

Grain Sorghum Hybrids for Grain 2009



Hybrid Selection

The LSU AgCenter conducts yearly grain sorghum hybrid yield tests at several locations around the state. The data in Table 1 are yields of grain sorghum hybrids in 2008 from five locations along with two-year data across all locations where available. This aggregate is done to provide grain sorghum producers in Louisiana with unbiased information on hybrid performance under different soil types and climatic conditions.

Grain Yield

Grain yield is probably the most important characteristic on which to base hybrid selection. The data in Table 1 give current year and two-year averages when available. Performance of superior hybrids is indicated by footnotes in Table 1.

Hybrids are listed alphabetically and not in order of performance. Since hybrids do not perform the same in different environments, choose among the hybrids from the location that most closely fits your growing conditions.

Maturity Group

In 2008 hybrids were tested at Baton Rouge, Bossier City, Crowley and St. Joseph. Grain sorghum growth and development are controlled primarily by exposure to accumulated heat units. This means that days from planting to maturity may change based on seasonal temperature variation from year to year, from location to location, and they may be influenced by date of planting at a given location in a given year.

By noting the Heading Date (days from planting to heading) and the Harvest Moisture in Table 2, you can determine the relative maturity of the hybrid in question. For example, if two varieties have heading dates of 61 days, but variety A was harvested at 14 percent moisture and variety B was harvested at

12 percent moisture, variety B will probably mature earlier under normal field conditions.

Other Agronomic Characteristics

Information on plant height, head type and days to heading is found in Table 2.

Plant height is associated with how well a hybrid can resist lodging, but it is not the only factor involved. Generally, shorter hybrids have greater standability, but there are exceptions.

Days to heading, along with harvest moisture, give a relative measure of maturity among the hybrids. However, there is not a perfect correlation between heading date and final maturity date.

Head type or compactness is an important characteristic in Louisiana grain sorghum production. Normally, more open-headed varieties will have fewer problems with grain mold, mildew and sprouting as the grain approaches maturity.

More open-headed varieties allow more air movement through the head and thus have a lower moisture level. This is especially important when sorghum is maturing during periods of high rainfall and relative humidity, which occur frequently in Louisiana.

Also, when it is necessary to apply an insecticide to the grain sorghum head, better control is often obtained with the more open-headed hybrids because they allow for greater penetration of the insecticide throughout the head.

Fertilization

It is important that soil pH be at least 5.8 for profitable production of grain sorghum. Nitrogen can be applied before or at planting, or the split application method can be used. Recommended amounts of nitrogen are 80-100 pounds per acre on upland soils, and 100-120 pounds per acre on alluvial soils. If split applications are made, the second application should be made by the 6- to 8-leaf stage of growth.

Phosphate and potash should be applied preplant or at planting and should be used only if recommended by a soil test.

Planting Rate and Depth

Grain sorghum should be planted at a rate of about 75,000 seed per acre. This equals about 5-6 seed per foot of row on 40-inch rows, 4-5 seed per foot of row on 30- to 36- inch rows or 3-4 seed per foot of row on 20-inch rows. If rows are 10 inches or narrower, 3 seed per row foot should be adequate. It is necessary to calibrate the planter to the proper planting rate rather than just plant a certain weight of seed per acre because hybrids can vary greatly in seed size. Depending on seed size, this can vary from as few as 4 pounds to as many as 7 pounds of seed per acre. Seed should be placed deep enough to reach soil moisture, but no deeper than 2 inches. Best depth is $\frac{3}{4}$ -1½ inches deep.

Planting Date

Plant grain sorghum as early as possible (within the planting date recommendation). In South Louisiana, the recommended date of planting range is between April 1 and May 1. In North Louisiana, the range is April 15 to May 15. Early planting is one of the most important cultural practices used to maximize grain sorghum yields. Yield potential of sorghum is greatly decreased with later planting dates. Also, later plantings will normally be subjected to more severe insect (especially sorghum midge) and disease pressures. When the option is to plant soybeans or grain sorghum after June 15, it is better to plant soybeans than grain sorghum.

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Table 1. Yields of Grain Sorghum Hybrids in 2008 Among Five Louisiana Locations.¹

Sorghum Hybrid	CRS²	NRSI²	NRSN²	RRS²	RRRS²	2008 AVG	2-year AVG
Asgrow A571	137	99	113**	104	111	113	111
Dekalb DKS53-67	156	123*	125**	117**	117**	127	122
Dekalb DKS54-00	146	129**	123**	111**	112	124	123
Dekalb DKS54-03	136	120*	114*	86	111	113	-
Dyna-Gro DG751B	158**	123*	111	87	114	119	111
Dyna-Gro DG758B	143	103	92	100	104	108	105
Dyna-Gro DG778B	106	66	83	57	89	80	-
Dyna-Gro DG780B	151	111*	102	110*	110	117	112
Dyna-Gro DGGX07163	132	112*	113*	101	119*	115	-
Dyna-Gro DGGX07664	144	95	106	85	118*	109	-
Dyna-Gro DGGX08170	162*	105	92	113*	105	115	-
Garst 5464	147	123*	91	101	114	115	-
Garst 5515	140	94	102	98	120*	111	-
Golden Acres 3552	151	76	64	110*	104	101	-
Golden Acres 3696	131	104	122*	104*	119*	116	-
NC+ 7R83	148	117*	102	102	110	116	109
NC+ 8R18	147	126*	113**	111**	112	122	117
Pioneer 82G10	166*	102	112	82	122*	117	-
Pioneer 83G66	150	110*	110	109*	116*	119	-
Pioneer 84G62	152	102	118**	105**	118**	119	117
Terral TV1050	150	119*	131*	112*	114	125	112
Terral TV93S92	148	119*	116*	73	105	112	104
Terral TV9421	145	128*	109	95	112	118	106
Terral TV94S91	154	94	106	96	107	111	-
Terral TV96H81	150	129*	112*	82	113	117	109
Terral TV96H91	145	110*	102	93	107	112	107

¹ Table includes 2008 yield data by location with two-year average where available.

² Data from Central Research Station, Baton Rouge (CRS); Northeast Research Station, St. Joseph Irrigated (NRSI) and Non-irrigated (NRSN); Rice Research Station, Crowley (RRS); Red River Research Station, Bossier City (RRRS). All yields are expressed in bushels per acre.

* Highest yielding (P=.10) at this location in 2008.

** Highest yielding (P=.10) at this location in both 2007 and 2008.

Table 2. Agronomic Data for Grain Sorghum Hybrids in 2008.¹

Sorghum Hybrid	Harvest Moisture	Test Weight	Mid-Head²	Plant Height³	Head Type⁴	Head Exertion⁵
Asgrow A571	17.3	58.4	59	58	2	7
Dekalb DKS53-67	17.2	60.0	61	57	2	7
Dekalb DKS54-00	17.8	59.0	63	61	3	7
Dekalb DKS54-03	17.7	58.7	61	59	3	7
Dyna-Gro DG751B	16.9	59.7	59	60	2	5
Dyna-Gro DG758B	16.4	59.3	57	54	2	4
Dyna-Gro DG778B	19.1	58.3	68	67	1	11
Dyna-Gro DG780B	16.6	60.0	60	59	2	3
Dyna-Gro DGGX07163	16.5	58.3	56	58	3	4
Dyna-Gro DGGX07664	16.8	59.6	57	49	3	5
Dyna-Gro DGGX08170	17.8	60.6	60	64	1	10
Garst 5464	16.9	59.1	57	58	4	8
Garst 5515	16.9	58.4	59	55	3	7
Golden Acres 3552	16.4	59.2	58	55	3	6
Golden Acres 3696	16.6	58.3	55	58	3	5
NC+ 7R83	16.4	57.7	59	59	1	8
NC+ 8R18	17.1	58.9	60	61	2	9
Pioneer 82G10	16.8	59.5	59	58	2	4
Pioneer 83G66	16.0	58.8	57	59	2	6
Pioneer 84G62	17.0	59.3	60	54	3	3
Terral TV1050	16.0	58.6	58	59	2	4
Terral TV93S72	16.4	59.9	56	55	2	10
Terral TV9421	17.1	59.0	57	58	3	8
Terral TV94S91	16.7	59.5	58	54	3	6
Terral TV96H81	16.8	59.7	58	59	1	3
Terral TV96H91	16.5	60.2	61	56	3	4

¹ Data from the Red River Research Station, Bossier City (RRRS) 2008.

² Mid-head is the date of head emergence in number of days after planting.

³ Plant height from ground to top of head reported in inches.

⁴ Head type: 1 = most compact, 3 = intermediate and 5 = most open.

⁵ Head exertion is distance between flag leaf and base of head reported in inches.

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