

# 2019 Texas A&M AgriLife Extension Grain Sorghum Hybrid Trial



Department of Soil and Crop Science Texas A&M AgriLife Extension

# 2019 Texas A&M AgriLife Extension Grain Sorghum Hybrid Trial

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#### **County Extension Agents**

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#### Cooperators

AgriLife Research Corpus Chri Alan and Lisa Stasney Andrew Miller Farms Chuck McCutchen Duane Lutringer Heron Castillo Jay Beckhusen Ordener Farms Rick Sullins

#### Introduction

Texas A&M AgriLife Extension conducts the uniform grain sorghum hybrid trials each year to provide growers in the region with accurate and unbiased information on hybrid performance. Selection of superior hybrids that are well adapted for a given region is essential for maximizing yield and profit.

Performance trials are conducted by cooperative arrangements between growers, company representatives and Texas AM AgriLife Extension personnel. Commercial farm equipment is typically used to plant and harvest. Test sites are on privately owned farms or at Texas A&M University AgriLife Research Centers. All entries are randomized and replicated three times at each location. All test sites are managed according to practices common to each production region. If replications are not available, statistical analysis cannot be performed and hybrid performance should be considered equal across hybrids for that site, despite numeric differences in yield or other agronomic traits.

#### Suggestions for Hybrid Selection

Variety or hybrid selection is often the first decision a grower must make each crop year. The goal is to identify hybrids with superior performance (top yielding) for your environment. Many environments exist in Texas with significant variation within regions and across years, mostly due to variation in weather. Documented, consistent yield performance within a region is essential for selecting hybrids that will perform well on your farming operation. This means that evaluation of hybrids over multiple locations and years (when possible) is the best way to predict future performance. Exercise caution when using single location data to compare hybrid performance.

Following yield performance, other characteristics may be useful for selecting the best hybrid. Maturity or days to flowering may be important for selecting hybrids that are appropriate for your growing season/conditions. Hybrids that possess stay green traits or tolerance of various pests or disease may be important for your environment. While consistent yield will be the most important factor affecting hybrid selection, additional plant characteristics or traits could be used to select from hybrids with similar yield performance.

#### Field-Plot Techniques

Hybrid performance trials are conducted at each location using a randomized complete block design with three replications of each entry (hybrid). Seeds for each hybrid are delivered to centralized distribution points in each sub-region. Plots are generally between 4 and 12 rows wide with row spacing ranging from 30 to 40 inches depending on location. All plots are planted using commercial farm equipment provided by growers or cooperators at each location.

Cultural and agronomic practices adapted for each region are used as determined by the cooperator. Most locations are harvested using commercial farm equipment and yield measured by weighing each plot using "weigh wagons". Some locations may use hand harvesting of predetermined row lengths followed by mechanical threshing and weighing. Grain moisture and test weight are determined from grab samples and measured using instruments such as the Mini GAC plus or similar instruments.

#### **Data Analysis and Reporting**

Data from each location is analyzed statistically using SAS 9.3. Mean values for yield and additional agronomic data are presented in tables for each location. Mean values are derived from the average of all replications for each entry in each trial. Least Significant Difference (LSD) is a statistical test used that determines the minimum difference between two entries required to be considered having different levels of performance. Differences between entries (yield, moisture, etc.) less than the LSD value represents variation in measurements due to factors other than hybrid performance, such as variation in soil type, soil moisture, fertility, insect or disease pressure, planting or harvesting procedures. Although numeric differences in yield or other measurements may exist, if two entries are within the LSD value, they should be considered to have equal performance. The Coefficient of Variation (CV) is used to determine the amount of variability in the data set relative to the mean and can be used to determine if the results are reliable. Generally, CV's greater than 20% indicate that the data is unreliable and is not reported. However, each data set is evaluated individually to determine if results will be reported.

# Cameron County Grain Sorghum Hybrid Trial 2019



Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
Nutrien Ag Solutions	Dyna-Gro	M69GB38	14.6	58.33	5,573
Bayer	Dekalb	DKS 38-16	13.9	58.00	5,493
Nutrien Ag Solutions	Dyna-Gro	M74GB17	15.9	57.33	5,267
Advanta	Alta	AG2106	15.7	56.67	5,265
Bayer	Dekalb	DKS 54-07	14.8	58.33	5,206
Terral Seed	REV	9620	14.8	57.67	5,151
S&W Seeds	Sorghum Partners	SP 78M30	13.6	56.33	5,133
S&W Seeds	Sorghum Partners	SP 7715	14.6	57.33	5,078
Advanta	Alta	AG2275	15.8	57.00	4,956

# Cameron County





Agro	Agronomic Information					
Plant Date	Plant Date					
Harvest Date		7/12/2019				
Irrigated		No				
Row Spacing (i	n)	40				
Number of Rov	WS	12				
Seeds per Acre	125,000					
Nitrogen (lb N/	108					
Phosphorus (lb	9					
Potassium (lb k	Potassium (lb K2O/ac)					
Precipitation (i	nches)					
Soil Type						
Herbicde Insecticides	1 pint of Atrazine planting	/acre at				

14.87 4.000	57.44 2.000	5,236 3.250					
4.000	2.000	3.250					
1.08		294.2					
0.003	0.184	0.009					
Cooperator: Chuck McCutchen							
Marco Ponce	e, Danielle Sekul	а					
Other Agro	onomic Info						
Model: yield = hybrid + blk. LSD provided when hybrid significant at p < 0.05 (SAS 9.4). Yields highlighted in yellow are not statistically different from the top ranked hybrid. For additional information contact your local county extension agent or: Dr. Ronnie Schnell ronschnell@tamu.edu 979-845-2935							
	0.003  Chuck McCur  Marco Ponce Other Agree  d + blk. LSD proving highlighted in yel	0.003  O.184  Chuck McCutchen  Marco Ponce, Danielle Sekula Other Agronomic Info					

# Hidalgo County Grain Sorghum Hybrid Trial 2019



Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
Advanta	Alta	AG2106	15.9	55.67	3,045
Bayer	Dekalb	DKS 38-16	15.9	56.00	3,016
Terral Seed	REV	9620	15.8	54.67	2,102
Nutrien Ag Solutions	Dyna-Gro	M69GB38	<b>1</b> 5.9	53.67	1,984
S&W Seeds	Sorghum Partners	SP 7715	16.3	51.67	1,908
Bayer	Dekalb	DKS 54-07	16.6	53.00	1,788
Advanta	Alta	AG2275	17.7	49.00	1,729
S&W Seeds	Sorghum Partners	SP 78M30	16.5	50.00	1,648
Nutrien Ag Solutions	Dyna-Gro	M74GB17	17.1	54.67	1,162

# Hidalgo **County**





#### **Department of Soil and Crop Sciences**

Agroi	nomic Informati	on	Mean	16.41	53.15	2,042
Plant Date		3/23/2019	C.V. (%)	6.000	5.000	21.340
Harvest Date		7/11/2019	L.S.D.			754.3
			Pr>F (hybrid)	0.222	0.082	0.001
Irrigated		No				
Row Spacing (ir	٦)	40	Cooperator:	Heron Castillo	)	
Number of Row	VS	12	Agent:	Vidal Saenz, [	Danielle Sekula	
Seeds per Acre		182,000		Other Agro	nomic Info	
Nitrogen (lb N/ac)						
Phosphorus (lb P2O5/ac)						
Potassium (lb K	(20/ac)		Model : yield = hybri	d + blk   ISD provi	ded when hybrid s	ignificant at n <
Precipitation (in	nches)		0.05 (SAS 9.4). Yields the top ranked hybrid	highlighted in yell	ow are not statistic	cally different from
Soil Type			extension agent or:			, , , , , , , , , , , , , , , , , , , ,
	Sivanto at 4oz/ac	re	Dr. Ronnie Schnell ronschnell@tamu.ed 979-845-2935	u		
Insecticides						
l .						

# Nueces County Grain Sorghum Hybrid Trial 2019



Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
Pioneer	Pioneer	83P27	13.1	59.00	7,347
Bayer	Dekalb	DKS 54-07	13.0	60.00	7,340
B-H Genetics	B-H Genetics	BH 4041	12.7	56.67	7,265
Bayer	Dekalb	DKS 38-16	13.0	59.67	7,184
Nutrien Ag Solutions	Dyna-Gro	M69GB38	13.0	58.67	7,088
Advanta	Alta	AG2106	13.1	58.33	7,081
Advanta	Alta	ADV2275	13.7	59.00	6,955
S&W Seeds	Sorghum Partners	SP 68M57	13.4	58.67	6,888
Pioneer	Pioneer	84P68	12.5	58.00	6,832
S&W Seeds	Sorghum Partners	SP 7715	13.5	60.33	6,816
Terral Seed	REV	9620	12.7	59.00	6,786
Nutrien Ag Solutions	Dyna-Gro	M74GB17	13.3	59.50	6,663
B-H Genetics	B-H Genetics	BH 3939	13.1	59.00	6,516

## Nueces County





Agronomic Information					
Plant Date	2/25/2019				
Harvest Date					
Irrigated	No				
Row Spacing (in)	30				
Number of Rows	12				
Seeds per Acre	52,000				
Nitrogen (Ib N/ac)	95				
Phosphorus (lb P2O5/ac)	19				
Potassium (lb K2O/ac)	0				
Precipitation (inches)					
Soil Type					
Herbicde Insecticides					

Mean	13.08	58.91	6,982
C.V. (%)	3.000	1.000	3.920
L.S.D.		1.01	447.7
Pr>F (hybrid)	0.086	0.000	0.007
Cooperator:	Ordener Farr	ns	
Agent:	Jason Ott		
Agent.			
	Other Agro	onomic Info	
Model: yield = hybrid 0.05 (SAS 9.4). Yields h the top ranked hybrid extension agent or: Dr. Ronnie Schnell ronschnell@tamu.edu 979-845-2935	nighlighted in yel . For additional ir	low are not statistic	ally different from

# Nueces County Grain Sorghum Hybrid Trial 2019



Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
B-H Genetics	B-H Genetics	BH 4041	14.4	55.05	7,331
Bayer	Dekalb	DKS 54-07	15.0	54.63	7,244
Bayer	Dekalb	DKS 38-16	14.5	58.73	6,953
Nutrien Ag Solutions	Dyna-Gro	M69GB38	15.5	56.65	6,615
Terral Seed	REV	9620	14.3	57.48	6,143
Advanta	Alta	AG2275	18.2	56.15	5,558
S&W Seeds	Sorghum Partners	SP 7715	15.1	58.73	5,277
S&W Seeds	Sorghum Partners	SP 68M57	15.5	56.50	5,241
S&W Seeds	Sorghum Partners	SP 78M30	15.2	55.88	5,182
Nutrien Ag Solutions	Dyna-Gro	M74GB17	15.0	57.80	5,011
B-H Genetics	B-H Genetics	BH 3939	14.8	58.63	4,445
Advanta	Alta	AG2106	14.5	56.25	3,925

## Nueces County





Agronomic Information					
Plant Date	Ţ				
Harvest Date		3/7/2019 7/8/2019			
Irrigated		No			
Row Spacing (i	n)	38			
Number of Ro		1			
Seeds per Acre		60,000			
Nitrogen (lb N	,				
	Phosphorus (lb P2O5/ac)				
Potassium (lb		62			
Precipitation (					
Soil Type	inches)				
Insecticides	Herbicde Dual Magnum 1.5 Insecticides Lannate LV 24 oz				
	-, , -				

Mean	15.16	56.87	5,744			
C.V. (%)	3.000	3.000	9.430			
L.S.D.	0.66	2.11	779.1			
Pr>F (hybrid)	0.000	0.002	0.000			
Cooperator:	AgriLife Rese	arch Corpus Chr	isti			
Agent:	Jason Ott					
	Other Agro	onomic Info				
Model : yield = hybrid + blk. LSD provided when hybrid significant at p <						
0.05 (SAS 9.4). Yields I the top ranked hybrid extension agent or:						

# San Patricio County Grain Sorghum Hybrid Trial 2019



			-		-
Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
Bayer	Dekalb	DKS 54-07	15.4	61.33	6,193
Nutrien Ag Solutions	Dyna-Gro	M69GB38	15.1	61.00	5,821
S&W Seeds	Sorghum Partners	SP 68M57	15.1	61.67	5,721
Bayer	Dekalb	DKS 38-16	15.4	60.33	5,426
Nutrien Ag Solutions	Dyna-Gro	M74GB17	15.4	60.67	5,314
B-H Genetics	B-H Genetics	BH 4041	14.7	59.67	5,270
S&W Seeds	Sorghum Partners	SP 7715	15.6	60.67	5,244
Pioneer	Pioneer	84P68	15.1	61.00	5,164
B-H Genetics	B-H Genetics	BH 3939	15.4	61.33	5,153
Advanta	Alta	AG2275	15.7	59.67	5,127
Terral Seed	REV	9620	15.3	60.67	5,025
Advanta	Alta	AG2106	15.0	60.67	4,703

# San Patricio County





Agronomic Information						
Plant Date		3/11/2019				
Harvest Date	7/16/2019					
Irrigated		No				
Row Spacing (	in)	30				
Number of Ro	WS	8				
Seeds per Acr	52,500					
Nitrogen (lb N	84					
Phosphorus (I	12					
Potassium (lb	0					
Precipitation (						
Soil Type						
Herbicde Insecticides	9oz./ac Outlook, 3 Atrazine, .3oz./ ad	-				

Mean	15.26	60.72	5,347				
C.V. (%)	1.000	1.000	6.070				
L.S.D.	0.38		549.5				
Pr>F (hybrid)	0.001	0.074	0.001				
Cooperator:	Andrew Mille	Andrew Miller Farms					
Agent:	Bob McCool						
	Other Agro	nomic Info					
1gal/30 Lambda							
Model: yield = hybrid + blk. LSD provided when hybrid significant at p < 0.05 (SAS 9.4). Yields highlighted in yellow are not statistically different from the top ranked hybrid. For additional information contact your local county extension agent or:  Dr. Ronnie Schnell ronschnell@tamu.edu 979-845-2935							

# Fort Bend County Grain Sorghum Hybrid Trial 2019



Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
Bayer	Dekalb	DKS 38-16	12.8	59.90	6,481
Advanta	Alta	AG2106	11.9	57.00	6,198
Bayer	Dekalb	DKS 54-07	12.7	59.70	6,021
S&W Seeds	Sorghum Partners	SP 7715	14.1	60.60	5,763
Terral Seed	REV	9620	13.5	57.30	5,703
Nutrien Ag Solutions	Dyna-Gro	M69GB38	13.2	59.60	5,680
S&W Seeds	Sorghum Partners	SP 78M30	13.2	56.80	5,579
Nutrien Ag Solutions	Dyna-Gro	M74GB17	13.6	56.30	5,380
Advanta	Alta	AG2275	13.7	57.50	5,088

### Fort Bend County





Agronomic Information		Mean	13.19	58.30	5,766
Plant Date		C.V. (%)	0.000		3.260
Harvest Date	8/9/2019	L.S.D.	0.00		325.7
Irrigated	No	Pr>F (hybrid)	0.000		0.000
Row Spacing (in)	36	Cooperator:	Alan and Lisa	Stasney	
Number of Rows	12	Agent:	Derrick Banks	5	
Seeds per Acre			Other Agro	nomic Info	
Nitrogen (lb N/ac)					
Phosphorus (lb P2O5/ac)					
Potassium (lb K2O/ac)		Model : yield = hybrid	d + blk. LSD prov	ided when hybrid s	ignificant at p <
Precipitation (inches)		0.05 (SAS 9.4). Yields the top ranked hybrid	highlighted in yell	ow are not statistic	cally different from
Soil Type		extension agent or: Dr. Ronnie Schnell			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Herbicde		ronschnell@tamu.ed	u		
Insecticides					

# Victoria County Grain Sorghum Hybrid Trial 2019



Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
Bayer	Dekalb	DKS 38-16	13.3	61.70	6,668
S&W Seeds	Sorghum Partners	SP 7715	14.4	60.27	6,392
Nutrien Ag Solutions	Dyna-Gro	M69GB38	12.8	59.60	6,363
Advanta	Alta	AG2106	12.6	60.40	6,252
Terral Seed	REV	9620	12.6	61.90	6,064
Bayer	Dekalb	DKS 54-07	14.6	61.03	5,900
S&W Seeds	Sorghum Partners	SP 78M30	14.1	58.40	5,586
Advanta	Alta	AG2275	16.6	59.67	5,512
Nutrien Ag Solutions	Dyna-Gro	M74GB17	14.7	58.60	5,052

# Victoria County





Agronomic Information		Mean	13.97	60.17	5,976
Plant Date		C.V. (%)	7.000	1.000	6.010
Harvest Date		L.S.D.	1.59	1.38	622.2
		Pr>F (hybrid)	0.001	0.000	0.001
Irrigated	No				
Row Spacing (in)	40	Cooperator:			
Number of Rows	1	Agent:			
Seeds per Acre			Other Agro	nomic Info	
Nitrogen (lb N/ac)					
Phosphorus (lb P2O5/ac)					
Potassium (lb K2O/ac)		Model : yield = hybrid	+ blk. LSD provi	ded when hybrid s	ignificant at p <
Precipitation (inches)		0.05 (SAS 9.4). Yields h the top ranked hybrid.			,
Soil Type		extension agent or: Dr. Ronnie Schnell			
Herbicde		ronschnell@tamu.edu 979-845-2935			
Insecticides		373-843-2333			

# Wharton County Grain Sorghum Hybrid Trial 2019



Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
Pioneer	Pioneer	83P27	14.4	61.17	6,628
Bayer	Dekalb	DKS 38-16	14.6	63.17	6,460
Nutrien Ag Solutions	Dyna-Gro	M69GB38	15.2	61.83	6,285
Bayer	Dekalb	DKS 54-07	14.2	61.83	6,206
S&W Seeds	Sorghum Partners	SP 7715	15.1	61.67	6,000
Terral Seed	REV	9620	13.7	61.83	5,723
Advanta	Alta	AG2106	<b>1</b> 3.9	60.83	5,642
Nutrien Ag Solutions	Dyna-Gro	M74GB17	15.1	60.83	5,590
S&W Seeds	Sorghum Partners	SP 78M30	14.4	59.83	5,238
Advanta	Alta	AG2275	17.9	58.50	4,938

# Wharton County





Agronomic Information		Mean	14.86	61.15	5,871
Plant Date	3/27/2019	C.V. (%)	5.000	1.000	3.590
Harvest Date	7/25/2019	L.S.D.	1.19	1.48	361.6
		Pr>F (hybrid)	0.000	0.000	0.000
Irrigated	No				
Row Spacing (in)	40	Cooperator:	Duane Lutrin	ger	
Number of Rows	6	Agent:	Corrie Bower	١	
Seeds per Acre			Other Agro	onomic Info	
Nitrogen (lb N/ac)					
Phosphorus (lb P2O5/ac)					
Potassium (lb K2O/ac)		Model : yield = hybrid	d + blk. LSD prov	ided when hybrid s	ignificant at p <
Precipitation (inches)		0.05 (SAS 9.4). Yields the top ranked hybrid	highlighted in yell	ow are not statistic	ally different from
Soil Type		extension agent or:  Dr. Ronnie Schnell			,
Herbicde		ronschnell@tamu.ed	u		
Insecticides		373 3.0 2333			

# Hill County Grain Sorghum Hybrid Trial 2019



Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
Bayer	Dekalb	DKS 53-53	11.4	60.33	5,920
Bayer	Dekalb	DKS 51-01	11.4	59.77	5,833
Terral Seed	REV	9620	11.2	60.50	5,607
Nutrien Ag Solutions	Dyna-Gro	M69GB38	11.5	59.17	5,565
Wilbur-Ellis	Integra	G3665	11.0	58.10	5,450
Advanta	Alta	AG2106	11.2	60.03	5,398
Advanta	Alta	ADV2275	12.0	58.70	5,063
Nutrien Ag Solutions	Dyna-Gro	M74GB17	12.2	58.63	4,308

# Hill County





Agronomic Information		Mean	11.48	59.40	5,393
Plant Date	3/28/2019	C.V. (%)	2.000	2.000	8.370
Harvest Date	8/13/2019	L.S.D.	0.33	1.61	790.3
		Pr>F (hybrid)	0.000	0.049	0.015
Irrigated	No				
Row Spacing (in)	30	Cooperator:	Rick Sullins		
Number of Rows	8	Agent:	Zach Davis		
Seeds per Acre	80,000		Other Agro	nomic Info	
Nitrogen (lb N/ac)					
Phosphorus (lb P2O5/ac)					
Potassium (lb K2O/ac)		Model : yield = hybri	d + blk ISD provi	ded when hyhrid s	ignificant at n <
Precipitation (inches)		0.05 (SAS 9.4). Yields the top ranked hybrid	highlighted in yell	ow are not statistic	cally different from
Soil Type		extension agent or:			,
Herbicde		Dr. Ronnie Schnell ronschnell@tamu.ed	u		
Insecticides		979-845-2935			

# Milam County



### **Grain Sorghum Hybrid Trial 2019**

Company		Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)		
Nutrien Ag S	Nutrien Ag Solutions Dyna-Gro		M69GB38	16.2	53.33	1,947		
Terral Seed		REV	9620	16.8	51.00	1,910		
Advanta		Alta	AG2275	16.6	54.23	1,908		
Advanta		Alta	AG2106	16.3	51.50	1,787		
Nutrien Ag S	Solutions	Dyna-Gro	M74GB17	17.9	52.00	1,721		
Agro	onomic Inforn	nation	Mean	16.76	52.41	1,854		
Plant Date		3/26/2019	C.V. (%)	8.000	5.000	9.200		
Harvest Date		8/13/2019	L.S.D.					
Irrigated		No	Pr>F (hybrid)	0.553	0.508	0.482		
Row Spacing (	in)	30	Cooperator:	Cooperator: Jay Beckhusen				
Number of Ro	WS	8	Agent:	Floyd Ingrar	n			
Seeds per Acr	е	80,000			ronomic Info			
Nitrogen (lb N	I/ac)	119	Previous crop cot	ton. 110 N Sid	dedress			
Phosphorus (I	b P2O5/ac)	30						
Potassium (lb	K2O/ac)	0	Model : vield = hvbri	id + blk. LSD pro	vided when hvbrid si	gnificant at p <		
Precipitation (	(inches)		Model: yield = hybrid + blk. LSD provided when hybrid significant at p < 0.05 (SAS 9.4). Yields highlighted in yellow are not statistically different from the top ranked hybrid. For additional information contact your local county					
Soil Type			extension agent or: Dr. Ronnie Schnell			, ,		
Herbicde Warrant 2 Qt. per acre & Round-up Power-Max 1.5 Pint per acre		ronschnell@tamu.ed	lu					