

Foliar Nutrients with Glyphosate.

Trial ID: 08-21N-E180 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: 06-18-08

Objectives: Determine the efficacy of glyphosate as influenced by tank-mixtures with commercial and experimental foliar nutrient products in soybean.

Crop 1: GLXMA Soybean Variety: AG 4404 RR/STS
 Planting Method: SEEDS Planting Date: 06-18-08
 Rate, Unit: 75 LB/A Depth, Unit: 1.0 IN
 Row Spacing, Unit: 30 IN

Pest 1 Type: W Code: SETFA Setaria faberi Herrm. foxtail, giant
 Pest 2 Type: W Code: AMATA Amaranthus rudis Sauer waterhemp, common
 Pest 3 Type: W Code: IPOHE Ipomoea hederacea (L.) jacq. morningglory, annual
 Pest 4 Type: W Code: AMBTR Ambrosia trifida L. ragweed, giant
 Pest 5 Type: W Code: ABUTH Abutilon theophrasti Medicus velvetleaf

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 30 FT Tillage Type: REDUCED-TILL
 Replications: 3 Study Design: Randomized Complete Block

Prior Crops, Year
 1. ZEAMD 2007

Field Prep./Maintenance: N 0 LB/A, P205 50 LB/A, K20 100 LB/A

% OM: 2.7 Texture: SILT LOAM
 pH: 6.2 Soil Name: BETHALTO
 CEC: 14 Fert. Level: P1: 115 LB/A, K: 500 LB/A

Application Description

A
 Application Date: 07-14-08
 Time of Day: 13:30
 Application Method: Spray
 Application Timing: 6-8"W
 Application Placement: BROFOL
 Applied By: DKT
 Air Temperature, Unit: 84 F
 % Relative Humidity: 50
 Wind Velocity, Unit: 2 MPH
 Soil Temperature, Unit: 87 F
 Soil Moisture: ABONOR

07-14-08
 Crop stage at application: V2
 Height Min, Max (inch): 7 10

Pest Stage At Each Application

Application Date: 07-14-08
 Weed Code: SETFA
 Stage Majority (leaves): 5
 Stage Min, Max: 2 7
 Height Majority: 10 IN
 Height Min, Max: 2 14
 Density, Unit: 2 FT2
 Weed Code: AMATA
 Stage Majority (leaves): 4
 Stage Min, Max: COTY 9
 Height Majority: 3 IN
 Height Min, Max: 1 7
 Density, Unit: 1 FT2
 Weed Code: IPOHE
 Stage Majority (leaves): 4
 Stage Min, Max: COTY 6
 Height Majority: 4 IN
 Height Min, Max: 2 6
 Density, Unit: 1 FT2
 Weed Code: AMBTR
 Stage Majority (leaves): 8
 Stage Min, Max: 6 10
 Height Majority: 8 IN
 Height Min, Max: 4 12
 Density, Unit: 1 FT2
 Weed Code: ABUTH
 Stage Majority (leaves): 3
 Stage Min, Max: COTY 5
 Height Majority: 6 IN
 Height Min, Max: 1 8
 Density, Unit: 5 FT2

Foliar Nutrients with Glyphosate.

Trial ID: 08-21N-E180

Location: Belleville Res. Center

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

Foliar Nutrients with Glyphosate.

Trial ID: 08-21N-E180

Location: Belleville Res. Center

Pest Code	GLXMA	GLXMA	SETFA	SETFA	AMATA	AMATA	IPOHE	IPOHE
Crop Code	07-28-08	08-11-08	07-28-08	08-11-08	07-28-08	08-11-08	07-28-08	08-11-08
Rating Date	Injury	Injury	Control	Control	Control	Control	Control	Control
Rating Data Type	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A
Rating Timing								
Trt-Eval Interval								

Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code									
1	NONTREATED								0 a	0 a	0 b	0 b	0 j	0 l	0 g	0 h	
2	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	0 a	0 a	99 a	99 a	92 abc	89 b-e	60 bc	80 cde	
3	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	0 a	0 a	99 a	99 a	97 ab	95 abc	58 bc	87 abc	
3	CLASS ACT NG	100	SL	2.5 % v/v	2.5 % v/v		6-8"W	A									
4	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	0 a	0 a	99 a	99 a	90 abc	85 d-g	40 ef	77 def	
4	MAX-IN FOR BEANS	100	SL	1 qt/a	1 qt/a		6-8"W	A									
5	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	0 a	0 a	99 a	99 a	88 bcd	80 f-i	63 b	80 cde	
5	MAX-IN FOR BEANS	100	SL	1 qt/a	1 qt/a		6-8"W	A									
5	CLASS ACT NG	100	SL	2.5 % v/v	2.5 % v/v		6-8"W	A									
6	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	0 a	0 a	99 a	99 a	50 i	55 k	43 def	72 fg	
6	MAX-IN MN	100	SL	1 qt/a	1 qt/a		6-8"W	A									
7	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	0 a	0 a	99 a	99 a	85 cd	83 e-h	52 cd	77 def	
7	MAX-IN MN	100	SL	1 qt/a	1 qt/a		6-8"W	A									
7	CLASS ACT NG	100	SL	2.5 % v/v	2.5 % v/v		6-8"W	A									
8	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	0 a	0 a	99 a	99 a	75 ef	75 hij	43 def	72 fg	
8	AGM 06018	100	SL	1.5 pt/a	1.5 pt/a		6-8"W	A									
9	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	0 a	0 a	99 a	99 a	80 de	78 g-j	42 def	67 g	
9	AGM 06018	100	SL	1.5 pt/a	1.5 pt/a		6-8"W	A									
9	CLASS ACT NG	100	SL	2.5 % v/v	2.5 % v/v		6-8"W	A									
10	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	0 a	0 a	99 a	99 a	65 gh	73 ij	50 cde	73 efg	
10	AGM 07007	100	SL	1.5 qt/a	1.5 qt/a		6-8"W	A									
11	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	0 a	0 a	99 a	99 a	95 abc	93 a-d	52 cd	82 bcd	
11	AGM 07007	100	SL	1.5 qt/a	1.5 qt/a		6-8"W	A									
11	CLASS ACT NG	100	SL	2.5 % v/v	2.5 % v/v		6-8"W	A									
12	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	0 a	0 a	99 a	99 a	57 hi	53 k	33 f	70 fg	
12	AGM 07027	100	SL	1 qt/a	1 qt/a		6-8"W	A									
13	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	0 a	0 a	99 a	99 a	87 cd	87 c-f	50 cde	82 bcd	
13	AGM 07027	100	SL	1 qt/a	1 qt/a		6-8"W	A									
13	CLASS ACT NG	100	SL	2.5 % v/v	2.5 % v/v		6-8"W	A									
14	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	0 a	0 a	99 a	99 a	70 fg	70 j	33 f	73 efg	
14	AGM 07027	100	SL	1 qt/a	1 qt/a		6-8"W	A									
14	AGM 08005	100	SL	6 fl oz/a	6 fl oz/a		6-8"W	A									
14	CLASS ACT NG	100	SL	2.5 % v/v	2.5 % v/v		6-8"W	A									
15	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	0 a	0 a	99 a	99 a	93 abc	95 abc	52 cd	85 abc	
15	N-PAK AMS	100	SL	5 % v/v	5 % v/v		6-8"W	A									
16	ROUNDUP P-MAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		6-8"W	A	0 a	0 a	99 a	99 a	99 a	98 a	65 b	88 ab	
16	N-PAK AMS	100	SL	5 % v/v	5 % v/v		6-8"W	A									
17	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	0 a	0 a	99 a	99 a	98 a	98 ab	63 b	85 abc	
17	N-SURE	100	SL	1 gal/a	1 gal/a		6-8"W	A									
18	ROUNDUP P-MAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		6-8"W	A	0 a	0 a	99 a	99 a	92 abc	96 ab	77 a	92 a	
18	N-SURE	100	SL	1 gal/a	1 gal/a		6-8"W	A									
LSD (P=.05)									0.0	0.0	0.0	0.0	9.8	8.9	10.2	6.8	
Replicate F									0.000	0.000	0.000	0.000	1.056	1.551	1.721	1.089	
Replicate Prob(F)									1.0000	1.0000	1.0000	1.0000	0.3627	0.2318	0.1941	0.3481	
Treatment F									0.000	0.000	0.000	0.000	52.242	60.116	22.433	71.054	
Treatment Prob(F)									1.0000	1.0000	1.0000	1.0000	0.0001	0.0001	0.0001	0.0001	

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

Foliar Nutrients with Glyphosate.

Trial ID: 08-21N-E180

Location: Belleville Res. Center

Pest Code	AMBTR	AMBTR	ABUTH	ABUTH
Crop Code				
Rating Date	07-28-08	08-11-08	07-28-08	08-11-08
Rating Data Type	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent
Rating Timing				
Trt-Eval Interval	14 DA-A	28 DA-A	14 DA-A	28 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
1	NONTREATED								0 j	0 g	0 j	0 i
2	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	78 bcd	90 ab	70 c	90 ab
3	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	82 abc	92 ab	72 bc	87 ab
3	CLASS ACT NG	100	SL	2.5 % v/v	2.5 % v/v		6-8"W	A				
4	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	63 ef	83 bc	48 ef	65 def
4	MAX-IN FOR BEANS	100	SL	1 qt/a	1 qt/a		6-8"W	A				
5	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	73 cde	85 bc	60 d	82 abc
5	MAX-IN FOR BEANS	100	SL	1 qt/a	1 qt/a		6-8"W	A				
5	CLASS ACT NG	100	SL	2.5 % v/v	2.5 % v/v		6-8"W	A				
6	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	55 fgh	67 e	42 fg	50 g
6	MAX-IN MN	100	SL	1 qt/a	1 qt/a		6-8"W	A				
7	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	67 def	88 abc	58 de	60 efg
7	MAX-IN MN	100	SL	1 qt/a	1 qt/a		6-8"W	A				
7	CLASS ACT NG	100	SL	2.5 % v/v	2.5 % v/v		6-8"W	A				
8	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	57 fgh	70 de	27 hi	50 g
8	AGM 06018	100	SL	1.5 pt/a	1.5 pt/a		6-8"W	A				
9	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	60 efg	85 bc	48 ef	77 bcd
9	AGM 06018	100	SL	1.5 pt/a	1.5 pt/a		6-8"W	A				
9	CLASS ACT NG	100	SL	2.5 % v/v	2.5 % v/v		6-8"W	A				
10	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	67 def	78 cd	35 gh	55 fg
10	AGM 07007	100	SL	1.5 qt/a	1.5 qt/a		6-8"W	A				
11	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	82 abc	90 ab	58 d	85 ab
11	AGM 07007	100	SL	1.5 qt/a	1.5 qt/a		6-8"W	A				
11	CLASS ACT NG	100	SL	2.5 % v/v	2.5 % v/v		6-8"W	A				
12	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	40 i	45 f	20 i	30 h
12	AGM 07027	100	SL	1 qt/a	1 qt/a		6-8"W	A				
13	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	43 hi	72 de	60 d	65 def
13	AGM 07027	100	SL	1 qt/a	1 qt/a		6-8"W	A				
13	CLASS ACT NG	100	SL	2.5 % v/v	2.5 % v/v		6-8"W	A				
14	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	47 ghi	55 f	33 gh	50 g
14	AGM 07027	100	SL	1 qt/a	1 qt/a		6-8"W	A				
14	AGM 08005	100	SL	6 fl oz/a	6 fl oz/a		6-8"W	A				
14	CLASS ACT NG	100	SL	2.5 % v/v	2.5 % v/v		6-8"W	A				
15	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	85 abc	92 ab	80 ab	88 ab
15	N-PAK AMS	100	SL	5 % v/v	5 % v/v		6-8"W	A				
16	ROUNDUP P-MAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		6-8"W	A	92 ab	96 a	83 a	93 a
16	N-PAK AMS	100	SL	5 % v/v	5 % v/v		6-8"W	A				
17	ROUNDUP P-MAX	4.5	SL	0.56 lb ae/a	16 fl oz/a		6-8"W	A	85 abc	92 ab	60 d	70 cde
17	N-SURE	100	SL	1 gal/a	1 gal/a		6-8"W	A				
18	ROUNDUP P-MAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		6-8"W	A	95 a	96 a	83 a	88 ab
18	N-SURE	100	SL	1 gal/a	1 gal/a		6-8"W	A				
LSD (P=.05)									14.6	10.3	9.7	13.8
Replicate F									1.494	1.362	3.982	0.548
Replicate Prob(F)									0.2407	0.2710	0.0301	0.5840
Treatment F									21.056	44.543	46.274	25.793
Treatment Prob(F)									0.0001	0.0001	0.0001	0.0001

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

Foliar Nutrients with Glyphosate.

Trial ID: 08-21N-E180

Location: Belleville Res. Center

Trial Comments

1. Protocol: Winfield Solutions; Tessenderlo-Kerley.
2. Ratings: CI/WC at 14 + 28 DAT.
3. At the Belleville Research Center the above normal rainfall in spring 2008 (no more than four consecutive rain-free days between March 22 and June 15) delayed corn and soybean planting until mid-June.
4. DA-A = Days after the 6-8"W application.
5. Not harvested.