

Southern Illinois University

Palmer Amaranth Control with MANA Soybean Programs.

Trial ID: 13-COL-MANAprgrams Location: Collinsville, IL Trial Year: 2013
Investigator: Bryan Young

Trial Status: F one-year/final Initiation Date: 6-5-13 Completion Date: 9-24-13		Trial Location
City: Collinsville Country: USA State/Prov.: Illinois IL Postal Code: 62234		

Objectives: Evaluate MANA herbicide programs for control of Palmer amaranth in soybean.

Study Director: Bryan Young Title: Professor Organization: Southern Illinois University Address: 1205 Lincoln Drive - AG 176 - MC 4415 Phone No.: 618-453-7679 City+State/Prov: Carbondale IL Mobile No.: 618-713-6471 Postal Code: 62901 E-mail: bgyoung@siu.edu Country: USA		Contacts
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Crop 1: GLXMA Glycine max Soybean Variety: AG3832 Description: RR2Y Planting Date: 6-5-13 Planting Rate, Unit: 145000 S/A Planting Method: SEEDED Depth, Unit: 1.25 IN Row Spacing, Unit: 30 IN		Crop Description
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Pest 1 Type: W Code: AMAPA Amaranthus palmeri S.Wats. Common Name: amaranth, Palmer Description: glyphosate-resistant Palmer amaranth		Pest Description
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Treated Plot Width: 6.67 FT Total Plot Width: 10 FT Treated Plot Length: 45 FT Total Plot Length: 45 FT Replications: 2 Untreated Arrangement: INCLUDED single control randomized in each block		Site and Design Site Type: FIELD Experimental Unit: 1 PLOT Tillage Type: NOTILL no-till Study Design: RACOB L Randomized Complete Block (RCB)	
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No.	Previous Crop	Year
1.	GLXMA	2012

Maintenance	
No.	Maintenance Product Name
1.	N 0 LB/A, P2O5 0 LB/A, K2O 0 LB/A

% Sand: 5.26 % OM: 1.95 Texture: SIL silt loam % Silt: 84.13 pH: 5.7 Soil Name: Worthen/Littleton % Clay: 10.61 CEC: 11.77		Soil Description
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Additional Measured Elements		
Element	Quantity	Unit
P1	88	lb/A
K	338	lb/A

Overall Moisture Conditions: ABONOR Closest Weather Station: On-site Watch Dog Station		Moisture and Weather Conditions Distance, Unit: 0.25 MI
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No.	Date	Amount	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Temp Unit
1.	6-2-13					7	DAY	50	80	F
2.	6-4-13	0.24	IN	RAIN	rain					
3.	6-5-13	0.04	IN	RAIN	rain					
4.	6-7-13	0.06	IN	RAIN	rain					
5.	6-9-13					7	DAY	59	94	F
6.	6-9-13	0.17	IN	RAIN	rain	2	DAY			
7.	6-16-13					7	DAY	61	90	F
8.	6-17-13	2.35	IN	RAIN	rain	3	DAY			
9.	6-23-13					7	DAY	64	92	F
10.	6-23-13	3.31	IN	RAIN	rain	2	DAY			
11.	6-26-13	0.67	IN	RAIN	rain	1	DAY			
12.	6-30-13	0.53	IN	RAIN	rain	2	DAY			
13.	6-30-13					7	DAY	61	86	F
14.	7-2-13	1.42	IN	RAIN	rain	2	DAY			
15.	7-6-13	0.92	IN	RAIN	rain	1	DAY			
16.	7-7-13					7	DAY	62	94	F
17.	7-10-13	0.14	IN	RAIN	rain	1	DAY			
18.	7-14-13					7	DAY	64	94	F
19.	7-19-13	0.03	IN	RAIN	rain	1	DAY			
20.	7-21-13	0.47	IN	RAIN	rain	2	DAY			
21.	7-21-13					7	DAY	56	91	F
22.	7-26-13	0.03	IN	RAIN	rain	1	DAY			
23.	7-30-13	0.5	IN	RAIN	rain	2	DAY			

Application Description

	A	B	C
Application Date:	6-5-13	6-5-13	6-27-13
Appl. Start Time:	16:50	16:50	8:40
Appl. Stop Time:	17:30	17:30	9:20
Application Method:	Spray	Spray	Spray
Application Timing:	PPI	PRE	2-4"W
Application Placement:	BROSOI	BROSOI	BROFOL
Applied By:	BCS	BCS	LXF
Air Temperature, Unit:	84 F	84 F	90 F
% Relative Humidity:	44	44	70
Wind Velocity, Unit:	3 MPH	3 MPH	4 MPH
Wind Direction:	E	E	W
Dew Presence (Y/N):	N	N	N
Soil Temperature, Unit:	76 F	76 F	79 F
Soil Moisture:	NORMAL	NORMAL	ABONOR
% Cloud Cover:	60	60	5
Next Moisture Occurred On:	6-5-13	6-5-13	6-29-13
Time to Next Moisture, Unit:	3 HR	3 HR	56 HR

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	GLXMA	GLXMA	GLXMA
Stage Scale Used:	DESC	DESC	DESC
Stage Majority, Percent:	NA	NA	V3
Stage Minimum, Percent:			V2
Stage Maximum, Percent:			V3
Height, Unit:			14 IN
Height Minimum, Maximum:			8 14

Palmer Amaranth Control with MANA Soybean Programs.

Trial ID: 13-COL-MANAprgrams Location: Collinsville, IL Trial Year: 2013
Investigator: Bryan Young**Pest Stage At Each Application**

	A	B	C
Pest 1 Code, Type, Scale:	AMAPA W	AMAPA W	AMAPA W
Stage Majority, Percent:	NA	NA	20
Stage Minimum, Percent:			2
Stage Maximum, Percent:			40
Height, Unit:			4 IN
Height Minimum, Maximum:			0.5 6
Density, Unit:			3 FT2

Application Equipment

	A	B	C
Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer
Equipment Type:	BACSPR	BACSPR	BACSPR
Operation Pressure, Unit:	30 PSI	30 PSI	30 PSI
Nozzle Type:	XR	XR	XR
Nozzle Size:	8002	8002	8002
Boom Length, Unit:	6.67 FT	6.67 FT	6.67 FT
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA

Southern Illinois University

Palmer Amaranth Control with MANA Soybean Programs.

Trial ID: 13-COL-MANAprgrams Location: Collinsville, IL Trial Year: 2013
Investigator: Bryan Young

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval									GLXMA 6-12-13 Injury Percent 7 DA-A 7 DA-B	GLXMA 6-19-13 Injury Percent 14 DA-A 14 DA-B	GLXMA 6-27-13 Injury Percent 0 DA-C	GLXMA 7-4-13 Injury Percent 7 DA-C	GLXMA 7-11-13 Injury Percent 14 DA-C	GLXMA 7-27-13 Injury Percent 30 DA-C	GLXMA 8-26-13 Injury Percent 60 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code							
1	TAILWIND TORMENT NIS (ACTIVATOR 90)	6.5 SC 2.5 SL 100 SL		1.02 lb ai/a 0.312 lb ae/a 0.25 % v/v		20 fl oz/a 1 pt/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	0 a	5 bcd	3 bc	9 b	3 c	0 a	0 a
2	OUTFLANK TORMENT NIS (ACTIVATOR 90)	51 WG 2.5 SL 100 SL		0.064 lb ai/a 0.312 lb ae/a 0.25 % v/v		2 oz/a 1 pt/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	0 a	23 a	11 a	7 bc	3 c	0 a	0 a
3	OUTFLANK PUMMEL NIS (ACTIVATOR 90)	51 WG 100 SL 100 SL		0.064 lb ai/a 1.5 pt/a 0.25 % v/v		2 oz/a 1.5 pt/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	0 a	23 a	11 a	4 c	3 c	0 a	0 a
4	OUTFLANK VISE NIS (ACTIVATOR 90)	51 WG 5.4 EC 100 SL		0.064 lb ai/a 1.35 lb ai/a 0.25 % v/v		2 oz/a 2 pt/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	0 a	19 a	10 a	14 a	5 ab	0 a	0 a
5	PUMMEL ROUNDUP POWERMAX NIS (ACTIVATOR 90)	100 SL 4.5 SL 100 SL		2 pt/a 0.77 lb ae/a 0.25 % v/v		2 pt/a 22 fl oz/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	0 a	0 d	0 c	0 d	0 d	0 a	0 a
6	TORMENT ROUNDUP POWERMAX NIS (ACTIVATOR 90)	2.5 SL 4.5 SL 100 SL		0.312 lb ae/a 0.77 lb ae/a 0.25 % v/v		1 pt/a 22 fl oz/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	0 a	8 bc	3 bc	0 d	0 d	0 a	0 a
7	PARALLEL TORMENT NIS (ACTIVATOR 90)	7.8 EC 2.5 SL 100 SL		0.91 lb ai/a 0.312 lb ae/a 0.25 % v/v		0.938 pt/a 1 pt/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	0 a	0 d	0 c	9 b	4 bc	0 a	0 a
8	TRIFLUREX HFP TORMENT NIS (ACTIVATOR 90)	4 EC 2.5 SL 100 SL		1 lb ai/a 0.312 lb ae/a 0.25 % v/v		2 pt/a 1 pt/a 0.25 % v/v		PPI 2-4"W 2-4"W	A C C	0 a	5 bcd	3 bc	6 bc	4 bc	0 a	0 a
9	TRIFLUREX HFP VISE NIS (ACTIVATOR 90)	4 EC 5.4 EC 100 SL		1 lb ai/a 1.35 lb ai/a 0.25 % v/v		2 pt/a 2 pt/a 0.25 % v/v		PPI 2-4"W 2-4"W	A C C	0 a	8 bc	2 bc	13 a	5 ab	0 a	0 a
10	PARALLEL GLORY TORMENT NIS (ACTIVATOR 90)	7.8 EC 75 WG 2.5 SL 100 SL		0.91 lb ai/a 0.188 lb ai/a 0.312 lb ae/a 0.25 % v/v		0.938 pt/a 4 oz/a 1 pt/a 0.25 % v/v		PRE PRE 2-4"W 2-4"W	B B C C	0 a	10 b	5 b	8 bc	3 c	0 a	0 a
11	PARALLEL GLORY RUMBLE NIS (ACTIVATOR 90)	7.8 EC 75 WG 1.88 EC 100 SL		0.91 lb ai/a 0.188 lb ai/a 0.376 lb ai/a 0.25 % v/v		0.938 pt/a 4 oz/a 1.6 pt/a 0.25 % v/v		PRE PRE 2-4"W 2-4"W	B B C C	0 a	0 d	0 c	15 a	5 ab	0 a	0 a
12	PARALLEL GLORY VISE NIS (ACTIVATOR 90)	7.8 EC 75 WG 5.4 EC 100 SL		0.91 lb ai/a 0.188 lb ai/a 1.35 lb ai/a 0.25 % v/v		0.938 pt/a 4 oz/a 2 pt/a 0.25 % v/v		PRE PRE 2-4"W 2-4"W	B B C C	0 a	3 cd	2 bc	15 a	6 a	0 a	0 a
13	NO PRE HERBICIDE ROUNDUP POWERMAX NIS (ACTIVATOR 90)	4.5 SL 100 SL		0.77 lb ae/a 0.25 % v/v		22 fl oz/a 0.25 % v/v		2-4"W 2-4"W	C C				0 d	0 d	0 a	0 a

Means followed by same letter do not significantly differ (P=.05, LSD)
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Pest Code								
Crop Code								
Rating Date	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
Rating Type	6-12-13	6-19-13	6-27-13	7-4-13	7-11-13	7-27-13	8-26-13	
Rating Unit	Injury	Injury	Injury	Injury	Injury	Injury	Injury	
Rating Timing	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
Trt-Eval Interval	7 DA-A	14 DA-A	0 DA-C	7 DA-C	14 DA-C	30 DA-C	60 DA-C	
	7 DA-B	14 DA-B						
Trt Treatment	Form	Form	Rate	Other	Other	Growth	Appl	
No. Name	Conc	Type	Rate	Unit	Rate	Rate	Unit	Code
14 NONTREATED	0	0 d	0 c	0 d	0 d	0 a	0 a	
LSD (P=.05)	0.0	5.0	3.6	3.6	1.3	0.0	0.0	
Standard Deviation	0.0	2.3	1.6	1.7	0.6	0.0	0.0	
CV	0.0	29.61	44.14	24.05	20.56	0.0	0.0	
Replicate F	0.000	0.065	0.355	2.152	3.545	0.000	0.000	
Replicate Prob(F)	1.0000	0.8035	0.5626	0.1662	0.0823	1.0000	1.0000	
Treatment F	0.000	26.492	13.203	22.555	25.000	0.000	0.000	
Treatment Prob(F)	1.0000	0.0001	0.0001	0.0001	0.0001	1.0000	1.0000	

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Palmer Amaranth Control with MANA Soybean Programs.

Trial ID: 13-COL-MANAPrograms Location: Collinsville, IL Trial Year: 2013
Investigator: Bryan Young

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval									AMAPA-HR	AMAPA-HR	AMAPA-HR	AMAPA-HR	AMAPA-HR	AMAPA-HR
									6-19-13 Control Percent 14 DA-A 14 DA-B	6-27-13 Control Percent 0 DA-C	7-4-13 Control Percent 7 DA-C	7-11-13 Control Percent 14 DA-C	7-27-13 Control Percent 30 DA-C	8-26-13 Control Percent 60 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate Unit	Growth Stage	Appl Code						
1	TAILWIND TORMENT NIS (ACTIVATOR 90)	6.5 SC 2.5 SL 100 SL		1.02 lb ai/a 0.312 lb ae/a 0.25 % v/v	20 fl oz/a 1 pt/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	93 abc	87 bc	96 a	96 a	94 a	92 a
2	OUTFLANK TORMENT NIS (ACTIVATOR 90)	51 WG 2.5 SL 100 SL		0.064 lb ai/a 0.312 lb ae/a 0.25 % v/v	2 oz/a 1 pt/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	99 a	97 a	99 a	99 a	99 a	99 a
3	OUTFLANK PUMMEL NIS (ACTIVATOR 90)	51 WG 100 SL 100 SL		0.064 lb ai/a 1.5 pt/a 0.25 % v/v	2 oz/a 1.5 pt/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	99 a	97 a	98 a	96 a	97 a	96 a
4	OUTFLANK VISE NIS (ACTIVATOR 90)	51 WG 5.4 EC 100 SL		0.064 lb ai/a 1.35 lb ai/a 0.25 % v/v	2 oz/a 2 pt/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	99 a	97 a	99 a	99 a	99 a	99 a
5	PUMMEL ROUNDUP POWERMAX NIS (ACTIVATOR 90)	100 SL 4.5 SL 100 SL		2 pt/a 0.77 lb ae/a 0.25 % v/v	2 pt/a 22 fl oz/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	87 c	79 d	81 c	78 c	69 c	63 c
6	TORMENT ROUNDUP POWERMAX NIS (ACTIVATOR 90)	2.5 SL 4.5 SL 100 SL		0.312 lb ae/a 0.77 lb ae/a 0.25 % v/v	1 pt/a 22 fl oz/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	94 ab	88 bc	87 b	85 b	72 c	65 c
7	PARALLEL TORMENT NIS (ACTIVATOR 90)	7.8 EC 2.5 SL 100 SL		0.91 lb ai/a 0.312 lb ae/a 0.25 % v/v	0.938 pt/a 1 pt/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	73 d	68 e	97 a	92 ab	85 b	73 bc
8	TRIFLUREX HFP TORMENT NIS (ACTIVATOR 90)	4 EC 2.5 SL 100 SL		1 lb ai/a 0.312 lb ae/a 0.25 % v/v	2 pt/a 1 pt/a 0.25 % v/v		PPI 2-4"W 2-4"W	A C C	88 bc	83 cd	96 a	95 a	94 a	88 ab
9	TRIFLUREX HFP VISE NIS (ACTIVATOR 90)	4 EC 5.4 EC 100 SL		1 lb ai/a 1.35 lb ai/a 0.25 % v/v	2 pt/a 2 pt/a 0.25 % v/v		PPI 2-4"W 2-4"W	A C C	92 bc	88 bc	97 a	97 a	97 a	94 a
10	PARALLEL GLORY TORMENT NIS (ACTIVATOR 90)	7.8 EC 75 WG 2.5 SL 100 SL		0.91 lb ai/a 0.188 lb ai/a 0.312 lb ae/a 0.25 % v/v	0.938 pt/a 4 oz/a 1 pt/a 0.25 % v/v		PRE PRE 2-4"W 2-4"W	B B C C	91 bc	87 bc	97 a	97 a	95 a	92 a
11	PARALLEL GLORY RUMBLE NIS (ACTIVATOR 90)	7.8 EC 75 WG 1.88 EC 100 SL		0.91 lb ai/a 0.188 lb ai/a 0.376 lb ai/a 0.25 % v/v	0.938 pt/a 4 oz/a 1.6 pt/a 0.25 % v/v		PRE PRE 2-4"W 2-4"W	B B C C	93 abc	90 b	98 a	98 a	98 a	97 a
12	PARALLEL GLORY VISE NIS (ACTIVATOR 90)	7.8 EC 75 WG 5.4 EC 100 SL		0.91 lb ai/a 0.188 lb ai/a 1.35 lb ai/a 0.25 % v/v	0.938 pt/a 4 oz/a 2 pt/a 0.25 % v/v		PRE PRE 2-4"W 2-4"W	B B C C	92 bc	89 b	98 a	97 a	97 a	96 a
13	NO PRE HERBICIDE ROUNDUP POWERMAX NIS (ACTIVATOR 90)	4.5 SL 100 SL		0.77 lb ae/a 0.25 % v/v	22 fl oz/a 0.25 % v/v		2-4"W 2-4"W	C C			30 d	23 d	25 d	20 d

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Palmer Amaranth Control with MANA Soybean Programs.

Trial ID: 13-COL-MANAprgrams Location: Collinsville, IL Trial Year: 2013
Investigator: Bryan Young

Pest Code	AMAPA-HR	AMAPA-HR	AMAPA-HR	AMAPA-HR	AMAPA-HR	AMAPA-HR
Crop Code	6-19-13	6-27-13	7-4-13	7-11-13	7-27-13	8-26-13
Rating Date	Control	Control	Control	Control	Control	Control
Rating Type	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit	14 DA-A	0 DA-C	7 DA-C	14 DA-C	30 DA-C	60 DA-C
Rating Timing	14 DA-B					
Trt-Eval Interval						
Trt Treatment	Form	Form	Rate	Other	Other	Growth
No. Name	Conc	Type	Rate	Unit	Rate	Rate
14 NONTREATED						
	0 e	0 f	0 e	0 e	0 e	0 e
LSD (P=.05)	6.8	5.9	4.9	7.2	8.0	18.5
Standard Deviation	3.1	2.7	2.3	3.3	3.7	8.6
CV	3.73	3.36	2.71	4.06	4.64	11.2
Replicate F	3.742	7.193	2.784	3.095	2.831	4.867
Replicate Prob(F)	0.0770	0.0200	0.1191	0.1020	0.1163	0.0460
Treatment F	139.806	177.604	351.976	171.471	135.564	26.075
Treatment Prob(F)	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Palmer Amaranth Control with MANA Soybean Programs.

Trial ID: 13-COL-MANAPrograms Location: Collinsville, IL Trial Year: 2013
Investigator: Bryan Young

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval										AMAPA-HR 9-24-13 Control Percent At Harvest
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Other Rate	Other Unit	Growth Stage	Appl Code	
1	TAILWIND TORMENT NIS (ACTIVATOR 90)	6.5 SC 2.5 SL 100 SL		1.02 lb ai/a 0.312 lb ae/a 0.25 % v/v		20 fl oz/a 1 pt/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	93 a
2	OUTFLANK TORMENT NIS (ACTIVATOR 90)	51 WG 2.5 SL 100 SL		0.064 lb ai/a 0.312 lb ae/a 0.25 % v/v		2 oz/a 1 pt/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	99 a
3	OUTFLANK PUMMEL NIS (ACTIVATOR 90)	51 WG 100 SL 100 SL		0.064 lb ai/a 1.5 pt/a 0.25 % v/v		2 oz/a 1.5 pt/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	94 a
4	OUTFLANK VISE NIS (ACTIVATOR 90)	51 WG 5.4 EC 100 SL		0.064 lb ai/a 1.35 lb ai/a 0.25 % v/v		2 oz/a 2 pt/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	99 a
5	PUMMEL ROUNDUP POWERMAX NIS (ACTIVATOR 90)	100 SL 4.5 SL 100 SL		2 pt/a 0.77 lb ae/a 0.25 % v/v		2 pt/a 22 fl oz/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	55 c
6	TORMENT ROUNDUP POWERMAX NIS (ACTIVATOR 90)	2.5 SL 4.5 SL 100 SL		0.312 lb ae/a 0.77 lb ae/a 0.25 % v/v		1 pt/a 22 fl oz/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	68 bc
7	PARALLEL TORMENT NIS (ACTIVATOR 90)	7.8 EC 2.5 SL 100 SL		0.91 lb ai/a 0.312 lb ae/a 0.25 % v/v		0.938 pt/a 1 pt/a 0.25 % v/v		PRE 2-4"W 2-4"W	B C C	69 bc
8	TRIFLUREX HFP TORMENT NIS (ACTIVATOR 90)	4 EC 2.5 SL 100 SL		1 lb ai/a 0.312 lb ae/a 0.25 % v/v		2 pt/a 1 pt/a 0.25 % v/v		PPI 2-4"W 2-4"W	A C C	86 ab
9	TRIFLUREX HFP VISE NIS (ACTIVATOR 90)	4 EC 5.4 EC 100 SL		1 lb ai/a 1.35 lb ai/a 0.25 % v/v		2 pt/a 2 pt/a 0.25 % v/v		PPI 2-4"W 2-4"W	A C C	95 a
10	PARALLEL GLORY TORMENT NIS (ACTIVATOR 90)	7.8 EC 75 WG 2.5 SL 100 SL		0.91 lb ai/a 0.188 lb ai/a 0.312 lb ae/a 0.25 % v/v		0.938 pt/a 4 oz/a 1 pt/a 0.25 % v/v		PRE PRE 2-4"W 2-4"W	B B C C	90 a
11	PARALLEL GLORY RUMBLE NIS (ACTIVATOR 90)	7.8 EC 75 WG 1.88 EC 100 SL		0.91 lb ai/a 0.188 lb ai/a 0.376 lb ai/a 0.25 % v/v		0.938 pt/a 4 oz/a 1.6 pt/a 0.25 % v/v		PRE PRE 2-4"W 2-4"W	B B C C	98 a
12	PARALLEL GLORY VISE NIS (ACTIVATOR 90)	7.8 EC 75 WG 5.4 EC 100 SL		0.91 lb ai/a 0.188 lb ai/a 1.35 lb ai/a 0.25 % v/v		0.938 pt/a 4 oz/a 2 pt/a 0.25 % v/v		PRE PRE 2-4"W 2-4"W	B B C C	97 a
13	NO PRE HERBICIDE ROUNDUP POWERMAX NIS (ACTIVATOR 90)	4.5 SL 100 SL		0.77 lb ae/a 0.25 % v/v		22 fl oz/a 0.25 % v/v		2-4"W 2-4"W	C C	5 d

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Trial ID: 13-COL-MANAprgrams Location: Collinsville, IL Trial Year: 2013
Investigator: Bryan Young

Pest Code	AMAPA-HR							
Crop Code								
Rating Date	9-24-13							
Rating Type	Control							
Rating Unit	Percent							
Rating Timing	At Harvest							
Trt-Eval Interval								
Trt Treatment	Form	Form	Rate	Other	Other	Growth	Appl	
No. Name	Conc	Type	Rate	Unit	Rate	Rate	Unit Stage	Code
14 NONTREATED	0 d							
LSD (P=.05)	19.1							
Standard Deviation	8.9							
CV	11.86							
Replicate F	4.734							
Replicate Prob(F)	0.0486							
Treatment F	28.539							
Treatment Prob(F)	0.0001							

Palmer Amaranth Control with MANA Soybean Programs.

Trial ID: 13-COL-MANAprgrams Location: Collinsville, IL Trial Year: 2013
Investigator: Bryan Young

Trial Comments

1. Protocol: MANA (13-HER-CR-57-2612313).
2. Ratings: CI at 7 and 14 DA-A/B.
CI/WC at 0, 7, 14, 30, and 60 DA-C, and at harvest.
3. Photos, overall and closeup, at 30 DA-A/B and C, and at harvest.
4. Special instructions; PPI application in treatments 8 and 9 is after staking but before planting and requires 1 to 2 passes of a finishing tool.
5. No yield.
6. AMAPA-HR = Herbicide-resistant Palmer amaranth (glyphosate).
7. Weeds that had emerged prior to planting were controlled with tillage and Gramoxone.
8. Rainfall following the PRE application was 0.27 inch within 4 days, then 2.35 inch 12 days after the PRE.
9. Not harvested.