

# Grain Sorghum

2008 Missouri Crop Performance



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## **Missouri 2008 Grain Sorghum Performance Tests**

This report is a contribution of the Division of Plant Science, University of Missouri College of Agriculture, Food and Natural Resources. The work was supported by 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 to 31 hybrids in 2008. To select a commercial hybrid 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 tests 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 test, 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 test. 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.

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 Variety Testing Program 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.

### **The Authors**

William J. Wiebold is a Professor of Plant Sciences and State Extension Specialist; Howard L. Mason and Travis Belt are Research Associates; Delbert Knerr, Richard W. Hasty, David M. Schwab, and Jeremy Angotti are Research Specialists and Bruce Burdick is the Superintendent of the Hundley-Whaley Research Center.

### **Acknowledgments**

The authors recognize and express their appreciation to the following individuals for their part in making the 2008 grain sorghum performance tests possible: Bud and Ron Beetsma, Mooresville; Randy Smoot, Superintendent, Greenley Memorial Center, Novelty; Tim Reinbott, Superintendent, Bradford Research & Extension Center, Columbia; Kenny Tevis, Hughesville; Clark and Caleb Wood, Sheldon; Eddie Marshall, Charleston; and Jake Fisher, Superintendent, Delta Research Center, Portageville.

## Experimental Procedures

**Entries:** All producers of hybrid seed were eligible to enter hybrids in the 2008 evaluation tests. 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.

**Plot Management:** The test plots were planted and harvested with equipment designed for small-plot work. Row spacing for grain sorghum tests in the Central/West Region was 15 inches. Row spacing for grain sorghum tests in the Southeast Region was 30 inches. Seeding rate for the 15 and 30 inch row spacing was 122,000 seeds/acre. Fertilizer was applied at each site at the discretion of the farmer. Herbicides were used for weed control and plots were hand weeded as necessary. Management details varied from location to location and are specified in the regional crop management summaries.

**Data Recorded:** Agronomic characteristics were evaluated at harvest. Lodging was taken immediately before harvest. Interpretation of the scale is as follows: 1 = all plants erect, 3 = all plants leaning moderately or 20% to 50% down, 5 = all plants down. Yield is measured in bushels (56 pounds) per acre at a moisture content of 14.0 percent. An electronic moisture tester is used for all moisture readings.

**Accessibility of Data:** The results of the 2008 Crop performance tests are also available online at [varietytesting.missouri.edu](http://varietytesting.missouri.edu). If you need assistance in accessing the system; call 573-882-4827 for help.

**Field Plot Design:** Statistical designs used to analyze the field data included randomized lattice with 3 replications and randomized complete block with 4 replications, depending on the size of the test. Individual plots were four rows wide. Row length was 25 feet for both 15 and 30 inch row spacing. All four rows of each plot were harvested for the 15 inch row spacing test and only the center two rows of each plot were harvested for the 30 inch row spacing to determine yield.

## Locations

On the basis of geographical characteristics, the state is divided into regions. Grain sorghum hybrid evaluation tests are located in the Central/West and Southeast regions of the state. In 2008, the locations for these tests were as follows:

### Central/West

1. Beetsma farm, Mooresville (Livingston Co.)
2. Greenley Memorial Center, Novelty (Knox Co.)
3. Bradford Research & Ext. Center, Columbia (Boone Co.)
4. Kenny Tevis farm, Hughesville (Pettis Co.)
5. Clark and Caleb Wood, Sheldon (Barton Co.)

### Southeast

6. Eddie Marshall, Charleston (Mississippi Co.)
7. Delta Research Center (Clay and Loam), Portageville (Pemiscot Co.)



## Central/West Crop Management Summary

There are five locations in the Central/West Region for the Grain Sorghum Test. They are located in counties where a significant number of acres of grain sorghum are grown according to the Missouri Agricultural Statistics Service. Cultural practices vary slightly between locations, but tend to reflect those followed by farmers in the area.

Planting was delayed at all 5 sites in the Central/West region this year, beginning on May 29 and continuing until June 27. Yields were about average or slightly below due to the wet season and reduced GDD's. Some nitrogen was lost through leaching and denitrification as well this season. A side-dress application of 50 pounds of dry nitrogen was applied at the Columbia site in August. Preplant fertilizer was applied at Sheldon with the intention of coming back with side-dress nitrogen. Continuous rainfall during June and July prohibited this operation, so only the carry-over nitrogen from the previous crop of soybean and 22 pounds applied preplant were available to the sorghum plants.

Climatological information for the growing season (May 1 – September 30) for the Central/West Region is summarized below and cultural practices for each site are listed in Table 1.

Average temperature = 70.5 degrees, 0.4 degrees below normal

Average precipitation = 32.8", 11.4" above normal

Table 1. Central/West Region Crop Management Summary

Location	Planting	Harvest					Herbicide	
	date	date	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Tillage	Pre	Post
<i>Standard Grain Sorghum Tests</i>								
Mooresville	06-02	11-09	120	20	0	Conventional	Bicep II Mag	None
Novelty	05-29	11-07	177	70	70	No-Till	Dual II Mag, Atrazine	None
Columbia	06-18	11-13	170	46	62	No-Till	Dual II Mag, Atrazine, Roundup WeatherMax	Buctril
Hughesville	06-03	11-10	125	60	50	Conventional	Guardsman, Dual II Mag, Atrazine	None
Sheldon	06-27	11-19	22	58	75	Conventional	Dual II Mag, Atrazine	None

TABLE 2. **Standard Grain Sorghum Test**

Central/West Region: Mooresville, MO (Livingston County)

Soil Type: Grundy Silt Loam    Soil Test: pH=6.5, OM=3.0%, P=20, K=310

Rainfall: May=5.0, June=8.3, July=6.6, Aug.=2.2, Sept.=9.4 Total=31.4 in.

Brand-Variety	Seed Treatment <sup>+</sup>	2008			Yield		2 Yr. Mean
		Moisture (%)	Plant Height (in)	Lodging	2008 -----bu/acre-----	2007	
DEKALB DKS53-67	3, 8, 9	17.5	57	1	142.8**	130.8*	136.8
Dyna-Gro 772B	3, 8	16.8	59	1	140.3*	131.3*	135.8
DEKALB DKS54-03	3, 8, 9	16.8	62	1	140.2*	--	--
Pioneer 84G62	3, 5, 8	16.2	57	1	137.3*	134.6*	136.0
Pioneer 85Y40	3, 5, 8	16.5	57	1	137.0*	139.8**	138.4
Garst 5464	3, 5	17.0	59	1	134.8*	128.1	131.5
Dyna-Gro GX07163	1, 4, 6, 7	16.8	59	1	128.2	--	--
DEKALB DKS54-00	3, 8, 9	14.5	63	1	128.0	128.3	128.2
Dyna-Gro 766B	3, 8, 9	16.5	58	1	127.2	--	--
Garst 5676	3, 5	16.2	53	1	126.0	--	--
DEKALB DKS44-20	3, 8, 9	16.8	58	1	124.5	--	--
Dyna-Gro 751B	1, 4, 6, 7	16.2	63	1	123.0	128.1	125.6
Dyna-Gro 778B	3	17.2	68	1	122.1	139.8**	131.0
Asgrow A571	3, 8, 9	15.2	56	1	119.9	--	--
Dyna-Gro GXO7664	3	16.2	53	1	119.6	--	--
NC+ 7R34	3, 8, 9	16.8	62	1	119.0	134.4*	126.7
DEKALB DKS36-16	3, 8, 9	16.0	49	1	115.8	125.2	120.5
DEKALB DKS37-07	3, 8, 9	16.2	57	1	113.4	112.0	112.7
<b>TEST AVERAGE</b>		<b>16.4</b>	<b>58</b>	<b>1</b>	<b>127.7</b>	<b>126.6</b>	<b>127.2</b>
<b>L.S.D. AT .10</b>		<b>1.1</b>			<b>10.1</b>	<b>9.0</b>	
<b>C.V. %</b>		<b>5.7</b>			<b>6.7</b>	<b>6.0</b>	

-- Data not available.

\*\* Highest yielding hybrid in the test.

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

+ Seed Treatments: 1= Allegiance (Metalaxyl); 2= Apron Maxx (Mefenoxam + Fludioxonil); 3= Apron XL (Mefenoxam); 4= Captan; 5= Cruiser (Thiamethoxam); 6= Gaucho (Imidacloprid); 7= Lorsban 30 (Chlorpyrifos); 8= Maxim XL (Fludioxonil); 9= Poncho 250 (Clothianidin)



TABLE 3. **Standard Grain Sorghum Test**

Central/West Region: Novelty, MO (Knox County)

Soil Type: Putnam Silt Loam    Soil Test: pH=6.1, OM=2.8%, P=46, K=230

Rainfall: May=4.4, June=10.1, July=10.7, Aug=4.2, Sept=7.9 Total=37.3 in.

Brand-Variety	Seed Treatment <sup>+</sup>	2008			Yield		2 Yr. Mean
		Moisture (%)	Plant Height (in)	Lodging	2008 -----bu/acre-----	2007	
Pioneer 84G62	3, 5, 8	15.0	64	1	139.6**	134.6*	137.1
DEKALB DKS53-67	3, 8, 9	15.0	64	1	132.3*	136.8**	134.6
DEKALB DKS54-03	3, 8, 9	15.0	66	1	129.6	--	--
Dyna-Gro 772B	3, 8	15.0	67	1	128.0	117.8	122.9
Dyna-Gro GXO7664	3	15.0	58	1	126.6	--	--
Garst 5464	3, 5	15.5	66	1	123.8	124.6*	124.2
Pioneer 85Y40	3, 5, 8	15.2	59	1	122.6	123.5*	123.1
Dyna-Gro GX07163	1, 4, 6, 7	15.8	64	1	120.6	--	--
DEKALB DKS54-00	3, 8, 9	14.8	66	1	120.5	126.5*	123.5
Asgrow A571	3, 8, 9	14.8	68	1	120.5	--	--
Dyna-Gro 766B	3, 8, 9	15.0	62	1	120.2	--	--
DEKALB DKS36-16	3, 8, 9	14.5	59	1	117.4	114.7	116.1
DEKALB DKS37-07	3, 8, 9	15.5	60	1	116.5	101.7	109.1
DEKALB DKS44-20	3, 8, 9	15.0	64	1	116.4	--	--
NC+ 7R34	3, 8, 9	15.8	71	1	110.5	127.2*	118.9
Dyna-Gro 778B	3	17.8	70	1	109.7	113.4	111.6
Dyna-Gro 751B	1, 4, 6, 7	15.5	62	1	107.6	124.8*	116.2
Garst 5676	3, 5	15.0	57	1	101.0	--	--
<b>TEST AVERAGE</b>		<b>15.3</b>	<b>64</b>	<b>1</b>	<b>120.2</b>	<b>119.4</b>	<b>119.8</b>
<b>L.S.D. AT .10</b>		<b>0.9</b>			<b>9.9</b>	<b>13.4</b>	
<b>C.V. %</b>		<b>4.9</b>			<b>7.0</b>	<b>9.5</b>	

-- Data not available.

\*\* Highest yielding hybrid in the test.

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

+ Seed Treatments: 1= Allegiance (Metalaxyl); 2= Apron Maxx (Mefenoxam + Fludioxonil); 3= Apron XL

(Mefenoxam); 4= Captan; 5= Cruiser (Thiamethoxam); 6= Gaucho (Imidacloprid); 7= Lorsban 30 (Chlorpyrifos); 8= Maxim XL (Fludioxonil); 9= Poncho 250 (Clothianidin)

TABLE 4. **Standard Grain Sorghum Test**

Central/West Region: Columbia, MO (Boone County)

Soil Type: Mexico Silt Loam    Soil Test: pH=5.8, OM=2.2%, P=56, K=404

Rainfall: May=4.1, June=3.3, July=8.6, Aug.=2.0, Sept.=9.4 Total=27.4 in.

Brand-Variety	Seed Treatment <sup>+</sup>	2008			Yield		2 Yr. Mean
		Moisture (%)	Plant Height (in)	Lodging	2008 -----bu/acre-----	2007	
Dyna-Gro GX07163	1, 4, 6, 7	19.0	56	1	99.9**	--	--
Pioneer 85Y40	3, 5, 8	19.5	51	1	96.0*	138.4*	117.2
Pioneer 84G62	3, 5, 8	19.0	55	1	95.3*	145.4**	120.4
DEKALB DKS37-07	3, 8, 9	17.5	54	2	93.2*	126.6	109.9
Dyna-Gro 766B	3, 8, 9	18.0	54	1	92.4*	--	--
DEKALB DKS36-16	3, 8, 9	16.0	50	1	85.1*	121.8	103.5
Dyna-Gro 772B	3, 8	19.0	60	1	84.8	136.6*	110.7
DEKALB DKS54-00	3, 8, 9	18.5	62	1	84.3	135.6*	110.0
Garst 5464	3, 5	18.5	63	1	83.0	133.3*	108.2
DEKALB DKS53-67	3, 8, 9	18.8	57	1	82.7	139.1*	110.9
DEKALB DKS54-03	3, 8, 9	17.8	52	1	82.3	--	--
Garst 5676	3, 5	16.0	50	1	81.9	--	--
Dyna-Gro GXO7664	3	17.2	60	2	78.2	--	--
DEKALB DKS44-20	3, 8, 9	17.8	56	1	76.9	--	--
Dyna-Gro 751B	1, 4, 6, 7	18.8	54	4	69.2	123.1	96.1
NC+ 7R34	3, 8, 9	17.8	62	1	64.0	144.6*	104.3
Asgrow A571	3, 8, 9	18.5	60	2	60.1	--	--
Dyna-Gro 778B	3	19.2	64	1	55.1	127.5	91.3
<b>TEST AVERAGE</b>		<b>18.2</b>	<b>57</b>	<b>1</b>	<b>81.4</b>	<b>131.8</b>	<b>106.6</b>
<b>L.S.D. AT .10</b>		<b>1.8</b>			<b>15.0</b>	<b>12.7</b>	
<b>C.V. %</b>		<b>8.3</b>			<b>15.5</b>	<b>8.1</b>	

-- Data not available.

\*\* Highest yielding hybrid in the test.

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

+ Seed Treatments: 1= Allegiance (Metalaxyl); 2= Apron Maxx (Mefenoxam + Fludioxonil); 3= Apron XL (Mefenoxam); 4= Captan; 5= Cruiser (Thiamethoxam); 6= Gaucho (Imidacloprid); 7= Lorsban 30 (Chlorpyrifos); 8= Maxim XL (Fludioxonil); 9= Poncho 250 (Clothianidin)

TABLE 5. **Standard Grain Sorghum Test**

Central/West Region: Hughesville, MO (Pettis County)

Soil Type: Arispe Silt Loam    Soil Test: pH=5.6, OM=2.0%, P=60, K=220

Rainfall: May=4.6, June=9.5, July=4.6, Aug.=1.2, Sept.=11.1 Total=31.0

Brand-Variety	Seed Treatment <sup>+</sup>	2008			Yield		2 Yr. Mean
		Moisture (%)	Plant Height (in)	Lodging	2008 -----bu/acre-----	2007	
DEKALB DKS54-03	3, 8, 9	14.2	60	1	120.3**	--	--
Pioneer 84G62	3, 5, 8	15.0	56	1	119.2*	45.7	82.5
DEKALB DKS53-67	3, 8, 9	15.5	57	1	118.1*	112.6	115.4
DEKALB DKS54-00	3, 8, 9	14.8	62	1	117.4*	73.2	95.3
Garst 5464	3, 5	15.0	63	1	114.6*	65.5	90.1
Pioneer 85Y40	3, 5, 8	15.0	56	1	112.3*	42.5	77.4
Dyna-Gro 772B	3, 8	14.5	62	1	111.0*	75.7	93.4
Asgrow A571	3, 8, 9	14.2	55	1	109.3	--	--
DEKALB DKS44-20	3, 8, 9	14.5	57	1	109.3	--	--
DEKALB DKS36-16	3, 8, 9	14.2	48	1	105.6	92.2	98.9
Dyna-Gro 766B	3, 8, 9	14.5	59	1	103.3	--	--
Dyna-Gro GXO7664	3	14.5	50	1	102.3	--	--
DEKALB DKS37-07	3, 8, 9	15.0	56	1	101.5	64.8	83.2
Dyna-Gro 751B	1, 4, 6, 7	15.5	60	1	100.6	36.6	68.6
Dyna-Gro 778B	3	16.0	67	1	99.6	107.8	103.7
Dyna-Gro GX07163	1, 4, 6, 7	15.2	58	1	99.3	--	--
NC+ 7R34	3, 8, 9	14.8	64	1	96.2	131.8**	114.0
Garst 5676	3, 5	14.8	48	1	93.9	--	--
<b>TEST AVERAGE</b>		<b>14.8</b>	<b>58</b>	<b>1</b>	<b>107.4</b>	<b>78.7</b>	<b>93.1</b>
<b>L.S.D. AT .10</b>		<b>0.6</b>			<b>9.5</b>	<b>15.4</b>	
<b>C.V. %</b>		<b>3.6</b>			<b>7.4</b>	<b>16.5</b>	

-- Data not available.

\*\* Highest yielding hybrid in the test.

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

+ Seed Treatments: 1= Allegiance (Metalaxyl); 2= Apron Maxx (Mefenoxam + Fludioxonil); 3= Apron XL

(Mefenoxam); 4= Captan; 5= Cruiser (Thiamethoxam); 6= Gaucho (Imidacloprid); 7= Lorsban 30 (Chlorpyrifos); 8= Maxim XL (Fludioxonil); 9= Poncho 250 (Clothianidin)

TABLE 6. **Standard Grain Sorghum Test**

Central/West Region: Sheldon, MO (Barton County)

Soil Type: Opolis Silt Loam    Soil Test: pH=5.6, OM=1.7%, P=16, K=152

Rainfall: May=11.8, June=11.3, July=4.5, Aug.=1.7, Sept.=10.4 Total=39.7

Brand-Variety	Seed Treatment <sup>+</sup>	2008			Yield		2 Yr. Mean
		Moisture (%)	Plant Height (in)	Lodging	2008 -----bu/acre-----	2006	
DEKALB DKS44-20	3, 8, 9	15.0	49	1	102.2**	--	--
DEKALB DKS37-07	3, 8, 9	14.0	51	1	100.6*	85.4	93.0
Pioneer 85Y40	3, 5, 8	16.2	50	1	99.6*	79.1	89.4
Dyna-Gro 751B	1, 4, 6, 7	15.2	56	1	97.4*	80.8	89.1
Pioneer 84G62	3, 5, 8	16.0	45	1	97.2*	83.4	90.3
Dyna-Gro GXO7664	3	12.8	46	1	92.2*	--	--
Dyna-Gro GX07163	1, 4, 6, 7	16.0	54	1	92.0*	--	--
Asgrow A571	3, 8, 9	14.0	51	1	91.0	--	--
Garst 5676	3, 5	14.5	47	1	90.8	--	--
Dyna-Gro 772B	3, 8	15.8	57	1	86.8	81.5	84.2
DEKALB DKS53-67	3, 8, 9	15.2	52	1	86.1	--	--
Garst 5464	3, 5	14.5	52	1	85.5	--	--
Dyna-Gro 766B	3, 8, 9	14.8	55	1	84.0	--	--
DEKALB DKS36-16	3, 8, 9	13.2	46	1	82.6	83.3	83.0
NC+ 7R34	3, 8, 9	16.0	58	1	81.4	--	--
DEKALB DKS54-03	3, 8, 9	13.8	54	1	76.9	--	--
DEKALB DKS54-00	3, 8, 9	15.5	56	1	73.2	69.4	71.3
Dyna-Gro 778B	3	13.2	59	1	68.3	--	--
<b>TEST AVERAGE</b>		<b>14.8</b>	<b>52</b>	<b>1</b>	<b>88.2</b>	<b>79.8</b>	<b>84.0</b>
<b>L.S.D. AT .10</b>		<b>1.3</b>			<b>10.9</b>	<b>NS</b>	
<b>C.V. %</b>		<b>7.4</b>			<b>10.4</b>	<b>17.7</b>	

-- 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

+ Seed Treatments: 1= Allegiance (Metalaxyl); 2= Apron Maxx (Mefenoxam + Fludioxonil); 3= Apron XL (Mefenoxam); 4= Captan; 5= Cruiser (Thiamethoxam); 6= Gaucho (Imidacloprid); 7= Lorsban 30 (Chlorpyrifos); 8= Maxim XL (Fludioxonil); 9= Poncho 250 (Clothianidin)

TABLE 7. Performance of Standard Hybrids evaluated at Five Central/West Missouri locations (Mooresville, Novelty, Columbia, Hughesville, Sheldon) during 2008.

<u>Mooresville</u> Planted: 06-02 Harvested: 11-09 Growing Season Rainfall: 31.4 in.	<u>Novelty</u> Planted: 5-29 Harvested: 11-7 Growing Season Rainfall: 37.3 in.	<u>Columbia</u> Planted: 6-18 Harvested: 11-13 Growing Season Rainfall: 27.4 in.
<u>Hughesville</u> Planted: 06-03 Harvested: 11-10 Growing Season Rainfall: 31.0	<u>Sheldon</u> Planted: 6-27 Harvested: 11-19 Growing Season Rainfall: 39.7	

Brand-Hybrid	Yield (Bu/Acre)					
	Mooresville	Novelty	Columbia	Hughesville	Sheldon	Mean
<b>Standard</b>						
Pioneer 84G62	137.3*	139.6**	95.3*	119.2*	97.2*	117.7**
Pioneer 85Y40	137.0*	122.6	96.0*	112.3*	99.6*	113.5*
DEKALB DKS53-67	142.8**	132.3*	82.7	118.1*	86.1	112.4
Dyna-Gro 772B	140.3*	128.0	84.8	111.0*	86.8	110.2
DEKALB DKS54-03	140.2*	129.6	82.3	120.3**	76.9	109.9
Garst 5464	134.8*	123.8	83.0	114.6*	85.5	108.3
Dyna-Gro GX07163	128.2	120.6	99.9**	99.3	92.0*	108.0
DEKALB DKS44-20	124.5	116.4	76.9	109.3	102.2**	105.9
Dyna-Gro 766B	127.2	120.2	92.4*	103.3	84.0	105.4
DEKALB DKS37-07	113.4	116.5	93.2*	101.5	100.6*	105.0
DEKALB DKS54-00	128.0	120.5	84.3	117.4*	73.2	104.7
Dyna-Gro GXO7664	119.6	126.6	78.2	102.3	92.2*	103.8
DEKALB DKS36-16	115.8	117.4	85.1*	105.6	82.6	101.3
Asgrow A571	119.9	120.5	60.1	109.3	91.0	100.2
Dyna-Gro 751B	123.0	107.6	69.2	100.6	97.4*	99.6
Garst 5676	126.0	101.0	81.9	93.9	90.8	98.7
NC+ 7R34	119.0	110.5	64.0	96.2	81.4	94.2
Dyna-Gro 778B	122.1	109.7	55.1	99.6	68.3	91.0
<b>TEST AVERAGE</b>	<b>127.7</b>	<b>120.2</b>	<b>81.4</b>	<b>107.4</b>	<b>88.2</b>	<b>105.0</b>
<b>L.S.D. AT .10</b>	<b>10.1</b>	<b>9.9</b>	<b>15.0</b>	<b>9.5</b>	<b>10.9</b>	<b>4.9</b>
<b>C.V. %</b>	<b>6.7</b>	<b>7.0</b>	<b>15.5</b>	<b>7.4</b>	<b>10.4</b>	<b>9.4</b>

\*\* Highest yielding hybrid in the test.

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

Note: To view seed treatments for these hybrids refer to the location table or the characteristics chart.



## Southeast Region Crop Management Summary

There are three locations in the Southeast Region for the Grain Sorghum Test. They are located in counties where a significant number of acres of grain sorghum are grown according to the Missouri Agricultural Statistics Service. Cultural practices vary slightly between locations, but tend to reflect those followed by farmers in the area.

Rainfall was below normal this year in the Southeast Region and temperatures were normal. Both sites at Portageville were irrigated to supplement plant water use, but yields still were average. An additional site at Charleston was planted, but due to heavy rains after planting, the populations were poor and yields were too low to include in this report.

Climatological information for the growing season (May 1 – September 30) for the Southeast Region is summarized below and cultural practices for each site are listed in Table 7.

Average temperature = 74.1 degrees, equal to normal

Average precipitation = 16.2", 2.9" below normal

Table 8. Southeast Region Crop Management Summary

Location	Planting	Harvest				Tillage	Herbicide	
	date	date	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O		Pre	Post
<i>Standard Grain Sorghum Tests</i>								
Portageville Loam	05-19	09-08	150	0	0	Conventional	Dual II Magnum, Atrazine	None
Portageville Clay	05-19	09-08	150	0	0	Conventional	Dual II Magnum, Atrazine	None

TABLE 9. **Standard Grain Sorghum Test**

Southeast Region: Portageville Loam, MO (Pemiscot County)

Soil Type: Tiptonville Silt Loam    Soil Test: pH=6.0, OM=1.2%, P=94, K=336

Rainfall: May=3.4, June=1.2, July=3.0, Aug.=1.0, Sept.=3.0 Total=11.6

Brand-Variety	Seed Treatment <sup>+</sup>	2008			Yield		2 Yr. Mean
		Moisture (%)	Plant Height (in)	Lodging	2008 -----bu/acre-----	2007	
DEKALB DKS53-67	3, 8, 9	17.4	51	1	153.3**	141.6*	147.5
Pioneer 82G10	2, 5	17.0	48	1	143.2*	130.6	136.9
Dyna-Gro GXO7664	3	15.2	44	1	142.6*	--	--
Golden World GWX1445	1, 4, 6, 7	14.3	39	1	138.8	136.5	137.7
DEKALB DKS54-03	3, 8, 9	15.6	51	1	138.1	--	--
Pioneer 84G62	3, 5, 8	16.3	41	1	137.6	148.2*	142.9
Asgrow A571	3, 8, 9	13.5	51	1	137.5	--	--
DEKALB DKS54-00	3, 8, 9	17.9	51	1	137.4	141.2*	139.3
Crow's 56B88	9	12.9	45	1	133.2	--	--
Pioneer 83G66	3, 5, 8	14.3	51	1	132.9	--	--
FFR X 93-50	1, 4, 9	14.3	47	1	132.6	--	--
Dyna-Gro 772B	3, 8	15.0	52	1	132.1	128.6	130.4
Golden World GWX1488	1, 4, 6, 7	15.1	48	1	129.5	140.5*	135.0
Dyna-Gro GXO8170	3, 8	18.6	52	1	127.5	--	--
Dyna-Gro GX07163	1, 4, 6, 7	14.4	48	1	127.4	144.5*	136.0
Garst 5464	3, 5	14.6	48	1	127.3	145.2*	136.3
DEKALB DKS44-20	3, 8, 9	15.7	42	1	126.8	--	--
FFR 322	1, 4, 9	16.1	45	1	123.0	133.4	128.2
Dyna-Gro 780B	3	18.2	53	1	122.3	139.9*	131.1
FFR X 93-55	1, 4, 9	16.7	48	1	122.2	--	--
Garst 5676	3, 5	15.0	45	1	122.1	--	--
Dyna-Gro GX07467	3	14.9	51	1	122.0	134.2	128.1
FFR X 93-57	1, 4, 9	14.3	58	1	121.8	--	--
DEKALB DK52	3, 5, 8	13.2	45	1	121.6	--	--
DEKALB DKS37-07	3, 8, 9	13.3	48	1	118.5	102.2	110.4
Dyna-Gro 751B	1, 4, 6, 7	16.2	51	1	116.7	134.4	125.6
Dyna-Gro 778B	3	19.2	53	1	114.2	112.6	113.4
<b>TEST AVERAGE</b>		<b>15.5</b>	<b>48</b>	<b>1</b>	<b>129.7</b>	<b>132.3</b>	<b>131.0</b>
<b>L.S.D. AT .10</b>		<b>1.1</b>			<b>10.8</b>	<b>15.7</b>	
<b>C.V. %</b>		<b>5.4</b>			<b>5.5</b>	<b>8.3</b>	

-- Data not available.

\*\* Highest yielding hybrid in the test.

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

+ Seed Treatments: 1= Allegiance (Metalaxyl); 2= Apron Maxx (Mefenoxam + Fludioxonil); 3= Apron XL (Mefenoxam); 4= Captan; 5= Cruiser (Thiamethoxam); 6= Gaucho (Imidacloprid); 7= Lorsban 30 (Chlorpyrifos); 8= Maxim XL (Fludioxonil); 9= Poncho 250 (Clothianidin)

TABLE 10. **Standard Grain Sorghum Test**

Southeast Region: Portageville Clay, MO (Pemiscot County)

Soil Type: Portageville Clay    Soil Test: pH= , OM= %, P= , K=

Rainfall: May=3.4, June=1.2, July=3.0, Aug.=1.0, Sept.=3.0 Total=11.6

Brand-Variety	Seed Treatment <sup>+</sup>	2008			Yield		2 Yr. Mean
		Moisture (%)	Plant Height (in)	Lodging	2008 -----bu/acre-----	2006	
Dyna-Gro 780B	3	19.7	59	1	114.5**	122.3*	118.4
Dyna-Gro GX07163	1, 4, 6, 7	18.0	54	1	109.5*	--	--
Dyna-Gro 751B	1, 4, 6, 7	17.3	59	1	108.2*	117.8*	113.0
FFR X 93-50	1, 4, 9	16.3	55	1	106.0*	--	--
Golden World GWX1445	1, 4, 6, 7	16.3	50	1	105.4*	116.5*	111.0
Pioneer 84G62	3, 5, 8	19.0	54	1	104.1*	102.8*	103.5
Crow's 56B88	9	15.3	57	1	104.0*	--	--
FFR 322	1, 4, 9	17.0	57	1	104.0*	119.7*	111.9
DEKALB DKS53-67	3, 8, 9	19.3	57	1	103.4*	--	--
DEKALB DKS54-03	3, 8, 9	17.3	58	1	102.3*	--	--
DEKALB DKS54-00	3, 8, 9	18.3	64	1	101.7*	56.9	79.3
Golden World GWX1488	1, 4, 6, 7	16.7	54	1	96.8	--	--
Dyna-Gro 772B	3, 8	17.0	58	1	96.6	--	--
Dyna-Gro GX07467	3	17.0	64	1	95.7	--	--
Garst 5464	3, 5	16.7	59	1	92.0	--	--
Asgrow A571	3, 8, 9	15.3	56	1	91.6	--	--
FFR X 93-57	1, 4, 9	16.3	63	1	91.6	--	--
DEKALB DKS44-20	3, 8, 9	18.0	58	1	91.4	--	--
Pioneer 82G10	2, 5	19.7	56	1	91.3	--	--
Dyna-Gro GXO8170	3, 8	19.7	62	1	91.2	--	--
Dyna-Gro 778B	3	18.3	63	1	89.3	--	--
Pioneer 83G66	3, 5, 8	16.0	59	1	87.8	--	--
Dyna-Gro GXO7664	3	15.7	51	1	87.0	--	--
DEKALB DKS37-07	3, 8, 9	16.3	54	1	86.5	--	--
DEKALB DK52	3, 5, 8	16.3	58	1	84.7	--	--
Garst 5676	3, 5	16.0	53	1	83.5	--	--
FFR X 93-55	1, 4, 9	16.7	64	1	81.1	--	--
<b>TEST AVERAGE</b>		<b>17.2</b>	<b>58</b>	<b>1</b>	<b>96.3</b>	<b>106.4</b>	<b>101.4</b>
<b>L.S.D. AT .10</b>		<b>1.5</b>	<b>3</b>		<b>14.8</b>	<b>27.4</b>	
<b>C.V. %</b>		<b>6.3</b>	<b>4</b>		<b>10.4</b>	<b>17.7</b>	

-- Data not available.

\*\* Highest yielding hybrid in the test.

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

+ Seed Treatments: 1= Allegiance (Metalaxyl); 2= Apron Maxx (Mefenoxam + Fludioxonil); 3= Apron XL (Mefenoxam); 4= Captan; 5= Cruiser (Thiamethoxam); 6= Gaucho (Imidacloprid); 7= Lorsban 30 (Chlorpyrifos); 8= Maxim XL (Fludioxonil); 9= Poncho 250 (Clothianidin)

TABLE 11. Performance of Standard Hybrids evaluated at Two Southeast Missouri locations (Portageville Loam, Portageville Clay) during 2008.

Portageville Loam

Planted: 05-19

Harvested: 09-08

Growing Season Rainfall: 11.6 in.

Irrigation: 8.3 in.

Portageville Clay

Planted: 05-19

Harvested: 09-08

Growing Season Rainfall: 11.6 in.

Irrigation: 9.8 in.

Brand-Hybrid	Yield (Bu/Acre)		Mean
	Portageville Loam	Portageville Clay	
Standard			
DEKALB DKS53-67	153.3**	103.4*	128.4**
Golden World GWX1445	138.8	105.4*	122.1*
Pioneer 84G62	137.6	104.1*	120.8*
DEKALB DKS54-03	138.1	102.3*	120.2*
DEKALB DKS54-00	137.4	101.7*	119.5*
FFR X 93-50	132.6	106.0*	119.3*
Crow's 56B88	133.2	104.0*	118.6
Dyna-Gro GX07163	127.4	109.5*	118.4
Dyna-Gro 780B	122.3	114.5**	118.4
Pioneer 82G10	143.2*	91.3	117.2
Dyna-Gro GXO7664	142.6*	87.0	114.8
Asgrow A571	137.5	91.6	114.5
Dyna-Gro 772B	132.1	96.6	114.4
FFR 322	123.0	104.0*	113.5
Golden World GWX1488	129.5	96.8	113.2
Dyna-Gro 751B	116.7	108.2*	112.4
Pioneer 83G66	132.9	87.8	110.3
Garst 5464	127.3	92.0	109.6
Dyna-Gro GXO8170	127.5	91.2	109.3
DEKALB DKS44-20	126.8	91.4	109.1
Dyna-Go GX07467	122.0	95.7	108.8
FFR X 93-57	121.8	91.6	106.7
DEKALB DK52	121.6	84.7	103.1
Garst 5676	122.1	83.5	102.8
DEKALB DKS37-07	118.5	86.5	102.5
Dyna-Gro 778B	114.2	89.3	101.8
FFR X 93-55	122.2	81.1	101.6
TEST AVERAGE	129.7	96.3	113.0
L.S.D. AT .10	10.8	14.8	9.1
C.V. %	5.5	10.4	8.0

\*\* Highest yielding hybrid in the test.

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

Note: To view seed treatments for these hybrids refer to the location table or the characteristics chart.

VarietyName	Seed Trt	Maturity	Color	GrBug	Traits	Tables
Asgrow A571	3, 8, 9	72	BZ	None	None	2,3,4,5,6,7,9,10,11
DEKALB DKS54-00	3, 8, 9	74	BZ	E,I	None	2,3,4,5,6,7,9,10,11
DEKALB DKS36-16	3, 8, 9	63	BZ	C,D,E	None	2,3,4,5,6,7
DEKALB DKS37-07	3, 8, 9	62	BZ	C,E,I	None	2,3,4,5,6,7,9,10,11
DEKALB DKS53-67	3, 8, 9	71	BZ	C,E,I	None	2,3,4,5,6,7,9,10,11
DEKALB DKS54-03	3, 8, 9	74	BZ	None	None	2,3,4,5,6,7,9,10,11
DEKALB DKS44-20	3, 8, 9	67	BZ	None	None	2,3,4,5,6,7,9,10,11
DEKALB DK52	3, 5, 8	68	BZ	E	None	9,10,11
Golden World GWX1445	1, 4, 6, 7	61	R	NA	NA	9,10,11
Golden World GWX1488	1, 4, 6, 7	63	BZ	NA	NA	9,10,11
FFR 322	1, 4, 9	64	R	E	NA	9,10,11
FFR X 93-50	1, 4, 9	63	BZ	NA	NA	9,10,11
FFR X 93-55	1, 4, 9	66	R	NA	NA	9,10,11
FFR X 93-57	1, 4, 9	67	BZ	NA	NA	9,10,11
Garst 5464	3, 5	68	BZ	E	None	2,3,4,5,6,7,9,10,11
Garst 5676	3, 5	63	R	C	None	2,3,4,5,6,7,9,10,11
Crow's 56B88	9	70	BR	NA	None	9,10,11
NC+ 7R34	3, 8, 9	70	R	None	None	2,3,4,5,6,7
Pioneer 83G66	3, 5, 8	72	R	NA	NA	9,10,11
Pioneer 84G62	3, 5, 8	72	BZ	NA	NA	2,3,4,5,6,7,9,10,11
Pioneer 85Y40	3, 5, 8	70	W	None	None	2,3,4,5,6,7
Pioneer 82G10	2, 5	73	BZ	NA	NA	9,10,11
Dyna-Gro 751B	1, 4, 6, 7	64	BZ	C,E	None	2,3,4,5,6,7,9,10,11
Dyna-Gro 780B	3	65	BZ	C,E	None	9,10,11
Dyna-Gro 772B	3, 8	68	BZ	C,E	None	2,3,4,5,6,7,9,10,11
Dyna-Go GX07467	3	67	BZ	C	None	9,10,11
Dyna-Gro GX07163	1, 4, 6, 7	63	BZ	C,E	None	2,3,4,5,6,7,9,10,11
Dyna-Gro 778B	3	74	BZ	C,E	None	2,3,4,5,6,7,9,10,11
Dyna-Gro 766B	3, 8, 9	65	BZ	C,D,E	None	2,3,4,5,6,7
Dyna-Gro GXO8170	3, 8	70	BZ	C	None	9,10,11
Dyna-Gro GXO7664	3	58	BZ	C	None	2,3,4,5,6,7,9,10,11

Descriptions provided by companies submitting hybrids for evaluation

Seed Treatments: 1=Allegiance(Metalaxyl), 2=Apron Maxx (Mefenoxam + Fludioxonil), 3=Apron XL (Mefenoxam), 4=Captan, 5=Cruiser (Thiamethoxam), 6=Gaucho (Imidacloprid), 7=Lorsban 30 (Chlorpyrifos), 8=Maxim XL (Mefenoxam), 9=Poncho 250 (Clothianidin)

Maturity: Days to 50% bloom

Grain Color: BZ=bronse,

R=red, W=white

Green Bug: Green bug biotype resistance: C,D,E,I

Traits: Special Traits

NA: Information Not Available



<b>Brand</b>	<b>Company / Address</b>	<b>Company Phone</b>	<b>Company Web</b>
Asgrow	Monsanto 7159 N 247th St W, Mt. Hope, KS 67108	316-445-2290	monsanto.com
Crow's	Crow's Hybrid Corn Company PO Box 157, Kentland, IN 47951	800-331-7201	crowshybrid.com
Dekalb	Monsanto 7159 N 247th St W, Mt. Hope, KS 67108	316-445-2290	monsanto.com
Dyna-Gro	UAP - Dyna-Gro 57 Germantown Ct, Suite 200, Cordova, TN 38018	901-277-3261	dyna-groseed.com
Dyna-Gro	UAP Dyna-Gro Seeds 1506 W Wall, Harrisonville, MO 64701	308-237-5194	dyna-groseed.com
FFR	FFR Seed 969 Cloverleaf Dr., Southaven, MS 38671	901-652-0903	ourcoop.com
Garst	Garst Seed Co. 7500 Olsen Mem Hwy, Golden Valley, MN 55427	763-593-7228	garstseed.com
Golden World	Crosbyton Seed Co. 306 E Main, PO Box 429, Crosbyton, TX 79322	806-675-2308	crosbytonseed.com
NC+	NC+ Hybrids 3820 N 56th St, Lincoln, NE 68504	800- 279-7999	nc-plus.com
Pioneer	Pioneer Hi-Bred Int. 8100 S 15th St, Lincoln, NE 68512	402-467-5458	pioneer.com
Pioneer	Pioneer Hi-Bred Int. Inc. 700 Blvd S, Suite 302, Huntsville, AL 35802	800-331-2475	pioneer.com