

Glyphosate Adjuvant Evaluation - Rosens.

Trial ID: 10-2B-ME70

Location: Belleville Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu
 City State Zip Country: Belleville IL 62221 USA
 Trial Status: FINAL Initiation Date: 06-10-10

Objectives: Determine the effect of experimental adjuvants on the performance of glyphosate in soybean.

Crop 1: GLXMA Soybean Variety: AG 4404 Description: RR/STS
 Planting Method: SEED Rate, Unit: 75 LB/A Planting Date: 06-10-10
 Row Spacing, Unit: 30 IN Depth, Unit: 1.0 IN

Pest 1 Type: W Code: GGGAN grasses, annual
 Pest 2 Type: W Code: AMBTR Ambrosia trifida L. ragweed, giant
 Pest 3 Type: W Code: AMATA Amaranthus rudis Sauer waterhemp, common
 Pest 4 Type: W Code: ABUTH Abutilon theophrasti Medicus velvetleaf

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 28 FT Tillage Type: REDUCED-TILL
 Replications: 3 Study Design: Randomized Complete Block

Prior Crops, Year
 1. ZEAMD 2009

Field Prep./Maintenance: N 0 LB/A, P205 0 LB/A, K20 150 LB/A

% OM: 1.6 Texture: SILT LOAM
 pH: 6.8 Soil Name: PIERRON
 CEC: 8 Fert. Level: P1: 77 LB/A, K: 252 LB/A

Application Description

A
 Application Date: 07-07-10
 Time of Day: 8:00
 Application Method: Spray
 Application Timing: 8-10"W
 Application Placement: BROFOL
 Applied By: NVH
 Air Temperature, Unit: 76 F
 % Relative Humidity: 92
 Wind Velocity, Unit: 0 MPH
 Dew Presence (Y/N): N
 Soil Moisture: NORMAL
 % Cloud Cover: 80

07-07-10
 Crop stage at application: V4
 Height Min, Max (inch): 8 10

Pest Stage At Each Application

Application Date: 07-07-10
 Weed Code: GGGAN
 Stage Majority (leaves): 4
 Stage Min, Max: 1 8
 Height Majority: 10 IN
 Height Min, Max: 4 12
 Density, Unit: 3 FT2
 Weed Code: AMBTR
 Stage Majority (leaves): 10
 Stage Min, Max: 3 20
 Height Majority: 9 IN
 Height Min, Max: 4 12
 Density, Unit: 0.1 FT2
 Weed Code: AMATA
 Stage Majority (leaves): 6
 Stage Min, Max: 2 15
 Height Majority: 9 IN
 Height Min, Max: 2 10
 Density, Unit: 3 FT2
 Weed Code: ABUTH
 Stage Majority (leaves): 5
 Stage Min, Max: 1 10
 Height Majority: 8 IN
 Height Min, Max: 1 9
 Density, Unit: 0.01 FT2

Application Equipment

Appl. Equipment: CO2 sprayer
 Operating Pressure: 30 PSI
 Nozzle Type: Flat fan
 Nozzle Size: TT 110015
 Boom Length, Unit: 7.5 FT
 Spray Volume, Unit: 10 GPA

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Pest Code										GGGAN		GGGAN	AMBTR	AMBTR	AMATA	AMATA	
Crop Code										GLXMA	GLXMA	07-21-10	08-04-10	07-21-10	08-04-10	07-21-10	08-04-10
Rating Date										Injury	Injury	Control	Control	Control	Control	Control	Control
Rating Data Type										Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit																	
Rating Timing																	
Trt-Eval Interval										14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code								
1	NONTREATED									0 a	0 a	0 c	0 b	0 b	0 c	0 g	0 e
2	BUCCANEER PLUS	3 SL		0.375 lb ae/a	16 fl oz/a			8-10"W A		0 a	0 a	75 ab	74 a	72 a	62 ab	43 f	43 bcd
2	DVA 9466	100 SL		0.75 % v/v	3 qt/100 gal			8-10"W A									
3	BUCCANEER PLUS	3 SL		0.375 lb ae/a	16 fl oz/a			8-10"W A		0 a	0 a	81 a	76 a	77 a	67 ab	45 ef	40 bcd
3	DVA 9466	100 SL		1 % v/v	4 qt/100 gal			8-10"W A									
4	BUCCANEER PLUS	3 SL		0.375 lb ae/a	16 fl oz/a			8-10"W A		0 a	0 a	78 a	77 a	73 a	65 ab	43 f	39 cd
4	DVA 9466	100 SL		1.25 % v/v	5 qt/100 gal			8-10"W A									
5	BUCCANEER PLUS	3 SL		0.375 lb ae/a	16 fl oz/a			8-10"W A		0 a	0 a	81 a	76 a	80 a	70 ab	49 b-e	46 abc
5	DVA 7466	100 SL		0.75 % v/v	3 qt/100 gal			8-10"W A									
6	BUCCANEER PLUS	3 SL		0.375 lb ae/a	16 fl oz/a			8-10"W A		0 a	0 a	78 a	72 a	73 a	67 ab	47 def	45 bc
6	DVA 7466	100 SL		1 % v/v	4 qt/100 gal			8-10"W A									
7	BUCCANEER PLUS	3 SL		0.375 lb ae/a	16 fl oz/a			8-10"W A		0 a	0 a	75 ab	72 a	82 a	74 ab	56 a	53 a
7	DVA 7466	100 SL		1.25 % v/v	5 qt/100 gal			8-10"W A									
8	BUCCANEER PLUS	3 SL		0.375 lb ae/a	16 fl oz/a			8-10"W A		0 a	0 a	71 b	70 a	67 a	63 ab	45 ef	37 d
8	DVA 0766	100 SL		0.75 % v/v	3 qt/100 gal			8-10"W A									
9	BUCCANEER PLUS	3 SL		0.375 lb ae/a	16 fl oz/a			8-10"W A		0 a	0 a	75 ab	75 a	72 a	51 b	48 c-f	47 ab
9	DVA 0766	100 SL		1 % v/v	4 qt/100 gal			8-10"W A									
10	BUCCANEER PLUS	3 SL		0.375 lb ae/a	16 fl oz/a			8-10"W A		0 a	0 a	75 ab	76 a	67 a	65 ab	52 a-d	43 bcd
10	DVA 0766	100 SL		1.25 % v/v	5 qt/100 gal			8-10"W A									
11	BUCCANEER PLUS	3 SL		0.375 lb ae/a	16 fl oz/a			8-10"W A		0 a	0 a	80 a	73 a	73 a	60 ab	48 c-f	47 ab
11	DVA 8466	100 SL		0.75 % v/v	3 qt/100 gal			8-10"W A									
11	EXP RSO	100 SL		4 fl oz/a	4 fl oz/a			8-10"W A									
12	BUCCANEER PLUS	3 SL		0.375 lb ae/a	16 fl oz/a			8-10"W A		0 a	0 a	77 ab	75 a	78 a	73 ab	53 abc	53 a
12	DVA 8466	100 SL		1 % v/v	4 qt/100 gal			8-10"W A									
12	EXP RSO	100 SL		4 fl oz/a	4 fl oz/a			8-10"W A									
13	BUCCANEER PLUS	3 SL		0.375 lb ae/a	16 fl oz/a			8-10"W A		0 a	0 a	81 a	76 a	80 a	78 a	54 ab	53 a
13	DVA 8466	100 SL		1.25 % v/v	5 qt/100 gal			8-10"W A									
13	EXP RSO	100 SL		4 fl oz/a	4 fl oz/a			8-10"W A									
LSD (P=.05)										0.0	0.0	6.6	6.8	17.6	23.7	5.6	7.5
Replicate F										0.000	0.000	5.983	10.706	2.758	5.736	4.098	0.323
Replicate Prob(F)										1.0000	1.0000	0.0078	0.0005	0.0836	0.0092	0.0294	0.7271
Treatment F										0.000	0.000	91.663	78.211	12.289	5.848	53.876	28.284
Treatment Prob(F)										1.0000	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

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Pest Code	ABUTH	ABUTH
Crop Code		
Rating Date	07-21-10	08-04-10
Rating Data Type	Control	Control
Rating Unit	Percent	Percent
Rating Timing		
Trt-Eval Interval	14 DA-A	28 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code		
1	NONTREATED									0 f	0 e
2	BUCCANEER PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	8-10"W	A	38 cde	33 cd
2	DVA 9466	100	SL	0.75	% v/v	3	qt/100 gal	8-10"W	A		
3	BUCCANEER PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	8-10"W	A	40 b-e	38 bcd
3	DVA 9466	100	SL	1	% v/v	4	qt/100 gal	8-10"W	A		
4	BUCCANEER PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	8-10"W	A	40 b-e	38 bcd
4	DVA 9466	100	SL	1.25	% v/v	5	qt/100 gal	8-10"W	A		
5	BUCCANEER PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	8-10"W	A	43 abc	40 abc
5	DVA 7466	100	SL	0.75	% v/v	3	qt/100 gal	8-10"W	A		
6	BUCCANEER PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	8-10"W	A	37 de	32 d
6	DVA 7466	100	SL	1	% v/v	4	qt/100 gal	8-10"W	A		
7	BUCCANEER PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	8-10"W	A	45 a	43 ab
7	DVA 7466	100	SL	1.25	% v/v	5	qt/100 gal	8-10"W	A		
8	BUCCANEER PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	8-10"W	A	35 e	33 cd
8	DVA 0766	100	SL	0.75	% v/v	3	qt/100 gal	8-10"W	A		
9	BUCCANEER PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	8-10"W	A	42 a-d	40 abc
9	DVA 0766	100	SL	1	% v/v	4	qt/100 gal	8-10"W	A		
10	BUCCANEER PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	8-10"W	A	43 ab	40 abc
10	DVA 0766	100	SL	1.25	% v/v	5	qt/100 gal	8-10"W	A		
11	BUCCANEER PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	8-10"W	A	37 de	40 abc
11	DVA 8466	100	SL	0.75	% v/v	3	qt/100 gal	8-10"W	A		
11	EXP RSO	100	SL	4	fl oz/a	4	fl oz/a	8-10"W	A		
12	BUCCANEER PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	8-10"W	A	45 ab	35 cd
12	DVA 8466	100	SL	1	% v/v	4	qt/100 gal	8-10"W	A		
12	EXP RSO	100	SL	4	fl oz/a	4	fl oz/a	8-10"W	A		
13	BUCCANEER PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	8-10"W	A	46 a	46 a
13	DVA 8466	100	SL	1.25	% v/v	5	qt/100 gal	8-10"W	A		
13	EXP RSO	100	SL	4	fl oz/a	4	fl oz/a	8-10"W	A		
LSD (P=.05)										5.3	7.6
Replicate F										9.125	0.863
Replicate Prob(F)										0.0011	0.4345
Treatment F										43.567	19.273
Treatment Prob(F)										0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Trial Comments

1. Protocol: Rosens.
2. Ratings: CI/WC/photos at 14 and 28 DAT.
3. Mixing instructions, mixing order:
 1. Water
 2. Add adjuvants, agitate/invert, allow to set for at least 10 minutes
 3. Glyphosate, agitate/invert, spray
4. Note any handling, mixing or spraying characteristics.

At mixing, DVA 9466 had thick viscosity, no other mixing characteristics.

At spraying, no special spraying characteristics.
5. GGGAN = Annual grasses including SETFA (giant foxtail) and PANDI (fall panicum).
6. Not harvested.