

2 0 1 8

2018 Texas Grain Sorghum Performance Variety Trials



Department of Soil and Crop Sciences

Ronnie Schnell - Associate Professor & Extension Specialist Katrina Horn - Crop Testing Coordinator & Research Associate

Dennis Pietsch - Research Associate

Seth Hirst - Research Assistant

Allen Hall - Research Assistant

W. L. Rooney - Professor, Plant Breeding and Genetics

2018 TEXAS GRAIN SORGHUM PERFORMANCE VARIETY TRIALS

Ву

Ronnie Schnell

Katrina Horn

Dennis Pietsch

Seth Hirst

Allen Hall

W. L. Rooney

SCS-2018-16

Respectively, Associate Professor & Extension Specialist; Crop Testing Coordinator & Research Associate; Research Associate; Agricultural Research Assistant; Professor, Plant Breeding and Genetics, Department of Soil and Crop Sciences, Texas A&M AgriLife Research, The Texas A&M University System, College Station, Texas.

TABLE OF CONTENTS

Introduction	1
Selecting Hybrids & Varieties	1
Field-Plot Techniques	3
Data Analysis & Reporting	4
Agronomic Data as Designated by Company	4
Measured Agronomic Data	5
Rainfall	5
Maps: Figure 1. Grain Sorghum Performance Trial Locations & Production Regions	3
Figure 2. 2018 Texas Water Year Total Rainfall	6
2018 Grain Sorghum Hybrid Characteristics	7
Grain Sorghum Company Contact Information	11
Monte Alto Full	13
Monte Alto Limited	17
Gregory	22
Driscoll	27
Damon	32
College Station	35
Thrall	39
Hubbard	44
Greenville	48
Plainview	52
Bushland	56
Literature Cited and Acknowledgements	59

2018 TEXAS GRAIN SORGHUM PERFORMANCE VARIETY TRIALS

Ronnie Schnell, Katrina Horn, Dennis Pietsch, Seth Hirst, Allen Hall, and W. L. Rooney

Introduction

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

This year, five irrigated and six non-irrigated test sites were planted in the major production regions of Texas. Major grain sorghum production regions include the Western Gulf Coastal Plain, Southern Texas Plains, East Central Texas Plains, Texas Blackland Prairies and High Plains. Approximate locations of the 2018 test sites are shown in Figure 1. A total of 429 entries were evaluated across 11 locations representing 81 unique hybrids from 16 commercial seed companies. Commercial seed companies enter hybrids into each trial location at their own discretion.

Performance trials are conducted by personnel from the Crop Testing Program, Texas A&M AgriLife Research, and financed by fees collected from participating commercial seed companies. Test sites are on privately owned farms or at Texas A&M University AgriLife Research Centers. All entries are randomized and replicated four times at each location. All test sites are managed according to practices common to each production region. Field maps and planting plans can be found at the link below shortly after planting. Following harvest, results are statistically analyzed and made available at: http://varietytesting.tamu.edu/grainsorghum/.

Suggestions for Selecting Hybrids and Varieties

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.

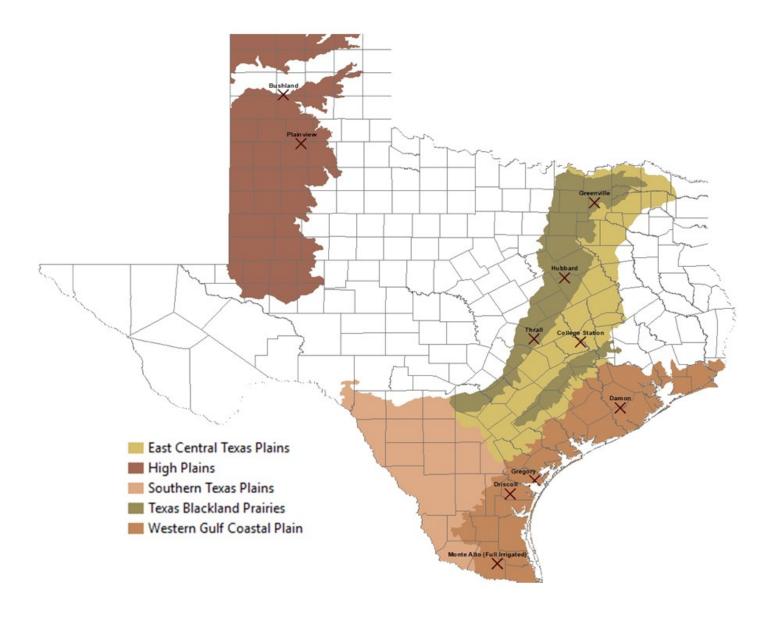
Following yield performance, other characteristics may be useful for selecting the best hybrid. Maturity or days to flowering may be important for selecting hybrids that are appropriate for your growing season/conditions. Typically mid- and full-season hybrids will respond favorably to additional moisture while early or short season hybrids are designed for dryland production with lower moisture requirements. Selecting the wrong maturity hybrid can result in poor yields in dry

environments or the inability of a hybrid to produce higher yields if the moisture profile is favorable.

As water becomes more limited, drought tolerance becomes a critical component for production. Most sorghum hybrids possess good levels of pre-flowering drought tolerance, but there is a wide variation for post-flowering drought tolerance, and in most years post flowering drought is more common in Texas. Therefore, producers should ask seed companies for the relative level of post-flowering drought tolerance (or staygreen) their hybrids possess. Producers should realize that plant height and grain yield are correlated and while there are exceptions, taller hybrids generally have higher yield potential. Likewise taller hybrids require greater management, but if they possess good post-flowering drought tolerance (or staygreen) they should have good standability.

Finally, variation for grain quality exists in grain sorghum and there are several hybrids that are now used in food grain markets. A list of these hybrids is provided by the National Grain Sorghum Producers (www.sorghumgrowers.com). These hybrids have white or cream-colored grain and straw colored glumes with tan plant color. While these hybrids are not suitable in all regions, in certain environments these hybrids yield comparably to traditional hybrids and may provide additional marketing opportunities.

Figure 1. 2018 Grain Sorghum Performance Trials: Locations and Production Regions



Field-Plot Techniques

Performance trials are conducted at each location using a randomized complete block design with four replications of each entry (hybrid). Seeds for each hybrid are packaged to obtain a final plant population appropriate for each production region and cropping system. Plots are generally 2 rows wide with row spacing ranging from 30 to 40 inches depending on location. Seeds are packaged to deliver 30 feet of planted row per plot. Seed is planted using a belt cone planter with John Deere MaxEmerge XP planter units at all sites. Following emergence, two feet of row are trimmed on each side resulting in 26 ft plots and 4 ft alleys at most sites. Alleys are maintained free of weeds throughout the growing season through mechanical or chemical control measures.

Cultural and agronomic practices adapted for each region are used as determined by the cooperator. Field data such as plant height, head exertion, and days to 50% flower are recorded at the appropriate times. Additional agronomic information is provided when available. Locations are harvested with a John Deere 3300 plot combine equipped with the HarvestMaster Grain Gauge that measures plot weight, test weight, and grain moisture. Field and harvest notes are compiled for each location and results analyzed.

Data Analysis and Reporting

Data from each location is analyzed statistically using SAS. 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, plant height, etc.) less than the LSD value represents variation 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.

In the 2018 Grain Sorghum Characteristics table, you will find agronomic data submitted by each company for their entries. Agronomic information provided by the companies about their hybrids is found in the list below and include items such as cob color, grain color and genetic traits. Agronomic data measured and collected by the Crop Testing program is described in the section below.

Agronomic Data as designated by each company:

Grain Color: Y = Yellow, W = White, Cm = Cream, R = Red, Bz = Bronze

Plant Color: T = Tan, R = Red, P = Purple.

Maturity Class: Early (E), medium-early (ME), medium (M), medium-late (ML), late (L).

Measured Agronomic Data:

Days to 50% Flowering: the average number of days from planting to the date when 50 percent of the plants within the plot are in some stage of flowering.

Plant Height: the average height in inches from ground to tip of the panicle.

Head Exertion: the average length in inches from the flag leaf to the base of the panicle.

Grain Moisture: the average moisture at harvest as a percent (%).

Test Weight: a measure of bulk grain density and is determined by the seed weight per unit of volume. This is measured at harvest and expressed as pounds per bushel.

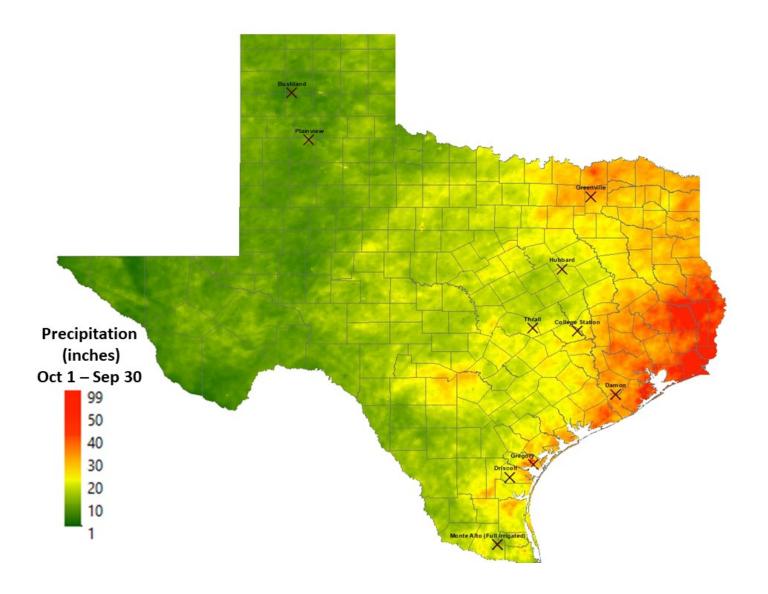
Yield: Standardized to 14% moisture: expressed in pounds per acre (lb/acre) and calculated using [((100 – moisture (%) /86) * yield (lb/acre)].

In addition to individual site performance, information on multi-year performance for each site is provided. Multi-year tables are presented as 2 and 3-year summaries of yield performance data. The entries are ranked according to hybrid performance in the current year.

Rainfall

Available soil moisture during the growing season is often a limiting factor for sorghum production in Texas. Available moisture will influence decisions on hybrid selection related to maturity and for selection of appropriate seeding rates. Variation in rainfall patterns can be substantial within a production region and from year to year. A significant gradient in annual rainfall exists in Texas moving east to west.

Figure 2. 2018 Precipitation (October 1, 2017 –September 30, 2018)





Company	Brand	Hybrid	Grain Color	Plant Color	Maturity
Advanta Seeds	Alta Seeds	AG1203	Bronze	Red	Medium-Early
Advanta Seeds	Alta Seeds	ADV G2275	Bronze		Medium-Late
Advanta Seeds	Alta Seeds	ADV G3247	Bronze	Red	Medium-Late
Anzu Genetica Seed	Anzu Genetica	AG 4668			N/A
Anzu Genetica Seed	Anzu Genetica	AG 4460			N/A
Anzu Genetica Seed	Anzu Genetica	AG 4664			N/A
Bartek Agricultural Research	KSU x TAMU	17USCP16	Bronze	Tan	Medium-Early
Bartek Agricultural Research	TAMU x KSU	17USCP66	White	Purple	Medium
Bartek Agricultural Research	KSU x TAMU	17USCP30	Bronze	Purple	Early
Bartek Agricultural Research	TAMU x KSU	17USCP100	Cream	Purple	Medium-Early
Bartek Agricultural Research	KSU x TAMU	17USCP107	Bronze	Purple	Early
Bartek Agricultural Research	TAMU x KSU	17USCP97	Bronze	Tan	Medium
B-H Genetics	B-H Genetics	4100	Bronze		Medium
Browning Seed Inc.	Browning	Winfield	Bronze	Purple	Medium
Browning Seed Inc.	Browning	Phoenix	Bronze	Purple	Medium-Early
Browning Seed Inc.	Browning	Blaze	Bronze	Purple	Medium
Browning Seed Inc.	Browning	Apollo	Cream	Purple	Medium
Browning Seed Inc.	Browning	Grainger	Red	Purple	Medium-Late
Browning Seed Inc.	Browning	Browning Maverick	Red	Purple	Medium
Browning Seed Inc.	Browning	775 W	Cream	Purple	Medium-Late
Browning Seed Inc.	Browning	Challenger BMX	Bronze	Purple	Medium
Browning Seed Inc.	Browning	Cimarron	Bronze	Purple	Medium-Early



Company	Brand	Hybrid	Grain Color	Plant Color	Maturity
Chromatin Inc.	Sorghum Partners	SP73B12	Bronze	Purple	Medium-Late
Crop Production Services	Dyna-Gro	M69GB38	Bronze	Purple	Medium-Late
Crop Production Services	Dyna-Gro	GX17379	Bronze	Purple	Medium-Late
Crop Production Services	Dyna-Gro	GX17962	Bronze	Purple	Medium-Late
Crop Production Services	Dyna-Gro	GX17948	Bronze	Purple	Medium-Late
Crop Production Services	Dyna-Gro	M73GR55	Red	Purple	Medium
Crop Production Services	Dyna-Gro	GX16833	Red	Purple	Medium
Crop Production Services	Dyna-Gro	M60GB31	Bronze	Purple	Medium-Early
Crop Production Services	Dyna-Gro	M74GB17	Bronze	Purple	Medium-Late
Crop Production Services	Dyna-Gro	GX17227	Bronze	Purple	Medium
Dupont	Pioneer	84P68	Red	Purple	Medium
Dupont	Pioneer	84P72	Red	Purple	Medium-Late
Dupont	Pioneer	83P27	Red	Purple	Late
Dupont	Pioneer	83P73	Bronze	Purple	Late
Dupont	Pioneer	83P56	Bronze	Purple	Medium-Late
Gayland Ward Seed	Gayland Ward	1160	Bronze	Purple	Medium-Early
Gayland Ward Seed	Gayland Ward	EXP 9138	Red	Purple	Medium
Gayland Ward Seed	Gayland Ward	EXP 9139	Red	Purple	Medium
Gayland Ward Seed	Gayland Ward	EXP 9097	Red	Purple	Medium
Gayland Ward Seed	Gayland Ward	EXP 9098	Red	Purple	Medium
Gayland Ward Seed	Gayland Ward	EXP 9134	Red	Purple	Medium
Gayland Ward Seed	Gayland Ward	EXP 9127	Red	Purple	Medium



Company	Brand	Hybrid	Grain Color	Plant Color	Maturity
Gayland Ward Seed	Gayland Ward	EXP 9135	Red	Purple	Medium
Gayland Ward Seed	Gayland Ward	EXP 8016	Red	Purple	Medium
Golden Acres	Golden Acres	3960B	Bronze	Purple	Medium
Golden Acres	Golden Acres	2840B			N/A
Golden Acres	Golden Acres	3020B			N/A
MOJO Seed Enterprises	MOJO Seed	EXP 36	White	Red	Medium-Early
Monsanto	DEKALB	DKS 38-16	Bronze	Purple	Medium-Early
Monsanto	DEKALB	DKS 51-01	Bronze	Purple	Medium-Late
Monsanto	DEKALB	DKS 45-23	Bronze	Purple	Medium
Monsanto	DEKALB	DKS 37-07	Bronze	Purple	Medium-Early
Monsanto	DEKALB	DKS 53-53	Bronze	Purple	Medium-Late
NuTech Seed, LLC	NuTech	GS693	Red	Purple	Medium-Late
NuTech Seed, LLC	NuTech	GS725	Red	Purple	Medium-Late
NuTech Seed, LLC	NuTech	GS636	Bronze	Purple	Medium
NuTech Seed, LLC	NuTech	GS663	Bronze	Purple	Medium-Late
S&W Seed Company	S&W Seed	SG11668	Red		Medium-Early
S&W Seed Company	S&W Seed	SG11670	Red		Medium-Early
S&W Seed Company	S&W Seed	SG11268	Red		Medium
Simplot Grower Solutions	Gold Source	GS6717	Bronze	Purple	Medium
Simplot Grower Solutions	Gold Source	GS7117	Red	Purple	Medium-Late
Simplot Grower Solutions	Gold Source	GS7215	Red	Purple	Medium-Late
Simplot Grower Solutions	Gold Source	GS7016	Red	Purple	Medium



Company	Brand	Hybrid	Grain Color	Plant Color	Maturity
Terral Seed, Inc.	REV	9562	Red	Purple	Medium
Terral Seed, Inc.	REV	9782	Red	Purple	Medium-Late
Terral Seed, Inc.	REV	9924	Red	Purple	Late
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx645xRTx2783			N/A
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx2928xRTx436			N/A
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx399xRTx430	Bronze	Purple	Medium-Late
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx378xRTx430	Bronze	Purple	Medium-Late
USDA	USDA Lubbock	A.10004/R.LBK2	Red	Purple	Medium
USDA	USDA Lubbock	A.TX2752/R.LBK2	Red	Purple	Medium
USDA	USDA Lubbock	A.TX2752/R.LBK1	Red	Purple	Medium-Late
USDA	USDA Lubbock	PHA432/R.LBK1	Red	Purple	Medium-Late
USDA	USDA Lubbock	A.OK11/R.LBK2	Red	Purple	Medium
Wilbur-Ellis Company	Integra	G3701	Red	Red	Medium-Late
Wilbur-Ellis Company	Integra	G3670	Bronze	Purple	Medium-Late
Wilbur-Ellis Company	Integra	G3630	Red	Red	Medium

Hybrid characteristics are provided by representatives of each company.
For additional information contact your local seed dealer or:
Katrina Horn
khorn@tamu.edu
979-845-8505

Grain Sorghum Company Contacts



Company	Brand	Contact Information	Phone	Email
Advanta Seeds	Alta Seeds	Zachary Eder	979-332-5138	zach.eder@advantaseeds.com
		201 E. John Carpenter Fwy #660		
		Irving, TX 75062		
Anzu Genetica Seed	Anzu Genetica	Beto Anzaldua	254-548-7447	betoanzaldua@yahoo.com
		9404 Oak Hill Dr		
		Waco, TX 76712		
Bartek Agricultural	TAMU x KSU	Matthew Bartek	979-574-1440	matthewbartek82@gmail.com
Research		1136 Santa Catalina		
		Portland, TX 78374		
Bartek Agricultural	KSU x TAMU	Matthew Bartek	979-574-1440	matthewbartek82@gmail.com
Research		1136 Santa Catalina		
		Portland, TX 78374		
Browning Seed Inc.	Browning	Rodney Smith	806-293-5271	rodney@browningseed.com
		3101 S. I-27		
		Plainview, TX 79072		
Crop Production	Dyna-Gro	Cord Willms	361-960-4399	james.willms@cpsagu.com
Services		1024 Willms Rd		
		Columbus, TX 78934		
Dupont	Pioneer	Grant Groene	620-229-0465	grant.groene@pioneer.com
		6519 72nd Street		
		Lubbock, TX 79424		
Gayland Ward Seed	Gayland Ward	Carson Ward	806-676-1123	carson@gaylandwardseed.com
		4395 Hwy 60		
		Hereford, TX 79045		
LG Seeds	Golden Acres	Chris Sheppard	254-761-9838	chris.sheppard@lgseeds.com
		205 Old Hewitt Rd		
		Waco, TX 76712		
MOJO Seed Enterprises	MOJO Seed	Jerry O'Rear	806-445-6442	jerryorear1@gmail.com
		P.O. Box 1716		
		Hereford, TX 79045		
Monsanto	DEKALB	Steve Carlson	979-229-8155	steve.carlson@monsanto.com
		800 N. Lindbergh Blvd		
		St. Louis, MO 63167		

Grain Sorghum Company Contacts



Company	Brand	Contact Information	Phone	Email
NuTech Seed, LLC	NuTech	Steve Sick	402-661-4700	steve.sick@nutechseed.com
		2321 N. Loop Dr, Suite 120		
		Ames, IA 50010		
S&W Seed Company	S&W Seed	Kirk Rolfs	208-965-3565	kirkrolfs@swseedco.com
		9178 Lakeshore Dr.		
		Nampa, ID 83686		
Simplot Grower	Gold Source	Max Crittenden	254-652-0032	max.crittenden@simplot.com
Solutions		2193 Oak Grove Loop		
		China Spring, TX 76633		
Terral Seed, Inc.	REV	Marty Hale	318-341-8814	mhale@terralseed.com
		117 Ellington Dr		
		Rayville, LA 71269		
USDA	USDA Lubbock	Chad Hayes	806-787-9798	chad.hayes@ars.usda.gov
		3810 4th Street		
		Lubbock, TX 79415		
Wilbur-Ellis Company	Integra	Ramon Medrano	214-608-5305	rmedrano@wilburellis.com
		2305 Winthrop Hill Rd		
		Argyle, TX 76226		
Wilbur-Ellis Company	Integra	Bracken Finney	512-517-5456	rfinney@wilburellis.com
		2305 Winthrop Hill Rd		
		Argyle, TX 76226		



REV

9562

Monte Alto (Full Irrigated) 2018 Grain Sorghum Performance Trial



Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Gayland Ward	EXP 8016	65	54	8	0	11.3	56.5	7,285
Dyna-Gro	M69GB38	63	51	9	0	11.2	56.4	7,197
Dyna-Gro	GX17948	64	48	6	0	11.0	56.9	6,996
REV	9924	64	47	5	0	10.6	54.0	6,981
Dyna-Gro	M73GR55	66	49	6	0	11.1	56.7	6,938
Gayland Ward	EXP 9098	66	51	8	0	10.8	54.9	6,833
Dyna-Gro	GX17227	65	49	6	0	11.2	57.4	6,496
Dyna-Gro	M74GB17	67	50	7	0	11.0	56.2	6,449
Gayland Ward	EXP 9097	68	53	9	0	10.8	54.9	6,163
Gayland Ward	EXP 9134	65	56	11	0	10.8	55.2	6,148
Gold Source	GS7117	68	47	8	0	10.6	52.3	6,124
Dyna-Gro	GX17962	64	45	6	0	10.6	54.4	5,963
REV	9782	61	45	6	0	10.6	56.8	5,937
Gold Source	GS7215	63	51	6	1	10.7	54.8	5,928
Texas A&M AgriLife Research	ATx645xRTx2783	66	53	8	0	11.0	55.5	5,902
Dyna-Gro	GX16833	62	48	6	0	10.6	54.7	5,762
Gayland Ward	EXP 9138	64	58	13	10	10.7	54.8	5,753
Dyna-Gro	GX17379	64	44	7	0	10.9	55.2	5,748
Sorghum Partners	SP73B12	65	46	7	0	11.3	56.3	5,702
Gold Source	GS7016	64	51	6	0	10.7	54.9	5,571

*Yields highlighted in yellow are not significantly different (L.S.D., p=0.05) from the top ranked hybrid.

10.5

53.8

5,296

43

62



Monte Alto (Full Irrigated) 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences

Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Texas A&M AgriLife Research	ATx2928xRTx436	63	47	5	0	10.2	52.4	5,262
Gayland Ward	EXP 9139	62	45	10	0	11.0	55.8	5,253
B-H Genetics	4100	60	40	7	0	10.5	55.0	5,160
Gayland Ward	EXP 9135	63	49	7	0	10.6	53.5	5,116
Gold Source	GS6717	60	46	7	0	10.4	52.9	5,066
Gayland Ward	1160	62	46	8	0	11.0	55.4	4,999
Dyna-Gro	M60GB31	60	40	7	0	10.5	54.2	4,950
Texas A&M AgriLife Research	ATx378xRTx430	60	49	7	0	10.3	53.5	4,930
Gayland Ward	EXP 9127	59	48	8	0	10.6	55.3	4,930
Texas A&M AgriLife Research	ATx399xRTx430	58	47	8	0	10.2	52.3	4,795



Monte Alto (Full Irrigated) 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences

Brand	Hybrid		Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Agronomic inf	formation	Mean	63	48	7	0.4	10.8	54.9	5,859
Plant Date	2/22/2018	C.V. %		4.6	15.4	123.7	1.3	1.3	9.3
Harvest Date	6/29/2018	P>f (hybrid) L.S.D.		0.000 3.1	0.000		0.000	0.000	0.000 768.8
Irrigated	Yes		Trial No	ntes					
Row Spacing (in)	30		11101111			Cooperate	or: Rio Farms		
Number of Rows	2	II						brid are planted	
Seeds per Acre	80,000						_	1odel : yield = hy ical analysis. LSD	
N (lb/ac)								o < 0.05. Yields high	_
P2O5 (lb/ac)						hybrid. Plots	were planted u	using Almaco met ts were harvested	ter units on a
K2O (lb/ac)		II				3300 plot co	mbine fitted wi	ith a Harvest Mas	ster
Precipitation (in)	8.79	II				_	ystem. Precipita rough the harve	ation data was re est date.	corded from
Irrigation (in)							al information of chnell / Katrina		
Herbicide		Soil Type V	Villacy Fine Sa	ndy Loam		ronschnell@	tamu.edu / kho 35 / 979-845-85	orn@tamu.edu	
		Tillage	<u> </u>			979-645-293	03 373-043-03	03	
		Previous Crop	Grain Sorghum						
		Trevious crop	Ji aiii Sorgiiuiii						

Monte Alto (Full Irrigated) Grain Sorghum Multi-Year Summary



Company	Brand	Hybrid	2 yr AVG Yield (lbs/acre)	3 yr AVG Yield (lbs/acre)
Terral Seed, Inc.	REV	9924	6,724	6,077
Crop Production Services	Dyna-Gro	M74GB17	6,570	
Crop Production Services	Dyna-Gro	M73GR55	6,249	
Terral Seed, Inc.	REV	9782	6,185	5,139
Terral Seed, Inc.	REV	9562	6,023	5,183
Crop Production Services	Dyna-Gro	GX16833	5,920	
Chromatin Inc.	Sorghum Partners	SP73B12	5,846	
B-H Genetics	B-H Genetics	4100	5,690	
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx378xRTx430	5,619	4,835
Crop Production Services	Dyna-Gro	M60GB31	5,289	
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx399xRTx430	5,080	4,790
Gayland Ward Seed	Gayland Ward	1160	4,412	
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx399xRTx430	5,080	4,790

Evaluation of yield across years and/or locations will provide the best indication of consistent hybrid performance. Only hybrids with two years data at each location are displayed.



Monte Alto (Limited Irrigated) 2018 Grain Sorghum Performance Trial



Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Pioneer	83P27	62	50	5	0	11.0	55.5	7,597
Gayland Ward	EXP 9134	66	57	8	0	11.3	56.9	7,020
Dyna-Gro	GX17948	64	48	6	0	12.2	58.1	6,997
REV	9924	66	49	4	0	11.5	55.6	6,887
Gayland Ward	EXP 9098	68	52	6	0	11.3	54.8	6,852
Pioneer	83P73	68	49	5	0	11.9	54.2	6,610
Dyna-Gro	GX17227	67	49	5	0	12.0	58.0	6,589
Dyna-Gro	M69GB38	64	52	9	0	12.1	57.1	6,549
Golden Acres	2840B	61	49	6	0	11.9	57.7	6,479
Dyna-Gro	M74GB17	69	49	6	0	12.2	56.6	6,442
Anzu Genetica	AG 4668	66	48	5	0	11.1	52.4	6,415
REV	9782	62	46	6	0	11.8	57.2	6,411
Sorghum Partners	SP73B12	65	46	6	0	12.5	57.0	6,288
Dyna-Gro	GX16833	63	49	5	0	11.3	56.0	6,264
Gold Source	GS7016	65	54	6	1	11.5	55.6	6,242
Dyna-Gro	GX17379	65	47	5	0	12.3	55.7	6,237
Golden Acres	3020B	64	48	6	0	11.0	55.3	6,183
Integra	G3701	64	50	5	0	11.8	56.5	6,164
Dyna-Gro	M73GR55	67	50	5	0	11.7	56.9	6,108
TAMU x KSU	17USCP97	67	49	5	0	12.1	56.7	6,092
Anzu Genetica	AG 4460	65	45	7	0	11.9	57.5	6,049



Monte Alto (Limited Irrigated) 2018 Grain Sorghum Performance Trial



Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Texas A&M AgriLife Research	ATx2928xRTx436	64	47	4	0	11.0	53.0	6,037
Dyna-Gro	GX17962	64	47	6	0	11.6	54.7	5,902
Gold Source	GS7215	64	51	6	0	11.5	55.8	5,902
Texas A&M AgriLife Research	ATx645xRTx2783	67	52	6	0	12.1	55.7	5,895
Gayland Ward	EXP 9097	70	53	6	0	11.0	55.4	5,849
KSU x TAMU	17USCP107	63	48	8	3	11.7	55.4	5,803
Anzu Genetica	AG 4664	65	47	5	0	10.8	53.5	5,774
Pioneer	83P56	64	48	6	0	11.5	54.5	5,699
Gold Source	GS7117	70	47	5	0	11.5	52.4	5,615
Gayland Ward	EXP 9135	64	48	6	0	11.1	53.7	5,542
Gold Source	GS6717	62	47	6	0	10.8	53.8	5,489
TAMU x KSU	17USCP100	62	52	5	0	11.1	54.8	5,487
Gayland Ward	1160	63	47	8	0	11.8	56.1	5,468
Dyna-Gro	M60GB31	62	42	6	0	10.7	55.1	5,275
B-H Genetics	4100	63	44	6	0	11.0	54.6	5,268
REV	9562	62	44	6	0	11.1	55.0	5,182
Integra	G3630	62	43	6	0	10.9	54.3	5,136
Integra	G3670	61	42	7	0	11.4	53.7	5,120
Golden Acres	3960B	63	44	5	0	11.3	53.4	5,104
Gayland Ward	EXP 9127	63	48	8	1	11.9	54.9	4,988
Texas A&M AgriLife Research	ATx378xRTx430	61	51	6	5	11.5	53.5	4,873



Monte Alto (Limited Irrigated) 2018 Grain Sorghum Performance Trial



Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Texas A&M AgriLife Research	ATx399xRTx430	58	45	8	1	10.7	52.6	4,689



Monte Alto (Limited Irrigated) 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences

Brand	Hybrid		Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Agronomic info	ormation	Mean	64	48	6	0.2	11.5	55.3	5,967
Plant Date	2/22/2018	C.V. %		0.000	0.000	523.5	4.8 0.000	0.000	0.000
Harvest Date	7/2/2018	P>f (hybrid) L.S.D.		2.6	1.5		0.8	1.4	842.1
Irrigated	Yes		Trial No	otes					
Row Spacing (in)	30					Cooperato	or: Rio Farms		
Number of Rows	2	II						brid are planted	
Seeds per Acre	55,000					SAS 9.4 was	used for statist	/lodel : yield = hy ical analysis. LSD	provided
N (lb/ac)								o < 0.05. Yields hig different from the	
P2O5 (lb/ac)						hybrid. Plots	were planted	using Almaco me ts were harvested	ter units on a
K2O (lb/ac)						3300 plot co	mbine fitted w	ith a Harvest Mas ation data was re	ster
Precipitation (in)	8.79	II				January 1 th	rough the harv	est date.	coraca from
Irrigation (in)						Dr. Ronnie S	al information chnell / Katrina	a Horn	
Herbicide		Soil Type V	Villacy Fine Sa	ndy Loam			tamu.edu / kho 35 / 979-845-85	orn@tamu.edu	
		Tillage					, 3.73 3.13 63		
		Previous Crop	Grain Sorghum						

Monte Alto (Limited Irrigated) Grain Sorghum Multi-Year Summary



Company	Brand	Hybrid	2 yr AVG Yield (lbs/acre)	3 yr AVG Yield (Ibs/acre)
Terral Seed, Inc.	REV	9924	7,224	6,010
Crop Production Services	Dyna-Gro	GX16833	6,451	
Terral Seed, Inc.	REV	9782	6,342	4,766
Crop Production Services	Dyna-Gro	M74GB17	6,270	
Chromatin Inc.	Sorghum Partners	SP73B12	6,164	
Wilbur-Ellis Company	Integra	G3701	6,092	5,316
Crop Production Services	Dyna-Gro	M73GR55	6,055	
Wilbur-Ellis Company	Integra	G3630	5,978	5,883
Wilbur-Ellis Company	Integra	G3670	5,708	5,008
Crop Production Services	Dyna-Gro	M60GB31	5,696	
B-H Genetics	B-H Genetics	4100	5,660	
Golden Acres	Golden Acres	3960B	5,480	
Terral Seed, Inc.	REV	9562	5,407	4,565
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx378xRTx430	5,321	4,103
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx399xRTx430	5,151	4,488
Gayland Ward Seed	Gayland Ward	1160	4,226	

Evaluation of yield across years and/or locations will provide the best indication of consistent hybrid performance. Only hybrids with two years data at each location are displayed.



Gregory 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences

Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Pioneer	83P56	65	49	3	0	11.8	58.5	4,571
Pioneer	83P27	62	47	5	8	12.4	58.6	4,343
Alta Seeds	AG1203	65	43	3	10	11.7	58.9	4,250
Dyna-Gro	GX17962	66	45	5	5	11.5	59.2	3,954
Sorghum Partners	SP73B12	67	46	5	0	12.5	58.1	3,931
B-H Genetics	4100	65	44	4	8	11.8	57.2	3,925
DEKALB	DKS 45-23	66	47	2	8	11.8	60.1	3,741
Alta Seeds	ADV G2275	66	49	6	11	12.9	59.9	3,529
Dyna-Gro	GX17379	67	46	2	14	12.2	58.6	3,461
Dyna-Gro	M60GB31	64	44	3	16	11.6	57.3	3,454
Integra	G3630	64	43	3	20	11.6	55.7	3,324
DEKALB	DKS 53-53	67	44	4	10	12.0	56.5	3,315
USDA Lubbock	A.10004/R.LBK2	66	47	4	9	11.2	57.3	3,278
Gayland Ward	1160	64	48	8	10	13.1	56.2	3,130
Dyna-Gro	GX17227	67	48	3	15	12.9	59.0	3,073
Dyna-Gro	M69GB38	66	48	6	23	12.7	58.5	3,038
DEKALB	DKS 37-07	63	46	6	10	12.7	59.0	3,002
DEKALB	DKS 51-01	67	49	4	15	11.5	57.1	2,974
Pioneer	83P73	65	46	5	34	11.7	57.6	2,795
Gold Source	GS7117	69	44	4	25	11.9	58.2	2,650
Dyna-Gro	GX17948	66	46	4	31	11.9	56.7	2,458



Gregory 2018 Grain Sorghum Performance Trial



Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Dyna-Gro	M74GB17	67	49	3	28	12.6	56.5	2,332
TAMU x KSU	17USCP100	65	47	2	18	11.7	53.8	2,266
TAMU x KSU	17USCP97	69	49	3	26	12.3	56.9	2,161
Alta Seeds	ADV G3247	69	46	5	30	12.9	49.9	2,128
Dyna-Gro	M73GR55	67	48	4	35	11.8	56.7	2,058
USDA Lubbock	A.OK11/R.LBK2	61	47	4	48	12.0	58.6	1,986
Texas A&M AgriLife Research	ATx645xRTx2783	67	50	3	29	12.8	58.5	1,979
KSU x TAMU	17USCP107	62	47	7	41	12.9	57.3	1,855
Integra	G3701	67	47	3	36	11.8	55.8	1,754
REV	9924	63	49	4	59	11.1	57.1	1,362
Gold Source	GS6717	64	45	6	58	10.5	54.1	1,292
Integra	G3670	64	48	5	68	10.5	52.5	1,231
DEKALB	DKS 38-16	65	48	5	76	10.5	59.4	1,201
Gold Source	GS7016	66	48	5	43	11.1		1,000
Texas A&M AgriLife Research	ATx2928xRTx436	63	47	6	81	10.9		805
Texas A&M AgriLife Research	ATx399xRTx430	61	44	7	74	10.6		733
Dyna-Gro	GX16833	66	48	5	79	11.7		721
REV	9782	64	45	5	75	11.1		690
REV	9562	64	47	4	85	10.6		678
USDA Lubbock	A.TX2752/R.LBK2	62	48	4	91	11.2		572
Gold Source	GS7215	66	52	6	68	11.9		451



Gregory 2018 Grain Sorghum Performance Trial



Departmen	t of Soil	and Crop	Sciences
-----------	-----------	----------	----------

Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Texas A&M AgriLife Research	ATx378xRTx430	62	51	5	90	8.7		333



Gregory 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences

Brand	Hybrid		Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Agronomic inf	ormation	Mean		47	4	35.2	11.7	57.2	2,367
Plant Date	3/12/2018	C.V. % P>f (hybrid)		0.000	40.5	60.6	0.003	0.003	0.000
Harvest Date	7/25/2018	L.S.D.		2.9			1.8	4.6	947.7
Irrigated	No		Trial No	otes					
Row Spacing (in)	30	2.35" of rain fell	from planting	through June 1	L6. Following	Cooperate	or: Joel Hoskii	nson	
Number of Rows	2	this period, 6" of		-				brid are planted	
Seeds per Acre	60,000	contributed to se greater variation		•		SAS 9.4 was	used for statist	/lodel : yield = hy ical analysis. LSD	provided
N (lb/ac)	100	high CV.						o < 0.05. Yields hig different from the	
P2O5 (lb/ac)	20					hybrid. Plots	were planted	using Almaco me ts were harvested	ter units on a
K2O (lb/ac)	0					3300 plot co	mbine fitted w	ith a Harvest Mas ation data was re	ster
Precipitation (in)	12.02	II				January 1 th	rough the harv	est date.	corded from
Irrigation (in)							al information chnell / Katrina		
Herbicide		Soil Type	/ictoria Clay				tamu.edu / kho 35 / 979-845-85	orn@tamu.edu	
1.75lb/ac Atrex		Tillage	Chiseled, field o	cultivated 4 tin	nes	373 043-233	55 / 57 5 6-5-65	,,,,	
		Previous Crop (Cotton						

Gregory Grain Sorghum Multi-Year Summary



Company	Brand	Hybrid	2 yr AVG Yield (lbs/acre)	3 yr AVG Yield (Ibs/acre)
Advanta Seeds	Alta Seeds	AG1203	4,299	3,877
Monsanto	DEKALB	DKS 45-23	4,239	3,961
Monsanto	DEKALB	DKS 53-53	4,236	
B-H Genetics	B-H Genetics	4100	4,235	
Wilbur-Ellis Company	Integra	G3630	4,144	3,839
Monsanto	DEKALB	DKS 51-01	4,083	4,176
Crop Production Services	Dyna-Gro	M60GB31	4,038	
Chromatin Inc.	Sorghum Partners	SP73B12	3,846	
Monsanto	DEKALB	DKS 37-07	3,703	
Crop Production Services	Dyna-Gro	M73GR55	3,276	
Crop Production Services	Dyna-Gro	M74GB17	3,181	
Wilbur-Ellis Company	Integra	G3701	3,078	3,223
Terral Seed, Inc.	REV	9924	3,055	3,379
Monsanto	DEKALB	DKS 38-16	2,941	3,218
Crop Production Services	Dyna-Gro	GX16833	2,891	
Wilbur-Ellis Company	Integra	G3670	2,889	3,183
Terral Seed, Inc.	REV	9562	2,641	2,929
Terral Seed, Inc.	REV	9782	2,447	2,860
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx378xRTx430	2,245	2,826
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx399xRTx430	2,058	2,494

Evaluation of yield across years and/or locations will provide the best indication of consistent hybrid performance. Only hybrids with two years data at each location are displayed.





Department of Soil and Crop Sciences

Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
DEKALB	DKS 53-53	71	46	4	0	11.9	59.4	8,240
DEKALB	DKS 51-01	71	51	7	0	12.0	58.9	7,619
DEKALB	DKS 38-16	70	49	4	0	12.0	59.1	7,604
Pioneer	83P27	69	49	5	0	12.5	57.7	7,470
Dyna-Gro	M69GB38	71	54	7	0	12.6	59.3	7,416
Gold Source	GS7016	71	52	4	0	12.8	57.3	7,352
Pioneer	83P73	71	49	4	0	12.9	57.2	7,334
Dyna-Gro	GX17962	71	46	3	0	11.5	57.9	7,177
Dyna-Gro	GX17948	71	48	4	0	12.3	59.1	7,111
REV	9924	71	48	4	0	11.8	57.5	7,085
Golden Acres	2840B	68	50	5	0	12.2	59.5	7,010
Dyna-Gro	GX17227	71	49	3	0	13.7	58.3	6,993
DEKALB	DKS 45-23	71	48	4	0	12.1	59.1	6,968
Gayland Ward	EXP 9134	68	53	6	0	12.4	58.1	6,920
Pioneer	83P56	71	49	5	0	12.2	57.4	6,878
REV	9782	68	45	4	0	11.6	58.5	6,872
Pioneer	84P72	71	45	3	0	12.2	58.3	6,855
Dyna-Gro	M74GB17	72	48	5	0	13.0	57.1	6,771
Dyna-Gro	M73GR55	71	49	5	0	14.0	56.7	6,769
Alta Seeds	ADV G2275	71	45	6	0	12.8	59.0	6,709
Gold Source	GS7215	71	49	4	0	13.2	57.4	6,683





Department	01 2011	and Ci	ob 2	ciences

Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Texas A&M AgriLife Research	ATx645xRTx2783	71	52	4	0	13.4	57.6	6,611
Integra	G3670	69	45	5	0	12.2	56.1	6,549
Integra	G3701	71	49	4	0	12.2	60.0	6,545
Alta Seeds	ADV G3247	71	47	5	0	12.4	55.9	6,535
Gold Source	GS6717	70	45	4	0	12.6	56.3	6,520
Golden Acres	3020B	71	47	4	0	12.1	57.4	6,495
Integra	G3630	70	42	3	0	12.1	57.0	6,490
DEKALB	DKS 37-07	68	46	5	0	11.8	58.0	6,482
REV	9562	69	46	6	0	11.8	57.7	6,464
B-H Genetics	4100	70	44	3	0	12.1	56.8	6,439
Dyna-Gro	M60GB31	70	44	5	0	11.9	56.6	6,407
Alta Seeds	AG1203	71	43	4	0	11.9	58.3	6,396
Dyna-Gro	GX16833	71	50	5	0	12.4	59.7	6,385
Gayland Ward	EXP 9098	71	49	5	0	12.0	57.0	6,364
Gayland Ward	EXP 9138	71	55	10	0	12.5	56.7	6,336
Golden Acres	3960B	70	43	4	0	11.8	56.7	6,268
Texas A&M AgriLife Research	ATx2928xRTx436	70	48	4	0	12.0	54.3	6,263
Dyna-Gro	GX17379	71	46	3	0	12.5	58.0	6,193
Gayland Ward	1160	70	47	7	0	12.7	56.7	6,144
Texas A&M AgriLife Research	ATx378xRTx430	69	49	4	0	11.8	55.6	6,139
Gold Source	GS7117	72	44	6	0	12.5	57.6	5,997





Department of Soil and Crop Sciences

Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Sorghum Partners	SP73B12	72	42	6	0	12.4	57.6	5,981
Gayland Ward	EXP 9135	71	46	6	0	11.6	56.2	5,974
Texas A&M AgriLife Research	ATx399xRTx430	69	42	4	0	11.2	53.6	5,866
Gayland Ward	EXP 9097	71	49	6	0	12.2	57.2	5,749
USDA Lubbock	A.10004/R.LBK2	71	46	3	0	13.0	55.3	5,558
USDA Lubbock	A.OK11/R.LBK2	69	44	3	0	11.6	54.2	5,478
USDA Lubbock	A.TX2752/R.LBK2	68	43	4	0	11.8	56.7	5,215
Gayland Ward	EXP 9139	70	43	7	0	11.7	57.0	5,192





Department of Soil and Crop Sciences

Agronomic information Plant Date 3/1/2018 Harvest Date 7/20/2018 Irrigated No Row Spacing (in) 30 Number of Rows 2 Seeds per Acre 60,000 N (Ib/ac) 75	Mean 70 C.V. % 1.3	47			(%)	(lbs/bu)	(lbs/acre)
Harvest Date 7/20/2018 Irrigated No Row Spacing (in) 30 Number of Rows 2 Seeds per Acre 60,000	CV % 12	47	5	0.0	12.3	57.4	6,577
Harvest Date 7/20/2018 Irrigated No Row Spacing (in) 30 Number of Rows 2 Seeds per Acre 60,000		4.0	26.7		3.8	1.9	6.9
Irrigated No Row Spacing (in) 30 Number of Rows 2 Seeds per Acre 60,000	P>f (hybrid) 0.000 L.S.D. 1.3	0.000	0.000		0.000	0.000	0.000 635.3
Row Spacing (in) 30 Number of Rows 2 Seeds per Acre 60,000					. L		
Number of Rows 2 Seeds per Acre 60,000	Tria	l Notes					
Seeds per Acre 60,000	b lb/ac Sulfur applied	olied Cooperator: McNair Farms					
						brid are planted	
N (lb/ac) 75				SAS 9.4 was	used for statisti	1odel : yield = hy ical analysis. LSD	provided
						ง < 0.05. Yields hiย different from the	
P2O5 (lb/ac) 15						using Almaco met ts were harvested	
K2O (lb/ac)				3300 plot co	mbine fitted wi	ith a Harvest Mas	ter
Precipitation (in) 8.78					ystem. Precipita rough the harve	ation data was re est date.	corded from
Irrigation (in)					al information o chnell / Katrina		
	il Type Victoria Cla			ronschnell@	tamu.edu / kho	orn@tamu.edu	
	lage	У		979-845-293	85 / 979-845-85	05	
Pro	evious Crop Cotton						

Driscoll Grain Sorghum Multi-Year Summary



Company	Brand	Hybrid	2 yr AVG Yield (lbs/acre)	3 yr AVG Yield (lbs/acre)
Terral Seed, Inc.	REV	9924	7,118	
Monsanto	DEKALB	DKS 53-53	7,080	
Monsanto	DEKALB	DKS 38-16	6,924	
Monsanto	DEKALB	DKS 45-23	6,787	
Golden Acres	Golden Acres	3960B	6,731	
Monsanto	DEKALB	DKS 51-01	6,709	
Terral Seed, Inc.	REV	9562	6,608	
Advanta Seeds	Alta Seeds	AG1203	6,548	
Crop Production Services	Dyna-Gro	GX16833	6,457	
B-H Genetics	B-H Genetics	4100	6,447	
Crop Production Services	Dyna-Gro	M73GR55	6,311	
Crop Production Services	Dyna-Gro	M60GB31	6,219	
Terral Seed, Inc.	REV	9782	6,194	
Crop Production Services	Dyna-Gro	M74GB17	5,975	
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx378xRTx430	5,843	
Chromatin Inc.	Sorghum Partners	SP73B12	5,836	
Monsanto	DEKALB	DKS 37-07	5,461	
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx399xRTx430	4,890	

Evaluation of yield across years and/or locations will provide the best indication of consistent hybrid performance. Only hybrids with two years data at each location are displayed.



Damon 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences

Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
REV	9924	69	61	4	0	13.7		8,238
Dyna-Gro	M69GB38	69	60	8	0	12.9		7,818
REV	9782	68	57	5	0	13.6		7,658
Dyna-Gro	GX16833	71	60	5	4	13.0		7,631
DEKALB	DKS 53-53	71	60	6	0	13.8		7,612
Dyna-Gro	GX17227	73	61	6	0	14.4		7,566
DEKALB	DKS 51-01	70	61	8	0	14.8		7,563
Integra	G3701	72	60	3	0	14.0		7,526
REV	9562	69	57	6	0	12.1		7,319
DEKALB	DKS 38-16	69	55	5	0	13.4		7,238
Dyna-Gro	GX17962	69	53	3	0	14.1		7,115
Alta Seeds	ADV G3247	69	57	6	0	11.6		7,000
Golden Acres	3020B	69	54	5	0	13.4		6,903
Integra	G3670	70	55	4	0	13.0		6,860
Texas A&M AgriLife Research	ATx378xRTx430	67	64	7	0	13.0		6,860
Dyna-Gro	M73GR55	73	57	4	0	13.0		6,713
Dyna-Gro	GX17948	70	57	7	0	13.9		6,492
Texas A&M AgriLife Research	ATx645xRTx2783	69	59	7	0	13.8		6,412
Alta Seeds	ADV G2275	69	57	7	0	14.8		6,358
Texas A&M AgriLife Research	ATx399xRTx430	68	56	7	0	12.2		6,245
Dyna-Gro	M74GB17	71	57	4	0	14.8		6,136



KSU x TAMU

17USCP30

Damon 2018 Grain Sorghum Performance Trial



1,975

Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
TAMU x KSU	17USCP66	71	57	5	0	12.9		6,126
DEKALB	DKS 45-23	69	59	6	0	14.2		6,095
Golden Acres	2840B	65	55	5	5	16.1		6,067
Dyna-Gro	M60GB31	67	50	5	0	13.4		6,064
KSU x TAMU	17USCP16	68	59	8	0	11.8		6,051
B-H Genetics	4100	67	49	7	0	12.4		5,975
Golden Acres	3960B	67	50	7	0	13.8		5,911
Texas A&M AgriLife Research	ATx2928xRTx436	68	56	7	0	13.9		5,889
Alta Seeds	AG1203	68	51	5	0	13.4		5,850
Integra	G3630	68	51	7	0	13.2		5,758
Dyna-Gro	GX17379	71	55	4	0	12.8		5,333
Sorghum Partners	SP73B12	70	51	5	0	14.6		5,319
DEKALB	DKS 37-07	66	55	6	0	14.5		5,218

58

65

8

78

13.7

^{*}Yields highlighted in yellow are not significantly different (L.S.D., p=0.05) from the top ranked hybrid.



Damon 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences

Brand	Hybrid		Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)		
Agronomic info	ormation	Mean	69	56	6	2.5	13.5		6,483		
Plant Date	3/20/2018	C.V. % P>f (hybrid)		0.000	24.3	97.3	12.6 0.186		0.000		
Harvest Date	7/20/2018	L.S.D.		3.5					772.0		
Irrigated	No		Trial No	otes							
Row Spacing (in)	40	*6 oz/ac propical	nazole, 6 oz/ad	azoxystrobin,	4 oz/ac	Cooperator: Mikel Brothers					
Number of Rows	2	Sivanto sprayed 5	5/25/18	•		Four replications of each hybrid are planted in a					
Seeds per Acre	65,000	*Due to a mulfur			randomized block design. Model : yield = hybrid blk. SAS 9.4 was used for statistical analysis. LSD provided						
N (lb/ac)	134	weight data is no	weight data is not reported				when hybrid significant at p < 0.05. Yields highlighted in yellow are not statistically different from the top ranked				
P2O5 (lb/ac)	20							using Almaco me ts were harvested			
K2O (lb/ac)	92	II				3300 plot co	mbine fitted w	ith a Harvest Mas ation data was re	ster		
Precipitation (in)	28.13	II				January 1 th	rough the harv	est date.	corded from		
Irrigation (in)							al information chnell / Katrina				
Herbicide	4	Soil Type L	ake Charles Cl	ay			tamu.edu / kho 35 / 979-845-85	orn@tamu.edu 505			
1 oz/ac Sharpen + 22 oz/ac glyphosate applied 3 weeks prior to planting. 1 oz/ac Sharpen + 12 oz/ac Outlook applied @ planting.		Tillage	Conventional				,				
, 11111111111111111		Previous Crop									



College Station 2018 Grain Sorghum Performance Trial



Departmen	t of Soil	and Cro	p Sciences
-----------	-----------	---------	------------

Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Gold Source	GS7215	79	58	5	0	13.9	60.4	7,461
Gold Source	GS7117	81	49	8	0	14.4	60.0	7,343
REV	9562	76	49	6	0	13.1	59.8	7,261
Dyna-Gro	GX17962	77	47	5	0	13.4	59.1	7,129
Integra	G3701	80	54	5	0	13.7	61.4	6,864
NuTech	GS636	75	45	6	0	12.9	59.5	6,438
DEKALB	DKS 45-23	79	54	5	0	13.8	60.5	6,409
Dyna-Gro	M69GB38	79	52	9	0	13.9	60.3	6,373
Dyna-Gro	GX17948	78	49	5	0	14.0	60.2	6,354
NuTech	GS693	77	49	6	0	13.2	59.8	6,341
Texas A&M AgriLife Research	ATx378xRTx430	77	53	4	0	13.5	57.4	6,333
DEKALB	DKS 51-01	79	53	7	0	14.3	60.1	6,301
Dyna-Gro	M73GR55	85	57	4	0	13.8	59.8	6,277
Gold Source	GS7016	80	57	4	0	14.3	60.7	6,267
Dyna-Gro	M60GB31	75	44	4	0	13.3	59.7	6,257
Integra	G3630	75	46	4	0	13.8	58.9	6,126
Golden Acres	3020B	76	47	5	0	13.8	59.4	6,062
Dyna-Gro	M74GB17	80	54	5	0	14.3	60.2	6,019
Dyna-Gro	GX16833	81	51	4	0	14.0	60.8	5,950
DEKALB	DKS 38-16	75	49	4	0	13.7	60.7	5,927
Sorghum Partners	SP73B12	79	49	3	0	13.6	59.9	5,818



College Station 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences

Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
DEKALB	DKS 53-53	81	52	5	0	13.7	60.4	5,742
Gold Source	GS6717	78	49	7	0	13.3	60.2	5,735
Texas A&M AgriLife Research	ATx645xRTx2783	77	55	5	0	13.5	60.1	5,711
Integra	G3670	76	49	4	0	13.2	58.7	5,593
B-H Genetics	4100	76	46	5	0	13.5	59.9	5,552
REV	9924	82	56	4	0	13.1	60.0	5,471
Texas A&M AgriLife Research	ATx399xRTx430	76	47	5	0	12.7	56.3	5,441
NuTech	GS725	79	53	7	0	13.4	60.6	5,329
Golden Acres	3960B	76	46	5	0	13.8	59.7	5,299
Dyna-Gro	GX17379	82	52	5	0	13.7	59.0	5,265
REV	9782	76	49	4	0	13.5	59.9	5,205
NuTech	GS663	73	46	2	0	12.9	58.6	5,191
DEKALB	DKS 37-07	73	47	5	0	12.8	59.3	5,109
Golden Acres	2840B	71	50	5	0	13.0	59.9	5,060
Texas A&M AgriLife Research	ATx2928xRTx436	78	45	5	0	13.6	58.7	4,887
Dyna-Gro	GX17227	82	54	5	0	14.1	59.2	4,886

^{*}Yields highlighted in yellow are not significantly different (L.S.D., p=0.05) from the top ranked hybrid.



College Station 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences

Brand	Hybrid		Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)	
Agronomic info	ormation	Mean	78	50	5	0.0	13.6	59.7	5,967	
Plant Date	3/23/2018	C.V. %		4.7	32.4		3.7	0.7	11.3	
		P>f (hybrid)		0.000			0.000	0.000	0.000	
Harvest Date	8/10/2018	L.S.D.	1.5	3.3			0.7	0.7	992.4	
Irrigated	Yes		Trial No	otes						
Row Spacing (in)	30	*4 lb/ac zinc ban	ded at seed de	epth.		Cooperator: Texas A&M AgriLife Research			rch	
Number of Rows	2	*4 oz/ac Sivanto			ds.	Four replications of each hybrid are planted in a				
Seeds per Acre	80,000	*One irrigation a	pplied post flo	wering.		SAS 9.4 was	used for statist	/lodel : yield = hy ical analysis. LSD	provided	
N (lb/ac)	120							o < 0.05. Yields hig different from the		
P2O5 (lb/ac)	56					hybrid. Plots	were planted	using Almaco med ts were harvested	ter units on a	
K2O (lb/ac)	0	II						ith a Harvest Mas ation data was re		
Precipitation (in)	17.39	II				January 1 th	rough the harv	est date.	corded from	
Irrigation (in)						Dr. Ronnie S	al information chnell / Katrina	Horn		
Herbicide		Soil Type E	Belk clay			ronschnell@tamu.edu / khorn@tamu.edu 979-845-2935 / 979-845-8505				
1.66 pt/ac Dual 2 magnum + 3 pt/ac Atrazine applied 3/23		Tillage	Conventional -	disked and be	dded Oct '17	1	, 5.5 5.5 65			
		Previous Crop (Cotton							

College Station Grain Sorghum Multi-Year Summary



Company	Brand	Hybrid	2 yr AVG Yield (lbs/acre)	3 yr AVG Yield (lbs/acre)
Terral Seed, Inc.	REV	9562	7,249	6,748
Monsanto	DEKALB	DKS 51-01	7,229	7,082
NuTech Seed, LLC	NuTech	GS636	7,067	
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx378xRTx430	7,062	6,495
NuTech Seed, LLC	NuTech	GS693	7,057	6,724
Monsanto	DEKALB	DKS 45-23	7,023	
Crop Production Services	Dyna-Gro	M60GB31	7,009	
Monsanto	DEKALB	DKS 38-16	6,963	6,605
Crop Production Services	Dyna-Gro	M74GB17	6,773	
Crop Production Services	Dyna-Gro	GX16833	6,755	
Crop Production Services	Dyna-Gro	M73GR55	6,657	
NuTech Seed, LLC	NuTech	GS725	6,578	6,368
B-H Genetics	B-H Genetics	4100	6,551	
Terral Seed, Inc.	REV	9924	6,310	6,189
Chromatin Inc.	Sorghum Partners	SP73B12	6,277	
Monsanto	DEKALB	DKS 53-53	6,253	
Terral Seed, Inc.	REV	9782	6,114	6,098
NuTech Seed, LLC	NuTech	GS663	6,114	5,761
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx399xRTx430	6,080	6,134
Monsanto	DEKALB	DKS 37-07	5,866	

Evaluation of yield across years and/or locations will provide the best indication of consistent hybrid performance. Only hybrids with two years data at each location are displayed.



Department of Soil and Crop Sciences

Thrall 2018 Grain Sorghum Performance Trial



Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
REV	9782	84	38	2	35	12.2	52.9	3,894
Dyna-Gro	M60GB31	85	39	3	5	11.7	53.7	3,851
DEKALB	DKS 37-07	82	38	2	5	12.2	55.0	3,825
Alta Seeds	AG1203	85	39	2	5	11.6	52.6	3,801
Pioneer	84P72	85	40	2	30	12.1	53.2	3,780
Pioneer	83P27	85	41	2	15	11.5	52.7	3,618
Pioneer	84P68	86	39	1	13	12.4	55.0	3,551
Dyna-Gro	GX17962	85	38	3	0	12.4	54.4	3,528
Golden Acres	3960B	84	39	4	8	12.5	53.8	3,479
Integra	G3630	84	40	3	15	11.9	53.3	3,402
Alta Seeds	ADV G2275	86	37	5	5	12.5	53.7	3,349
Dyna-Gro	GX17948	86	40	3	8	12.2	53.6	3,329
Texas A&M AgriLife Research	ATx2928xRTx436	85	40	3	13	11.7	52.9	3,298
NuTech	GS663	82	39	1	10	12.4	53.6	3,258
Dyna-Gro	M69GB38	88	41	5	13	12.3	52.8	3,233
DEKALB	DKS 38-16	85	38	2	30	12.7	55.5	3,217
B-H Genetics	4100	84	41	3	10	12.0	52.5	3,217
REV	9924	89	42	3	5	12.8	53.5	3,181
Texas A&M AgriLife Research	ATx399xRTx430	84	36	2	26	11.6	51.4	3,173
Golden Acres	3020B	85	38	4	8	12.7	54.0	3,145
NuTech	GS693	84	41	4	20	13.2	54.5	3,112



Thrall 2018 Grain Sorghum Performance Trial



Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
NuTech	GS636	85	38	4	8	12.4	52.4	3,067
DEKALB	DKS 45-23	86	42	2	8	12.1	53.9	3,048
Integra	G3670	85	38	3	33	12.2	54.0	3,012
Golden Acres	2840B	81	45	3	20	12.6	53.8	2,986
Sorghum Partners	SP73B12	88	42	3	5	12.6	53.1	2,898
REV	9562	86	39	2	35	11.9	52.2	2,881
DEKALB	DKS 53-53	88	41	2	15	12.3	54.2	2,813
Dyna-Gro	GX17379	90	39	2	20	12.4	53.3	2,799
DEKALB	DKS 51-01	87	42	4	20	12.1	53.3	2,687
Dyna-Gro	M74GB17	87	42	3	15	11.7	52.5	2,678
Pioneer	83P73	92	41	1	5	12.3	52.2	2,579
Gold Source	GS7117	87	36	3	35	12.0	52.2	2,493
NuTech	GS725	85	39	6	35	12.6	52.7	2,312
Gold Source	GS6717	85	40	4	50	12.9	53.6	2,267
Dyna-Gro	GX17227	92	40	3	3	12.0	52.6	2,231
Alta Seeds	ADV G3247	89	39	5	44	12.2	52.7	2,080
Texas A&M AgriLife Research	ATx378xRTx430	85	42	5	66	11.3	53.0	1,954
Gold Source	GS7215	87	41	2	59	12.8	52.7	1,872
Dyna-Gro	M73GR55	92	43	2	8	12.4	53.4	1,850
Dyna-Gro	GX16833	93	35	2	33	12.1	51.7	1,799
Texas A&M AgriLife Research	ATx645xRTx2783	87	43	3	49	12.2	53.3	1,794



Department of Soil and Crop Sciences

Thrall 2018 Grain Sorghum Performance Trial



Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Integra	G3701	89	40	2	25	12.9	52.1	1,793
Gold Source	GS7016	89	43	3	34	12.3	51.1	1,689



Thrall 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences

Brand	Hybrid		Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)	
Agronomic inf	ormation	Mean	86	40	3	20.4	12.2	53.2	2,905	
Plant Date	3/15/2018	C.V. % P>f (hybrid)	0.000	0.038	41.8	66.2	5.6 0.089	2.6 0.020	0.000	
Harvest Date	8/23/2018	L.S.D.	2.0	4.8			0.089	2.2	868.1	
Irrigated	No		Trial No	ntes						
Row Spacing (in)	30	Below average ra			tical growth	Cooperator: Stiles Farm Foundation				
Number of Rows	2	stages resulted in		•	rical Browth	Four replications of each hybrid are planted in a				
Seeds per Acre	65,000						_	/lodel : yield = hy ical analysis. LSD		
N (lb/ac)								o < 0.05. Yields hig different from the		
P2O5 (lb/ac)						hybrid. Plots	s were planted	using Almaco me ts were harvested	ter units on a	
K2O (lb/ac)		II				3300 plot co	ombine fitted w	ith a Harvest Mas	ster	
Precipitation (in)	12.7					January 1 th	rough the harv		corded from	
Irrigation (in)							al information of the comment of the			
Herbicide		Soil Type B	urleson Clay) tamu.edu / kho 35 / 979-845-85			
		Tillage	-			373 043 233	J3 37 J	.03		
		ll l								
		Previous Crop C	orn							
		r revious crop C	UIII			l				

Thrall Grain Sorghum Multi-Year Summary



Company	Brand	Hybrid	2 yr AVG Yield (lbs/acre)	3 yr AVG Yield (lbs/acre)
Terral Seed, Inc.	REV	9924	4,233	4,846
NuTech Seed, LLC	NuTech	GS663	4,201	4,508
Crop Production Services	Dyna-Gro	M60GB31	4,119	
Advanta Seeds	Alta Seeds	AG1203	4,070	4,366
Wilbur-Ellis Company	Integra	G3630	4,055	4,267
Monsanto	DEKALB	DKS 45-23	4,043	4,380
Golden Acres	Golden Acres	3960B	3,993	4,304
Wilbur-Ellis Company	Integra	G3670	3,950	4,561
Monsanto	DEKALB	DKS 51-01	3,947	4,532
Monsanto	DEKALB	DKS 38-16	3,900	4,444
B-H Genetics	B-H Genetics	4100	3,886	
Monsanto	DEKALB	DKS 53-53	3,863	
NuTech Seed, LLC	NuTech	GS693	3,857	4,133
Chromatin Inc.	Sorghum Partners	SP73B12	3,741	
Monsanto	DEKALB	DKS 37-07	3,665	
NuTech Seed, LLC	NuTech	GS636	3,653	
Terral Seed, Inc.	REV	9782	3,520	3,768
NuTech Seed, LLC	NuTech	GS725	3,316	3,789
Terral Seed, Inc.	REV	9562	3,260	3,841
Crop Production Services	Dyna-Gro	M74GB17	3,140	
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx399xRTx430	3,105	3,747
Crop Production Services	Dyna-Gro	GX16833	2,996	
Crop Production Services	Dyna-Gro	M73GR55	2,961	
Wilbur-Ellis Company	Integra	G3701	2,730	3,618
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx378xRTx430	2,588	3,338

Evaluation of yield across years and/or locations will provide the best indication of consistent hybrid performance. Only hybrids with two years data at each location are displayed.



Hubbard 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences	

Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
REV	9924	85	46	2	0	11.8	56.7	4,123
Dyna-Gro	GX17962	83	42	3	0	11.7	56.6	4,041
Dyna-Gro	M69GB38	84	43	3	0	11.2	56.4	4,035
Dyna-Gro	GX17379	86	43	2	0	11.2	55.8	3,862
REV	9562	85	44	3	0	11.7	56.6	3,845
B-H Genetics	4100	83	42	3	0	12.3	57.3	3,815
Dyna-Gro	GX16833	86	45	1	0	11.6	57.3	3,807
DEKALB	DKS 51-01	85	45	5	0	11.2	56.0	3,773
Alta Seeds	ADV G2275	83	44	5	0	11.9	58.2	3,762
NuTech	GS663	81	40	2	0	11.4	56.7	3,734
DEKALB	DKS 37-07	81	42	2	0	11.9	58.2	3,679
NuTech	GS636	83	43	3	0	12.3	57.3	3,647
Alta Seeds	AG1203	84	43	2	0	11.5	57.8	3,601
DEKALB	DKS 38-16	82	41	2	0	11.6	57.8	3,597
NuTech	GS693	84	45	3	0	11.8	55.1	3,595
Dyna-Gro	M60GB31	83	41	3	0	11.7	58.5	3,554
Gold Source	GS6717	84	42	1	0	11.7	57.6	3,527
Gold Source	GS7215	86	47	2	0	11.6	56.1	3,526
Integra	G3701	87	46	2	0	11.6	57.0	3,511
Integra	G3630	83	41	2	0	11.6	57.0	3,499
Gold Source	GS7117	86	40	3	0	11.8	57.7	3,417



Department of Soil and Crop Sciences

Hubbard 2018 Grain Sorghum Performance Trial



Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
DEKALB	DKS 45-23	85	46	2	0	11.7	56.5	3,412
Texas A&M AgriLife Research	ATx2928xRTx436	85	40	2	0	11.5	54.9	3,340
Texas A&M AgriLife Research	ATx645xRTx2783	84	45	4	0	12.0	57.9	3,332
Alta Seeds	ADV G3247	87	40	2	0	11.7	56.2	3,249
DEKALB	DKS 53-53	85	44	1	0	11.6	57.5	3,242
Dyna-Gro	GX17948	84	45	2	0	11.5	56.7	3,179
Dyna-Gro	M73GR55	90	47	4	0	11.4	55.1	3,175
Integra	G3670	84	40	2	0	11.3	56.2	3,086
NuTech	GS725	83	47	4	0	11.1	55.4	3,046
Gold Source	GS7016	88	45	2	0	11.5	56.4	3,040
Sorghum Partners	SP73B12	84	39	2	0	12.3	56.9	2,992
Dyna-Gro	GX17227	89	45	2	0	11.4	57.3	2,966
REV	9782	82	39	2	0	11.5	55.2	2,928
Dyna-Gro	M74GB17	85	42	4	0	11.7	56.8	2,927
Texas A&M AgriLife Research	ATx378xRTx430	83	46	2	0	11.5	56.1	2,853
Texas A&M AgriLife Research	ATx399xRTx430	83	39	2	0	11.4	55.0	2,846

^{*}Yields highlighted in yellow are not significantly different (L.S.D., p=0.05) from the top ranked hybrid.



Hubbard 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences

Brand	Hybrid		Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Agronomic inf	ormation	Mean	84	43	2	0.0	11.6	56.7	3,448
Plant Date	3/22/2018	C.V. %		5.8 0.000	39.7		3.9 0.040	3.0 0.156	13.0 0.000
Harvest Date	8/7/2018	P>f (hybrid) L.S.D.		3.5			0.040	0.156	632.5
Irrigated	No		Trial No	otos					
Row Spacing (in)	30	*From May 21 (p			st 1 25" of	Cooperate	or: Brian Mad	dox	
Number of Rows	2	precipitiation fell	. This led to se	•				brid are planted	
Seeds per Acre	65,000	lower than norms	ai yieius.					1odel : yield = hy ical analysis. LSD	
N (lb/ac)	111							o < 0.05. Yields hig different from the	
P2O5 (lb/ac)	29							using Almaco met ts were harvested	
K2O (lb/ac)	38	II				3300 plot co	mbine fitted w	ith a Harvest Mas ation data was re	ster
Precipitation (in)	11.66	II				January 1 th	rough the harv	est date.	coraca mom
Irrigation (in)							al information o chnell / Katrina		
Herbicide		Soil Type F	erris-Heiden C	Complex			tamu.edu / kho 35 / 979-845-85	orn@tamu.edu 05	
1 qt/ac atrazine + 0.5 applied post plant	5 oz/ac Peak	Tillage				373 043 233	37 373 043 03		
		Previous Crop V	Vheat						

Hubbard Grain Sorghum Multi-Year Summary



Company	Brand	Hybrid	2 yr AVG Yield (lbs/acre)	3 yr AVG Yield (lbs/acre)
Monsanto	DEKALB	DKS 51-01	4,734	
B-H Genetics	B-H Genetics	4100	4,730	
Monsanto	DEKALB	DKS 38-16	4,720	
Terral Seed, Inc.	REV	9924	4,561	
NuTech Seed, LLC	NuTech	GS693	4,536	
Terral Seed, Inc.	REV	9562	4,522	
Wilbur-Ellis Company	Integra	G3701	4,453	
Crop Production Services	Dyna-Gro	M60GB31	4,349	
Crop Production Services	Dyna-Gro	GX16833	4,345	
Advanta Seeds	Alta Seeds	AG1203	4,329	
NuTech Seed, LLC	NuTech	GS636	4,322	
Monsanto	DEKALB	DKS 53-53	4,306	
Wilbur-Ellis Company	Integra	G3670	4,298	
Wilbur-Ellis Company	Integra	G3630	4,198	
Monsanto	DEKALB	DKS 37-07	4,189	
Monsanto	DEKALB	DKS 45-23	4,077	
Chromatin Inc.	Sorghum Partners	SP73B12	3,977	
NuTech Seed, LLC	NuTech	GS725	3,925	
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx378xRTx430	3,900	
NuTech Seed, LLC	NuTech	GS663	3,834	
Terral Seed, Inc.	REV	9782	3,736	
Crop Production Services	Dyna-Gro	M74GB17	3,650	
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx399xRTx430	3,438	
Crop Production Services	Dyna-Gro	M73GR55	3,274	

Evaluation of yield across years and/or locations will provide the best indication of consistent hybrid performance. Only hybrids with two years data at each location are displayed.



Greenville 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences

Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Dyna-Gro	GX17227	N/A	57	3	0	11.6	55.3	6,843
DEKALB	DKS 51-01	N/A	57	4	0	11.4	55.5	6,834
REV	9782	N/A	54	4	0	11.3	55.6	6,738
Dyna-Gro	GX17962	N/A	51	4	0	11.4	55.7	6,680
Golden Acres	2840B	N/A	52	5	0	11.5	55.3	6,669
NuTech	GS693	N/A	53	4	0	11.4	55.5	6,624
REV	9924	N/A	55	4	0	11.4	55.5	6,616
Golden Acres	3020B	N/A	50	3	0	11.5	55.3	6,593
Dyna-Gro	M69GB38	N/A	56	6	0	11.3	55.8	6,559
DEKALB	DKS 45-23	N/A	55	4	0	11.5	55.2	6,555
DEKALB	DKS 38-16	N/A	53	5	0	11.5	55.3	6,494
NuTech	GS663	N/A	51	2	0	11.4	55.2	6,426
REV	9562	N/A	53	4	0	11.5	55.3	6,322
Dyna-Gro	M74GB17	N/A	56	5	0	11.4	55.1	6,195
DEKALB	DKS 53-53	N/A	53	4	0	11.5	55.4	6,066
Dyna-Gro	M60GB31	N/A	51	5	0	11.6	55.3	6,061
Alta Seeds	ADV G3247	N/A	54	5	0	11.4	55.8	5,975
NuTech	GS636	N/A	52	4	0	11.5	55.3	5,973
Dyna-Gro	M73GR55	N/A	55	4	0	11.5	55.3	5,968
Sorghum Partners	SP73B12	N/A	51	2	0	11.6	55.3	5,968
Integra	G3670	N/A	51	3	0	11.5	55.2	5,952



Greenville 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences

Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Integra	G3630	N/A	51	4	0	11.5	55.6	5,940
Golden Acres	3960B	N/A	51	4	0	11.5	55.2	5,913
Dyna-Gro	GX16833	N/A	55	1	0	11.5	55.3	5,862
B-H Genetics	4100	N/A	52	5	0	11.4	55.5	5,852
Alta Seeds	ADV G2275	N/A	54	6	0	11.5	55.7	5,843
DEKALB	DKS 37-07	N/A	52	4	0	11.4	55.5	5,841
Integra	G3701	N/A	55	3	0	11.5	55.4	5,830
Dyna-Gro	GX17948	N/A	54	3	0	11.6	55.4	5,809
Dyna-Gro	GX17379	N/A	52	2	0	11.3	55.6	5,700
Alta Seeds	AG1203	N/A	52	4	0	11.5	55.3	5,637
Texas A&M AgriLife Research	ATx645xRTx2783	N/A	57	3	0	11.5	55.3	5,634
Texas A&M AgriLife Research	ATx2928xRTx436	N/A	53	4	0	11.5	55.2	5,460
NuTech	GS725	N/A	55	4	0	11.4	55.2	5,443
Texas A&M AgriLife Research	ATx378xRTx430	N/A	57	3	4	11.3	55.1	5,441
Texas A&M AgriLife Research	ATx399xRTx430	N/A	47	4	0	11.4	55.2	5,211

^{*}Yields highlighted in yellow are not significantly different (L.S.D., p=0.05) from the top ranked hybrid.



Greenville 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences

Brand	Hybrid		Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Agronomic inf	ormation	Mean		53	4	0.1	11.5	55.4	6,098
Plant Date	4/11/2018	C.V. %		2.9	29.2	400.0	1.6	0.5	5.7
Harvest Date	8/28/2018	P>f (hybrid) L.S.D.		0.000			0.518	0.084	0.000 491.3
Irrigated	No		Trial No	otes					
Row Spacing (in)	30					Cooperato	or: Texas A&N	/I AgriLife Resea	arch
Number of Rows	2	II				Four replicat	tions of each hy	brid are planted	in a
Seeds per Acre	65,000							/lodel : yield = hy ical analysis. LSD	
N (lb/ac)								0 < 0.05. Yields his	
P2O5 (lb/ac)						hybrid. Plots	were planted	using Almaco me ts were harvested	ter units on a
K2O (lb/ac)		II				3300 plot co	mbine fitted w	ith a Harvest Mas	ster
Precipitation (in)	27.19	II					ystem. Precipitarions rough the harve	ation data was re est date.	ecorded from
Irrigation (in)							al information of chnell / Katrina		
Herbicide		Soil Type C	lay				tamu.edu / kho 85 / 979-845-85	orn@tamu.edu	
		Tillage				373-643-233	55 / 575-645-65	03	
		Provious Crop							
		Previous Crop							

Greenville Grain Sorghum Multi-Year Summary



Company	Brand	Hybrid	2 yr AVG Yield (lbs/acre)	3 yr AVG Yield (lbs/acre)
Monsanto	DEKALB	DKS 51-01	7,503	6,814
Monsanto	DEKALB	DKS 38-16	7,247	6,680
NuTech Seed, LLC	NuTech	GS693	7,178	6,569
Crop Production Services	Dyna-Gro	M74GB17	7,065	
Monsanto	DEKALB	DKS 45-23	7,064	6,445
B-H Genetics	B-H Genetics	4100	6,941	
Crop Production Services	Dyna-Gro	GX16833	6,937	
Terral Seed, Inc.	REV	9782	6,883	6,247
Golden Acres	Golden Acres	3960B	6,873	6,120
Crop Production Services	Dyna-Gro	M60GB31	6,800	
Terral Seed, Inc.	REV	9562	6,785	6,264
Terral Seed, Inc.	REV	9924	6,700	6,141
NuTech Seed, LLC	NuTech	GS636	6,692	
Advanta Seeds	Alta Seeds	AG1203	6,686	5,936
Monsanto	DEKALB	DKS 37-07	6,630	
NuTech Seed, LLC	NuTech	GS663	6,526	5,969
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx378xRTx430	6,508	5,881
Monsanto	DEKALB	DKS 53-53	6,493	
Chromatin Inc.	Sorghum Partners	SP73B12	6,374	
NuTech Seed, LLC	NuTech	GS725	6,363	5,966
Crop Production Services	Dyna-Gro	M73GR55	6,244	
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx399xRTx430	6,093	5,739

Evaluation of yield across years and/or locations will provide the best indication of consistent hybrid performance. Only hybrids with two years data at each location are displayed.



Department of Soil and Crop Sciences

Brand

Browning

Dyna-Gro

Browning

DEKALB

Hybrid

Blaze

DKS 51-01

GX16833

Apollo

Plainview 2018 Grain Sorghum Performance Trial

Plant

Days to

55

56

62

56

Head Ex

Lodging

Moisture



Test Weight

Yield *

	,	50% Flower	Height (in)	(in)	(%)	(%)	(lbs/bu)	(lbs/acre)
Dyna-Gro	M69GB38	57	54	4	0	11.1	61.0	7,114
DEKALB	DKS 45-23	57	51	1	0	10.8	60.9	7,079
Browning	Winfield	57	49	2	0	11.0	61.3	6,864
Dyna-Gro	M60GB31	52	47	5	0	10.9	60.5	6,837
Browning	Browning Maverick	57	52	1	0	11.0	60.6	6,816
Dyna-Gro	GX17948	55	52	2	0	11.0	60.7	6,797
Alta Seeds	ADV G3247	57	53	2	0	10.7	59.2	6,750
DEKALB	DKS 38-16	52	50	3	0	11.2	61.9	6,710
DEKALB	DKS 37-07	52	45	2	0	11.1	61.2	6,687
Dyna-Gro	GX17962	53	49	2	0	11.1	61.1	6,601
Browning	Challenger BMX	57	51	1	0	10.9	60.0	6,600
Browning	Grainger	57	51	3	0	11.2	57.8	6,588
DEKALB	DKS 53-53	57	50	1	0	10.8	59.2	6,530
Dyna-Gro	M74GB17	60	53	1	0	11.2	59.7	6,528
B-H Genetics	4100	52	47	3	0	10.8	60.0	6,513
Alta Seeds	AG1203	52	48	2	0	10.7	60.0	6,496
Texas A&M AgriLife Research	ATx2928xRTx436	57	48	1	0	11.2	56.9	6,403

*Yields highlighted in yellow are not significantly different (L.S.D., p=0.05) from the top ranked hybrid.

10.9

10.9

11.3

10.6

61.0

60.4

60.9

59.5

6,376

6,335

6,313

6,283

0

0

0

0

48

55

52

50

3

0

2



Plainview 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences

Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
REV	9562	55	46	2	0	11.1	61.3	6,232
Golden Acres	3020B	53	50	2	0	11.2	60.8	6,217
Texas A&M AgriLife Research	ATx399xRTx430	57	45	1	0	10.7	58.0	6,149
USDA Lubbock	A.TX2752/R.LBK1	62	51	2	0	10.9	59.8	6,143
Texas A&M AgriLife Research	ATx378xRTx430	57	52	1	0	10.5	58.8	6,127
Sorghum Partners	SP73B12	57	51	0	0	11.4	59.8	6,121
REV	9782	53	48	2	0	11.1	60.8	5,979
Browning	Cimarron	52	55	3	0	10.7	57.6	5,894
S&W Seed	SG11668	57	47	3	0	11.3	57.9	5,826
Dyna-Gro	M73GR55	62	56	2	0	11.0	59.3	5,772
Texas A&M AgriLife Research	ATx645xRTx2783	57	58	1	0	11.2	59.5	5,753
Dyna-Gro	GX17379	60	54	1	0	10.6	53.5	5,520
Golden Acres	2840B	50	47	4	0	11.0	60.8	5,517
Dyna-Gro	GX17227	61	56	1	0	11.1	59.6	5,471
Browning	775 W	52	44	4	0	10.4	55.9	5,387
Alta Seeds	ADV G2275	57	51	2	0	11.6	60.1	5,382
S&W Seed	SG11268	52	51	4	0	11.5	59.2	5,266
USDA Lubbock	PHA432/R.LBK1	56	54	2	0	10.8	56.9	5,183
S&W Seed	SG11670	57	43	2	0	11.3	56.7	5,155
Browning	Phoenix	49	46	5	0	10.6	58.1	4,530

^{*}Yields highlighted in yellow are not significantly different (L.S.D., p=0.05) from the top ranked hybrid.



Plainview 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences

Brand	Hybrid		Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Agronomic info	ormation	Mean	56	50	2	0.0	11.0	59.5	6,167
Plant Date	6/5/2018	C.V. %		4.4	48.1		2.2	3.3	7.9
L		P>f (hybrid) L.S.D.		0.000 3.1			0.000	3.3	0.000 801.5
Harvest Date	11/3/2018	L.S.D.	2.2	5.1			0.4	3.3	801.5
Irrigated	Yes		Trial No	otes					
Row Spacing (in)	40	*12 lb/ac Sulfur a	applied			Cooperate	or: Don Mach	a	
Number of Rows	2	* Field irrigated 3		pre-plant, twic	ce			brid are planted	
Seeds per Acre	55,000	throughout seaso *7 oz/ac Sivanto				SAS 9.4 was	used for statist	/lodel : yield = hy ical analysis. LSD	provided
N (lb/ac)	100							o < 0.05. Yields hig different from the	
P2O5 (lb/ac)	30					hybrid. Plots	s were planted	using Almaco me ts were harvested	ter units on a
K2O (lb/ac)	0	II				3300 plot co	ombine fitted w	ith a Harvest Mas ation data was re	ster
Precipitation (in)	23.65	II				January 1 th	rough the harv	est date.	corded from
Irrigation (in)							al information Schnell / Katrina		
Herbicide		Soil Type C	Clay loam				etamu.edu / kho 35 / 979-845-85	orn@tamu.edu 505	
Aim @ 0.5 oz/ac + Atr lb/ac. Prowl applied la 2pt/ac.		Tillage	Minimal tillage			373 313 233	, 33 0 .3 03		
		Previous Crop (Cotton						

Plainview Grain Sorghum Multi-Year Summary



Company	Brand	Hybrid	2 yr AVG Yield (lbs/acre)	3 yr AVG Yield (lbs/acre)
Crop Production Services	Dyna-Gro	M60GB31	6,295	
B-H Genetics	B-H Genetics	4100	6,244	
Monsanto	DEKALB	DKS 37-07	6,215	
Monsanto	DEKALB	DKS 38-16	6,012	
Monsanto	DEKALB	DKS 45-23	5,934	
Monsanto	DEKALB	DKS 51-01	5,924	
Advanta Seeds	Alta Seeds	AG1203	5,901	
Terral Seed, Inc.	REV	9782	5,680	
Terral Seed, Inc.	REV	9562	5,561	
Crop Production Services	Dyna-Gro	M74GB17	5,536	
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx378xRTx430	5,413	
Texas A&M AgriLife	Texas A&M AgriLife Research	ATx399xRTx430	5,366	
Chromatin Inc.	Sorghum Partners	SP73B12	5,047	
Crop Production Services	Dyna-Gro	GX16833	4,858	
Monsanto	DEKALB	DKS 53-53	4,840	
Crop Production Services	Dyna-Gro	M73GR55	3,691	
Monsanto Advanta Seeds Terral Seed, Inc. Terral Seed, Inc. Crop Production Services Texas A&M AgriLife Texas A&M AgriLife Chromatin Inc. Crop Production Services Monsanto	DEKALB DEKALB Alta Seeds REV REV Dyna-Gro Texas A&M AgriLife Research Texas A&M AgriLife Research Sorghum Partners Dyna-Gro DEKALB	DKS 45-23 DKS 51-01 AG1203 9782 9562 M74GB17 ATx378xRTx430 ATx399xRTx430 SP73B12 GX16833 DKS 53-53	5,934 5,924 5,901 5,680 5,561 5,536 5,413 5,366 5,047 4,858 4,840	

Evaluation of yield across years and/or locations will provide the best indication of consistent hybrid performance. Only hybrids with two years data at each location are displayed.



Bushland 2018 Grain Sorghum Performance Trial



Department of	Soil and	crop	Sciences

Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
Dyna-Gro	M74GB17	N/A	58	4	0	12.4	59.9	10,149
NuTech	GS636	N/A	50	4	0	11.4	60.7	9,867
Golden Acres	3020B	N/A	51	3	0	11.6	60.2	9,825
Dyna-Gro	M60GB31	N/A	52	5	0	11.3	61.0	9,803
Dyna-Gro	GX16833	N/A	51	2	0	12.4	61.7	9,656
Dyna-Gro	M73GR55	N/A	59	4	0	12.5	61.8	9,613
Dyna-Gro	M69GB38	N/A	58	7	0	12.0	61.6	9,397
DEKALB	DKS 53-53	N/A	52	4	0	12.2	60.9	9,105
DEKALB	DKS 37-07	N/A	49	4	0	11.3	60.7	9,088
DEKALB	DKS 51-01	N/A	53	5	0	11.7	60.1	9,048
Texas A&M AgriLife Research	ATx645xRTx2783	N/A	55	3	0	11.8	60.9	9,047
Dyna-Gro	GX17962	N/A	52	3	0	11.5	60.4	8,962
Dyna-Gro	GX17379	N/A	52	3	0	12.2	60.7	8,915
NuTech	GS663	N/A	47	2	0	11.3	59.7	8,877
DEKALB	DKS 45-23	N/A	51	2	0	11.7	60.2	8,650
Dyna-Gro	GX17227	N/A	56	3	0	12.2	60.7	8,623
Dyna-Gro	GX17948	N/A	51	4	0	12.1	62.8	8,519
B-H Genetics	4100	N/A	47	3	0	11.8	61.7	8,361
S&W Seed	SG11268	N/A	53	5	0	12.3	58.9	8,327
NuTech	GS693	N/A	50	4	0	11.3	59.8	8,203
Golden Acres	2840B	N/A	52	5	0	11.5	60.3	8,042



Department of Soil and Crop Sciences

Bushland 2018 Grain Sorghum Performance Trial



Brand	Hybrid	Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)
REV	9782	N/A	51	4	0	11.4	59.3	8,008
Sorghum Partners	SP73B12	N/A	49	2	0	12.7	61.9	7,938
Texas A&M AgriLife Research	ATx2928xRTx436	N/A	50	3	0	11.3	59.9	7,894
S&W Seed	SG11670	N/A	44	4	0	12.1	60.8	7,824
NuTech	GS725	N/A	54	4	0	11.9	61.1	7,621
DEKALB	DKS 38-16	N/A	54	4	0	11.5	60.2	7,569
Texas A&M AgriLife Research	ATx378xRTx430	N/A	56	2	0	11.4	59.2	7,550
S&W Seed	SG11668	N/A	50	2	0	12.1	59.8	7,444
REV	9562	N/A	48	4	0	11.3	60.8	6,961
Texas A&M AgriLife Research	ATx399xRTx430	N/A	47	3	0	11.4	59.2	6,877
MOJO Seed	EXP 36	N/A	38	0	0	10.3	55.0	3,005



Bushland 2018 Grain Sorghum Performance Trial



Department of Soil and Crop Sciences

Brand	Hybrid		Days to 50% Flower	Plant Height (in)	Head Ex (in)	Lodging (%)	Moisture (%)	Test Weight (lbs/bu)	Yield * (lbs/acre)	
Agronomic information		Mean		51	3	0.0	11.7	60.4	8,399	
Plant Date	5/23/2018	C.V. % P>f (hybrid)		7.5 0.000	47.3		0.000	0.000	9.7	
Harvest Date	10/3/2018	L.S.D.		5.4			0.3	2.1	1,239.7	
Irrigated	Yes		Trial No	ntes						
Row Spacing (in)	30	*Feritilizer annlie			low	Cooperato	or: Michael M	enke		
Number of Rows	2	*Sivanto applied	*Feritilizer applied through manure during fallow. *Sivanto applied through chemigation 7/29/18 @ 6 oz/ac. *Sivanto applied aerially 8/6/18 @ 6 oz/ac.				Four replications of each hybrid are planted in a randomized block design. Model: yield = hybrid blk.			
Seeds per Acre	65,000	Sivanto applied	aerially 6/6/10	s @ 0 02/ac.			_	गेठवेहा : yield = hy ical analysis. LSD		
N (lb/ac)								o < 0.05. Yields high		
P2O5 (lb/ac)								using Almaco me ts were harvested		
K2O (lb/ac)						3300 plot co	mbine fitted w	ith a Harvest Mas ation data was re	ster	
Precipitation (in)	10.46	II				January 1 th	rough the harv	est date.	corded from	
Irrigation (in)	12.75						al information o chnell / Katrina			
Herbicide		Soil Type S	ilty clay loam				tamu.edu / kho 5 / 979-845-85	orn@tamu.edu 05		
Bicep applied pre-pla	ant @ 1.5 pt/ac	Tillage	onventional			373 043 233	37 373 043 03	03		
		Dravious Cran	allaw							
		Previous Crop F	allow							

ACKNOWLEDGMENTS

Appreciation for assistance and cooperation in conducting these tests is expressed to the following.

<u>Farmers:</u> Joel Hoskinson (Gregory), Don Macha (Plainview), Brian Maddox (Hubbard), Larry McNair (Driscoll), Michael Menke (Bushland), Mikel Brothers (Damon), Rio Farms (Monte Alto)

<u>Texas A&M AgriLife Research:</u> Jourdan Bell, Delroy Collins, Leo Hoffmann, Stephen Labar, Jonathan Moreno, Carla Naylor, Alfred Nelson, Mark Stelter, & Russell Sutton

<u>Texas A&M AgriLife Extension:</u> Corrie Bowen, JR Cantu, Ryan Collett, Megan Eikner, Bob McCool, & Jason Ott

Others: Personnel at Rio Farms near Monte Alto, Texas: Andy Scott and Juan Garza

<u>Crop Testing Student Workers:</u> Colton Adams, Shannon Butler, Dalton Askew, Walker Crane, Andrea Fonseca, Jonah Hutchison, & Brayden Stockton, for their assistance in conducting the tests.

Appreciation is also expressed to Monsanto Company for providing the herbicide Roundup, that was used to maintain alleyways at the test sites.

LITERATURE CITED

1. National Weather Service, Advanced Hydrological Prediction Service http://water.weather.gov/precip/index.php

Mention of a trademark or a proprietary product does not constitute a guarantee or a warranty of the product by Texas A&M AgriLife Research and Texas A&M AgriLife Extension, and does not imply its approval to the exclusion of other products that also may be suitable.

All programs and information of Texas A&M AgriLife Research and Texas A&M AgriLife Extension are available to everyone without regard to race, ethnic origin, religion, sex, age, handicap, or national origin.

Produced by the Department of Soil and Crop Sciences Texas A&M AgriLife Research and AgriLife Extension Service

soilcrop.tamu.edu

The information given herein is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Texas A&M AgriLife Research and AgiLife Extension Service is implied.

Texas A&M AgriLife Research and AgriLife Extension are equal opportunity employers and program providers.