

University of Georgia

PREEMERGENCE WEED CONTROL IN GRAIN SORGHUM			
Trial ID: GS-01-18	Location: TY TY, GA	Trial Year: 2018	
Protocol ID: H-Pre-18 UGA	Investigator: Eric P. Prostko		
Project ID:	Study Director:		
	Sponsor Contact: BRENT BEAN		

Reps: 4 Plots: 6 by 25 feet
 Spray vol: 15 GAL/AC Mix Size: 1.5 L (total for 4 plots; minimum=0.782 L)

Trt No.	Treatment Type Name	Form Conc	Form Unit	Form Type	Rate Rate	Other Rate	Other Rate	Growth Unit	Appl Code	Amt to Measure	Product Measure	Rep 1	Rep 2	Rep 3	Rep 4
1	Untreated											110	205	306	408
2	HERB Atrazine	4 LBA/GAL	L		1.0 qt/a		1 lb ai/a		PREPRE A	25.0 mL/mx		105	209	301	410
3	HERB Bicep II Magnum	5.5 LBA/GAL	L		1.6 qt/a		2.2 lb ai/a		PREPRE A	40.0 mL/mx		102	204	312	409
4	HERB Bicep Lite II Magnum	6 LBA/GAL	L		1.25 qt/a		1.88 lb ai/a		PREPRE A	31.25 mL/mx		111	212	310	403
5	HERB Degree Xtra	4.04 LB/GAL	L		2.25 qt/a		2.27 lb ai/a		PREPRE A	56.25 mL/mx		108	211	308	406
6	HERB Dual Magnum	7.64 LB/GAL	SC		1.5 pt/a		1.43 lb ai/a		PREPRE A	18.75 mL/mx		109	203	307	412
7	HERB Me-Too-Lachlor	8 LB/GAL	SC		1.43 pt/a		1.43 lb ai/a		PREPRE A	17.87 mL/mx		107	206	304	405
8	HERB Warrant	3 LB/GAL	ME		2 qt/a		1.5 lb ai/a		PREPRE A	50.0 mL/mx		101	207	303	411
9	HERB Verdict	5.57 LB/GAL	EC		10 oz/a	0.435 lb ai/a			PREPRE A	7.812 mL/mx		104	210	302	407
	HERB Outlook	6 LB/GAL	EC		10 oz/a	0.47 lb ai/a			PREPRE A	7.812 mL/mx					
10	HERB Callisto	4 LB/GAL	SC		6 oz/a	0.188 lb ai/a			PREPRE A	4.687 mL/mx		106	201	305	401
11	HERB Callisto	4 LB/GAL	SC		6 oz/a	0.188 lb ai/a			PREPRE A	4.687 mL/mx		112	208	309	402
	HERB Dual Magnum	7.64 LB/GAL	EC		1.5 pt/a	1.43 lb ai/a			PREPRE A	18.75 mL/mx					
12	HERB Callisto	4 LB/GAL	SC		6 oz/a	0.188 lb ai/a			PREPRE A	4.687 mL/mx		103	202	311	404
	HERB Atrazine	4 LBA/GAL	L		0.75 qt/a	0.75 lb ai/a			PREPRE A	18.75 mL/mx					
	HERB Dual Magnum	7.64 LB/GAL	SC		1.5 pt/a	1.43 lb ai/a			PREPRE A	18.75 mL/mx					

Sort Order: Treatment

Trial Comments

BICEP II MAGNUM = ATRAZINE (3.1 LBS/GAL + S-METOLACHLOR (2.4 LBS/GAL)
 BICEP LITE II MAGNUM = ATRAZINE (2.67 LBS/GAL) + S-METOLACHLOR (3.33 LBS/GAL)
 DEGREE XTRA = ACETOCHLOR (2.7 LBS/GAL) + ATRAZINE (1.34 LBS/GAL)
 VERDICT = SAFLUFENACIL (0.57 LBS/GAL) + DIMETHENAMID-P (5.0 LBS/GAL)

AGRASS = NON-UNIFORM MIXTURE OF ANNUAL GRASSES INCLUDING TEXAS PANICUM, CRABGRASS, GOOSEGRASS, AND CROWFOOTGRASS.

SUMMARY:

- 1) AT 12 DAT, VERDICT + OUTLOOK, AND ANY CALLISTO TREATMENT CAUSED SIGNIFICANT SORGHUM STUNTING. CALLISTO TREATMENTS ALSO CAUSED SIGNIFICANT CHLOROSIS (BLEACHING).
- 2) THE PRE TREATMENT THAT WAS MOST INJURIOUS OVER TIME WAS CALLISTO + ATRAZINE + DUAL MAGNUM.
- 3) ALL PRE TREATMENTS PROVIDED EXCELLENT CONTROL OF PALMER AMARANTH (>96%) THROUGHOUT THE SEASON.
- 4) AT 39 DAT, ALL PRE TREATMENTS PROVIDED GOOD TO EXCELLENT CONTROL OF ANNUAL GRASSES (>83%) EXCEPT FOR THE FOLLOWING:

ATRAZINE = 35% CONTROL
 WARRANT = 35% CONTROL
 CALLISTO = 64% CONTROL

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PREEMERGENCE WEED CONTROL IN GRAIN SORGHUM	
Trial ID: GS-01-18	Location: TY TY, GA Trial Year: 2018
Protocol ID: H-Pre-18 UGA	Investigator: Eric P. Prostko
Project ID:	Study Director:
Sponsor Contact: BRENT BEAN	

General Trial Information							
Study Director: Eric Prostko	Title: _____						
Investigator: Eric P. Prostko	Title: _____						
Discipline: _____	Trial Reliability: _____						
Trial Status: _____							
Initiation Date: _____	Planned Completion Date: _____						
Completion Date: _____							
Trial Location							
City: _____	Country: _____						
State/Prov.: _____							
Postal Code: _____	Climate Zone: _____						
Latitude of LL Corner °: _____							
Longitude of LL Corner °: _____							
Altitude of LL Corner, Unit: _____							
Angle y-axis to North °: _____							
Directions: _____							
Conducted Under GLP: No	Official Trial ID: _____						
Conducted Under GEP: No	Other Trial ID: _____						
	Study Rules: _____						
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 10%;">No.</th> <th style="width: 30%;">Guideline</th> <th style="width: 60%;">Description</th> </tr> <tr> <td>1.</td> <td></td> <td></td> </tr> </table>		No.	Guideline	Description	1.		
No.	Guideline	Description					
1.							
Keywords: _____							

Objectives:
Conclusions:

Contacts							
Study Director: Eric Prostko	Title: _____						
Organization: _____							
Address: _____	Phone No.: _____						
City+State/Prov: _____	Mobile No.: _____						
Postal Code: _____	E-mail: _____						
Country: _____							
Investigator: Eric P. Prostko	Title: _____						
Organization: _____							
Address: _____	Phone No.: _____						
City+State/Prov: _____	Mobile No.: _____						
Postal Code: _____	E-mail: _____						
Country: _____							
Cooperator/Landowner							
Cooperator: _____	Role: _____						
Organization: _____	Org. Type: _____						
Address 1: _____	Address 2: _____						
City: _____	Phone No.: _____						
State/Prov: _____	Fax No.: _____						
Postal Code: _____	Mobile No.: _____						
Country: _____	E-mail: _____						
Other Contacts							
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;">Name</th> <th style="width: 30%;">Role</th> <th style="width: 40%;">Other</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>		Name	Role	Other			
Name	Role	Other					

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Crop 1: SORVU Sorghum bicolor		Crop Description Grain sorghum	
Variety: DKS 37-07		BBCH Scale: BGRM	
Description: PONCHO + CONCEP TREATED			
Seed Size, Unit: _____		Nursery Date: _____	
Seed Shape: _____		Planting Date: Apr-25-18	
Planting Rate, Unit: 100000 S/A		Planting Method: _____	
Depth, Unit: 1.0 IN		Planting Equipment: SE mobile small equipment	
Row Spacing, Unit: 30 IN		Emergence Date: _____	
Spacing within Row, Unit: _____		Harvest Date: _____	
Rows per Plot: 2		Harvested Width, Unit: _____	
Planting Density, Unit: _____		Harvested Length, Unit: _____	
Soil Temperature, Unit: _____		Harvest Equipment: _____	
Soil Moisture: _____		% Standard Moisture: _____	
Seed Bed: _____		Moisture Meter: _____	
Perennial Age, Unit: _____		Weighing Equipment: _____	

Pest Description	
Pest 1 Type: _	Code: AMAPA
Common Name: PALMER AMARANTH	
Description: _____	
Artificial Population: _____	Establishment Date: _____
Establishment Rate, Unit: _____	_____
Concentration, Unit: _____	_____
Establishment Method/Description: _____	
Pest 2 Type: _	Code: AGRASS
Common Name: ANNUAL GRASSES	
Description: TX PANICUM; CRAB; GOOSE; CROWFOOT;	
Artificial Population: _____	Establishment Date: _____
Establishment Rate, Unit: _____	_____
Concentration, Unit: _____	_____
Establishment Method/Description: _____	
Pest 3 Type: _	Code: _____
Common Name: _____	
Description: _____	
Artificial Population: _____	Establishment Date: _____
Establishment Rate, Unit: _____	_____
Concentration, Unit: _____	_____
Establishment Method/Description: _____	

Site and Design	
Treated Plot Width: 6 FT	Site Type: _____
Treated Plot Length: 25 FT	Experimental Unit: _____
Treated Plot Area: 150 FT ²	Tillage Type: _____
Replications: 4	Study Design: RACOB
% Slope: _____	Randomized Complete Block (RCB)
Treatments: 12	
Trial Initiation Comments:	
No.	Previous Crop
Previous Pesticides	Year
1.	

Maintenance										
No.	Date	Type	Maintenance Product Name	Form Conc	Form Unit	Form Type	Description	Rate	Unit	Tank Mix
1.										
Comment:										
Field Prep./Maintenance:										

Soil Description			
Description Name: _____			
% Sand: 96	% OM: 0.57		
% Silt: 0	pH: 6.0		
% Clay: 4	CEC: 2.4		
Texture: SAND			
Soil Name: FUQUAY			
Fert. Level: _____			
Soil Drainage: _____			
Analyzed By:			
Additional Measured Elements			
Date	Element	Quantity	Unit

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Moisture and Weather Conditions

Overall Moisture Conditions: _____

Closest Weather Station: _____ Distance, Unit: _____

No.	Date	Time	Moisture Total	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Avg Temp	Temp Unit	% Relative Humidity	Min Wind	Max Wind
1.	Apr-27-18		0.5	IN	SPLAMO	sprinkler - lateral move									
2.	May-4-18		0.5	IN	SPLAMO	sprinkler - lateral move									
3.	May-7-18		0.5	IN	SPLAMO	sprinkler - lateral move									
4.	May-11-18		0.5	IN	SPLAMO	sprinkler - lateral move									
5.	May-14-18		0.5	IN	SPLAMO	sprinkler - lateral move									
6.	May-14-18		0.02	IN	RAIN	rain									

Comment: _____

Application Description

	A
Application Date:	Apr-26-18
Appl. Start Time:	
Appl. Stop Time:	7:45 AM
Application Method:	BROADCAST
Application Timing:	PRE
Application Placement:	SOIL
Applied By:	EPP
Air Temperature, Unit:	55 F
% Relative Humidity:	97
Wind Velocity, Unit:	1 MPH
Wind Direction:	
Dew Presence (Y/N):	N no
Soil Temperature, Unit:	62 F
Soil Moisture:	OPTIMUM
% Cloud Cover:	0
Next Moisture Occurred On:	
Time to Next Moisture, Unit:	
Moisture 1 Week after Appl.:	

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	SORVU BGRM
Stage Scale Used:	
Stage Majority, Percent:	
Stage Minimum, Percent:	
Stage Maximum, Percent:	
Average Diameter, Unit:	
Height, Unit:	
Height Minimum, Maximum:	
Crop coverage (%):	

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Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	AMAPA
Stage Majority, Percent:	
Stage Minimum, Percent:	
Stage Maximum, Percent:	
Diameter, Unit:	
Height, Unit:	
Height Minimum, Maximum:	
Density, Unit:	
Coverage, Unit:	
Pest 2 Code, Type, Scale:	AGRASS
Stage Majority, Percent:	
Stage Minimum, Percent:	
Stage Maximum, Percent:	
Diameter, Unit:	
Height, Unit:	
Height Minimum, Maximum:	
Density, Unit:	
Coverage, Unit:	
Pest 3 Code, Type, Scale:	
Stage Majority, Percent:	
Stage Minimum, Percent:	
Stage Maximum, Percent:	
Diameter, Unit:	
Height, Unit:	
Height Minimum, Maximum:	
Density, Unit:	
Coverage, Unit:	

Application Equipment

	A
Appl. Equipment:	BACKPACK
Equipment Type:	
Operation Pressure, Unit:	27 PSI
Nozzle Type:	AIXR
Nozzle Size:	11002
Nozzle Spacing, Unit:	15 IN
Nozzles/Row:	2
Band Width, Unit:	
% Coverage:	
Boom ID:	
Boom Length, Unit:	60 IN
Boom Height, Unit:	20 IN
Ground Speed, Unit:	3.5 MPH
Carrier:	WATER
Water Hardness (ppm CaCO3):	
Spray Volume, Unit:	15 GAL/AC
Mix Overage, Unit:	
Mix Size, Unit:	1.5 L
Spray pH:	
Propellant:	CO2
Tank Mix (Y/N):	

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Equipment Comment:

Trt No Treatment Application Comment

Date	By	Notes
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No. Date	By	Deviations
1.		
Reasons:		

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											W Weed AMAPA Palmer amaranth		
											SORBI	SORBI	May-8-18 CONTROL PERCENT
											May-8-18 STUNTING PERCENT	May-8-18 CHLOROSIS PERCENT	May-8-18 CONTROL PERCENT
											12 12 12 DA-A	12 12 12 DA-A	12 12 12 DA-A
											1	1	1
											12 12 12 DA-A	12 12 12 DA-A	12 12 12 DA-A
											1	2	3
											1	2	3
1 Untreated											0.0 d	0.0 b	0.0 b
2 HERB Atrazine 4 LBA/GAL L 1.0 qt/a 1 lb ai/a PREPRE A											10.0 a-d	0.0 b	99.0 a
3 HERB Bicep II Magnum 5.5 LBA/GAL L 1.6 qt/a 2.2 lb ai/a PREPRE A											12.5 a-d	0.0 b	99.0 a
4 HERB Bicep Lite II Magnum 6 LBA/GAL L 1.25 qt/a 1.88 lb ai/a PREPRE A											11.3 a-d	0.0 b	99.0 a
5 HERB Degree Xtra 4.04 LB/GAL L 2.25 qt/a 2.27 lb ai/a PREPRE A											10.0 a-d	0.0 b	99.0 a
6 HERB Dual Magnum 7.64 LB/GAL SC 1.5 pt/a 1.43 lb ai/a PREPRE A											12.5 a-d	0.0 b	99.0 a
7 HERB Me-Too-Lachlor 8 LB/GAL SC 1.43 pt/a 1.43 lb ai/a PREPRE A											7.5 bcd	0.0 b	99.0 a
8 HERB Warrant 3 LB/GAL ME 2 qt/a 1.5 lb ai/a PREPRE A											2.5 cd	0.0 b	99.0 a
9 HERB Verdict 5.57 LB/GAL EC 10 oz/a 0.435 lb ai/a PREPRE A											13.8 abc	0.0 b	99.0 a
HERB Outlook 6 LB/GAL EC 10 oz/a 0.47 lb ai/a PREPRE A													
10 HERB Callisto 4 LB/GAL SC 6 oz/a 0.188 lb ai/a PREPRE A											18.8 ab	20.0 a	99.0 a
11 HERB Callisto 4 LB/GAL SC 6 oz/a 0.188 lb ai/a PREPRE A											15.0 abc	13.8 a	99.0 a
HERB Dual Magnum 7.64 LB/GAL EC 1.5 pt/a 1.43 lb ai/a PREPRE A													
12 HERB Callisto 4 LB/GAL SC 6 oz/a 0.188 lb ai/a PREPRE A											21.3 a	18.8 a	99.0 a
HERB Atrazine 4 LBA/GAL L 0.75 qt/a 0.75 lb ai/a PREPRE A													
HERB Dual Magnum 7.64 LB/GAL SC 1.5 pt/a 1.43 lb ai/a PREPRE A													
Tukey's HSD P= .10											13.62	7.14	.
Standard Deviation											6.01	3.15	0.00
CV											53.42	71.96	0.0
Grand Mean											11.25	4.38	90.75
Levene's F											1.822	2.80	0.00
Levene's Prob(F)											0.086	0.01*	0.00*
Replicate F											4.000	2.032	0.000
Replicate Prob(F)											0.0156	0.1285	1.0000
Treatment F											4.028	26.083	0.000
Treatment Prob(F)											0.0009	0.0001	1.0000

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Pest Type										W Weed		W Weed
Pest Code												AMAPA
Pest Name												Palmer amaranth
Crop Code												
Part Rated												
Rating Date												
Rating Type												
Rating Unit												
Number of Subsamples												
Days After First/Last Applic.												
Trt-Eval Interval												
Trt No. Type	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate	Other Rate	Other Rate	Growth Unit	Appl Code	4	5	6
1	Untreated									0.0 c	0.0 b	0.0 b
2	HERB Atrazine	4 LBA/GAL	L		1.0 qt/a		1 lb ai/a	PREPRE A		97.0 a	7.5 ab	99.0 a
3	HERB Bicep II Magnum	5.5 LBA/GAL	L		1.6 qt/a		2.2 lb ai/a	PREPRE A		99.0 a	15.0 ab	99.0 a
4	HERB Bicep Lite II Magnum	6 LBA/GAL	L		1.25 qt/a		1.88 lb ai/a	PREPRE A		98.0 a	12.5 ab	99.0 a
5	HERB Degree Xtra	4.04 LB/GAL	L		2.25 qt/a		2.27 lb ai/a	PREPRE A		98.0 a	7.5 ab	99.0 a
6	HERB Dual Magnum	7.64 LB/GAL	SC		1.5 pt/a		1.43 lb ai/a	PREPRE A		98.0 a	5.0 ab	99.0 a
7	HERB Me-Too-Lachlor	8 LB/GAL	SC		1.43 pt/a		1.43 lb ai/a	PREPRE A		99.0 a	7.5 ab	99.0 a
8	HERB Warrant	3 LB/GAL	ME		2 qt/a		1.5 lb ai/a	PREPRE A		65.0 b	6.3 ab	98.0 a
9	HERB Verdict	5.57 LB/GAL	EC		10 oz/a		0.435 lb ai/a	PREPRE A		99.0 a	15.0 ab	99.0 a
	HERB Outlook	6 LB/GAL	EC		10 oz/a		0.47 lb ai/a	PREPRE A				
10	HERB Callisto	4 LB/GAL	SC		6 oz/a		0.188 lb ai/a	PREPRE A		99.0 a	15.0 ab	99.0 a
11	HERB Callisto	4 LB/GAL	SC		6 oz/a		0.188 lb ai/a	PREPRE A		99.0 a	17.5 ab	99.0 a
	HERB Dual Magnum	7.64 LB/GAL	EC		1.5 pt/a		1.43 lb ai/a	PREPRE A				
12	HERB Callisto	4 LB/GAL	SC		6 oz/a		0.188 lb ai/a	PREPRE A		99.0 a	22.5 a	99.0 a
	HERB Atrazine	4 LBA/GAL	L		0.75 qt/a		0.75 lb ai/a	PREPRE A				
	HERB Dual Magnum	7.64 LB/GAL	SC		1.5 pt/a		1.43 lb ai/a	PREPRE A				
Tukey's HSD P=.10										11.94	21.37	1.31
Standard Deviation										5.27	9.43	0.58
CV										6.02	86.21	0.64
Grand Mean										87.50	10.94	90.67
Levene's F										23.43	1.31	
Levene's Prob(F)										0.001*	0.259	
Replicate F										1.035	4.443	1.000
Replicate Prob(F)										0.3899	0.0099	0.4051
Treatment F										122.865	1.804	9784.001
Treatment Prob(F)										0.0001	0.0936	0.0001

Means followed by same letter or symbol do not significantly differ (P=.10, Tukey's HSD)
 Could not calculate Tukey's HSD (% mean diff) for columns 3 because error mean square = 0.

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Pest Type										W Weed		W Weed
Pest Code												AMAPA
Pest Name												Palmer amaranth
Crop Code												
Part Rated												
Rating Date												
Rating Type												
Rating Unit												
Number of Subsamples												
Days After First/Last Applic.												
Trt-Eval Interval												
Trt No. Type	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate	Other Rate	Other Rate	Growth Unit	Appl Code	7	8	9
1	Untreated									0.0 e	0.0 b	0.0 b
2	HERB Atrazine	4 LBA/GAL	L		1.0 qt/a		1 lb ai/a	PREPRE A		47.5 d	2.5 ab	99.0 a
3	HERB Bicep II Magnum	5.5 LBA/GAL	L		1.6 qt/a		2.2 lb ai/a	PREPRE A		99.0 a	7.5 ab	99.0 a
4	HERB Bicep Lite II Magnum	6 LBA/GAL	L		1.25 qt/a		1.88 lb ai/a	PREPRE A		95.5 a	7.5 ab	99.0 a
5	HERB Degree Xtra	4.04 LB/GAL	L		2.25 qt/a		2.27 lb ai/a	PREPRE A		96.8 a	5.0 ab	99.0 a
6	HERB Dual Magnum	7.64 LB/GAL	SC		1.5 pt/a		1.43 lb ai/a	PREPRE A		99.0 a	6.3 ab	99.0 a
7	HERB Me-Too-Lachlor	8 LB/GAL	SC		1.43 pt/a		1.43 lb ai/a	PREPRE A		91.3 a	5.0 ab	99.0 a
8	HERB Warrant	3 LB/GAL	ME		2 qt/a		1.5 lb ai/a	PREPRE A		57.5 c	5.0 ab	98.0 a
9	HERB Verdict	5.57 LB/GAL	EC		10 oz/a		0.435 lb ai/a	PREPRE A		98.0 a	11.3 ab	99.0 a
	HERB Outlook	6 LB/GAL	EC		10 oz/a		0.47 lb ai/a	PREPRE A				
10	HERB Callisto	4 LB/GAL	SC		6 oz/a		0.188 lb ai/a	PREPRE A		75.0 b	8.8 ab	99.0 a
11	HERB Callisto	4 LB/GAL	SC		6 oz/a		0.188 lb ai/a	PREPRE A		99.0 a	10.0 ab	99.0 a
	HERB Dual Magnum	7.64 LB/GAL	EC		1.5 pt/a		1.43 lb ai/a	PREPRE A				
12	HERB Callisto	4 LB/GAL	SC		6 oz/a		0.188 lb ai/a	PREPRE A		99.0 a	15.0 a	99.0 a
	HERB Atrazine	4 LBA/GAL	L		0.75 qt/a		0.75 lb ai/a	PREPRE A				
	HERB Dual Magnum	7.64 LB/GAL	SC		1.5 pt/a		1.43 lb ai/a	PREPRE A				
Tukey's HSD P=.10										9.82	13.58	1.31
Standard Deviation										4.33	5.99	0.58
CV										5.43	85.82	0.64
Grand Mean										79.79	6.98	90.67
Levene's F										2.004	3.268	
Levene's Prob(F)										0.058	0.004*	
Replicate F										2.111	3.228	1.000
Replicate Prob(F)										0.1176	0.0349	0.4051
Treatment F										201.471	1.788	9784.001
Treatment Prob(F)										0.0001	0.0968	0.0001

Means followed by same letter or symbol do not significantly differ (P=.10, Tukey's HSD)

Could not calculate Tukey's HSD (% mean diff) for columns 3 because error mean square = 0.

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Pest Type											W Weed	W Weed AMAPA Palmer amaranth	W Weed
Pest Code													
Pest Name													
Crop Code													
Part Rated													
Rating Date													
Rating Type													
Rating Unit													
Number of Subsamples													
Days After First/Last Applic.													
Trt-Eval Interval													
Trt No. Type	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate	Other Rate	Other Rate	Growth Unit	Stage	Appl Code	10	11	12
1	Untreated										0.0 d	0.0 b	0.0 e
2	HERB Atrazine	4	LBA/GAL	L	1.0	qt/a	1	lb ai/a	PREPRE A		35.0 c	99.0 a	45.0 cd
3	HERB Bicep II Magnum	5.5	LBA/GAL	L	1.6	qt/a	2.2	lb ai/a	PREPRE A		90.0 ab	99.0 a	92.5 a
4	HERB Bicep Lite II Magnum	6	LBA/GAL	L	1.25	qt/a	1.88	lb ai/a	PREPRE A		91.3 ab	98.0 a	86.3 ab
5	HERB Degree Xtra	4.04	LB/GAL	L	2.25	qt/a	2.27	lb ai/a	PREPRE A		92.5 ab	98.0 a	88.8 a
6	HERB Dual Magnum	7.64	LB/GAL	SC	1.5	pt/a	1.43	lb ai/a	PREPRE A		92.5 ab	98.0 a	88.8 a
7	HERB Me-Too-Lachlor	8	LB/GAL	SC	1.43	pt/a	1.43	lb ai/a	PREPRE A		83.8 ab	98.0 a	76.3 abc
8	HERB Warrant	3	LB/GAL	ME	2	qt/a	1.5	lb ai/a	PREPRE A		35.0 c	97.0 a	22.5 de
9	HERB Verdict	5.57	LB/GAL	EC	10	oz/a	0.435	lb ai/a	PREPRE A		87.5 ab	99.0 a	85.0 ab
	HERB Outlook	6	LB/GAL	EC	10	oz/a	0.47	lb ai/a	PREPRE A				
10	HERB Callisto	4	LB/GAL	SC	6	oz/a	0.188	lb ai/a	PREPRE A		63.8 bc	99.0 a	50.0 bcd
11	HERB Callisto	4	LB/GAL	SC	6	oz/a	0.188	lb ai/a	PREPRE A		96.0 a	99.0 a	95.0 a
	HERB Dual Magnum	7.64	LB/GAL	EC	1.5	pt/a	1.43	lb ai/a	PREPRE A				
12	HERB Callisto	4	LB/GAL	SC	6	oz/a	0.188	lb ai/a	PREPRE A		97.0 a	99.0 a	93.8 a
	HERB Atrazine	4	LBA/GAL	L	0.75	qt/a	0.75	lb ai/a	PREPRE A				
	HERB Dual Magnum	7.64	LB/GAL	SC	1.5	pt/a	1.43	lb ai/a	PREPRE A				
Tukey's HSD P=.10											30.37	2.99	38.75
Standard Deviation											13.40	1.32	17.09
CV											18.6	1.46	24.9
Grand Mean											72.02	90.25	68.65
Levene's F											2.638	1.364	5.543
Levene's Prob(F)											0.014*	0.232	0.001*
Replicate F											0.161	1.279	3.139
Replicate Prob(F)											0.9216	0.2977	0.0383
Treatment F											22.500	1860.750	13.797
Treatment Prob(F)											0.0001	0.0001	0.0001

Means followed by same letter or symbol do not significantly differ (P=.10, Tukey's HSD)

Could not calculate Tukey's HSD (% mean diff) for columns 3 because error mean square = 0.

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PREEMERGENCE WEED CONTROL IN GRAIN SORGHUM	
Trial ID: GS-01-18	Location: TY TY, GA Trial Year: 2018
Protocol ID: H-Pre-18 UGA	Investigator: Eric P. Prostko
Project ID:	Study Director:
	Sponsor Contact: BRENT BEAN
<u>Pest Type</u> W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop	
<u>Pest Code</u> AMAPA, Amaranthus palmeri, Palmer amaranth = US	
<u>Crop Code</u> SORBI, , , = SORBI, , ,	
<u>Rating Unit</u> PERCENT = percent	

PREEMERGENCE WEED CONTROL IN GRAIN SORGHUM Trial ID: GS-01-18 Location: TY TY, GA Trial Year: 2018 Protocol ID: H-Pre-18 UGA Investigator: Eric P. Prostko Project ID: Study Director: Sponsor Contact: BRENT BEAN	
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Pest Type Pest Code Pest Name Crop Code Part Rated Rating Date Rating Type Rating Unit Number of Subsamples Days After First/Last Applic. Trt-Eval Interval											SORBI May-8-18 STUNTING PERCENT 1 12 12 12 DA-A	SORBI May-8-18 CHLOROSIS PERCENT 1 12 12 12 DA-A
Trt No.	Treatment Type	Form Conc	Form Unit	Form Type	Rate Unit	Other Rate	Other Rate	Other Unit	Growth Stage	Appl Code Plot	1	2
1	Untreated									110 205 306 408 Mean =	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0
2	HERB Atrazine	4 LBA/GAL	L		1.0 qt/a		1 lb ai/a		PREPRE A	105 209 301 410 Mean =	20.0 10.0 10.0 0.0 10.0	0.0 0.0 0.0 0.0 0.0
3	HERB Bicep II Magnum	5.5 LBA/GAL	L		1.6 qt/a		2.2 lb ai/a		PREPRE A	102 204 312 409 Mean =	20.0 10.0 0.0 20.0 12.5	0.0 0.0 0.0 0.0 0.0
4	HERB Bicep Lite II Magnum	6 LBA/GAL	L		1.25 qt/a		1.88 lb ai/a		PREPRE A	111 212 310 403 Mean =	15.0 0.0 10.0 20.0 11.3	0.0 0.0 0.0 0.0 0.0
5	HERB Degree Xtra	4.04 LB/GAL	L		2.25 qt/a		2.27 lb ai/a		PREPRE A	108 211 308 406 Mean =	10.0 10.0 10.0 10.0 10.0	0.0 0.0 0.0 0.0 0.0
6	HERB Dual Magnum	7.64 LB/GAL	SC		1.5 pt/a		1.43 lb ai/a		PREPRE A	109 203 307 412 Mean =	15.0 10.0 10.0 15.0 12.5	0.0 0.0 0.0 0.0 0.0
7	HERB Me-Too-Lachlor	8 LB/GAL	SC		1.43 pt/a		1.43 lb ai/a		PREPRE A	107 206 304 405 Mean =	10.0 0.0 10.0 10.0 7.5	0.0 0.0 0.0 0.0 0.0
8	HERB Warrant	3 LB/GAL	ME		2 qt/a		1.5 lb ai/a		PREPRE A	101 207 303 411 Mean =	0.0 0.0 10.0 0.0 2.5	0.0 0.0 0.0 0.0 0.0
9	HERB Verdict HERB Outlook	5.57 LB/GAL 6 LB/GAL	EC EC		10 oz/a 10 oz/a	0.435 lb ai/a 0.47 lb ai/a			PREPRE A PREPRE A	104 210 302 407 Mean =	20.0 0.0 25.0 10.0 13.8	0.0 0.0 0.0 0.0 0.0
10	HERB Callisto	4 LB/GAL	SC		6 oz/a	0.188 lb ai/a			PREPRE A	106 201 305 401 Mean =	30.0 15.0 20.0 10.0 18.8	30.0 20.0 20.0 10.0 20.0
11	HERB Callisto HERB Dual Magnum	4 LB/GAL 7.64 LB/GAL	SC EC		6 oz/a 1.5 pt/a	0.188 lb ai/a 1.43 lb ai/a			PREPRE A PREPRE A	112 208 309 402 Mean =	15.0 15.0 20.0 10.0 15.0	10.0 15.0 20.0 10.0 13.8

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Pest Type											SORBI May-8-18 STUNTING PERCENT 1 12 12 12 DA-A		SORBI May-8-18 CHLOROSIS PERCENT 1 12 12 12 DA-A	
Pest Code														
Pest Name														
Crop Code														
Part Rated														
Rating Date														
Rating Type														
Rating Unit														
Number of Subsamples														
Days After First/Last Applic.														
Trt-Eval Interval														
Trt	Treatment		Form	Form	Form	Rate	Other	Other	Growth	Appl				
No.	Type	Name	Conc	Unit	Type	Rate	Unit	Rate	Rate	Unit	Stage	Code	Plot	
12	HERB	Callisto	4	LB/GAL	SC	6 oz/a		0.188 lb ai/a	PREPRE	A	103			
	HERB	Atrazine	4	LBA/GAL	L	0.75 qt/a		0.75 lb ai/a	PREPRE	A	202			
	HERB	Dual Magnum	7.64	LB/GAL	SC	1.5 pt/a		1.43 lb ai/a	PREPRE	A	311			
											404			
											Mean =			

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Pest Type											W Weed	W Weed
Pest Code											AMAPA	
Pest Name											Palmer amaranth	
Crop Code												
Part Rated												
Rating Date											May-8-18	AGRASS -
Rating Type											CONTROL	May-8-18
Rating Unit											PERCENT	CONTROL
Number of Subsamples											1	1
Days After First/Last Applic.											12 12	12 12
Trt-Eval Interval											12 DA-A	12 DA-A
Trt No.	Treatment Type	Form Conc	Form Unit	Form Type	Rate Rate	Other Rate	Other Rate	Growth Stage	Appl Code	Plot	3	4
1	Untreated											
									110		0.0	0.0
									205		0.0	0.0
									306		0.0	0.0
									408		0.0	0.0
									Mean =		0.0	0.0
2	HERB Atrazine	4	LBA/GAL	L	1.0	qt/a	1	lb ai/a	PREPRE A	105	99.0	99.0
									209		99.0	95.0
									301		99.0	99.0
									410		99.0	95.0
									Mean =		99.0	97.0
3	HERB Bicep II Magnum	5.5	LBA/GAL	L	1.6	qt/a	2.2	lb ai/a	PREPRE A	102	99.0	99.0
									204		99.0	99.0
									312		99.0	99.0
									409		99.0	99.0
									Mean =		99.0	99.0
4	HERB Bicep Lite II Magnum	6	LBA/GAL	L	1.25	qt/a	1.88	lb ai/a	PREPRE A	111	99.0	95.0
									212		99.0	99.0
									310		99.0	99.0
									403		99.0	99.0
									Mean =		99.0	98.0
5	HERB Degree Xtra	4.04	LB/GAL	L	2.25	qt/a	2.27	lb ai/a	PREPRE A	108	99.0	99.0
									211		99.0	99.0
									308		99.0	99.0
									406		99.0	95.0
									Mean =		99.0	98.0
6	HERB Dual Magnum	7.64	LB/GAL	SC	1.5	pt/a	1.43	lb ai/a	PREPRE A	109	99.0	99.0
									203		99.0	95.0
									307		99.0	99.0
									412		99.0	99.0
									Mean =		99.0	98.0
7	HERB Me-Too-Lachlor	8	LB/GAL	SC	1.43	pt/a	1.43	lb ai/a	PREPRE A	107	99.0	99.0
									206		99.0	99.0
									304		99.0	99.0
									405		99.0	99.0
									Mean =		99.0	99.0
8	HERB Warrant	3	LB/GAL	ME	2	qt/a	1.5	lb ai/a	PREPRE A	101	99.0	50.0
									207		99.0	85.0
									303		99.0	75.0
									411		99.0	50.0
									Mean =		99.0	65.0
9	HERB Verdict	5.57	LB/GAL	EC	10	oz/a	0.435	lb ai/a	PREPRE A	104	99.0	99.0
	HERB Outlook	6	LB/GAL	EC	10	oz/a	0.47	lb ai/a	PREPRE A	210	99.0	99.0
									302		99.0	99.0
									407		99.0	99.0
									Mean =		99.0	99.0
10	HERB Callisto	4	LB/GAL	SC	6	oz/a	0.188	lb ai/a	PREPRE A	106	99.0	99.0
									201		99.0	99.0
									305		99.0	99.0
									401		99.0	99.0
									Mean =		99.0	99.0
11	HERB Callisto	4	LB/GAL	SC	6	oz/a	0.188	lb ai/a	PREPRE A	112	99.0	99.0
	HERB Dual Magnum	7.64	LB/GAL	EC	1.5	pt/a	1.43	lb ai/a	PREPRE A	208	99.0	99.0
									309		99.0	99.0
									402		99.0	99.0
									Mean =		99.0	99.0

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Pest Type											W Weed	W Weed
Pest Code											AMAPA	
Pest Name											Palmer amaranth	
Crop Code												
Part Rated												
Rating Date											May-8-18	AGRASS - May-8-18
Rating Type											CONTROL	CONTROL
Rating Unit											PERCENT	PERCENT
Number of Subsamples											1	1
Days After First/Last Applic.											12 12	12 12
Trt-Eval Interval											12 DA-A	12 DA-A
Trt	Treatment	Form Form	Form	Rate Other	Other	Growth	Appl					
No. Type	Name	Conc Unit	Type	Rate Unit	Rate Rate Unit	Stage	Code Plot					
12 HERB	Callisto	4 LB/GAL	SC	6 oz/a	0.188 lb ai/a	PREPRE A	103					
	HERB Atrazine	4 LBA/GAL	L	0.75 qt/a	0.75 lb ai/a	PREPRE A	202					
	HERB Dual Magnum	7.64 LB/GAL	SC	1.5 pt/a	1.43 lb ai/a	PREPRE A	311					
							404					
							Mean =					

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Pest Type Pest Code Pest Name Crop Code Part Rated Rating Date Rating Type Rating Unit Number of Subsamples Days After First/Last Applic. Trt-Eval Interval											SORBI	W Weed AMAPA Palmer amaranth	
											May-18-18 STUNTING PERCENT	May-18-18 CONTROL PERCENT	
											1	1	
											22 22 22 DA-A	22 22 22 DA-A	
Trt No.	Treatment Type	Form Conc	Form Unit	Form Type	Rate Unit	Other Rate	Other Rate	Growth Unit	Stage	Appl Code	Plot	5	6
1	Untreated										110 205 306 408 Mean =	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0
2	HERB Atrazine	4 LBA/GAL	L		1.0 qt/a		1 lb ai/a		PREPRE A		105 209 301 410 Mean =	10.0 10.0 10.0 0.0 7.5	99.0 99.0 99.0 99.0 99.0
3	HERB Bicep II Magnum	5.5 LBA/GAL	L		1.6 qt/a		2.2 lb ai/a		PREPRE A		102 204 312 409 Mean =	30.0 10.0 0.0 20.0 15.0	99.0 99.0 99.0 99.0 99.0
4	HERB Bicep Lite II Magnum	6 LBA/GAL	L		1.25 qt/a		1.88 lb ai/a		PREPRE A		111 212 310 403 Mean =	10.0 10.0 10.0 20.0 12.5	99.0 99.0 99.0 99.0 99.0
5	HERB Degree Xtra	4.04 LB/GAL	L		2.25 qt/a		2.27 lb ai/a		PREPRE A		108 211 308 406 Mean =	10.0 10.0 10.0 0.0 7.5	99.0 99.0 99.0 99.0 99.0
6	HERB Dual Magnum	7.64 LB/GAL	SC		1.5 pt/a		1.43 lb ai/a		PREPRE A		109 203 307 412 Mean =	20.0 0.0 0.0 0.0 5.0	99.0 99.0 99.0 99.0 99.0
7	HERB Me-Too-Lachlor	8 LB/GAL	SC		1.43 pt/a		1.43 lb ai/a		PREPRE A		107 206 304 405 Mean =	0.0 10.0 20.0 0.0 7.5	99.0 99.0 99.0 99.0 99.0
8	HERB Warrant	3 LB/GAL	ME		2 qt/a		1.5 lb ai/a		PREPRE A		101 207 303 411 Mean =	0.0 0.0 25.0 0.0 6.3	99.0 99.0 99.0 95.0 98.0
9	HERB Verdict HERB Outlook	5.57 LB/GAL 6 LB/GAL	EC EC		10 oz/a 10 oz/a		0.435 lb ai/a 0.47 lb ai/a		PREPRE A PREPRE A		104 210 302 407 Mean =	30.0 10.0 20.0 0.0 15.0	99.0 99.0 99.0 99.0 99.0
10	HERB Callisto	4 LB/GAL	SC		6 oz/a		0.188 lb ai/a		PREPRE A		106 201 305 401 Mean =	40.0 0.0 20.0 0.0 15.0	99.0 99.0 99.0 99.0 99.0
11	HERB Callisto HERB Dual Magnum	4 LB/GAL 7.64 LB/GAL	SC EC		6 oz/a 1.5 pt/a		0.188 lb ai/a 1.43 lb ai/a		PREPRE A PREPRE A		112 208 309 402 Mean =	20.0 20.0 30.0 0.0 17.5	99.0 99.0 99.0 99.0 99.0

Pest Type											SORBI	W Weed AMAPA Palmer amaranth
Pest Code											May-18-18	May-18-18
Pest Name											STUNTING	CONTROL
Crop Code											PERCENT	PERCENT
Part Rated											1	1
Rating Date											22 22	22 22
Rating Type											22 DA-A	22 DA-A
Rating Unit												
Number of Subsamples												
Days After First/Last Applic.												
Trt-Eval Interval												
Trt No.	Treatment Type Name	Form Conc	Form Unit	Type Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code Plot		5	6
12 HERB	Callisto	4 LB/GAL	SC	6 oz/a	0.188 lb ai/a			PREPRE A	103	30.0		99.0
HERB	Atrazine	4 LBA/GAL	L	0.75 qt/a	0.75 lb ai/a			PREPRE A	202	20.0		99.0
HERB	Dual Magnum	7.64 LB/GAL	SC	1.5 pt/a	1.43 lb ai/a			PREPRE A	311	30.0		99.0
									404	10.0		99.0
									Mean =	22.5		99.0

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Pest Type											W Weed	
Pest Code												
Pest Name												
Crop Code												
Part Rated												
Rating Date												
Rating Type												
Rating Unit												
Number of Subsamples												
Days After First/Last Applic.												
Trt-Eval Interval												
Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate	Other Rate	Other Rate	Growth Stage	Appl Code	Plot	7	8
1	Untreated											
									110		0.0	0.0
									205		0.0	0.0
									306		0.0	0.0
									408		0.0	0.0
									Mean =		0.0	0.0
2	HERB Atrazine	4 LBA/GAL	L		1.0 qt/a		1 lb ai/a	PREPRE A	105		50.0	10.0
									209		50.0	0.0
									301		40.0	0.0
									410		50.0	0.0
									Mean =		47.5	2.5
3	HERB Bicep II Magnum	5.5 LBA/GAL	L		1.6 qt/a		2.2 lb ai/a	PREPRE A	102		99.0	20.0
									204		99.0	0.0
									312		99.0	0.0
									409		99.0	10.0
									Mean =		99.0	7.5
4	HERB Bicep Lite II Magnum	6 LBA/GAL	L		1.25 qt/a		1.88 lb ai/a	PREPRE A	111		99.0	10.0
									212		99.0	0.0
									310		85.0	10.0
									403		99.0	10.0
									Mean =		95.5	7.5
5	HERB Degree Xtra	4.04 LB/GAL	L		2.25 qt/a		2.27 lb ai/a	PREPRE A	108		99.0	10.0
									211		90.0	10.0
									308		99.0	0.0
									406		99.0	0.0
									Mean =		96.8	5.0
6	HERB Dual Magnum	7.64 LB/GAL	SC		1.5 pt/a		1.43 lb ai/a	PREPRE A	109		99.0	10.0
									203		99.0	0.0
									307		99.0	0.0
									412		99.0	15.0
									Mean =		99.0	6.3
7	HERB Me-Too-Lachlor	8 LB/GAL	SC		1.43 pt/a		1.43 lb ai/a	PREPRE A	107		90.0	0.0
									206		90.0	0.0
									304		90.0	10.0
									405		95.0	10.0
									Mean =		91.3	5.0
8	HERB Warrant	3 LB/GAL	ME		2 qt/a		1.5 lb ai/a	PREPRE A	101		50.0	0.0
									207		65.0	0.0
									303		50.0	10.0
									411		65.0	10.0
									Mean =		57.5	5.0
9	HERB Verdict	5.57 LB/GAL	EC		10 oz/a	0.435 lb ai/a		PREPRE A	104		95.0	20.0
	HERB Outlook	6 LB/GAL	EC		10 oz/a	0.47 lb ai/a		PREPRE A	210		99.0	10.0
									302		99.0	15.0
									407		99.0	0.0
									Mean =		98.0	11.3
10	HERB Callisto	4 LB/GAL	SC		6 oz/a	0.188 lb ai/a		PREPRE A	106		65.0	20.0
									201		85.0	0.0
									305		75.0	15.0
									401		75.0	0.0
									Mean =		75.0	8.8
11	HERB Callisto	4 LB/GAL	SC		6 oz/a	0.188 lb ai/a		PREPRE A	112		99.0	10.0
	HERB Dual Magnum	7.64 LB/GAL	EC		1.5 pt/a	1.43 lb ai/a		PREPRE A	208		99.0	10.0
									309		99.0	10.0
									402		99.0	10.0
									Mean =		99.0	10.0

Pest Type											W Weed	
Pest Code												
Pest Name												SORBI
Crop Code												
Part Rated											AGRASS -	
Rating Date											May-18-18	Jun-4-18
Rating Type											CONTROL	STUNTING
Rating Unit											PERCENT	PERCENT
Number of Subsamples											1	1
Days After First/Last Applic.											22 22	39 39
Trt-Eval Interval											22 DA-A	39 DA-A
Trt No.	Treatment Type	Form Conc	Form Unit	Type	Rate Rate	Other Unit	Other Rate	Growth Stage	Appl Code	Plot	7	8
12	HERB Callisto	4 LB/GAL	SC		6 oz/a	0.188 lb ai/a		PREPRE A	103		99.0	20.0
	HERB Atrazine	4 LBA/GAL	L		0.75 qt/a	0.75 lb ai/a		PREPRE A	202		99.0	10.0
	HERB Dual Magnum	7.64 LB/GAL	SC		1.5 pt/a	1.43 lb ai/a		PREPRE A	311		99.0	20.0
									404		99.0	10.0
									Mean =		99.0	15.0

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Pest Type Pest Code Pest Name Crop Code Part Rated Rating Date Rating Type Rating Unit Number of Subsamples Days After First/Last Applic. Trt-Eval Interval											W Weed AMAPA Palmer amaranth	W Weed Jun-4-18 CONTROL PERCENT 1 39 39 39 DA-A	W Weed Jun-4-18 CONTROL PERCENT 1 39 39 39 DA-A
Trt No.	Treatment Type	Form Conc	Form Unit	Form Type	Rate Rate	Other Unit	Other Rate	Other Unit	Growth Stage	Appl Code	Plot	9	10
1	Untreated										110 205 306 408 Mean =	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0
2	HERB Atrazine	4 LBA/GAL	L		1.0 qt/a		1 lb ai/a		PREPRE A		105 209 301 410 Mean =	99.0 99.0 99.0 99.0 99.0	50.0 0.0 60.0 30.0 35.0
3	HERB Bicep II Magnum	5.5 LBA/GAL	L		1.6 qt/a		2.2 lb ai/a		PREPRE A		102 204 312 409 Mean =	99.0 99.0 99.0 99.0 99.0	85.0 95.0 95.0 85.0 90.0
4	HERB Bicep Lite II Magnum	6 LBA/GAL	L		1.25 qt/a		1.88 lb ai/a		PREPRE A		111 212 310 403 Mean =	99.0 99.0 99.0 99.0 99.0	90.0 95.0 85.0 95.0 91.3
5	HERB Degree Xtra	4.04 LB/GAL	L		2.25 qt/a		2.27 lb ai/a		PREPRE A		108 211 308 406 Mean =	99.0 99.0 99.0 99.0 99.0	95.0 85.0 95.0 95.0 92.5
6	HERB Dual Magnum	7.64 LB/GAL	SC		1.5 pt/a		1.43 lb ai/a		PREPRE A		109 203 307 412 Mean =	99.0 99.0 99.0 99.0 99.0	95.0 95.0 95.0 85.0 92.5
7	HERB Me-Too-Lachlor	8 LB/GAL	SC		1.43 pt/a		1.43 lb ai/a		PREPRE A		107 206 304 405 Mean =	99.0 99.0 99.0 99.0 99.0	75.0 90.0 85.0 85.0 83.8
8	HERB Warrant	3 LB/GAL	ME		2 qt/a		1.5 lb ai/a		PREPRE A		101 207 303 411 Mean =	99.0 99.0 99.0 95.0 98.0	60.0 50.0 30.0 0.0 35.0
9	HERB Verdict HERB Outlook	5.57 LB/GAL 6 LB/GAL	EC EC		10 oz/a 10 oz/a		0.435 lb ai/a 0.47 lb ai/a		PREPRE A PREPRE A		104 210 302 407 Mean =	99.0 99.0 99.0 99.0 99.0	65.0 95.0 95.0 95.0 87.5
10	HERB Callisto	4 LB/GAL	SC		6 oz/a		0.188 lb ai/a		PREPRE A		106 201 305 401 Mean =	99.0 99.0 99.0 99.0 99.0	60.0 60.0 50.0 85.0 63.8
11	HERB Callisto HERB Dual Magnum	4 LB/GAL 7.64 LB/GAL	SC EC		6 oz/a 1.5 pt/a		0.188 lb ai/a 1.43 lb ai/a		PREPRE A PREPRE A		112 208 309 402 Mean =	99.0 99.0 99.0 99.0 99.0	95.0 95.0 99.0 95.0 96.0

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Pest Type												W Weed AMAPA	W Weed
Pest Code												Palmer amaranth	
Pest Name													
Crop Code													
Part Rated													
Rating Date												Jun-4-18	AGRASS - Jun-4-18
Rating Type												CONTROL	CONTROL
Rating Unit												PERCENT	PERCENT
Number of Subsamples												1	1
Days After First/Last Applic.												39 39	39 39
Trt-Eval Interval												39 DA-A	39 DA-A
Trt Treatment Form Form Rate Other Other Growth Appl	No. Type Name Conc Unit Type Rate Unit Rate Rate Unit Stage Code Plot											9	10
12 HERB Callisto		4 LB/GAL SC	6 oz/a	0.188 lb ai/a	PREP	A	103					99.0	99.0
HERB Atrazine		4 LBA/GAL L	0.75 qt/a	0.75 lb ai/a	PREP	A	202					99.0	95.0
HERB Dual Magnum		7.64 LB/GAL SC	1.5 pt/a	1.43 lb ai/a	PREP	A	311					99.0	99.0
							404					99.0	95.0
							Mean =					99.0	97.0

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Pest Type												W Weed	W Weed
Pest Code												AMAPA	
Pest Name												Palmer amaranth	
Crop Code													
Part Rated													
Rating Date												Jul-20-18	AGRASS - Jul-20-18
Rating Type												CONTROL PERCENT	CONTROL PERCENT
Rating Unit												1	1
Number of Subsamples												85	85
Days After First/Last Applic.												85 DA-A	85 DA-A
Trt-Eval Interval													
Trt No.	Treatment Type	Form Conc	Form Unit	Form Type	Rate Unit	Other Rate	Other Rate	Growth Unit	Stage	Appl Code	Plot	11	12
1	Untreated										110 205 306 408 Mean =	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0
2	HERB Atrazine	4 LBA/GAL	L		1.0 qt/a	1 lb ai/a		PREPRE	A		105 209 301 410 Mean =	99.0 99.0 99.0 99.0 99.0	0.0 30.0 65.0 85.0 45.0
3	HERB Bicep II Magnum	5.5 LBA/GAL	L		1.6 qt/a	2.2 lb ai/a		PREPRE	A		102 204 312 409 Mean =	99.0 99.0 99.0 99.0 99.0	95.0 95.0 95.0 85.0 92.5
4	HERB Bicep Lite II Magnum	6 LBA/GAL	L		1.25 qt/a	1.88 lb ai/a		PREPRE	A		111 212 310 403 Mean =	95.0 99.0 99.0 99.0 98.0	85.0 95.0 85.0 80.0 86.3
5	HERB Degree Xtra	4.04 LB/GAL	L		2.25 qt/a	2.27 lb ai/a		PREPRE	A		108 211 308 406 Mean =	99.0 99.0 99.0 95.0 98.0	95.0 80.0 95.0 85.0 88.8
6	HERB Dual Magnum	7.64 LB/GAL	SC		1.5 pt/a	1.43 lb ai/a		PREPRE	A		109 203 307 412 Mean =	99.0 99.0 95.0 99.0 98.0	95.0 95.0 80.0 85.0 88.8
7	HERB Me-Too-Lachlor	8 LB/GAL	SC		1.43 pt/a	1.43 lb ai/a		PREPRE	A		107 206 304 405 Mean =	99.0 99.0 99.0 95.0 98.0	50.0 85.0 85.0 85.0 76.3
8	HERB Warrant	3 LB/GAL	ME		2 qt/a	1.5 lb ai/a		PREPRE	A		101 207 303 411 Mean =	99.0 99.0 95.0 95.0 97.0	0.0 30.0 30.0 30.0 22.5
9	HERB Verdict HERB Outlook	5.57 LB/GAL 6 LB/GAL	EC EC		10 oz/a 10 oz/a	0.435 lb ai/a 0.47 lb ai/a		PREPRE PREPRE	A A		104 210 302 407 Mean =	99.0 99.0 99.0 99.0 99.0	65.0 95.0 95.0 85.0 85.0
10	HERB Callisto	4 LB/GAL	SC		6 oz/a	0.188 lb ai/a		PREPRE	A		106 201 305 401 Mean =	99.0 99.0 99.0 99.0 99.0	0.0 30.0 80.0 90.0 50.0
11	HERB Callisto HERB Dual Magnum	4 LB/GAL 7.64 LB/GAL	SC EC		6 oz/a 1.5 pt/a	0.188 lb ai/a 1.43 lb ai/a		PREPRE PREPRE	A A		112 208 309 402 Mean =	99.0 99.0 99.0 99.0 99.0	95.0 95.0 95.0 95.0 95.0

Pest Type											W Weed	W Weed
Pest Code											AMAPA	
Pest Name											Palmer amaranth	
Crop Code												
Part Rated												AGRASS -
Rating Date											Jul-20-18	Jul-20-18
Rating Type											CONTROL	CONTROL
Rating Unit											PERCENT	PERCENT
Number of Subsamples											1	1
Days After First/Last Applic.											85 85	85 85
Trt-Eval Interval											85 DA-A	85 DA-A
Trt	Treatment	Form Form	Form	Rate Other Other	Growth	Appl						
No. Type	Name	Conc Unit	Type	Rate Unit Rate Rate Unit Stage	Code Plot							
12 HERB	Callisto	4 LB/GAL	SC	6 oz/a	0.188 lb ai/a	PREPRE A	103					
	HERB Atrazine	4 LBA/GAL	L	0.75 qt/a	0.75 lb ai/a	PREPRE A	202					
	HERB Dual Magnum	7.64 LB/GAL	SC	1.5 pt/a	1.43 lb ai/a	PREPRE A	311					
							404					
							Mean =					

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PREEMERGENCE WEED CONTROL IN GRAIN SORGHUM	
Trial ID: GS-01-18	Location: TY TY, GA Trial Year: 2018
Protocol ID: H-Pre-18 UGA	Investigator: Eric P. Prostko
Project ID:	Study Director:
	Sponsor Contact: BRENT BEAN

<u>Pest Type</u>
W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop
<u>Pest Code</u>
AMAPA, Amaranthus palmeri, Palmer amaranth = US
<u>Crop Code</u>
SORBI, , , = SORBI, , ,
<u>Rating Unit</u>
PERCENT = percent