

Grain Sorghum Hybrids for Grain 2007



Hybrid Selection

The LSU AgCenter conducts yearly grain sorghum hybrid yield tests at several locations around the state. This is done to provide grain sorghum producers in Louisiana with unbiased information on hybrid performance under different soil types and climatic conditions.

Using this information should allow producers to choose hybrids which have displayed good yield potential and agronomic performance. Information on these characteristics is provided:

Grain Yield

Grain yield is probably the most important characteristic on which to base hybrid selection. The data in Table 1 is two-year average yield information for hybrids recommended by the LSU AgCenter Grain Sorghum Committee.

Hybrid recommendations are based on two years of yield test information. Any hybrid whose two-year average yield falls within 90% of the average yield of the top three hybrids by location is given a recommendation provided it is acceptable in other agronomic characteristics.

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

Maturity Group

In 2005 hybrids were tested at Alexandria, Baton Rouge, Crowley and St. Joseph. Two-year data were available at most locations. 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 sea-

sonal 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% moisture and variety B was harvested at 12% moisture, then 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 gives 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. If a second crop is to be harvested, the phosphate and potash rates should be increased by 10%-12% and 30-45 pounds of N applied after first harvest.

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 neces-

sary 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 recommendations range). 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 Recommended Grain Sorghum Hybrids, 2005-2006.

Brand Name and Hybrid	Locations ¹						2-year Avg ²
	DLRS	CRS	RRS	NRSN	NRSIR	MRRS	
Asgrow A571	6448	5364	4146	6537	6885	3749	5522
DeKalb DKS54-00	7197	4395*	4507	6892	7389	3513*	5649
Dyna-Gro DG751B	6613	5726	3472*	5344*	6268*	3237*	5110
Dyna-Gro DG762B	6353*	5576	3871*	5356*	6350	3159*	5111
Dyna-Gro DG780B	6348*	5617	3688*	5160*	5641*	3118*	4929
Garst 5401	6715	5895	4379	5530*	6339*	3260*	5353
Garst 5515	6137*	5484	3731*	6018*	6064*	3420*	5142
Golden Acres GA3827	6779	5633	4571	6648	6900	4289	5803
Golden Acres GA444E	6651	5771	3911*	6247	6870	3135*	5431
NC+ 7R83	6737	5315	4247	6450	6725	3650*	5521
Pioneer 84G62	7308	5662	4473	6779	6613	3718*	5759
Terral TV1050	6255*	5386	4129	6054*	6589	3237*	5275
Terral TV93S72	6191*	5653	3729*	5992*	6577	3324*	5244
Terral TV9421	6711	5786	3921*	6246	6729	3294*	5448
Terral TV96H81	6600	5909	4169	5802*	6164*	3357*	5334
Terral TVX96H91	6702	5711	4240	5971*	6816	4368	5635

¹ Data from Dean Lee Research Station, Alexandria (DLRS); Central Research Station, Baton Rouge (CRS); Rice Research Station, Crowley (RRS); Northeast Research Station, St. Joseph Irrigated (NRSIR) and Non-Irrigated (NRSN); Macon Ridge Research Station, Winnsboro (MRRS). All yields reported in two-year averages expressed in pounds per acre.

² Two-year average derived by averaging across all locations that had two-year data.

*Two year data reported at respective location but not recommended.

Table 2. Agronomic Data for Recommended Grain Sorghum Hybrids, 2005¹.

Brand Name and Hybrid	Harvest Moisture	Test Weight	Mid-Head ²	Plant Height ³	Head Type ⁴
Asgrow A571	13.7	59.8	63	37	4
DeKalb DKS54-00	15.1	59.5	63	45	4
Dyna-Gro DG751B	14.8	61.5	64	43	1
Dyna-Gro DG762B	14.2	59.5	64	40	4
Dyna-Gro DG780B	15.3	61.9	65	47	1
Garst 5401	14.9	61.9	63	47	3
Garst 5515	14.0	59.8	61	38	5
Golden Acres GA3827	14.7	61.5	64	40	3
Golden Acres GA444E	13.8	58.8	63	36	5
NC+ 7R83	14.3	58.8	64	39	3
Pioneer 84G62	14.4	61.6	64	41	4
Terral TV1050	14.6	58.2	66	42	2
Terral TV93S72	14.1	59.5	64	35	3
Terral TV9421	13.6	59.5	61	36	5
Terral TV96H81	14.3	61.3	64	44	1
Terral TVX96H91	14.5	61.1	63	41	5

¹ Data from Dean Lee Research Station, Alexandria (A) 2006.

² Mid-head is number of days after planting.

³ Plant height reported in inches.

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

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