

Purdue University Weed Science

Application Description

	A	B
Application Date:	5/7/2014	6/6/2014
Appl. Start Time:	9:00	13:00
Appl. Stop Time:	11:00 AM	2:00 PM
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	E POST
Application Placement:	BROADC	BROADC
Applied By:	Legleiter	Spaunhorst
Air Temperature, Unit:	60 F	77 F
% Relative Humidity:	58	36
Wind Velocity, Unit:	5 MPH	2 MPH
Wind Direction:	E	E
Dew Presence (Y/N):	N no	N no
Soil Temperature, Unit:	55 F	80 F
Soil Moisture:	DRY	SLIWET
% Cloud Cover:	70	15

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:		BBCH
Stage Majority, Percent:		13
Stage Minimum, Percent:		13
Stage Maximum, Percent:		14
Height, Unit:		6 IN
Height Minimum, Maximum:		5 7

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale:	AMAPA W	AMAPA W
Stage Majority, Percent:		00
Density, Unit:		0 YD2

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Application Equipment		
	A	B
Appl. Equipment:	CO2 Backpack	CO2 Backpack
Equipment Type:	SPRBAC	SPRBAC
Operation Pressure, Unit:	18 PSI	18 PSI
Nozzle Type:	Flat Fan	Flat Fan
Nozzle Size:	XR11002	XR11002
Nozzle Spacing, Unit:	15 IN	15 IN
Nozzles/Row:	6	6
Boom Length, Unit:	7.5 FT	7.5 FT
Boom Height, Unit:	18 IN	18 IN
Ground Speed, Unit:	3 MPH	3 MPH
Carrier:	H2O	H2O
Water Hardness (ppm CaCO3):	150	150
Spray Volume, Unit:	15 GAL/AC	15 GAL/AC
Mix Size, Unit:	1.8 Liters	1.8 Liters
Propellant:	CO2	CO2
Tank Mix (Y/N):	N no	N no

Date	By	Notes
6/6/2014		NO AMAPA IN TREATED PLOTS WHERE PRES WERE APPLIED

Trial Comments

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Product quantities required for listed treatments and applications of trials included in this table:

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
11.503	g	AUTHORITY FIRST DF	70	WG	
40.781	ml	MARVEL	3	SC	
206.250	ml	LIBERTY 280 SL	2.34	SL	
179.980	ml	PRIME OIL - COC	99.47	L	
899.902	ml	N-PAK - AMS	3.4	SL	
46.732	g	AUTHORITY MTZ	45	WG	
7.190	g	AUTHORITY XL	70	WG	
10.784	g	AUTHORITY MAXX	66	WG	
5.625	ml	AUTHORITY ASSIST	4	SC	
23.437	ml	AUTHORITY ELITE	7	SC	
22.500	ml	ANTHEM	2.15	SE	

* 'Per area' calculations based on spray volume= 15 gal/ac, mix size= 1.8 liters (mix size basis).

* 'Per volume' calculations use spray volume= 15 gal/ac, mix size= 1.8 liters.

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2014/SOYBEAN/AUTHORITY/ANTHEM/MARVEL/PRE/POST/LL PROGRAMS/

Trial ID: 14S-CCP-CTS-03 Location: 12 MILE Trial Year: 2014
 Protocol ID: 14S-CCP-CTS-03 Investigator: Dr. Bill Johnson
 Project ID: SULF.SOY.14.JPR.07 Study Director: Joe Ikley
 Sponsor Contact: FMC - Joe Reed

Pest Type		W Weed	W Weed		W Weed
Pest Code		AMAPA	AMAPA		AMAPA
Pest Scientific Name		Amaranthus pal>	Amaranthus pal>		Amaranthus pal>
Pest Name		Palmer amaranth	Palmer amaranth		Palmer amaranth
Crop Code	GLXMA			GLXMA	
BBCH Scale	BSOY			BSOY	
Crop Scientific Name	Glycine max			Glycine max	
Crop Name	Soybean			Soybean	
Part Rated	PLOT C	PLOT P	PLOT P	PLOT C	PLOT P
Rating Date	6/6/2014	6/6/2014	6/13/2014	6/19/2014	6/19/2014
Rating Type	PHYGEN	CONTRO	CONTRO	PHYGEN	CONTRO
Rating Unit	%	%	%	%	%
Days After First/Last Applic.	30 30	30 30	37 7	43 13	43 13
Trt-Eval Interval	0 DA-B	0 DA-B	7 DA-B	13 DA-B	13 DA-B
ARM Action Codes	P	P	P	P	P
Number of Decimals	0	0	0	0	0
Trt Treatment	Rate Appl				
No. Name	Rate Unit Code Plot	1	2	3	4
1 Untreated Check	101 0	0	0	0	0
	401 0	0	0	0	0
	701 0	0	0	0	0
	902 0	0*	0	0	0
	Mean =	0	0	0	0
2 AUTHORITY FIRST DF	6.4 oz/a A 102 10	100	100	100	100
MARVEL	7.25 oz/a B 304 0	100	100	100	100
LIBERTY 280 SL	22 oz/a B 704 0	100	100	100	100
PRIME OIL - COC	1 % v/v B 803 0	100	100	100	100
N-PAK - AMS	5 % v/v B				
	Mean =	3	100	100	6
3 AUTHORITY MTZ	20 oz/a A 103 5	100	100	100	100
MARVEL	7.25 oz/a B 504 0	100	100	100	100
LIBERTY 280 SL	22 oz/a B 703 0	100	100	100	100
PRIME OIL - COC	1 % v/v B 905 0	100*	100*	100	100
N-PAK - AMS	5 % v/v B				
	Mean =	1	100	100	6
4 AUTHORITY XL	4 oz/a A 104 0	100	100	100	100
MARVEL	7.25 oz/a B 502 0	100	100	100	100
LIBERTY 280 SL	22 oz/a B 605 0	100	100	100	100
PRIME OIL - COC	1 % v/v B 802 0	100	100	100	100
N-PAK - AMS	5 % v/v B				
	Mean =	0	100	100	5
5 AUTHORITY MAXX	6 oz/a A 105 0	100	100	100	100
MARVEL	7.25 oz/a B 402 5	100	100	100	100
LIBERTY 280 SL	22 oz/a B 604 0	100	100	100	100
PRIME OIL - COC	1 % v/v B 805 10	100	100	100	100
N-PAK - AMS	5 % v/v B				
	Mean =	4	100	100	8
6 AUTHORITY ASSIST	6 oz/a A 201 10	100	100	100	100
AUTHORITY MTZ	16 oz/a A 501 0	100	100	100	100
MARVEL	7.25 oz/a B 602 0	100	100	100	100
LIBERTY 280 SL	22 oz/a B 1003 0	100	100	100	100
PRIME OIL - COC	1 % v/v B				
N-PAK - AMS	5 % v/v B				
	Mean =	3	100	100	10
7 AUTHORITY ELITE	25 oz/a A 202 20	100	100	100	100
MARVEL	7.25 oz/a B 405 0	100	100	100	100
LIBERTY 280 SL	22 oz/a B 801 0	100	100	100	100
PRIME OIL - COC	1 % v/v B 903 0	100*	100*	100	100
N-PAK - AMS	5 % v/v B				
	Mean =	5	100	100	10

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Pest Type			W Weed	W Weed			W Weed	
Pest Code			AMAPA	AMAPA			AMAPA	
Pest Scientific Name			Amaranthus pal>	Amaranthus pal>			Amaranthus pal>	
Pest Name			Palmer amaranth	Palmer amaranth			Palmer amaranth	
Crop Code	GLXMA					GLXMA		
BBCH Scale	BSOY					BSOY		
Crop Scientific Name	Glycine max					Glycine max		
Crop Name	Soybean					Soybean		
Part Rated	PLOT C	PLOT P	PLOT P	PLOT C	PLOT P	PLOT C	PLOT P	
Rating Date	6/6/2014	6/6/2014	6/13/2014	6/19/2014	6/19/2014	6/19/2014	6/19/2014	
Rating Type	PHYGEN	CONTRO	CONTRO	PHYGEN	CONTRO	PHYGEN	CONTRO	
Rating Unit	%	%	%	%	%	%	%	
Days After First/Last Applic.	30 30	30 30	37 7	43 13	43 13	43 13	43 13	
Trt-Eval Interval	0 DA-B	0 DA-B	7 DA-B	13 DA-B	13 DA-B	13 DA-B	13 DA-B	
ARM Action Codes	P	P	P	P	P	P	P	
Number of Decimals	0	0	0	0	0	0	0	
Trt Treatment	Rate	Appl						
No. Name	Rate Unit	Code Plot	1	2	3	4	5	
8 AUTHORITY FIRST DF	6.4 oz/a	A 203	15	100	100	10	100	
ANTHEM	6 oz/a	B 303	5	100	100	5	100	
LIBERTY 280 SL	22 oz/a	B 505	5	100	100	5	100	
PRIME OIL - COC	1 % v/v	B 1001	5	100	100	5	100	
N-PAK - AMS	5 % v/v	B						
	Mean =		8	100	100	6	100	
9 AUTHORITY MTZ	16 oz/a	A 204	10	100	100	5	100	
ANTHEM	6 oz/a	B 404	10	100	100	5	100	
LIBERTY 280 SL	22 oz/a	B 603	0	100	100	5	100	
PRIME OIL - COC	1 % v/v	B 901	5	100	100*	5	100	
N-PAK - AMS	5 % v/v	B						
	Mean =		6	100	100	5	100	
10 AUTHORITY XL	4 oz/a	A 205	0	80	100	5	100	
ANTHEM	6 oz/a	B 503	5	100	100	0	100	
LIBERTY 280 SL	22 oz/a	B 601	10	100	100	5	100	
PRIME OIL - COC	1 % v/v	B 904	0	93*	100*	5	100	
N-PAK - AMS	5 % v/v	B						
	Mean =		4	93	100	4	100	
11 AUTHORITY MAXX	6 oz/a	A 301	5	100	100	5	100	
ANTHEM	6 oz/a	B 305	0	100	100	5	100	
LIBERTY 280 SL	22 oz/a	B 702	5	100	100	5	100	
PRIME OIL - COC	1 % v/v	B 1002	0	100	100	5	100	
N-PAK - AMS	5 % v/v	B						
	Mean =		3	100	100	5	100	
12 Untreated Check		302	0	0	0	0	0	
		403	0	0	0	0	0	
		705	0	0	0	0	0	
		804	0	0	0	0	0	
	Mean =		0	0	0	0	0	

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Pest Type				W Weed
Pest Code				AMAPA
Pest Scientific Name				Amaranthus pal>
Pest Name				Palmer amaranth
Crop Code				
BBCH Scale				
Crop Scientific Name				
Crop Name				
Part Rated				PLOT P
Rating Date				7/9/2014
Rating Type				CONTRO
Rating Unit				%
Days After First/Last Applic.				63 33
Trt-Eval Interval				33 DA-B
ARM Action Codes				P
Number of Decimals				0
Trt Treatment	Rate	Appl		
No. Name	Rate Unit	Code	Plot	6
1 Untreated Check			101	0
			401	0
			701	0
			902	0
			Mean =	0
2 AUTHORITY FIRST DF	6.4 oz/a	A	102	100
MARVEL	7.25 oz/a	B	304	100
LIBERTY 280 SL	22 oz/a	B	704	100
PRIME OIL - COC	1 % v/v	B	803	100
N-PAK - AMS	5 % v/v	B		
			Mean =	100
3 AUTHORITY MTZ	20 oz/a	A	103	100
MARVEL	7.25 oz/a	B	504	100
LIBERTY 280 SL	22 oz/a	B	703	100
PRIME OIL - COC	1 % v/v	B	905	100
N-PAK - AMS	5 % v/v	B		
			Mean =	100
4 AUTHORITY XL	4 oz/a	A	104	100
MARVEL	7.25 oz/a	B	502	100
LIBERTY 280 SL	22 oz/a	B	605	100
PRIME OIL - COC	1 % v/v	B	802	100
N-PAK - AMS	5 % v/v	B		
			Mean =	100
5 AUTHORITY MAXX	6 oz/a	A	105	100
MARVEL	7.25 oz/a	B	402	100
LIBERTY 280 SL	22 oz/a	B	604	100
PRIME OIL - COC	1 % v/v	B	805	100
N-PAK - AMS	5 % v/v	B		
			Mean =	100
6 AUTHORITY ASSIST	6 oz/a	A	201	100
AUTHORITY MTZ	16 oz/a	A	501	100
MARVEL	7.25 oz/a	B	602	100
LIBERTY 280 SL	22 oz/a	B	1003	100
PRIME OIL - COC	1 % v/v	B		
N-PAK - AMS	5 % v/v	B		
			Mean =	100
7 AUTHORITY ELITE	25 oz/a	A	202	100
MARVEL	7.25 oz/a	B	405	100
LIBERTY 280 SL	22 oz/a	B	801	100
PRIME OIL - COC	1 % v/v	B	903	100
N-PAK - AMS	5 % v/v	B		
			Mean =	100

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Pest Type				W Weed
Pest Code				AMAPA
Pest Scientific Name				Amaranthus pal>
Pest Name				Palmer amaranth
Crop Code				
BBCH Scale				
Crop Scientific Name				
Crop Name				
Part Rated				PLOT P
Rating Date				7/9/2014
Rating Type				CONTRO
Rating Unit				%
Days After First/Last Applic.				63 33
Trt-Eval Interval				33 DA-B
ARM Action Codes				P
Number of Decimals				0
Trt Treatment	Rate	Appl		
No. Name	Rate Unit	Code	Plot	6
8 AUTHORITY FIRST DF	6.4 oz/a	A	203	100
ANTHEM	6 oz/a	B	303	100
LIBERTY 280 SL	22 oz/a	B	505	100
PRIME OIL - COC	1 % v/v	B	1001	100
N-PAK - AMS	5 % v/v	B		
			Mean =	100
9 AUTHORITY MTZ	16 oz/a	A	204	100
ANTHEM	6 oz/a	B	404	100
LIBERTY 280 SL	22 oz/a	B	603	100
PRIME OIL - COC	1 % v/v	B	901	100
N-PAK - AMS	5 % v/v	B		
			Mean =	100
10 AUTHORITY XL	4 oz/a	A	205	100
ANTHEM	6 oz/a	B	503	100
LIBERTY 280 SL	22 oz/a	B	601	100
PRIME OIL - COC	1 % v/v	B	904	100
N-PAK - AMS	5 % v/v	B		
			Mean =	100
11 AUTHORITY MAXX	6 oz/a	A	301	100
ANTHEM	6 oz/a	B	305	100
LIBERTY 280 SL	22 oz/a	B	702	100
PRIME OIL - COC	1 % v/v	B	1002	100
N-PAK - AMS	5 % v/v	B		
			Mean =	100
12 Untreated Check			302	0
			403	0
			705	0
			804	0
			Mean =	0

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2014/SOYBEAN/AUTHORITY/ANTHEM/MARVEL/PRE/POST/LL PROGRAMS/

Trial ID: 14S-CCP-CTS-03 Location: 12 MILE Trial Year: 2014
 Protocol ID: 14S-CCP-CTS-03 Investigator: Dr. Bill Johnson
 Project ID: SULF.SOY.14.JPR.07 Study Director: Joe Ikley
 Sponsor Contact: FMC - Joe Reed

Pest Type		W Weed	W Weed		W Weed	W Weed		
Pest Code		AMAPA	AMAPA		AMAPA	AMAPA		
Pest Scientific Name		Amaranthus pal>	Amaranthus pal>		Amaranthus pal>	Amaranthus pal>		
Pest Name		Palmer amaranth	Palmer amaranth		Palmer amaranth	Palmer amaranth		
Crop Code	GLXMA			GLXMA				
BBCH Scale	BSOY			BSOY				
Crop Scientific Name	Glycine max			Glycine max				
Crop Name	Soybean			Soybean				
Part Rated	PLOT C	PLOT P	PLOT P	PLOT C	PLOT P	PLOT P		
Rating Date	6/6/2014	6/6/2014	6/13/2014	6/19/2014	6/19/2014	7/9/2014		
Rating Type	PHYGEN	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO		
Rating Unit	%	%	%	%	%	%		
Days After First/Last Applic.	30 30	30 30	37 7	43 13	43 13	63 33		
Trt-Eval Interval	0 DA-B	0 DA-B	7 DA-B	13 DA-B	13 DA-B	33 DA-B		
ARM Action Codes	P	P	P	P	P	P		
Number of Decimals	0	0	0	0	0	0		
Trt Treatment	Rate	Appl						
No. Name	Rate Unit Code		1	2	3	4	5	6
1 Untreated Check			0 a	0 b	0 b	0 b	0 b	0 b
2 AUTHORITY FIRST DF	6.4 oz/a A		3 a	100 a	100 a	6 ab	100 a	100 a
MARVEL	7.25 oz/a B							
LIBERTY 280 SL	22 oz/a B							
PRIME OIL - COC	1 % v/v B							
N-PAK - AMS	5 % v/v B							
3 AUTHORITY MTZ	20 oz/a A		1 a	100 a	100 a	6 ab	100 a	100 a
MARVEL	7.25 oz/a B							
LIBERTY 280 SL	22 oz/a B							
PRIME OIL - COC	1 % v/v B							
N-PAK - AMS	5 % v/v B							
4 AUTHORITY XL	4 oz/a A		0 a	100 a	100 a	5 ab	100 a	100 a
MARVEL	7.25 oz/a B							
LIBERTY 280 SL	22 oz/a B							
PRIME OIL - COC	1 % v/v B							
N-PAK - AMS	5 % v/v B							
5 AUTHORITY MAXX	6 oz/a A		4 a	100 a	100 a	8 ab	100 a	100 a
MARVEL	7.25 oz/a B							
LIBERTY 280 SL	22 oz/a B							
PRIME OIL - COC	1 % v/v B							
N-PAK - AMS	5 % v/v B							
6 AUTHORITY ASSIST	6 oz/a A		3 a	100 a	100 a	10 a	100 a	100 a
AUTHORITY MTZ	16 oz/a A							
MARVEL	7.25 oz/a B							
LIBERTY 280 SL	22 oz/a B							
PRIME OIL - COC	1 % v/v B							
N-PAK - AMS	5 % v/v B							
7 AUTHORITY ELITE	25 oz/a A		5 a	100 a	100 a	10 a	100 a	100 a
MARVEL	7.25 oz/a B							
LIBERTY 280 SL	22 oz/a B							
PRIME OIL - COC	1 % v/v B							
N-PAK - AMS	5 % v/v B							
8 AUTHORITY FIRST DF	6.4 oz/a A		8 a	100 a	100 a	6 ab	100 a	100 a
ANTHEM	6 oz/a B							
LIBERTY 280 SL	22 oz/a B							
PRIME OIL - COC	1 % v/v B							
N-PAK - AMS	5 % v/v B							

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
 Missing data estimates are included in columns: Yates=2,3

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Pest Type		W Weed	W Weed		W Weed	W Weed
Pest Code		AMAPA	AMAPA		AMAPA	AMAPA
Pest Scientific Name		Amaranthus pal>	Amaranthus pal>		Amaranthus pal>	Amaranthus pal>
Pest Name		Palmer amaranth	Palmer amaranth		Palmer amaranth	Palmer amaranth
Crop Code	GLXMA			GLXMA		
BBCH Scale	BSOY			BSOY		
Crop Scientific Name	Glycine max			Glycine max		
Crop Name	Soybean			Soybean		
Part Rated	PLOT C	PLOT P	PLOT P	PLOT C	PLOT P	PLOT P
Rating Date	6/6/2014	6/6/2014	6/13/2014	6/19/2014	6/19/2014	7/9/2014
Rating Type	PHYGEN	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO
Rating Unit	%	%	%	%	%	%
Days After First/Last Applic.	30 30	30 30	37 7	43 13	43 13	63 33
Trt-Eval Interval	0 DA-B	0 DA-B	7 DA-B	13 DA-B	13 DA-B	33 DA-B
ARM Action Codes	P	P	P	P	P	P
Number of Decimals	0	0	0	0	0	0
Trt Treatment	Rate	Appl				
No. Name	Rate Unit	Code	1	2	3	4
9 AUTHORITY MTZ	16 oz/a	A	6 a	100 a	100 a	5 ab
ANTHEM	6 oz/a	B				100 a
LIBERTY 280 SL	22 oz/a	B				100 a
PRIME OIL - COC	1 % v/v	B				
N-PAK - AMS	5 % v/v	B				
10 AUTHORITY XL	4 oz/a	A	4 a	93 a	100 a	4 ab
ANTHEM	6 oz/a	B				100 a
LIBERTY 280 SL	22 oz/a	B				100 a
PRIME OIL - COC	1 % v/v	B				
N-PAK - AMS	5 % v/v	B				
11 AUTHORITY MAXX	6 oz/a	A	3 a	100 a	100 a	5 ab
ANTHEM	6 oz/a	B				100 a
LIBERTY 280 SL	22 oz/a	B				100 a
PRIME OIL - COC	1 % v/v	B				
N-PAK - AMS	5 % v/v	B				
12 Untreated Check			0 a	0 b	0 b	0 b
LSD (P=.05)			6.1	4.2	0.0	4.6
Standard Deviation			4.2	2.9	0.0	3.2
CV			145.69	3.51	0.02	59.04
Bartlett's X2			7.215	0.0	0.0	12.931
P(Bartlett's X2)			0.514	.	.	0.044*
Skewness			1.7436*	-1.906*	-1.7087*	2.0505*
Kurtosis			2.9016*	1.7444*	0.9614	7.9719*

