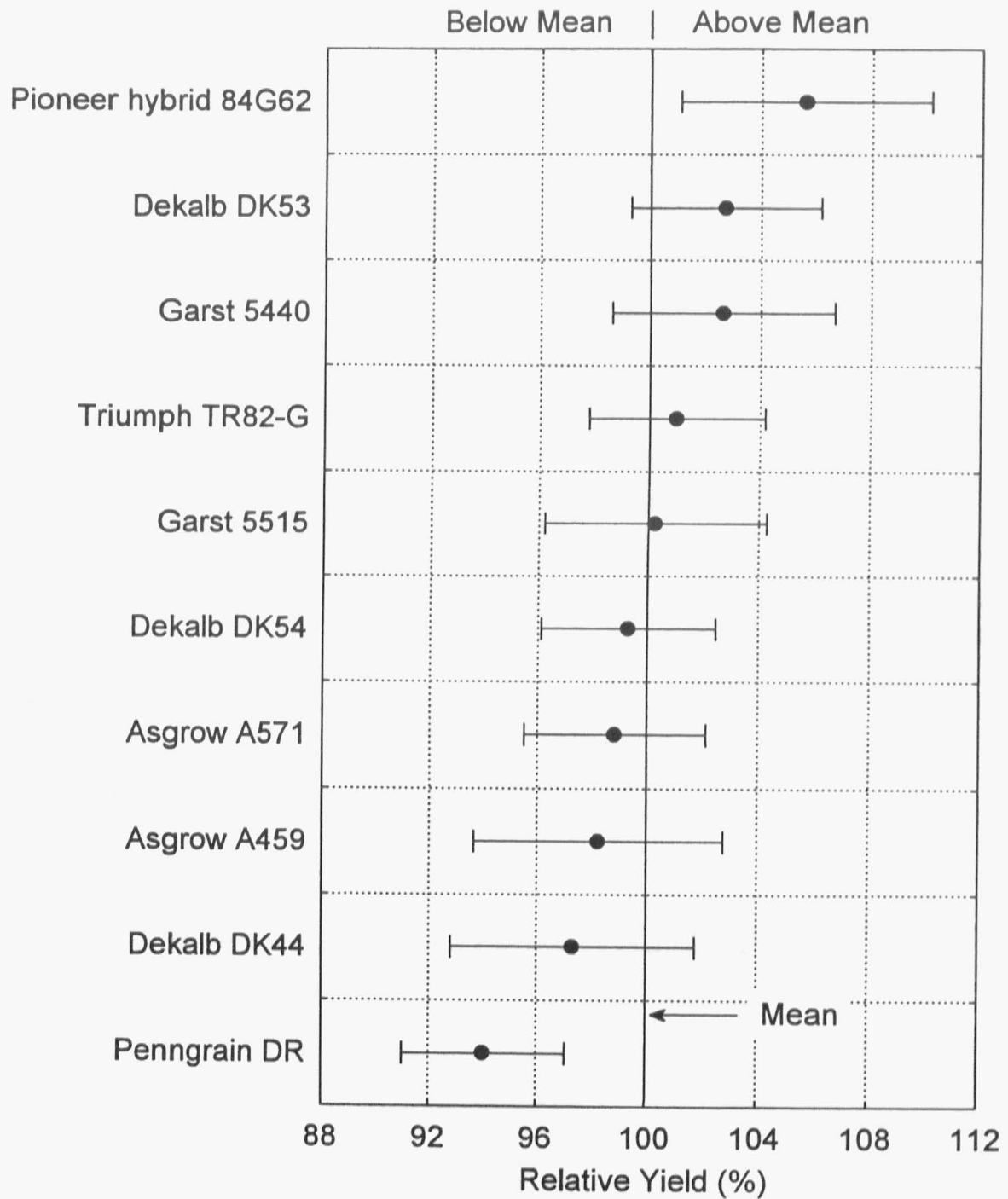
TABLE 9. Performance of Grain Sorghum Hybrids evaluated at Three Southwest Missouri Locations (Hughesville, Urich and Lamar) during 2000.

<u>Hughesville</u>	<u>Urich</u>	<u>Lamar</u>
Planted: 12 May 2000	Planted: 3 May 2000	Planted: 4 May 2000
Harvested: 12 October 2000	Harvested: 21 September 2000	Harvested: 19 September 2000
Planted Pop.: 104,500 seeds/A.	Planted Pop.: 104,500 seeds/A.	Planted Pop.: 104,500 seeds/A.
Row Spacing: 30 inches	Row Spacing: 30 inches	Row Spacing: 30 inches
Soil Type: Summit Silt Loam	Soil Type: Hartwell Silt Loam	Soil Type: Parsons Silt Loam
Growing Season Moisture: 20.0"	Growing Season Moisture: 14.6"	Growing Season Moisture: 17.8"

Brand-Hybrid	Lodging (%)				Yield (Bu/Acre)			
	Hughesville	Urich	Lamar	Mean	Hughesville	Urich	Lamar	Mean
Pioneer hybrid 84G62	0.0	2.1	0.0	0.7	172.0**	149.1**	148.7**	156.6**
Triumph TR82-G	0.0	3.5	0.0	1.2	148.2	140.4*	146.6*	145.1
Garst 5440	0.0	3.5	0.0	1.2	148.2	140.4*	146.6*	145.1
Asgrow A459	0.0	1.2	0.0	0.4	157.9	132.8	141.9*	144.2
Dekalb DK53	0.0	0.9	0.0	0.3	161.2	136.5*	133.2	143.6
Asgrow Missile	0.0	0.0	0.0	0.0	166.8*	123.7	139.3*	143.3
Asgrow A571	0.0	0.0	0.0	0.0	155.9	128.0	145.3*	143.1
Dekalb DK54	1.4	4.4	0.0	1.9	160.3	121.3	143.7*	141.8
Triumph TR461	0.0	0.0	0.0	0.0	149.4	142.5*	131.5	141.1
Novartis K 73-J6	0.0	0.0	0.0	0.0	158.0	129.3	133.3	140.2
Garst 5515	0.0	1.9	0.0	0.6	160.1	133.3	124.4	139.3
Novartis K 735	0.0	2.0	0.0	0.7	152.2	133.8	125.4	137.1
Penngrain DR	0.0	3.1	0.0	1.0	149.3	126.3	134.5*	136.7
Golden World GW6080	0.0	5.0	0.0	1.7	155.9	127.6	125.7	136.4
Mycogen M3838	0.0	1.0	0.0	0.3	146.7	138.4*	119.0	134.7
Pioneer hybrid 85G85	0.7	0.8	0.0	0.5	151.6	128.2	120.5	133.4
Dekalb DK44	0.0	1.2	0.0	0.4	151.3	114.9	131.9	132.7
Mycogen 3696	0.0	0.0	0.0	0.0	141.5	131.9	123.0	132.1
Novartis K 585	0.0	2.6	0.0	0.9	142.2	124.5	127.2	131.3
Golden World GW3080	0.0	4.8	0.0	1.6	141.6	119.9	119.8	127.1
Triumph TR438	0.0	0.0	0.0	0.0	123.6	108.5	123.8	118.6
<b>TRIAL AVERAGE</b>	<b>0.1</b>	<b>1.8</b>	<b>0.0</b>	<b>0.6</b>	<b>152.1</b>	<b>130.1</b>	<b>132.6</b>	<b>138.3</b>
L.S.D. AT .10	NS	NS	NS	NS	10.4	12.8	15.2	7.3
C.V. %					5.0	7.2	8.4	6.9

\*\* Highest yielding hybrid in the test.  
 \* Hybrid which did not yield significantly less than the highest yielding hybrid in the test.  
 NS Not significant.

Figure 2. Graphic Summary of Two-year (99/2000) Results of Grain Sorghum Hybrids at Southwest Missouri Locations.



The "dot" shows average relative yield percentage from the 99/2000 tests at Hughesville, Urich and Lamar. The bar about each "dot" gives the range in which relative yield percentage will be expected 80% of the time.



TABLE 10. Performance of Grain Sorghum Hybrids evaluated near Chaffee (Cape Girardeau County) on the Tom Obermann Farm during 1999-2000 and near Randles on the Tom Shoemaker Farm during 1998.

Planted: 16 May 2000  
 Harvested: 21 September 2000  
 Planted Population: 104,500 seeds/A  
 Row Spacing: 30 inches  
 Soil Type: Commerce Silt Loam

Fertilizer: N=160, P<sub>2</sub>O<sub>5</sub>=60, K<sub>2</sub>O=100  
 Herbicide: Ramrod + Atrazine  
 Insecticide: None  
 Previous Crop: Grain Sorghum  
 Soil Test: pH=6.3, OM=4.4%, P=118, K=312

Growing Season Rainfall: May=2.3, June=0.3, July=2.0, Aug.=3.1, Sept.=3.9 TOTAL=11.6 in.

Brand-Hybrid	2000					Yield (Bu/Acre)			Means	
	Mois- ture (%)	Plant Ht. (In.)	Off-type Heads (%)	Com- pactness Score	Lodg- ing (%)	2000	1999	1998	2 Yr.	3 Yr.
	FFR 319W	16.8	56	0.0	4.0	0.0	115.9**	71.6*	--	93.8
Pioneer hybrid 82G63	17.3	55	0.0	4.7	0.0	114.9*	--	--	--	--
Dekalb DK53	17.1	56	0.0	1.9	0.0	112.5*	54.0	94.8	83.3	87.1
FFR 322	17.0	55	0.3	1.4	0.0	111.5*	74.9*	--	93.2	--
Pioneer hybrid 8282	15.0	55	0.0	3.2	0.0	110.6*	59.9	100.6*	85.3	90.4
Pioneer hybrid 83G66	16.7	56	0.0	2.4	0.0	108.2*	71.8*	--	90.0	--
Asgrow A459	16.8	55	0.0	3.3	0.0	103.8*	52.3	--	78.1	--
Triumph TR82-G	16.6	56	0.0	2.8	0.0	102.7*	62.9	106.0*	82.8	90.5
Asgrow Missile	17.8	52	0.5	2.5	0.0	101.6*	--	--	--	--
Golden World GW1489	16.1	56	0.0	2.3	0.0	98.0*	65.2	114.1**	81.6	92.4
Asgrow A571	15.7	57	0.0	3.5	0.0	97.7*	59.4	94.7	78.6	83.9
FFR 315	15.2	53	0.0	3.3	0.0	96.7*	--	--	--	--
Dekalb DK44	16.9	47	0.0	4.0	0.0	93.8*	64.2	93.1	79.0	83.7
Garst 5515	17.1	51	0.0	4.0	0.0	92.7	--	--	--	--
FFR 321	17.1	50	0.0	3.2	0.0	89.1	--	77.2	--	--
FFR X-320	16.6	53	0.0	1.9	0.0	88.8	--	--	--	--
Dekalb DK54	17.9	57	0.0	1.7	0.0	88.5	62.7	67.9	75.6	73.0
Gateway GS210	17.0	54	0.0	1.5	0.0	83.6	--	--	--	--
Penngrain DR	16.7	51	0.0	3.1	0.0	83.2	55.7	68.5	69.5	69.1
Garst 5440	16.8	53	0.0	2.9	0.0	77.7	--	--	--	--
Golden World GW1472	18.3	51	0.0	2.4	0.0	76.1	--	--	--	--
<b>TRIAL AVERAGE</b>	<b>16.8</b>	<b>54</b>	<b>0.0</b>	<b>2.8</b>	<b>0.0</b>	<b>97.5</b>	<b>61.2</b>	<b>90.0</b>	<b>79.4</b>	<b>82.9</b>
L.S.D. AT .10	NS	2.8	0.2	1.0	NS	22.6	10.0	18.7		
C.V. %	9.0	3.4		26.0		16.7	11.9	15.2		

-- Data not available.  
 \*\* Highest yielding hybrid in the test.  
 \* Hybrid which did not yield significantly less than the highest yielding hybrid in the test.  
 NS Not significant.

TABLE 11. Performance of Grain Sorghum Hybrids evaluated near Grayridge (stoddard County) on the Jack Allen Farm during 1999-2000 and near Dexter on the Chuck Boyers Farm during 1998.

Planted: 15 May 2000  
 Harvested: 15 September 2000  
 Planted Population: 104,500 seeds/A  
 Row Spacing: 30 inches  
 Soil Type: Sharkey Silty Clay Loam

Fertilizer: N=130, P<sub>2</sub>O<sub>5</sub>=30, K<sub>2</sub>O=70  
 Herbicide: Ramrod + Atrazine  
 Insecticide: None  
 Previous Crop: Soybean  
 Soil Test: pH=6.9, OM=1.7%, P=113, K=243

Growing Season Rainfall: May=7.2, June=1.0, July=3.8, Aug.=2.2, Sept.=2.2 TOTAL=16.4 in.

Brand-Hybrid	2000					Yield (Bu/Acre)			Means	
	Mois- ture (%)	Plant Ht. (In.)	Off-type Heads (%)	Com- pactness Score	Lodg- ing (%)	2000	1999	1998	2 Yr.	3 Yr.
	Dekalb DK54	15.3	62	0.0	1.7	0.0	171.3**	87.2*	70.5*	129.3
Pioneer hybrid 83G66	16.0	58	0.0	2.0	0.0	165.3*	88.5*	--	126.9	--
Asgrow A459	14.3	59	0.0	2.7	0.0	163.7*	58.4	--	111.1	--
Triumph TR82-G	15.6	59	0.0	2.0	0.0	159.5*	63.2	58.0	111.4	93.6
Asgrow A571	15.0	63	0.0	2.3	0.0	157.7*	85.1*	72.4*	121.4	105.1
FFR 322	14.8	58	0.0	1.7	0.0	156.1	72.5	--	114.3	--
Asgrow Missile	15.2	56	0.0	1.7	0.0	150.3	--	--	--	--
Gateway GS210	14.5	60	0.0	2.0	0.3	149.8	--	--	--	--
Pioneer hybrid 8282	16.0	60	0.0	2.7	0.0	149.0	75.7	55.0	112.4	93.2
FFR 319W	14.9	55	0.2	3.7	0.0	148.2	97.5*	--	122.9	--
Dekalb DK53	16.1	59	0.0	1.7	0.6	148.1	100.5**	68.2*	124.3	105.6
Pioneer hybrid 82G63	15.9	59	0.0	2.3	0.0	146.1	--	--	--	--
Golden World GW1489	15.6	59	0.0	2.3	0.0	142.3	61.2	54.8	101.8	86.1
Garst 5440	15.3	55	0.0	2.3	0.0	142.2	--	--	--	--
FFR 321	15.1	54	0.0	2.7	0.0	140.0	--	68.7*	--	--
FFR 315	15.1	55	0.0	3.0	0.2	135.5	--	--	--	--
Golden World GW1472	16.3	56	0.0	1.7	0.0	134.8	--	--	--	--
Penngrain DR	14.8	51	0.0	2.3	0.0	134.4	77.9	61.5*	106.2	91.3
FFR X-320	14.8	55	0.0	1.3	0.0	127.8	--	--	--	--
Garst 5515	14.6	50	0.0	3.0	0.0	126.7	--	--	--	--
Dekalb DK44	14.4	53	0.0	3.3	0.0	113.9	78.4	61.9*	96.2	84.7
<b>TRIAL AVERAGE</b>	<b>15.2</b>	<b>57</b>	<b>0.0</b>	<b>2.3</b>	<b>0.0</b>	<b>145.8</b>	<b>75.8</b>	<b>55.7</b>	<b>110.8</b>	<b>92.4</b>
L.S.D. AT .10	1.3	4	NS	0.8	NS	15.1	18.6	18.4		
C.V. %	6.2	4.6		25.2		7.5	17.9	24.1		

-- Data not available.

\*\* Highest yielding hybrid in the test.

\* Hybrid which did not yield significantly less than the highest yielding hybrid in the test.

NS Not significant.

TABLE 12. Performance of Grain Sorghum Hybrids evaluated near Portageville (Pemiscot County) on the Delta Research Center during 1999-2000 and near New Madrid (New Madrid County) on the Tony Jones Farm during 1998.

Planted: 12 May 2000  
 Harvested: 7 September 2000  
 Planted Population: 104,500 seeds/A  
 Row Spacing: 30 inches  
 Soil Type: Tiptonville Silt Loam

Fertilizer: N=100, P<sub>2</sub>O<sub>5</sub>=0, K<sub>2</sub>O=60  
 Herbicide: Ramrod + Atrazine  
 Insecticide: None  
 Previous Crop: Cotton  
 Soil Test: pH=6.5, OM=1.3%, P=132, K=551

Growing Season Rainfall: May=5.6, June=1.3, July=3.0, Aug.=0.4, Sept.=1.4 TOTAL=11.7 in.

Brand-Hybrid	2000					Yield (Bu/Acre)			Means	
	Moisture (%)	Plant Ht. (In.)	Off-type Heads (%)	Compactness Score	Lodging (%)	2000	1999	1998	2 Yr.	3 Yr.
FFR 322	15.9	55	0.0	1.6	0.0	151.6**	72.1	--	111.9	--
Pioneer hybrid 83G66	15.6	52	0.0	1.0	0.1	150.0*	65.0	--	107.5	--
Garst 5440	15.6	51	0.0	1.7	0.0	144.0*	--	--	--	--
Pioneer hybrid 82G63	16.3	49	0.2	3.1	0.0	141.8*	--	--	--	--
Golden World GW1489	16.5	52	0.0	2.4	0.1	141.1*	76.9	127.7	109.0	115.2
Dekalb DK53	17.7	54	0.0	1.0	0.0	136.5*	99.3*	118.6	117.9	118.1
Dekalb DK54	17.4	57	0.0	1.3	0.0	133.8*	99.5*	144.2**	116.7	125.8
Asgrow A571	17.2	50	0.0	1.0	0.1	132.7*	85.3	119.9	109.0	112.6
Gateway GS210	19.3	54	0.0	1.3	0.0	130.3*	--	--	--	--
FFR 321	15.6	50	0.0	1.9	1.3	129.3	--	119.7	--	--
Triumph TR82-G	17.0	53	0.0	1.5	0.0	129.3	70.1	118.7	99.7	106.0
Dekalb DK44	16.9	47	0.3	1.4	1.8	128.2	105.9**	121.3	117.1	118.5
Asgrow Missile	16.9	52	0.2	1.0	0.0	127.9	--	--	--	--
Pioneer hybrid 8282	16.8	52	0.0	1.7	0.0	127.1	58.1	121.2	92.6	102.1
Asgrow A459	17.0	51	0.0	1.6	0.0	119.8	74.3	--	97.1	--
Golden World GW1472	15.3	52	0.2	1.4	0.1	115.9	--	--	--	--
FFR 315	14.1	52	0.0	3.0	0.0	112.6	--	--	--	--
FFR X-320	15.2	52	0.0	2.2	0.1	112.2	--	--	--	--
Penngrain DR	15.8	50	0.0	1.5	0.0	112.1	45.4	107.7	78.8	88.4
FFR 319W	15.3	53	0.2	1.6	0.3	111.7	75.0	--	93.4	--
Garst 5515	16.4	46	0.0	2.1	3.0	110.3	--	--	--	--
<b>TRIAL AVERAGE</b>	<b>16.4</b>	<b>52</b>	<b>0.0</b>	<b>1.7</b>	<b>0.3</b>	<b>128.5</b>	<b>76.3</b>	<b>114.8</b>	<b>102.4</b>	<b>106.5</b>
L.S.D. AT .10	1.8	4	NS	0.6	NS	22.2	19.6	16.3		
C.V. %	7.9	5.0		29.4		12.5	19.0	10.4		

-- Data not available.  
 \*\* Highest yielding hybrid in the test.  
 \* Hybrid which did not yield significantly less than the highest yielding hybrid in the test.  
 NS Not significant

TABLE 13. Performance of Grain Sorghum Hybrids evaluated at Three Southeast Missouri Locations (Chaffee, Grayridge, and Portageville) during 2000.

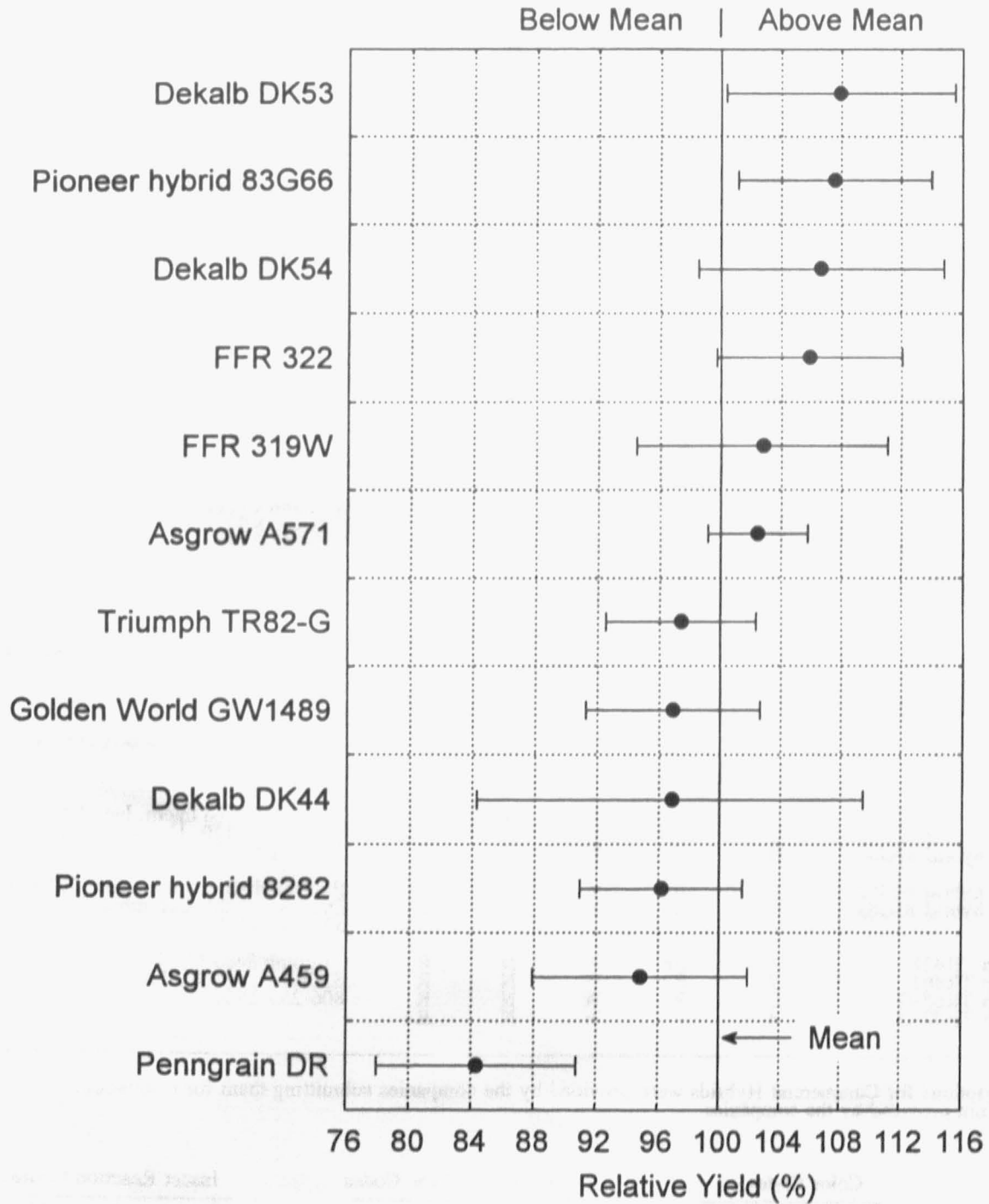
Brand-Hybrid	Lodging (%)				Yield (Bu/Acre)			
	Chaffee	Grayridg	Portage	Mean	Chaffee	Grayridge	Portageville	Mean
Pioneer hybrid 83G66	0.0	0.0	0.1	0.0	108.2*	165.3*	150.0*	141.2**
FFR 322	0.0	0.0	0.0	0.0	111.5*	156.1	151.6**	139.7*
Pioneer hybrid 82G63	0.0	0.0	0.0	0.0	114.9*	146.1	141.8*	134.3*
Dekalb DK53	0.0	0.6	0.0	0.2	112.5*	148.1	136.5*	132.4*
Dekalb DK54	0.0	0.0	0.0	0.0	88.5	171.3**	133.8*	131.2*
Triumph TR82-G	0.0	0.0	0.0	0.0	102.7*	159.5*	129.3	130.5*
Asgrow A571	0.0	0.0	0.1	0.0	97.7*	157.7*	132.7*	129.4
Asgrow A459	0.0	0.0	0.0	0.0	103.8*	163.7*	119.8	129.1
Pioneer hybrid 8282	0.0	0.0	0.0	0.0	110.6*	149.0	127.1	128.9
Golden World GW1489	0.0	0.0	0.1	0.0	98.0*	142.3	141.1*	127.1
Asgrow Missile	0.0	0.0	0.0	0.0	101.6*	150.3	127.9	126.6
FFR 319W	0.0	0.0	0.3	0.1	115.9**	148.2	111.7	125.3
Garst 5440	0.0	0.0	0.0	0.0	77.7	142.2	144.0*	121.3
Gateway GS210	0.0	0.3	0.0	0.1	83.6	149.8	130.3*	121.2
FFR 321	0.0	0.0	1.3	0.4	89.1	140.0	129.3	119.5
FFR 315	0.0	0.2	0.0	0.1	96.7*	135.5	112.6	114.9
Dekalb DK44	0.0	0.0	1.8	0.6	93.8*	113.9	128.2	112.0
Garst 5515	0.0	0.0	3.0	1.0	92.7	126.7	110.3	109.9
Penngrain DR	0.0	0.0	0.0	0.0	83.2	134.4	112.1	109.9
FFR X-320	0.0	0.0	0.1	0.0	88.8	127.8	112.2	109.6
Golden World GW1472	0.0	0.0	0.1	0.0	76.1	134.8	115.9	108.9
<b>TRIAL AVERAGE</b>	<b>0.0</b>	<b>0.0</b>	<b>0.3</b>	<b>0.1</b>	<b>97.5</b>	<b>145.8</b>	<b>128.5</b>	<b>123.9</b>
L.S.D. AT .10	NS	NS	NS	NS	22.6	15.1	22.2	11.6
C.V. %					16.7	7.5	12.5	12.2

\*\* Highest yielding hybrid in the test.

\* Hybrid which did not yield significantly less than the highest yielding hybrid in the test.

NS Not significant.

Figure 3. Graphic Summary of Two-year (99/2000) Results of Grain Sorghum Hybrids at Southeast Missouri Locations.



The "dot" shows average relative yield percentage from the 99/2000 tests at Chaffee, Grayridge and Portageville. The bar about each "dot" gives the range in which relative yield percentage will be expected 80% of the time.

TABLE 14. GRAIN SORGHUM SEED COMPANY ADDRESSES AND CHARACTERISTICS\* OF HYBRIDS.

Brand-Hybrid	Mat- urity Group	Color		Endo- Sperm Type	Biotype E Gr. Bug Response	Company Addresses
		Seed Coat	Endo- Sperm			
Asgrow A459	2	Bz	Hy	N	R	Monsanto, 7159 N. 247th St. West, Mt. Hope, KS 67108 316-445-2290
Asgrow A571	3	R	W	N	S	
Asgrow Missile	3	Bz	Y	N	R	
Dekalb DK44	2	Bz	Y	N	R	Monsanto, 7159 N. 247th St. West, Mt. Hope, KS 67108 316-445-2290
Dekalb DK47	2	Bz	Y	N	R	
Dekalb DK53		Bz	Y	N	R	
Dekalb DK54	3	Bz	Y	N	R	
FFR 315	1	Bz	Y	N	R	FFR Seed, 969 Cloverleaf Dr., Southaven, MS 38671 806-366-2667
FFR 319W	2	W	W	N	R	
FFR 321	2	Bz	Y	N	R	
FFR 322	2	R	W	N	R	
FFR X-320	2	R	W	N	R	
Garst 5440	2	R	-	-	R	Garst Seed Co, 2369 330th, Box 500, Slater, IA 50244 515-685-5000
Garst 5515	2	Bz	-	-	-	
Gateway GS210	4	R	-	N	R	Gateway Seed Co., 5517 Van Buren Rd., Nashville, IL 62263 618-327-8000
Golden World GW1472	2	R	W	N	S	Crosbyton Seed Co., PO Box 429, Crosbyton, TX 806-675-2308
Golden World GW1489	2	R	W	N	R	
Golden World GW3068	2	R	W	N	R	
Golden World GW3080	2	Bz	Hy	N	S	
Golden World GW6080	2	Bz	Hy	N	S	
Midland Gen. X-4677	2	B	Hy	N	R	Midland Genetics Group, 1906 Kingman, Ottawa, KS 785-242-3598
Midland Gen. X-4788	2	B	Hy	N	R	
Midland Gen. X-4834	2	B	R	N	S	
Mycogen 3696	3	Y	Y	N	R	Mycogen Seeds, 9330 Zionville Rd., Indianapolis, IN 800-380-7282
Mycogen M3838	2	Hy	Y	N	R	
Novartis K 585	2	-	-	-	-	Novartis Seed Co., 1712 Saxony Dr, Macon, MO 63552 660-385-5831
Novartis K 73-J6	2	-	-	-	-	
Novartis K 735	2	-	-	-	-	
Novartis K-59-Y2	2	-	-	-	-	
Penngrain DR	2	Bz	Y	-	S	Pennington Seed, PO Box 290, Madison, GA 30650 706-342-8042
Pioneer hybrid 8282	3	R	W	N	S	Pioneer Hi-bred Intern. Inc., 6767 old Madison Pike, Suite 110, Huntsville, AL 35806 256-971-0433
Pioneer hybrid 82G63	3	Bz	Y	N	S	
Pioneer hybrid 83G66	3	R	W	N	R	
Pioneer hybrid 84G62	3	Bz	Y	-	R	Pioneer Hi-Bred Intern. Inc., 2306 Bluff Creek Dr., Suite 300, Columbia, MO 65201 573-443-1175
Pioneer hybrid 85G85	2	Bz	Y	-	S	
Triumph TR438	1	Bz	W	N	R	Triumph Seed Co. Inc., PO Box 1050, Hwy 62 Bypass, Ralls, TX 79357 806-253-2584
Triumph TR461	2	R	W	N	R	
Triumph TR65-G	3	R	W	N	R	
Triumph TR82-G	4	R	W	N	R	

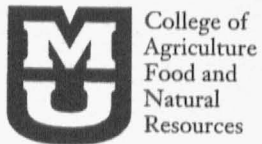
\* Descriptions for Commercial Hybrids were provided by the companies submitting them for evaluation.  
- Data not provided by the companies.

Color Codes  
 Bz - Bronze  
 Hy - Heteroyellow  
 W - White  
 Y - Yellow  
 R - Red

Endosperm Type Codes  
 Hw - Heterowaxy  
 N - Nonwaxy  
 W - Waxy

Insect Reaction Codes  
 S - Susceptible  
 T - Tolerant  
 R - Resistant





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