

Early Postemergence Applications of Premixes with Glyphosate in Roundup Ready Corn.

Project Code: 07-5D-S180 Location: Belleville Research Center
 Investigator: Bryan Young

Investigator: Bryan Young, Associate Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
 Trial Status: Final Updated: 1-23-08

Weed Code Common Name Scientific Name
 1. PANDI panicum, fall Panicum dichotomiflorum Michx.
 2. AMATA waterhemp, common Amaranthus rudis Sauer

Crop 1: ZEAMX corn, field Variety: 33K44
 Planting Method: Seeded Planting Date: 6-1-07
 Rate: 28000 S/A Depth: 1.5 IN
 Row Spacing: 30 IN

Plot Width, Unit: 10 FT Plot Length, Unit: 28 FT Reps: 3
 Tillage Type: Reduced-Till Study Design: Randomized complete block
 Previous Crop, Year: SORVU, 2006
 Field Prep./Maintenance: N 150 LB/A, P2O5 0 LB/A, K2O 100 LB/A

Soil Name: Weir % OM: 2.0 pH: 6.9 CEC: 7
 Texture: Silt loam Fert. Level: P1: 81 LB/A, K: 272 LB/A

APPLICATION DESCRIPTION

	A	B	C
Application Date:	6-1-07	6-20-07	7-5-07
Time of Day:	18:30	10:00	8:30
Application Method:	Spray	Spray	Spray
Application Timing:	PRE	2-4"W	2WA-B
Applic. Placement:	BROSIOI	BROFOL	BROFOL
Air Temp., Unit:	78 F	80 F	80 F
% Relative Humidity:	76	40	92
Wind Velocity, Unit:	4-6 MPH	3-5 MPH	3-5 MPH
Dew Presence (Y/N):	N		
Soil Moisture:	NORMAL	NORMAL	NORMAL
% Cloud Cover:	80	20	10

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMX NA	ZEAMX V4	ZEAMX V7
Height, Unit:	NA NA	8 IN	30 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code:		PANDI	
Stage(leaves):		4-6	
Height(inches):		2-4	
Density:		Low	
Weed 2 Code:		AMATA	AMATA
Stage(leaves):		4-6	2-4
Height(inches):		2-4	0-1
Density:		High	Low

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer
Operating Pressure:	40 PSI	40 PSI	40 PSI
Nozzle Type:	Flat fan	Flat fan	Flat fan
Nozzle Size:	XR 8002	XR 8002	XR 8002
Boom Length, Unit:	7.5 FT	7.5 FT	7.5 FT
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA

NOTES:

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Weed Code						PANDI	PANDI	PANDI
Crop Code						Control	Control	Control
Rating Data Type						Percent	Percent	Percent
Rating Unit						14 DAT	28 DAT	56 DAT
Rating Date						10-11-07	10-11-07	10-11-07
Trt-Eval Interval						14 DAT	28 DAT	56 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	ZEAMX Moisture Percent	ZEAMX Yield bu/A	ZEAMX Injury Percent	ZEAMX Injury Percent	ZEAMX Injury Percent	PANDI Control Percent	PANDI Control Percent	PANDI Control Percent
1	NONTREATED								14.7 cd	108 d	0 a	0 a	0 a	0 c	0 c	0 d
2	DEGREE XTRA	4 L		3.2 lb ai/a	3.2 qt/a		2-4"W	B	15.8 ab	155 a	0 a	0 a	0 a	98 a	94 a	96 ab
2	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B								
2	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B								
3	DEGREE XTRA	4 L		1.6 lb ai/a	1.6 qt/a		2-4"W	B	15.9 ab	137 abc	0 a	0 a	0 a	96 a	96 a	96 ab
3	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B								
3	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B								
4	BICEP II MAGNUM	5.5 L		2.9 lb ai/a	2.1 qt/a		2-4"W	B	15.5 abc	137 abc	0 a	0 a	0 a	98 a	97 a	99 a
4	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B								
4	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B								
5	BICEP II MAGNUM	5.5 L		1.45 lb ai/a	1.05 qt/a		2-4"W	B	15.7 ab	143 abc	0 a	0 a	0 a	97 a	96 a	98 ab
5	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B								
5	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B								
6	KEYSTONE	5.25 L		3.7 lb ai/a	2.82 qt/a		2-4"W	B	15.9 ab	130 a-d	0 a	0 a	0 a	97 a	96 a	99 a
6	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B								
6	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B								
7	KEYSTONE	5.25 L		1.85 lb ai/a	1.41 qt/a		2-4"W	B	15.2 a-d	152 ab	0 a	0 a	0 a	97 a	97 a	99 a
7	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B								
7	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B								
8	LEXAR	3.7 L		2.78 lb ai/a	3 qt/a		2-4"W	B	15.6 abc	152 ab	0 a	0 a	0 a	98 a	98 a	99 a
8	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B								
8	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B								
9	LEXAR	3.7 L		1.39 lb ai/a	1.5 qt/a		2-4"W	B	16.1 a	144 abc	0 a	0 a	0 a	97 a	96 a	98 ab
9	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B								
9	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B								
10	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B	15.7 ab	144 abc	0 a	0 a	0 a	96 a	91 a	93 ab
10	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B								
11	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B	15.1 bcd	144 abc	0 a	0 a	0 a	95 a	99 a	99 a
11	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B								
11	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2WA-B	C								
11	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2WA-B	C								
12	DEGREE XTRA	4 L		3.2 lb ai/a	3.2 qt/a		PRE	A	15.6 abc	149 abc	0 a	0 a	0 a	92 a	82 a	82 ab
13	BICEP II MAGNUM	5.5 L		2.9 lb ai/a	2.1 qt/a		PRE	A	14.5 d	124 cd	0 a	0 a	0 a	77 b	53 b	55 c
14	KEYSTONE	5.25 L		3.7 lb ai/a	2.82 qt/a		PRE	A	15.2 a-d	147 abc	0 a	0 a	0 a	92 a	83 a	78 b
15	LEXAR	3.7 L		2.78 lb ai/a	3 qt/a		PRE	A	15.4 a-d	128 bcd	0 a	0 a	0 a	90 a	48 b	42 c
16	HALEX GT	4.38 SC		2.2 lb ai/a	2 qt/a		2-4"W	B	16.0 ab	153 ab	0 a	0 a	0 a	99 a	98 a	99 a
16	ACTIVATOR 90	100 LIQ		0.25 % v/v	0.25 % v/v		2-4"W	B								
16	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B								
17	LUMAX	3.94 L		2.9 lb ai/a	3 qt/a		2-4"W	B	15.7 ab	148 abc	0 a	0 a	0 a	98 a	96 a	99 a
17	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B								
17	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B								
18	HANDWEED								15.6 abc	150 ab	0 a	0 a	0 a	96 a	100 a	100 a
18	WEED FREE															
LSD (P=.05)									0.97	25.2	0.0	0.0	0.0	10.0	19.4	19.8
Replicate F									1.275	5.190	0.000	0.000	0.000	0.563	1.927	1.602
Replicate Prob(F)									0.2927	0.0110	1.0000	1.0000	1.0000	0.5751	0.1616	0.2167
Treatment F									1.669	1.934	0.000	0.000	0.000	44.349	14.887	15.402
Treatment Prob(F)									0.1015	0.0512	1.0000	1.0000	1.0000	0.0001	0.0001	0.0001

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

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Crop Code			
Rating Data Type	Control	Control	Control
Rating Unit	Percent	Percent	Percent
Rating Date			
Trt-Eval Interval	14 DAT	28 DAT	56 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code			
1	NONTREATED								0 d	0 e	0 e
2	DEGREE XTRA	4 L		3.2 lb ai/a	3.2 qt/a		2-4"W	B	99 a	99 ab	99 a
2	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B			
2	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B			
3	DEGREE XTRA	4 L		1.6 lb ai/a	1.6 qt/a		2-4"W	B	98 a	99 ab	99 a
3	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B			
3	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B			
4	BICEP II MAGNUM	5.5 L		2.9 lb ai/a	2.1 qt/a		2-4"W	B	99 a	99 ab	99 a
4	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B			
4	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B			
5	BICEP II MAGNUM	5.5 L		1.45 lb ai/a	1.05 qt/a		2-4"W	B	98 a	93 b	99 a
5	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B			
5	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B			
6	KEYSTONE	5.25 L		3.7 lb ai/a	2.82 qt/a		2-4"W	B	99 a	98 ab	99 a
6	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B			
6	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B			
7	KEYSTONE	5.25 L		1.85 lb ai/a	1.41 qt/a		2-4"W	B	95 b	99 ab	99 a
7	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B			
7	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B			
8	LEXAR	3.7 L		2.78 lb ai/a	3 qt/a		2-4"W	B	99 a	99 ab	99 a
8	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B			
8	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B			
9	LEXAR	3.7 L		1.39 lb ai/a	1.5 qt/a		2-4"W	B	99 a	99 ab	99 a
9	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B			
9	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B			
10	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B	90 c	87 c	93 b
10	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B			
11	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B	93 b	99 ab	99 a
11	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B			
11	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2WA-B	C			
11	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2WA-B	C			
12	DEGREE XTRA	4 L		3.2 lb ai/a	3.2 qt/a		PRE	A	98 a	96 ab	96 ab
13	BICEP II MAGNUM	5.5 L		2.9 lb ai/a	2.1 qt/a		PRE	A	98 a	73 d	75 d
14	KEYSTONE	5.25 L		3.7 lb ai/a	2.82 qt/a		PRE	A	98 a	98 ab	98 ab
15	LEXAR	3.7 L		2.78 lb ai/a	3 qt/a		PRE	A	98 a	82 c	86 c
16	HALEX GT	4.38 SC		2.2 lb ai/a	2 qt/a		2-4"W	B	99 a	99 ab	99 a
16	ACTIVATOR 90	100 LIQ		0.25 % v/v	0.25 % v/v		2-4"W	B			
16	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B			
17	LUMAX	3.94 L		2.9 lb ai/a	3 qt/a		2-4"W	B	99 a	99 ab	99 a
17	ROUNDUP W-MAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		2-4"W	B			
17	N-PAK AMS	100 LIQ		5 % v/v	5 % v/v		2-4"W	B			
18	HANDWEED								99 a	100 a	100 a
18	WEED FREE										
LSD (P=.05)									2.4	6.5	5.4
Replicate F									0.818	1.060	1.899
Replicate Prob(F)									0.4501	0.3580	0.1657
Treatment F									779.805	108.309	160.496
Treatment Prob(F)									0.0001	0.0001	0.0001

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

Trial Comments

1. Protocol: SIU/RFK.
2. Ratings:
3. Ratings at 14 days after the PRE and 2-4"W applications were on 6-15-07 and 7-4-07, respectively.
Ratings at 28 days after the PRE and 2-4"W applications were on 6-29-07 and 7-18-07, respectively.
Ratings at 56 days after the PRE and 2-4"W applications were on 7-27-07 and 8-15-07, respectively.
4. Following the PRE application only 0.08 inches of rainfall was recorded during the next 23 days.
5. Harvested 10-11-07, (2) 30 inch rows by 25 ft.