

2018 Texas A&M AgriLife Extension Grain Sorghum Hybrid Trial



Department of Soil and Crop Science Texas

A&M AgriLife Extension

2018 Texas A&M AgriLife Extension Grain Sorghum Hybrid Trial

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County Extension Agents

Bob McCool Brad Cowan Corrie Bowen Enrique Perez Floyd Ingram Geri Kline - Stephen Biles Jason Ott John Gordy Mike Hiller Zach Davis

Cooperators

Alan and Lisa Stasney
Andrew Miller
Duane Lutringer
Faske
Jay Beckhusen
Kulak Farm
Ordner
Stephen Biles
Tim McDaniel

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





Dekalb Dyna-Gro Alta Sorghum Partners Golden Acres Sorghum Partners	DKS 45-23 M74GB17 AG3247 SP 7715 3020B	Moisture % 12.8 11.7 11.7 12.6	Test Weight (lb/bu) 56.33 55.33 54.67	Yield (lbs/acre) 5,117 4,950
Dyna-Gro Alta Sorghum Partners Golden Acres Sorghum Partners	M74GB17 AG3247 SP 7715	11.7 11.7	55.33	4,950
Alta Sorghum Partners Golden Acres Sorghum Partners	AG3247 SP 7715	11.7		<u> </u>
Sorghum Partners Golden Acres Sorghum Partners	SP 7715		54.67	4.044
Golden Acres Sorghum Partners		12.6		4,944
Sorghum Partners	3020B		55.33	4,914
-		13.3	55.33	4,712
	SP 68M57	12.6	55.67	4,441
Dekalb	DKS 38-16	12.3	54.33	4,263
tion	Mean	12.43	55.29	4,763
3/2/2018	C.V. (%)	8.000	4.000	16.100
7/5/2018	L.S.D.			
	Pr>F (hybrid)	0.450	0.938	0.806
	Cooperator			
		Enrique Per	27	
12	Agent.	•		
161				
3				
	the top ranked hybrid			
	Dr. Ronnie Schnell			
	ronschnell@tamu.edu 979-845-2935	u		
gal/A 32-0-0, 5				
gp	No 38 12 161 44 3 No No al/A 32-0-0, 5	No 38 Cooperator: 12 Agent: 161 44 3 Model: yield = hybridon, 0.05 (SAS 9.4). Yields the top ranked hybridon extension agent or: Dr. Ronnie Schnell ronschnell@tamu.ed. 979-845-2935	No 38 Cooperator: 12 Agent: Enrique Pere Other Agr 161 44 3 Model: yield = hybrid + blk. LSD pro 0.05 (SAS 9.4). Yields highlighted in ye the top ranked hybrid. For additional ie extension agent or: Dr. Ronnie Schnell ronschnell@tamu.edu 979-845-2935	Cooperator: Agent: Enrique Perez Other Agronomic Info 161 44 3 Model: yield = hybrid + blk. LSD provided when hybrid sign of the top ranked hybrid. For additional information contact yextension agent or: Dr. Ronnie Schnell ronschnell@tamu.edu 979-845-2935

Hidalgo County





					•
Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
CPS Dyna-Gro	Dyna-Gro	M74GB17	17.8	50.50	5,710
Chromatin Inc.	Sorghum Partners	SP 7715	18.8	52.00	5,652
Advanta	Alta	AG3247	19.4	46.50	4,279
Monsanto	Dekalb	DKS 45-23	16.3	54.00	4,087
Golden Acres Genetics	Golden Acres	3020B	17.6	49.00	3,732
Chromatin Inc.	Sorghum Partners	SP 68M57	18.6	50.00	3,586
Monsanto	Dekalb	DKS 38-16	15.9	54.00	3,583
Agronomic Info	mation	Mean	17.77	50.86	4,376
Plant Date	2/16/2018	C.V. (%)	5.000	2.000	14.650
Harvest Date	7/26/2018	L.S.D.		2.10	
Irrigated	No	Pr>F (hybrid)	0.053	0.001	0.052
Row Spacing (in)	40	Cooperator:	Tim McDan	iel	
Number of Rows	12	Agent:	Brad Cowar	1	
Seeds per Acre			Other Ag	ronomic Info	
Nitrogen (lb N/ac)		Note: would not a Note: AL= Above		turo motor	
Phosphorus (lb P2O5/ac)		Note: AL= Above	LIMIL OF MOIS	ture meter	
Potassium (lb K2O/ac)		Na-dal codal de la la la la colori	d . bll. ICD	odd ad ook an bolk dal at	
Precipitation (inches)		Model: yield = hybri 0.05 (SAS 9.4). Yields	highlighted in ye	ellow are not statistic	ally different from
Soil Type		the top ranked hybrid extension agent or:	d. For additional	information contact y	your local county
SCA Sprayed	No	Dr. Ronnie Schnell ronschnell@tamu.ed	u		
Herbicde Insecticides		979-845-2935			

Nueces County Grain Sorghum Hybrid Trial 2018



Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
Golden Acres Genetics	Golden Acres	3020B	14.6	56.33	4,049
Monsanto	Dekalb	DKS 53-53	14.8	55.17	3,903
Dupont	Pioneer	83P27	15.1	56.00	3,776
Monsanto	Dekalb	DKS 38-16	13.7	58.33	3,626
Chromatin Inc.	Sorghum Partners	SP 68M57	14.4	56.33	3,577
Chromatin Inc.	Sorghum Partners	SP 7715	14.8	57.33	3,486
CPS Dyna-Gro	Dyna-Gro	M74GB17	15.5	56.33	3,416
Dupont	Pioneer	83P73	14.6	55.50	3,091
Advanta	Alta	AG3247	14.9	57.33	1,393

Nueces County





Agronomic Information					
Plant Date		3/2/2018			
Harvest Date		6/30/2018			
Irrigated	Irrigated				
Row Spacing (i	n)	30			
Number of Rov	Number of Rows				
Seeds per Acre					
Nitrogen (lb N	84				
Phosphorus (lb	28				
Potassium (lb I	<20/ac)	11			
Precipitation (i	nches)				
Soil Type					
SCA Sprayed		No			
Herbicde Insecticides	24oz Atrizine&12	oz Outlook			

Mean	14.70	56.52	3,368					
C.V. (%)	5.000	1.000	5.100					
L.S.D.		1.32	297.5					
Pr>F (hybrid)	0.273	0.003	0.000					
Cooperator:	Cooperator: Ordner							
Agent:	Jason Ott							
	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								

Nueces County Grain Sorghum Hybrid Trial 2018



Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
Monsanto	Dekalb	DKS 38-16	12.1	60.00	6,108
Chromatin Inc.	Sorghum Partners	SP 6929	12.4	58.67	6,092
Chromatin Inc.	Sorghum Partners	SP 7715	12.0	57.00	6,044
Monsanto	Dekalb	DKS 53-53	12.0	59.00	6,029
CPS Dyna-Gro	Dyna-Gro	M74GB17	12.3	56.00	5,992
Chromatin Inc.	Sorghum Partners	SP 78M30	12.2	57.00	5,906
Chromatin Inc.	Sorghum Partners	SP 73B12	13.3	57.00	5,832
Golden Acres Genetics	Golden Acres	3020B	11.6	56.00	5,825
Monsanto	Dekalb	DKS 37-07	11.8	60.00	5,756
Golden Acres Genetics	Golden Acres	3960B	12.2	57.00	5,382
Advanta	Alta	AG1203	12.3	56.00	5,131
Advanta	Alta	AG3247	12.6	59.00	4,996

Nueces County





Agronomic Information	on
Plant Date	3/18/2018
Harvest Date	
Irrigated	No
Row Spacing (in)	36
Number of Rows	12
Seeds per Acre	
Nitrogen (Ib N/ac)	66
Phosphorus (lb P2O5/ac)	22
Potassium (lb K2O/ac)	0
Precipitation (inches)	
Soil Type	
SCA Sprayed	No
Herbicde Insecticides	

Mean	12.24	57.72	5,758				
C.V. (%)							
L.S.D.							
Pr>F (hybrid)							
Cooperator:	Faske						
Agent:	Jason Ott						
	Other Agr	onomic Info					
qt/A Zn, qt/A hum	qt/A Zn, qt/A humate						
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 in	low are not statistic	cally different from				

San Patricio County Grain Sorghum Hybrid Trial 2018



Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
Monsanto	Dekalb	DKS 53-53	16.5	50.00	2,301
Golden Acres Genetics	Golden Acres	3020B	16.3	55.33	1,745
CPS Dyna-Gro	Dyna-Gro	M74GB17	16.7	52.00	1,501
Advanta	Alta	AG3247	17.0	53.00	1,467
Chromatin Inc.	Sorghum Partners	SP 7715	18.3	54.00	1,466
Dupont	Pioneer	83P27	19.1	53.67	1,417
Monsanto	Dekalb	DKS 37-07	16.2	56.33	1,370
Chromatin Inc.	Sorghum Partners	SP 68M57	16.0	56.33	1,303
Advanta	Alta	AG1203	16.8	53.67	1,224
Monsanto	Dekalb	DKS 38-16	16.3	57.33	982

San Patricio County





Agronomic Information					
Plant Date		3/12/2018			
Harvest Date		7/19/2018			
Irrigated	Irrigated				
Row Spacing (i	Row Spacing (in)				
Number of Rov	Number of Rows				
Seeds per Acre	52,500				
Nitrogen (lb N/	98				
Phosphorus (lb	Phosphorus (lb P2O5/ac)				
Potassium (lb l	(20/ac)				
Precipitation (i	nches)				
Soil Type					
SCA Sprayed		No			
Herbicde Insecticides	11.5oz. Outlook; Atrazine; 32oz. Gl				

	Берагин		Crop sciences				
Mean	16.91	54.17	1,478				
C.V. (%)	5.000	5.000	40.420				
L.S.D.	1.57						
Pr>F (hybrid)	0.011	0.102	0.452				
Cooperator:	Andrew Miller						
Agent:	Bob McCool						
	Other Agro	onomic Info					
Dry conditions pre	_	_	ng season, and				
odging was an issu	ue throughout	t the test					
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							

Calhoun County





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Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
Golden Acres Genetics	Golden Acres	3020B			
Advanta	Alta	AG3247			
Monsanto	Dekalb	DKS 38-16			
Monsanto	Dekalb	DKS 53-53			
CPS Dyna-Gro	Dyna-Gro	M74GB17			
Chromatin Inc.	Sorghum Partners	SP 7715			
Chromatin Inc.	Sorghum Partners	SP 78M30			
Agronomic Infor	mation	Mean C.V. (%) L.S.D.			
Harvest Date Irrigated	No	Pr>F (hybrid)			
Row Spacing (in)		Cooperator:	Stephen Bil	es	
Number of Rows		Agent:		Stephen Biles	
Seeds per Acre Nitrogen (lb N/ac) Phosphorus (lb P2O5/ac)		Excessive midge of		ronomic Info not reported.	
Potassium (Ib K2O/ac) Precipitation (inches) Soil Type SCA Sprayed Herbicde Insecticides	No	0.05 (SAS 9.4). Yields	highlighted in ye d. For additional	ovided when hybrid sign ellow are not statistica information contact y	ally different from

Fort Bend County Grain Sorghum Hybrid Trial 2018



Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
Monsanto	Dekalb	DKS 38-16	11.0	58.00	6,708
Monsanto	Dekalb	DKS 53-53	11.3	56.00	5,988
Chromatin Inc.	Sorghum Partners	SP 7715	11.0	55.00	5,829
Golden Acres Genetics	Golden Acres	3020B	11.0	55.33	5,786
Advanta	Alta	AG3247	10.2	55.67	5,485
CPS Dyna-Gro	Dyna-Gro	M74GB17	11.0	56.00	5,439
Chromatin Inc.	Sorghum Partners	SP 78M30	10.3	55.33	4,933
Warner Seeds Inc.	Warner Seed	W-625Y	10.5	55.67	4,852

Fort Bend County





Agronomic Information					
Plant Date		3/12/2018			
Harvest Date		7/27/2018			
Irrigated		No			
Row Spacing (i	n)	36			
Number of Rov	VS	12			
Seeds per Acre		70,000			
Nitrogen (lb N/					
Phosphorus (lb					
Potassium (lb k					
Precipitation (i	nches)				
Soil Type					
SCA Sprayed		No			
Herbicde Insecticides					

	•		•				
Mean	10.80	55.88	5,628				
C.V. (%)	5.000	1.000	4.190				
L.S.D.		1.32	413.4				
Pr>F (hybrid)	0.149	0.008	0.000				
Cooperator:	Alan and Lisa Stasney						
Agent:	John Gordy						
Other Agronomic Info							
n/a - low-no sca pressure, Furrow irrigated at mid-bloom							
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							

Jackson County





Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
Monsanto	Dekalb	DKS 38-16	14.8	59.83	4,747
Golden Acres Genetics	Golden Acres	3020B	14.6	58.50	4,571
Monsanto	Dekalb	DKS 53-53	14.6	58.83	4,304
Chromatin Inc.	Sorghum Partners	SP 7715	14.6	58.17	4,024
CPS Dyna-Gro	Dyna-Gro	M74GB17	15.1	58.33	3,823
Chromatin Inc.	Sorghum Partners	SP 78M30	14.8	57.50	3,689
Advanta	Alta	AG3247	14.4	57.83	2,980
Agronomic Infor	mation	Mean	14.71	58.43	4,020
Plant Date	3/3/2018	C.V. (%)	2.000	1.000	7.980
Harvest Date	7/24/2018	L.S.D.		0.71	570.4
		Pr>F (hybrid)	0.056	0.000	0.000
Irrigated	No				
Row Spacing (in)	38	Cooperator:	Kulak Farm		
Number of Rows	6	Agent:	Mike Hiller		
Seeds per Acre	65,000		Other Ag	ronomic Info	
Nitrogen (lb N/ac)	125				
Phosphorus (lb P2O5/ac)	25				
Potassium (lb K2O/ac)	10	Model : vield = hybri	id + hlk ISD nro	vided when hybrid si	gnificant at n <
Precipitation (inches)		0.05 (SAS 9.4). Yields	highlighted in ye	ellow are not statistica	ally different from
Soil Type		extension agent or:	d. For additional	information contact y	our local county
SCA Sprayed	No	Dr. Ronnie Schnell ronschnell@tamu.ed	u		
Herbicde 1 pint Round Insecticides Sequence		979-845-2935			

Wharton County Grain Sorghum Hybrid Trial 2018



Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
Monsanto	Dekalb	DKS 38-16	13.9	59.67	5,791
Dupont	Pioneer	83P27	14.1	56.83	5,567
Monsanto	Dekalb	DKS 53-53	13.8	58.00	5,449
Golden Acres Genetics	Golden Acres	3020B	13.6	57.50	5,449
Chromatin Inc.	Sorghum Partners	SP 7715	14.5	57.50	5,104
Chromatin Inc.	Sorghum Partners	SP 78M30	13.4	56.50	4,712
CPS Dyna-Gro	Dyna-Gro	M74GB17	13.5	58.00	4,694
Advanta	Alta	AG3247	13.2	56.67	4,140

Wharton County





Agronomic Information		Mean	13.74	57.58	5,113
Plant Date	3/12/2018	C.V. (%)	3.000	2.000	3.950
Harvest Date	7/16/2018	L.S.D.	0.61	1.58	353.6
	7/10/2018	Pr>F (hybrid)	0.013	0.016	0.000
Irrigated	No				
Row Spacing (in)	40	Cooperator:	Duane Lutrin	ger	
Number of Rows	6	Agent:	Corrie Bower	1	
Seeds per Acre			Other Agro	nomic Info	
Nitrogen (lb N/ac)					
Phosphorus (lb P2O5/ac)					
Potassium (lb K2O/ac)		Model : yield = hybri	d + blk. LSD prov	ided when hybrid s	ignificant at p <
Precipitation (inches)		0.05 (SAS 9.4). Yields the top ranked hybrid			,
Soil Type		extension agent or: Dr. Ronnie Schnell			
SCA Sprayed	No	ronschnell@tamu.ed 979-845-2935	u		
Herbicde Insecticides		979-845-2935			

Hill County Grain Sorghum Hybrid Trial 2018



Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
Golden Acres Genetics	Golden Acres	3020B	12.4	55.53	2,427
Monsanto	Dekalb	DKS 47-07	12.5	53.83	2,415
Dupont	Pioneer	83P56	12.5	58.10	2,371
Chromatin Inc.	Sorghum Partners	SP 68M57	12.6	55.83	2,333
Dupont	Pioneer	84P80	11.9	56.37	2,146
Chromatin Inc.	Sorghum Partners	SP 73B12	15.6	54.27	2,127
CPS Dyna-Gro	Dyna-Gro	M74GB17	12.5	57.30	2,098
Advanta	Alta	AG3247	11.7	57.17	1,878

Hill County





Agronomic Information				
Plant Date	Plant Date			C.\
Harvest Date				L.S
Irrigated			No	Pr
Row Spacing (in))		30	
Number of Rows	S		12	
Seeds per Acre				
Nitrogen (lb N/a	Nitrogen (Ib N/ac)			75 lk prev
Phosphorus (lb I	Phosphorus (lb P2O5/ac)			
Potassium (lb K2	2O/ac)		0	Mode
Precipitation (in	ches)			0.05 the to
Soil Type				exter Dr. R
SCA Sprayed			No	ronso
Herbicde Insecticides	Roundup and Out	tlook _l	ore-plant	979-8

Mean	12.72	56.05	2,224				
C.V. (%)	2.000	3.000	5.150				
L.S.D.	0.45		200.5				
Pr>F (hybrid)	0.000	0.092	0.000				
Cooperator:							
Agent:	Zach Davis						
Other Agronomic Info							
5 lb/A 82-0-0, 200 lb/A 32-0-0, 75 lb/A 11-37-0 previous crop cotton							
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 he top ranked hybrid. For additional information contact your local county extension agent or: Dr. Ronnie Schnell onschnell@tamu.edu 179-845-2935							

Milam County





Company	Brand	Hybrid	Moisture %	Test Weight (lb/bu)	Yield (lbs/acre)
Monsanto	Dekalb	DKS 47-07	9.3	58.33	5,655
Golden Acres Genetics	Golden Acres	3020B	10.0	56.83	5,581
Chromatin Inc.	Sorghum Partners	SP 68M57	10.4	57.67	5,443
Chromatin Inc.	Sorghum Partners	SP 73B12	11.8	58.67	5,077
CPS Dyna-Gro	Dyna-Gro	M74GB17	10.0	60.33	5,035
Advanta	Alta	AG3247	11.4	60.00	4,568
Agronomic Infor	mation	Mean	10.46	58.64	5,227
Plant Date	3/22/2018	C.V. (%)	10.000	3.000	2.750
Harvest Date	7/24/2018	L.S.D.			261.7
Irrigated	No	Pr>F (hybrid)	0.100	0.116	0.000
Row Spacing (in)	30	Cooperator:	Jay Beckhus		
		•	,		
Number of Rows	8	Agent:	Floyd Ingran	onomic Info	
Seeds per Acre	80,000		Other Agi	OHOHIIC IIIIO	
Nitrogen (lb N/ac)					
Phosphorus (lb P2O5/ac)					
Potassium (lb K2O/ac)		Model : yield = hybri			
Precipitation (inches)		0.05 (SAS 9.4). Yields the top ranked hybrid			
Soil Type		extension agent or: Dr. Ronnie Schnell		•	
SCA Sprayed	No	ronschnell@tamu.ed	u		
Herbicde Warrant 2qt Insecticides Power-Max		979-845-2935			

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