

# Purdue University Weed Science

## PRE followed by POST programs for Control of Glyphosate-Resistant Palmer amaranth in Soybean

Trial ID: 14S-CCP-CTS-12      Location: 12 MILE      Trial Year: 2014  
 Protocol ID: 14S-CCP-CTS-12      Investigator: Dr. Bill Johnson  
 Project ID: Sales Support      Study Director: Joe Ikley  
 Sponsor Contact: DuPont/Syngenta

### General Trial Information

**Study Director:** Joe Ikley      **Title:** Research Associate  
**Investigator:** Dr. Bill Johnson      **Title:** Professor

**Discipline:** H herbicide  
**Trial Status:** F one-year/final  
**Initiation Date:** 5/6/2014  
**Completion Date:** 7/16/2014

### Trial Location

**City:** Twelve Mile      **Country:** USA United States  
**State/Prov.:** Indiana  
**Postal Code:** 46988

### Contacts

**Study Director:** Joe Ikley      **Title:** Research Associate  
**Organization:** Purdue University  
**Address:** 915 West State Street      **Phone No.:** 765-494-0891  
**City+State/Prov:** West Lafayette      **Mobile No.:** 410-596-9091  
**Postal Code:** 47907      **E-mail:** jikley@purdue.edu

**Investigator:** Dr. Bill Johnson      **Title:** Professor  
**Organization:** Purdue University  
**Address:** 915 West State Street      **Phone No.:** 765-494-4656  
**City+State/Prov:** West Lafayette      **Mobile No.:** 765-404-9801  
**Postal Code:** 47907      **E-mail:** wgj@purdue.edu

### Crop Description

**Crop 1:** GLXMA      Glycine max Soybean  
**Variety:** ASGROW 2933  
**Description:** RR

**Planting Rate, Unit:** 140000 S/A      **Planting Date:** 5/6/2014  
**Depth, Unit:** 1.5 IN      **Planting Method:** PLANTD planted  
**Row Spacing, Unit:** 30 IN      **Planting Equipment:** PP Plot Planter  
**Soil Temperature, Unit:** 60 F      **Emergence Date:** 5/10/2014  
**Soil Moisture:** DRY dry

### Pest Description

**Pest 1 Type:** W      **Code:** AMAPA Amaranthus palmeri  
**Common Name:** Palmer amaranth

### Site and Design

**Treated Plot Width:** 10 FT  
**Treated Plot Length:** 30 FT  
**Treated Plot Area:** 300 FT<sup>2</sup>      **Treatments:** 12  
**Replications:** 4      **Study Design:** RACOB L Randomized Complete Block (RCB)

# Purdue University Weed Science

Application Description			
	A	B	C
Application Date:	5/7/2014	6/16/2014	7/3/2014
Appl. Start Time:	9:00	12:30	09:00
Appl. Stop Time:	11:00 AM	1:30 PM	9:05 AM
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	2-4" WEEDS	L POST
Application Placement:	BROADC	BROADC	BROADC
Applied By:	Ikley	Ikley	Ikley
Air Temperature, Unit:	60 F	81 F	55 F
% Relative Humidity:	58	65	88
Wind Velocity, Unit:	5 MPH	3 MPH	5 MPH
Wind Direction:	E	S	NNW
Dew Presence (Y/N):	N no	N no	Y yes
Soil Temperature, Unit:	55 F	72 F	63 F
Soil Moisture:	DRY	SLIWET	SLIDRY
% Cloud Cover:	70	80	100

Crop Stage At Each Application			
	A	B	C
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:		BBCH	BBCH
Stage Majority, Percent:		14	65
Stage Minimum, Percent:		14	
Stage Maximum, Percent:		15	
Height, Unit:		8.5 IN	12 IN
Height Minimum, Maximum:		7 10	10 14

Pest Stage At Each Application			
	A	B	C
Pest 1 Code, Type, Scale:	AMAPA W	AMAPA W	AMAPA W
Stage Majority, Percent:		15	51
Stage Minimum, Percent:		11	
Stage Maximum, Percent:		17	
Height, Unit:		1 IN	10 IN
Height Minimum, Maximum:		0.5 1.5	8 12
Density, Unit:		2 YD2	0.25 YD2

## Purdue University Weed Science

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

Trial Comments

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## PRE followed by POST programs for Control of Glyphosate-Resistant Palmer amaranth in Soybean

Trial ID: 14S-CCP-CTS-12      Location: 12 MILE      Trial Year: 2014  
 Protocol ID: 14S-CCP-CTS-12      Investigator: Dr. Bill Johnson  
 Project ID: Sales Support      Study Director: Joe Ikley  
 Sponsor Contact: DuPont/Syngenta

Reps: 4      Plots: 10 by 30 feet  
 Spray vol: 15 gal/ac      Mix size: 1.8 liters (min 1.5642)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code	Appl Description	Amt Product to Measure	Rep 1	Rep 2	Rep 3	Rep 4
1	Untreated Check									101	404	703	903
2	ENVIVE @ 3.5 OZ/A									102	403	505	1002
	CLASSIC	25 %	AW/W	DF	1.28 oz/a	oz/a	A	PRE	1.15 g/mx				
	HARMONY SG	50 %		SG	0.2 oz/a	oz/a	A	PRE	0.1797 g/mx				
	VALOR	51 %		WG	2 oz/a	oz/a	A	PRE	1.797 g/mx				
	PREFIX	5.29 LB/GAL		EC	1 qt/a	qt/a	B	POST	30.0 ml/mx				
	ABUNDIT EXTRA	3 LBAE/GAL		SL	1 qt/a	qt/a	B	POST	30.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	% v/v	B	POST	45.0 ml/mx				
3	ENVIVE @ 3.5 OZ/A									103	405	705	1001
	CLASSIC	25 %	AW/W	DF	1.28 oz/a	oz/a	A	PRE	1.15 g/mx				
	HARMONY SG	50 %		SG	0.2 oz/a	oz/a	A	PRE	0.1797 g/mx				
	VALOR	51 %		WG	2 oz/a	oz/a	A	PRE	1.797 g/mx				
	ZIDUA	85 %		WG	1.5 oz/a	oz/a	A	PRE	1.348 g/mx				
	PREFIX	5.29 LB/GAL		EC	1 qt/a	qt/a	B	POST	30.0 ml/mx				
	ABUNDIT EXTRA	3 LBAE/GAL		SL	1 qt/a	qt/a	B	POST	30.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	% v/v	B	POST	45.0 ml/mx				
4	TRIVENGE @ 8 OZ/A									104	401	601	805
	CLASSIC	25 %	AW/W	DF	1.25 oz/a	oz/a	A	PRE	1.123 g/mx				
	SENCOR 75DF	75 %	AW/W	DF	4.75 oz/a	oz/a	A	PRE	4.269 g/mx				
	VALOR	51 %		WG	2 oz/a	oz/a	A	PRE	1.797 g/mx				
	PREFIX	5.29 LB/GAL		EC	1 qt/a	qt/a	B	POST	30.0 ml/mx				
	ABUNDIT EXTRA	3 LBAE/GAL		SL	1 qt/a	qt/a	B	POST	30.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	% v/v	B	POST	45.0 ml/mx				
5	TRIVENGE @ 8 OZ/A									105	303	801	901
	CLASSIC	25 %	AW/W	DF	1.25 oz/a	oz/a	A	PRE	1.123 g/mx				
	SENCOR 75DF	75 %	AW/W	DF	4.75 oz/a	oz/a	A	PRE	4.269 g/mx				
	VALOR	51 %		WG	2 oz/a	oz/a	A	PRE	1.797 g/mx				
	ZIDUA	85 %		WG	1.5 oz/a	oz/a	A	PRE	1.348 g/mx				
	PREFIX	5.29 LB/GAL		EC	1 qt/a	qt/a	B	POST	30.0 ml/mx				
	ABUNDIT EXTRA	3 LBAE/GAL		SL	1 qt/a	qt/a	B	POST	30.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	% v/v	B	POST	45.0 ml/mx				
6	CANOPY	75 %		DG	4 oz/a	oz/a	A	PRE	3.595 g/mx	201	502	704	803
	CINCH	7.64 LB/GAL		EC	1 pt/a	pt/a	A	PRE	15.0 ml/mx				
	PREFIX	5.29 LB/GAL		EC	1 qt/a	qt/a	B	POST	30.0 ml/mx				
	ABUNDIT EXTRA	3 LBAE/GAL		SL	1 qt/a	qt/a	B	POST	30.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	% v/v	B	POST	45.0 ml/mx				
7	BOUNDARY	6.5 LB/GAL		EC	1.75 pt/a	pt/a	A	PRE	26.25 ml/mx	202	402	603	802
	FLEXSTAR GT	3.29 LBAE/GAL		L	4.5 pt/a	pt/a	B	2" AMAPA	67.49 ml/mx				
	PREMIUM MSO	100 %		L	1 % v/v	% v/v	B	2" AMAPA	18.0 ml/mx				
	N-PAK AMS	3.4 LBA/GAL		SL	2.5 % v/v	% v/v	B	2" AMAPA	45.0 ml/mx				
8	BOUNDARY	6.5 LB/GAL		EC	1.75 pt/a	pt/a	A	PRE	26.25 ml/mx	203	304	605	905
	PREFIX	5.29 LB/GAL		EC	2.5 pt/a	pt/a	B	2" AMAPA	37.5 ml/mx				
	TOUCHDOWN TOTAL	4.17 LBAE/GAL		L	35 fl oz/a	fl oz/a	B	2" AMAPA	32.81 ml/mx				
	N-PAK AMS	3.4 LBA/GAL		SL	2.5 % v/v	% v/v	B	2" AMAPA	45.0 ml/mx				
9	BOUNDARY	6.5 LB/GAL		EC	1.75 pt/a	pt/a	A	PRE	26.25 ml/mx	204	501	604	804
	FLEXSTAR GT	3.29 LBAE/GAL		L	4.5 pt/a	pt/a	B	2" AMAPA	67.49 ml/mx				
	DUAL II MAGNUM	7.64 LB/GAL		L	1 pt/a	pt/a	B	2" AMAPA	15.0 ml/mx				
	PREMIUM MSO	100 %		L	1 % v/v	% v/v	B	2" AMAPA	18.0 ml/mx				
	N-PAK AMS	3.4 LBA/GAL		SL	2.5 % v/v	% v/v	B	2" AMAPA	45.0 ml/mx				
10	BOUNDARY	6.5 LB/GAL		EC	1.75 pt/a	pt/a	A	PRE	26.25 ml/mx	205	305	702	1003
	FLEXSTAR GT	3.29 LBAE/GAL		L	4.5 pt/a	pt/a	B	2" AMAPA	67.49 ml/mx				
	DUAL II MAGNUM	7.64 LB/GAL		L	1 pt/a	pt/a	B	2" AMAPA	15.0 ml/mx				
	PREMIUM MSO	100 %		L	1 % v/v	% v/v	B	2" AMAPA	18.0 ml/mx				
	N-PAK AMS	3.4 LBA/GAL		SL	2.5 % v/v	% v/v	B	2" AMAPA	45.0 ml/mx				
	COBRA	2 LB/GAL		EC	10 fl oz/a	fl oz/a	C	3 WAAB	9.375 ml/mx				
	COC	100 %		SL	1 pt/a	pt/a	C	3 WAAB	15.0 ml/mx				

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Reps: 4

Plots: 10 by 30 feet

Spray vol: 15 gal/ac

Mix size: 1.8 liters (min 1.5642)

Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Appl Code	Appl Description	Amt Product to Measure	Rep			
								1	2	3	4
11	BOUNDARY	6.5 LB/GAL	EC	1.75 pt/a	A	PRE	26.25 ml/mx	301	503	602	902
	SEQUENCE	5.25 LBAE/GAL	L	3 pt/a	B	2" AMAPA	45.0 ml/mx				
	N-PAK AMS	3.4 LBA/GAL	SL	2.5 % v/v	B	2" AMAPA	45.0 ml/mx				
	FLEXSTAR GT	3.29 LBAE/GAL	L	4.5 pt/a	C	3 WAAB	67.49 ml/mx				
	PREMIUM MSO	100 %	L	1 % v/v	C	3 WAAB	18.0 ml/mx				
	N-PAK AMS	3.4 LBA/GAL	SL	2.5 % v/v	C	3 WAAB	45.0 ml/mx				
12	Untreated Check							302	504	701	904

Sort Order: Replicate 1

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
4.547	g	CLASSIC	25	DF	
0.359	g	HARMONY SG	50	SG	
7.190	g	VALOR	51	WG	
187.495	ml	PREFIX	5.29	EC	
150.000	ml	ABUNDIT EXTRA	3	SL	
224.976	ml	N-PAK - AMS	3.4	SL	
2.696	g	ZIDUA	85	WG	
8.538	g	SENCOR 75DF	75	DF	
3.595	g	CANOPY	75	DG	
14.998	ml	CINCH	7.64	EC	
131.236	ml	BOUNDARY	6.5	EC	
269.971	ml	FLEXSTAR GT	3.29	L	
71.992	ml	PREMIUM MSO	100	L	
269.971	ml	N-PAK AMS	3.4	SL	
32.812	ml	TOUCHDOWN TOTAL	4.17	L	
29.997	ml	DUAL II MAGNUM	7.64	L	
9.375	ml	COBRA	2	EC	
14.998	ml	COC	100	SL	
44.995	ml	SEQUENCE	5.25	L	

\* '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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## PRE followed by POST programs for Control of Glyphosate-Resistant Palmer amaranth in Soybean

Trial ID: 14S-CCP-CTS-12      Location: 12 MILE      Trial Year: 2014  
 Protocol ID: 14S-CCP-CTS-12      Investigator: Dr. Bill Johnson  
 Project ID: Sales Support      Study Director: Joe Ikley  
 Sponsor Contact: DuPont/Syngenta

Pest Type		W Weed		W Weed	
Pest Code		AMAPA		AMAPA	
Pest Scientific Name		Amaranthus pal>		Amaranthus pal>	
Pest Name		Palmer amaranth		Palmer amaranth	
Crop Code	GLXMA		GLXMA		GLXMA
BBCH Scale	BSOY		BSOY		BSOY
Crop Scientific Name	Glycine max		Glycine max		Glycine max
Crop Name	Soybean		Soybean		Soybean
Part Rated	PLOT C	PLOT P	PLOT C	PLOT P	PLOT C
Rating Date	6/6/2014	6/6/2014	6/16/2014	6/16/2014	6/23/2014
Rating Type	PHYGEN	CONTRO	PHYGEN	CONTRO	PHYGEN
Rating Unit	%	%	%	%	%
Days After First/Last Applic.	30 30	30 30	40 40	40 40	47 7
Trt-Eval Interval	30 DA-A	30 DA-A	0 DA-B	0 DA-B	7 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
1 Untreated Check		101	0	0	0
		404	0	0	0
		703	0	0	0
		903	0	0	0
		Mean =	0	0	0
2 ENVIVE @ 3.5 OZ/A		102	3	100	5
CLASSIC	1.28 oz/a	A 403	0	100	0
HARMONY SG	0.2 oz/a	A 505	3	90	80
VALOR	2 oz/a	A 1002	0	100	0
PREFIX	1 qt/a	B			100
ABUNDIT EXTRA	1 qt/a	B			
N-PAK - AMS	2.5 % v/v	B			
		Mean =	2	98	1
3 ENVIVE @ 3.5 OZ/A		103	3	100	3
CLASSIC	1.28 oz/a	A 405	5	100	0
HARMONY SG	0.2 oz/a	A 705	5	100	5
VALOR	2 oz/a	A 1001	0	100	5
ZIDUA	1.5 oz/a	A			100
PREFIX	1 qt/a	B			
ABUNDIT EXTRA	1 qt/a	B			
N-PAK - AMS	2.5 % v/v	B			
		Mean =	3	100	2
4 TRIVENCE @ 8 OZ/A		104	5	100	5
CLASSIC	1.25 oz/a	A 401	0	100	0
SENCOR 75DF	4.75 oz/a	A 601	8	100	10
VALOR	2 oz/a	A 805	0	100	3
PREFIX	1 qt/a	B			100
ABUNDIT EXTRA	1 qt/a	B			
N-PAK - AMS	2.5 % v/v	B			
		Mean =	3	100	5
5 TRIVENCE @ 8 OZ/A		105	7	100	5
CLASSIC	1.25 oz/a	A 303	0	100	0
SENCOR 75DF	4.75 oz/a	A 801	5	100	5
VALOR	2 oz/a	A 901	3	100	5
ZIDUA	1.5 oz/a	A			100
PREFIX	1 qt/a	B			
ABUNDIT EXTRA	1 qt/a	B			
N-PAK - AMS	2.5 % v/v	B			
		Mean =	4	100	4

# Purdue University Weed Science

Pest Type			W Weed				W Weed			
Pest Code			AMAPA				AMAPA			
Pest Scientific Name			Amaranthus pal>				Amaranthus pal>			
Pest Name			Palmer amaranth				Palmer amaranth			
Crop Code	GLXMA				GLXMA				GLXMA	
BBCH Scale	BSOY				BSOY				BSOY	
Crop Scientific Name	Glycine max				Glycine max				Glycine max	
Crop Name	Soybean				Soybean				Soybean	
Part Rated	PLOT C		PLOT P		PLOT C		PLOT P		PLOT C	
Rating Date	6/6/2014		6/6/2014		6/16/2014		6/16/2014		6/23/2014	
Rating Type	PHYGEN		CONTRO		PHYGEN		CONTRO		PHYGEN	
Rating Unit	%		%		%		%		%	
Days After First/Last Applic.	30 30		30 30		40 40		40 40		47 7	
Trt-Eval Interval	30 DA-A		30 DA-A		0 DA-B		0 DA-B		7 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	5			
6 CANOPY	4 oz/a	A 201	2	100	8	100	20			
CINCH	1 pt/a	A 502	2	95	0	70	10			
PREFIX	1 qt/a	B 704	3	100	5	85	10			
ABUNDIT EXTRA	1 qt/a	B 803	0	100	0	90	5			
N-PAK - AMS	2.5 % v/v	B								
		Mean =	2	99	3	86	11			
7 BOUNDARY	1.75 pt/a	A 202	3	100	5	100	10			
FLEXSTAR GT	4.5 pt/a	B 402	0	100	0	100	7			
PREMIUM MSO	1 % v/v	B 603	5	100	0	100	12			
N-PAK AMS	2.5 % v/v	B 802	0	100	0	100	5			
		Mean =	2	100	1	100	9			
8 BOUNDARY	1.75 pt/a	A 203	3	100	3	100	10			
PREFIX	2.5 pt/a	B 304	3	85	0	60	5			
TOUCHDOWN TOTAL	35 fl oz/a	B 605	2	100	0	100	10			
N-PAK AMS	2.5 % v/v	B 905	0	100	0	100	7			
		Mean =	2	96	1	90	8			
9 BOUNDARY	1.75 pt/a	A 204	3	100	0	100	10			
FLEXSTAR GT	4.5 pt/a	B 501	0	100	0	95	7			
DUAL II MAGNUM	1 pt/a	B 604	0	100	0	100	10			
PREMIUM MSO	1 % v/v	B 804	0	100	0	100	7			
N-PAK AMS	2.5 % v/v	B								
		Mean =	1	100	0	99	9			
10 BOUNDARY	1.75 pt/a	A 205	2	80	0	70	10			
FLEXSTAR GT	4.5 pt/a	B 305	2	95	0	100	5			
DUAL II MAGNUM	1 pt/a	B 702	10	100	0	100	10			
PREMIUM MSO	1 % v/v	B 1003	0	100	0	100	5			
N-PAK AMS	2.5 % v/v	B								
COBRA	10 fl oz/a	C								
COC	1 pt/a	C								
		Mean =	4	94	0	93	8			
11 BOUNDARY	1.75 pt/a	A 301	3	100	0	100	5			
SEQUENCE	3 pt/a	B 503	0	100	0	100	3			
N-PAK AMS	2.5 % v/v	B 602	7	100	0	100	10			
FLEXSTAR GT	4.5 pt/a	C 902	0	100	0	100	2			
PREMIUM MSO	1 % v/v	C								
N-PAK AMS	2.5 % v/v	C								
		Mean =	3	100	0	100	5			
12 Untreated Check		302	0	0	0	0	0			
		504	0	0	0	0	0			
		701	0	0	0	0	0			
		904	0	0	0	0	0			
		Mean =	0	0	0	0	0			

# Purdue University Weed Science

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 P	PLOT C	PLOT P	PLOT C	PLOT P
Rating Date				6/23/2014	7/3/2014	7/3/2014	7/16/2014	7/16/2014
Rating Type				CONTRO	PHYGEN	CONTRO	PHYGEN	CONTRO
Rating Unit				%	%	%	%	%
Days After First/Last Applic.				14 14	57 17	57 17	70 13	70 13
Trt-Eval Interval				7 DA-B	0 DA-C	0 DA-C	13 DA-C	13 DA-C
ARM Action Codes				P	P	P	P	P
Number of Decimals				0	0	0	0	0
Trt No.	Treatment Name	Rate	Appl Code	6	7	8	9	10
		Rate Unit						
1	Untreated Check			0	0	0	0	0
			101	0	0	0	0	0
			404	0	0	0	0	0
			703	0	0	0	0	0
			903	0	0	0	0	0
			Mean =	0	0	0	0	0
2	ENVIVE @ 3.5 OZ/A		102	100	15	100	5	100
	CLASSIC	1.28 oz/a	A 403	100	5	100	0	100
	HARMONY SG	0.2 oz/a	A 505	95	5	95	2	95
	VALOR	2 oz/a	A 1002	100	0	100	2	100
	PREFIX	1 qt/a	B					
	ABUNDIT EXTRA	1 qt/a	B					
	N-PAK - AMS	2.5 % v/v	B					
			Mean =	99	6	99	2	99
3	ENVIVE @ 3.5 OZ/A		103	100	10	100	5	100
	CLASSIC	1.28 oz/a	A 405	100	5	100	0	100
	HARMONY SG	0.2 oz/a	A 705	100	10	95	2	100
	VALOR	2 oz/a	A 1001	100	0	100	5	100
	ZIDUA	1.5 oz/a	A					
	PREFIX	1 qt/a	B					
	ABUNDIT EXTRA	1 qt/a	B					
	N-PAK - AMS	2.5 % v/v	B					
			Mean =	100	6	99	3	100
4	TRIVENCE @ 8 OZ/A		104	100	8	100	5	95
	CLASSIC	1.25 oz/a	A 401	100	5	100	0	100
	SENCOR 75DF	4.75 oz/a	A 601	100	17	100	10	100
	VALOR	2 oz/a	A 805	100	7	100	0	100
	PREFIX	1 qt/a	B					
	ABUNDIT EXTRA	1 qt/a	B					
	N-PAK - AMS	2.5 % v/v	B					
			Mean =	100	9	100	4	99
5	TRIVENCE @ 8 OZ/A		105	100	12	100	7	100
	CLASSIC	1.25 oz/a	A 303	100	10	100	3	100
	SENCOR 75DF	4.75 oz/a	A 801	100	10	100	5	100
	VALOR	2 oz/a	A 901	100	8	100	0	100
	ZIDUA	1.5 oz/a	A					
	PREFIX	1 qt/a	B					
	ABUNDIT EXTRA	1 qt/a	B					
	N-PAK - AMS	2.5 % v/v	B					
			Mean =	100	10	100	4	100



# Purdue University Weed Science

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		GLXMA		
BBCH Scale	BSOY		BSOY		BSOY		
Crop Scientific Name	Glycine max		Glycine max		Glycine max		
Crop Name	Soybean		Soybean		Soybean		
Part Rated	PLOT P	PLOT C	PLOT P	PLOT C	PLOT P	PLOT C	
Rating Date	6/23/2014		7/3/2014		7/16/2014		
Rating Type	CONTRO		PHYGEN		CONTRO		
Rating Unit	%		%		%		
Days After First/Last Applic.	14 14	57 17	57 17	70 13	70 13	70 13	
Trt-Eval Interval	7 DA-B		0 DA-C		13 DA-C		
ARM Action Codes	P		P		P		
Number of Decimals	0		0		0		
Trt Treatment	Rate	Appl					
No. Name	Rate Unit	Code Plot	6	7	8	9	10
6 CANOPY	4 oz/a	A 201	100	20	100	15	100
CINCH	1 pt/a	A 502	95	8	80	2	85
PREFIX	1 qt/a	B 704	100	10	95	0	95
ABUNDIT EXTRA	1 qt/a	B 803	90	5	90	0	95
N-PAK - AMS	2.5 % v/v	B					
		Mean =	96	11	91	4	94
7 BOUNDARY	1.75 pt/a	A 202	100	5	97	0	95
FLEXSTAR GT	4.5 pt/a	B 402	100	0	95	0	95
PREMIUM MSO	1 % v/v	B 603	100	5	100	0	97
N-PAK AMS	2.5 % v/v	B 802	100	0	100	0	100
		Mean =	100	3	98	0	97
8 BOUNDARY	1.75 pt/a	A 203	100	5	100	0	100
PREFIX	2.5 pt/a	B 304	95	5	85	0	85
TOUCHDOWN TOTAL	35 fl oz/a	B 605	100	5	100	0	97
N-PAK AMS	2.5 % v/v	B 905	100	0	100	0	100
		Mean =	99	4	96	0	96
9 BOUNDARY	1.75 pt/a	A 204	100	5	100	0	100
FLEXSTAR GT	4.5 pt/a	B 501	100	5	100	0	100
DUAL II MAGNUM	1 pt/a	B 604	100	5	100	0	100
PREMIUM MSO	1 % v/v	B 804	100	5	100	0	100
N-PAK AMS	2.5 % v/v	B					
		Mean =	100	5	100	0	100
10 BOUNDARY	1.75 pt/a	A 205	95	7	95	10	100
FLEXSTAR GT	4.5 pt/a	B 305	80	5	75	10	90
DUAL II MAGNUM	1 pt/a	B 702	100	10	100	10	100
PREMIUM MSO	1 % v/v	B 1003	100	0	100	10	100
N-PAK AMS	2.5 % v/v	B					
COBRA	10 fl oz/a	C					
COC	1 pt/a	C					
		Mean =	94	6	93	10	98
11 BOUNDARY	1.75 pt/a	A 301	95	3	95	5	100
SEQUENCE	3 pt/a	B 503	100	0	90	5	95
N-PAK AMS	2.5 % v/v	B 602	100	7	100	5	100
FLEXSTAR GT	4.5 pt/a	C 902	100	0	100	5	100
PREMIUM MSO	1 % v/v	C					
N-PAK AMS	2.5 % v/v	C					
		Mean =	99	3	96	5	99
12 Untreated Check		302	0	0	0	0	0
		504	0	0	0	0	0
		701	0	0	0	0	0
		904	0	0	0	0	0
		Mean =	0	0	0	0	0

## Purdue University Weed Science

### PRE followed by POST programs for Control of Glyphosate-Resistant Palmer amaranth in Soybean

Trial ID: 14S-CCP-CTS-12      Location: 12 MILE      Trial Year: 2014  
Protocol ID: 14S-CCP-CTS-12      Investigator: Dr. Bill Johnson  
Project ID: Sales Support      Study Director: Joe Ikley  
Sponsor Contact: DuPont/Syngenta

#### Pest Type

W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop

#### Pest Code

AMAPA, Amaranthus palmeri, = US

#### Crop Code

GLXMA, BSOY, Glycine max, = US

#### Part Rated

PLOT = plot

C = Crop is Part Rated

P = Pest is Part Rated

#### Rating Type

PHYGEN = phytotoxicity - general / injury

CONTRO = control / burndown or knockdown

#### Rating Unit

% = percent

#### ARM Action Codes

P = Rating scale of 0 to 100 (e.g. % control or injury)

## Purdue University Weed Science

### PRE followed by POST programs for Control of Glyphosate-Resistant Palmer amaranth in Soybean

Trial ID: 14S-CCP-CTS-12      Location: 12 MILE      Trial Year: 2014  
 Protocol ID: 14S-CCP-CTS-12      Investigator: Dr. Bill Johnson  
 Project ID: Sales Support      Study Director: Joe Ikley  
 Sponsor Contact: DuPont/Syngenta

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		GLXMA		
BBCH Scale	BSOY			BSOY		BSOY		
Crop Scientific Name	Glycine max			Glycine max		Glycine max		
Crop Name	Soybean		Soybean		Soybean		Soybean	
Part Rated	PLOT C	PLOT P	PLOT C	PLOT P	PLOT C	PLOT P	PLOT C	
Rating Date	6/6/2014	6/6/2014	6/16/2014	6/16/2014	6/16/2014	6/23/2014	6/23/2014	
Rating Type	PHYGEN	CONTRO	PHYGEN	CONTRO	PHYGEN	CONTRO	PHYGEN	
Rating Unit	%	%	%	%	%	%	%	
Days After First/Last Applic.	30 30	30 30	40 40	40 40	47 7	14 14	14 14	
Trt-Eval Interval	30 DA-A	30 DA-A	0 DA-B	0 DA-B	7 DA-B	7 DA-B	7 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	1	2	3	4	5	6
1 Untreated Check			0 a	0 b	0 a	0 b	0 c	0 b
2 ENVIVE @ 3.5 OZ/A			2 a	98 a	1 a	95 a	8 ab	99 a
CLASSIC	1.28 oz/a	A						
HARMONY SG	0.2 oz/a	A						
VALOR	2 oz/a	A						
PREFIX	1 qt/a	B						
ABUNDIT EXTRA	1 qt/a	B						
N-PAK - AMS	2.5 % v/v	B						
3 ENVIVE @ 3.5 OZ/A			3 a	100 a	2 a	100 a	8 ab	100 a
CLASSIC	1.28 oz/a	A						
HARMONY SG	0.2 oz/a	A						
VALOR	2 oz/a	A						
ZIDUA	1.5 oz/a	A						
PREFIX	1 qt/a	B						
ABUNDIT EXTRA	1 qt/a	B						
N-PAK - AMS	2.5 % v/v	B						
4 TRIVENGE @ 8 OZ/A			3 a	100 a	5 a	100 a	13 a	100 a
CLASSIC	1.25 oz/a	A						
SENCOR 75DF	4.75 oz/a	A						
VALOR	2 oz/a	A						
PREFIX	1 qt/a	B						
ABUNDIT EXTRA	1 qt/a	B						
N-PAK - AMS	2.5 % v/v	B						
5 TRIVENGE @ 8 OZ/A			4 a	100 a	4 a	100 a	11 ab	100 a
CLASSIC	1.25 oz/a	A						
SENCOR 75DF	4.75 oz/a	A						
VALOR	2 oz/a	A						
ZIDUA	1.5 oz/a	A						
PREFIX	1 qt/a	B						
ABUNDIT EXTRA	1 qt/a	B						
N-PAK - AMS	2.5 % v/v	B						
6 CANOPY	4 oz/a	A	2 a	99 a	3 a	86 a	11 ab	96 a
CINCH	1 pt/a	A						
PREFIX	1 qt/a	B						
ABUNDIT EXTRA	1 qt/a	B						
N-PAK - AMS	2.5 % v/v	B						
7 BOUNDARY	1.75 pt/a	A	2 a	100 a	1 a	100 a	9 ab	100 a
FLEXSTAR GT	4.5 pt/a	B						
PREMIUM MSO	1 % v/v	B						
N-PAK AMS	2.5 % 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.

## Purdue University Weed Science

			W Weed AMAPA Amaranthus pal> Palmer amaranth		W Weed AMAPA Amaranthus pal> Palmer amaranth		W Weed AMAPA Amaranthus pal> Palmer amaranth		
			GLXMA BSOY Glycine max	GLXMA BSOY Glycine max	GLXMA BSOY Glycine max	GLXMA BSOY Glycine max	GLXMA BSOY Glycine max		
			Soybean PLOT C 6/6/2014 PHYGEN %	Soybean PLOT P 6/6/2014 CONTRO %	Soybean PLOT C 6/16/2014 PHYGEN %	Soybean PLOT P 6/16/2014 CONTRO %	Soybean PLOT C 6/23/2014 PHYGEN %	Soybean PLOT P 6/23/2014 CONTRO %	
			30 30 30 DA-A P 0	30 30 30 DA-A P 0	40 40 0 DA-B P 0	40 40 0 DA-B P 0	47 7 7 DA-B P 0	14 14 7 DA-B P 0	
			0	0	0	0	0	0	
Trt No.	Treatment Name	Rate Rate Unit	Appl Code	1	2	3	4	5	6
8	BOUNDARY PREFIX TOUCHDOWN TOTAL N-PAK AMS	1.75 pt/a 2.5 pt/a 35 fl oz/a 2.5 % v/v	A B B B	2 a	96 a	1 a	90 a	8 ab	99 a
9	BOUNDARY FLEXSTAR GT DUAL II MAGNUM PREMIUM MSO N-PAK AMS	1.75 pt/a 4.5 pt/a 1 pt/a 1 % v/v 2.5 % v/v	A B B B B	1 a	100 a	0 a	99 a	9 ab	100 a
10	BOUNDARY FLEXSTAR GT DUAL II MAGNUM PREMIUM MSO N-PAK AMS COBRA COC	1.75 pt/a 4.5 pt/a 1 pt/a 1 % v/v 2.5 % v/v 10 fl oz/a 1 pt/a	A B B B B C C	4 a	94 a	0 a	93 a	8 ab	94 a
11	BOUNDARY SEQUENCE N-PAK AMS FLEXSTAR GT PREMIUM MSO N-PAK AMS	1.75 pt/a 3 pt/a 2.5 % v/v 4.5 pt/a 1 % v/v 2.5 % v/v	A B B C C C	3 a	100 a	0 a	100 a	5 b	99 a
12	Untreated Check			0 a	0 b	0 a	0 b	0 c	0 b
LSD (P=.05)				2.8	5.6	2.8	12.5	3.9	4.8
Standard Deviation				1.9	3.9	1.9	8.7	2.7	3.3
CV				95.02	4.74	136.91	10.8	36.39	4.04
Bartlett's X2				9.184	4.595	3.808	8.612	7.938	9.23
P(Bartlett's X2)				0.421	0.204	0.703	0.072	0.54	0.056
Skewness				1.2497*	-1.807*	1.6965*	-1.6609*	0.3906	-1.8154*
Kurtosis				1.1398	1.3803*	2.1607*	1.0056	0.1361	1.3999*

# Purdue University Weed Science

Pest Type			W Weed AMAPA		W Weed AMAPA	
Pest Code			Amaranthus pal>		Amaranthus pal>	
Pest Scientific Name			Palmer amaranth		Palmer amaranth	
Pest Name						
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 C	PLOT P	
Rating Date	7/3/2014		7/3/2014	7/16/2014	7/16/2014	
Rating Type	PHYGEN		CONTRO	PHYGEN	CONTRO	
Rating Unit	%		%	%	%	
Days After First/Last Applic.	57 17		57 17	70 13	70 13	
Trt-Eval Interval	0 DA-C		0 DA-C	13 DA-C	13 DA-C	
ARM Action Codes	P		P	P	P	
Number of Decimals	0		0	0	0	
Trt Treatment No. Name	Rate Rate Unit	Appl Code	7	8	9	10
1 Untreated Check			0 d	0 b	0 b	0 b
2 ENVIVE @ 3.5 OZ/A			6 a-d	99 a	2 b	99 a
CLASSIC	1.28 oz/a A					
HARMONY SG	0.2 oz/a A					
VALOR	2 oz/a A					
PREFIX	1 qt/a B					
ABUNDIT EXTRA	1 qt/a B					
N-PAK - AMS	2.5 % v/v B					
3 ENVIVE @ 3.5 OZ/A			6 a-d	99 a	3 b	100 a
CLASSIC	1.28 oz/a A					
HARMONY SG	0.2 oz/a A					
VALOR	2 oz/a A					
ZIDUA	1.5 oz/a A					
PREFIX	1 qt/a B					
ABUNDIT EXTRA	1 qt/a B					
N-PAK - AMS	2.5 % v/v B					
4 TRIVENCE @ 8 OZ/A			9 abc	100 a	4 b	99 a
CLASSIC	1.25 oz/a A					
SENCOR 75DF	4.75 oz/a A					
VALOR	2 oz/a A					
PREFIX	1 qt/a B					
ABUNDIT EXTRA	1 qt/a B					
N-PAK - AMS	2.5 % v/v B					
5 TRIVENCE @ 8 OZ/A			10 ab	100 a	4 b	100 a
CLASSIC	1.25 oz/a A					
SENCOR 75DF	4.75 oz/a A					
VALOR	2 oz/a A					
ZIDUA	1.5 oz/a A					
PREFIX	1 qt/a B					
ABUNDIT EXTRA	1 qt/a B					
N-PAK - AMS	2.5 % v/v B					
6 CANOPY	4 oz/a A		11 a	91 a	4 b	94 a
CINCH	1 pt/a A					
PREFIX	1 qt/a B					
ABUNDIT EXTRA	1 qt/a B					
N-PAK - AMS	2.5 % v/v B					
7 BOUNDARY	1.75 pt/a A		3 cd	98 a	0 b	97 a
FLEXSTAR GT	4.5 pt/a B					
PREMIUM MSO	1 % v/v B					
N-PAK AMS	2.5 % v/v B					

## Purdue University Weed Science

Pest Type			W Weed		W Weed
Pest Code			AMAPA		AMAPA
Pest Scientific Name			Amaranthus pal>		Amaranthus pal>
Pest Name			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 C	PLOT P
Rating Date	7/3/2014		7/3/2014	7/16/2014	7/16/2014
Rating Type	PHYGEN		CONTRO	PHYGEN	CONTRO
Rating Unit	%		%	%	%
Days After First/Last Applic.	57 17		57 17	70 13	70 13
Trt-Eval Interval	0 DA-C		0 DA-C	13 DA-C	13 DA-C
ARM Action Codes	P		P	P	P
Number of Decimals	0		0	0	0
Trt Treatment	Rate	Appl			
No. Name	Rate Unit	Code	7	8	9
8 BOUNDARY	1.75 pt/a	A	4 bcd	96 a	0 b
PREFIX	2.5 pt/a	B			96 a
TOUCHDOWN TOTAL	35 fl oz/a	B			
N-PAK AMS	2.5 % v/v	B			
9 BOUNDARY	1.75 pt/a	A	5 a-d	100 a	0 b
FLEXSTAR GT	4.5 pt/a	B			100 a
DUAL II MAGNUM	1 pt/a	B			
PREMIUM MSO	1 % v/v	B			
N-PAK AMS	2.5 % v/v	B			
10 BOUNDARY	1.75 pt/a	A	6 a-d	93 a	10 a
FLEXSTAR GT	4.5 pt/a	B			
DUAL II MAGNUM	1 pt/a	B			
PREMIUM MSO	1 % v/v	B			
N-PAK AMS	2.5 % v/v	B			
COBRA	10 fl oz/a	C			
COC	1 pt/a	C			
11 BOUNDARY	1.75 pt/a	A	3 cd	96 a	5 b
SEQUENCE	3 pt/a	B			99 a
N-PAK AMS	2.5 % v/v	B			
FLEXSTAR GT	4.5 pt/a	C			
PREMIUM MSO	1 % v/v	C			
N-PAK AMS	2.5 % v/v	C			
12 Untreated Check			0 d	0 b	0 b
LSD (P=.05)			4.4	6.6	3.8
Standard Deviation			3.0	4.6	2.6
CV			58.66	5.66	98.79
Bartlett's X2			7.786	13.326	6.24
P(Bartlett's X2)			0.455	0.038*	0.182
Skewness			0.9299*	-1.7721*	1.416*
Kurtosis			0.9108	1.3014	1.3344

# Purdue University Weed Science

## PRE followed by POST programs for Control of Glyphosate-Resistant Palmer amaranth in Soybean

Trial ID: 14S-CCP-CTS-12      Location: 12 MILE      Trial Year: 2014  
 Protocol ID: 14S-CCP-CTS-12      Investigator: Dr. Bill Johnson  
 Project ID: Sales Support      Study Director: Joe Ikley  
 Sponsor Contact: DuPont/Syngenta

### Randomized Complete Block (RCB) AOV For GLXMA BSOY Glycine max Soybean PLOT C 6/6/2014 PHYGEN % 30 30 30 DA-A P 0 (Data Column 1)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	47	300.979167			
Replicate	3	105.062500	35.020833	9.497	0.0001
Treatment	11	74.229167	6.748106	1.830	0.0885
Error	33	121.687500	3.687500		

### Randomized Complete Block (RCB) AOV For W Weed AMAPA Amaranthus palmeri Palmer amaranth PLOT P 6/6/2014 CONTRO % 30 30 30 DA-A P 0 (Data Column 2)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	47	65545.312500			
Replicate	3	30.729167	10.243056	0.675	0.5733
Treatment	11	65014.062500	5910.369318	389.678	0.0001
Error	33	500.520833	15.167298		

### Randomized Complete Block (RCB) AOV For GLXMA BSOY Glycine max Soybean PLOT C 6/16/2014 PHYGEN % 40 40 0 DA-B P 0 (Data Column 3)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	47	297.479167			
Replicate	3	60.229167	20.076389	5.497	0.0036
Treatment	11	116.729167	10.611742	2.906	0.0087
Error	33	120.520833	3.652146		

### Randomized Complete Block (RCB) AOV For W Weed AMAPA Amaranthus palmeri Palmer amaranth PLOT P 6/16/2014 CONTRO % 40 40 0 DA-B P 0 (Data Column 4)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	47	65347.916667			
Replicate	3	185.416667	61.805556	0.823	0.4904
Treatment	11	62685.416667	5698.674242	75.918	0.0001
Error	33	2477.083333	75.063131		

### Randomized Complete Block (RCB) AOV For GLXMA BSOY Glycine max Soybean PLOT C 6/23/2014 PHYGEN % 47 7 7 DA-B P 0 (Data Column 5)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	47	1185.250000			
Replicate	3	229.750000	76.583333	10.630	0.0001
Treatment	11	717.750000	65.250000	9.057	0.0001
Error	33	237.750000	7.204545		

### Randomized Complete Block (RCB) AOV For W Weed AMAPA Amaranthus palmeri Palmer amaranth PLOT P 6/23/2014 CONTRO % 14 14 7 DA-B P 0 (Data Column 6)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	47	65395.312500			
Replicate	3	30.729167	10.243056	0.931	0.4366
Treatment	11	65001.562500	5909.232955	537.172	0.0001
Error	33	363.020833	11.000631		

### Randomized Complete Block (RCB) AOV For GLXMA BSOY Glycine max Soybean PLOT C 7/3/2014 PHYGEN % 57 17 0 DA-C P 0 (Data Column 7)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	47	1109.979167			
Replicate	3	236.062500	78.687500	8.636	0.0002
Treatment	11	573.229167	52.111742	5.719	0.0001
Error	33	300.687500	9.111742		

### Randomized Complete Block (RCB) AOV For W Weed AMAPA Amaranthus palmeri Palmer amaranth PLOT P 7/3/2014 CONTRO % 57 17 0 DA-C P 0 (Data Column 8)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	47	64242.979167			
Replicate	3	243.895833	81.298611	3.872	0.0178
Treatment	11	63306.229167	5755.111742	274.111	0.0001
Error	33	692.854167	20.995581		

## Purdue University Weed Science

Randomized Complete Block (RCB) AOV For GLXMA BSOY Glycine max Soybean PLOT C 7/16/2014 PHYGEN % 70 13 13 DA-C P 0 (Data Column 9)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	47	682.666667			
Replicate	3	54.000000	18.000000	2.594	0.0691
Treatment	11	399.666667	36.333333	5.236	0.0001
Error	33	229.000000	6.939394		

Randomized Complete Block (RCB) AOV For W Weed AMAPA Amaranthus palmeri Palmer amaranth PLOT P 7/16/2014 CONTRO % 70 13 13 DA-C P 0 (Data Column 10)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	47	64572.979167			
Replicate	3	103.395833	34.465278	3.595	0.0237
Treatment	11	64153.229167	5832.111742	608.368	0.0001
Error	33	316.354167	9.586490		

Pest Type

W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop

Pest Code

AMAPA, Amaranthus palmeri, = US

Crop Code

GLXMA, BSOY, Glycine max, = US

Part Rated

PLOT = plot

C = Crop is Part Rated

P = Pest is Part Rated

Rating Type

PHYGEN = phytotoxicity - general / injury

CONTRO = control / burndown or knockdown

Rating Unit

% = percent

ARM Action Codes

P = Rating scale of 0 to 100 (e.g. % control or injury)