

Grain Sorghum Hybrids for Grain 2004



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 Louisiana State University Agricultural Center 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 2003 hybrids were tested at Alexandria, Baton Rouge, Bossier City, Crowley, St. Joseph and Winnsboro. 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 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% 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 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 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, 2002-2003.

Brand Name and Hybrid	Locations ¹							2-year Mean ²
	A	BR	BC	C	SJ Non	SJ Irr	W	
Asgrow A571	7138	3912**	4642	4233	6322	6596	4722*	5609
DeKalb DK 52	6260*	3778**	4429*	3570*	6388	6617	4649*	5319
DeKalb DKS 54-00	5453*	3265**	4387*	3888*	6005*	6712	4894	5223
DynaGro 732B	6632	3913**	3801*	2931*	6149	6035*	3879*	4905
DynaGro 751B	6843	4440**	4758	4159	6150	6464	4865	5540
DynaGro 752B	6548	4029**	4705	3936*	5898*	6141*	4295*	5254
DynaGro 762B	7125	4275**	4500*	3740*	6117*	6280*	4684*	5408
DynaGro 780B	6618	4492**	4446*	3737*	4796*	6426	5118	5190
Garst 5382	6229*	3876**	4580*	3952*	6210	6260*	5015	5374
Garst 5440	6936	4148**	4320*	4018	5735*	6276*	4324*	5268
Garst 5515	6703	3094**	4903	3997*	6037*	5990*	4021*	5275
Golden Acres 3694	7095	3637**	4678	3881*	6125	6415	4735*	5488
Golden Acres 444E	6983	4609**	4862	3800*	6248	6574	4151*	5436
Pioneer Brand 83G66	6934	3921**	4742	4294	6892	7083	5388	5889
Pioneer Brand 84G62	7230	3891**	5169	4999	7003	7096	5362	6143
SS 650	6956	4281**	4976	4000*	5842*	6772	4788	5556
SS 800	6628	4651**	5071	3640*	6124	6317	4687*	5411
Terral TV 1050	6564	3352**	4759	4162	6168	6793	4788	5539
Terral TV 93S72	6760	3777**	4913	3998*	6500	6703	4280*	5526
Terral TV 9421	7320	4595**	4812	3767*	6219	6613	3982*	5452
Terral TV 96H81	7092	5425**	4817	3966*	5955*	6620	4787	5540
Terral TVX 95S201	6582	4035**	4593*	4551	5563*	5963*	3904*	5193
Terral TVX 96H202	6182*	4991**	4818	4280	5785*	6177*	3806*	5175
Triumph TR 82-G	6869	4292**	5081	3955*	5257*	6218*	4790	5362

* Yield reported but not recommended at respective location.

** Only one year data from 2002 reported, therefore not recommended at respective location.

¹ Data from Dean Lee Research Station, Alexandria (A); Ben Hur Central Station, Baton Rouge (BR); Red River Research Station, Bossier City (BC); Rice Research Station, Crowley (C); Northeast Research Station, St. Joseph non-irrigated and irrigated, respectively (SJ Non and SJ Irr); Macon Ridge Research Station, Winnsboro (W). All yields are last two-year averages expressed in pounds per acre.

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

Table 2. Agronomic Data for Recommended Grain Sorghum Hybrids, 2003¹

Brand Name and Hybrid	Harvest Moisture	Plant Height ²	Heading Date (DAP) ³	Head Type ⁴
Asgrow A571	15.3	48	61	1
DeKalb DK 52	15.5	53	69	3
DeKalb DKS 54-00	16.8	50	64	4
DynaGro 732B	15.3	41	60	4
DynaGro 751B	15.4	45	59	2
DynaGro 752B	14.9	47	61	4
DynaGro 762B	15.1	40	57	5
DynaGro 780B	15.5	41	65	3
Garst 5382	15.7	50	65	5
Garst 5440	15.4	47	59	2
Garst 5515	15.0	46	60	3
Golden Acres 3694	15.1	43	61	5
Golden Acres 444E	15.2	47	59	5
Pioneer Brand 83G66	15.5	47	60	4
Pioneer Brand 84G62	15.1	45	61	2
SS 650	15.3	48	57	4
SS 800	14.8	46	62	2
Terral TV 1050	15.2	46	63	1
Terral TV 93S72	15.7	42	60	3
Terral TV 9421	14.9	42	61	4
Terral TV 96H81	15.6	42	62	5
Terral TVX 95S201	14.7	47	64	3
Terral TVX 96H202	15.4	46	64	3
Triumph TR 82-G	15.7	42	63	4

¹ Data from Dean Lee Research Station, Alexandria (A), La. 2003.

² Plant height reported in inches.

³ Heading date is number of days from planting to heading.

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

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