

Common Lambsquarters Control with Glyphosate.

Trial ID: 10-6B-N80

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: 04-28-10

Objectives: Evaluate control of common lambsquarters with glyphosate applied at two spray volumes, to three weed growth stages, with and without additional herbicides.

Crop 1: YACKR Arable land

Variety: NON-CROP

Pest 1 Type: W Code: CHEAL Chenopodium album L. lambsquarters, common

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 26 FT Tillage Type: NO-TILL
 Replications: 3 Study Design: Randomized Complete Block

Prior Crops, Year

1. GLXMA 2009

Field Prep./Maintenance: N 0 LB/A, P2O5 0 LB/A, K2O 100 LB/A

% OM: 1.6 Texture: SILT LOAM
 pH: 6.5 Soil Name: CASEYVILLE
 CEC: 6 Fert. Level: P1: 87 LB/A, K: 321 LB/A

Application Description

	A	B	C	D	E	F
Application Date:	04-28-10	05-19-10	06-03-10	04-28-10	05-19-10	06-03-10
Time of Day:	9:00	9:00	8:00	9:00	9:00	10:00
Application Method:	Spray	Spray	Spray	Spray	Spray	Spray
Application Timing:	3-4"W	10-12"W	16-18"W	3-4"W	10-12"W	16-18"W
Application Placement:	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL
Applied By:	RFK	RFK	RFK	RFK	RFK	RFK
Air Temperature, Unit:	50 F	60 F	72 F	50 F	60 F	80 F
% Relative Humidity:	92	92	92	92	92	92
Wind Velocity, Unit:	0 MPH	0 MPH	0 MPH	0 MPH	0 MPH	0 MPH
Soil Moisture:	ABONOR	ABONOR	ABONOR	ABONOR	ABONOR	ABONOR
% Cloud Cover:	0	0	0	0	0	3

	A	B	C	D	E	F
Crop stage at application:	04-28-10	05-19-10	06-03-10	04-28-10	05-19-10	06-03-10
	NA	NA	NA	NA	NA	NA

Pest Stage At Each Application

	A	B	C	D	E	F
Application Date:	04-28-10	05-19-10	06-03-10	04-28-10	05-19-10	06-03-10
Weed Code:	CHEAL	CHEAL	CHEAL	CHEAL	CHEAL	CHEAL
Stage Majority (leaves):	12	16	23	12	16	23
Stage Min, Max:	9 16	14 19	19 28	9 16	14 19	19 28
Height Majority:	3.5 IN	11 IN	17 IN	3.5 IN	11 IN	17 IN
Height Min, Max:	3 4	10 12	16 18	3 4	10 12	16 18
Density, Unit:	1 FT2	1 FT2	1 FT2	1 FT2	1 FT2	1 FT2

Application Equipment

	A	B	C	D	E	F
Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer
Operating Pressure:	30 PSI	30 PSI	30 PSI	30 PSI	30 PSI	30 PSI
Nozzle Type:	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan
Nozzle Size:	XR 11001	XR 11001	XR 11001	XR 11002	XR 11002	XR 11002
Boom Length, Unit:	6.67 FT	6.67 FT	6.67 FT	6.67 FT	6.67 FT	6.67 FT
Spray Volume, Unit:	5 GPA	5 GPA	5 GPA	15 GPA	15 GPA	15 GPA

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Pest Code								05-12-10	06-02-10	06-17-10	06-09-10	06-30-10	07-15-10
Crop Code								Control	Control	Control	Control	Control	Control
Rating Date								Percent	Percent	Percent	Percent	Percent	Percent
Rating Data Type								14 DA-D	14 DA-E	14 DA-F	42 DA-D	42 DA-E	42 DA-F
Rating Unit								14 DA-A	14 DA-B	14 DA-C	42 DA-A	42 DA-B	42 DA-C
Rating Timing													
Trt-Eval Interval													
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
1	5 GPA									93 a	99 a	99 a	99 a
1	ROUNDUP POWERMAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	3-4"W	A				
1	AMS	100	SG	2.0	% w/w	2	% w/w	3-4"W	A				
2	5 GPA										50 b	60 b	
2	ROUNDUP POWERMAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	10-12"W	B			63 bc	63 cd
2	AMS	100	SG	2.0	% w/w	2	% w/w	10-12"W	B				
3	5 GPA												99 a
3	ROUNDUP POWERMAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	16-18"W	C		95 a		
3	AMS	100	SG	2.0	% w/w	2	% w/w	16-18"W	C				
4	15 GPA									99 a	99 a	99 a	99 a
4	ROUNDUP POWERMAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	3-4"W	D				
4	AMS	100	SG	2.0	% w/w	2	% w/w	3-4"W	D				
5	15 GPA										50 b	60 b	
5	ROUNDUP POWERMAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	10-12"W	E			50 cd	50 de
5	AMS	100	SG	2.0	% w/w	2	% w/w	10-12"W	E				
6	15 GPA											95 a	96 ab
6	ROUNDUP POWERMAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	16-18"W	F				
6	AMS	100	SG	2.0	% w/w	2	% w/w	16-18"W	F				
7	5 GPA									99 a	99 a	99 a	99 a
7	ROUNDUP POWERMAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	3-4"W	A				
7	RAPTOR	1	SL	0.04	lb ai/a	5.1	fl oz/a	3-4"W	A				
7	AMS	100	SG	2.0	% w/w	2	% w/w	3-4"W	A				
8	5 GPA										55 b	70 b	
8	ROUNDUP POWERMAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	10-12"W	B			80 ab	80 bc
8	RAPTOR	1	SL	0.04	lb ai/a	5.1	fl oz/a	10-12"W	B				
8	AMS	100	SG	2.0	% w/w	2	% w/w	10-12"W	B				
9	15 GPA									98 a	99 a	99 a	99 a
9	ROUNDUP POWERMAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	3-4"W	D				
9	RAPTOR	1	SL	0.04	lb ai/a	5.1	fl oz/a	3-4"W	D				
9	AMS	100	SG	2.0	% w/w	2	% w/w	3-4"W	D				
10	15 GPA										50 b	58 b	
10	ROUNDUP POWERMAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	10-12"W	E			42 d	42 e
10	RAPTOR	1	SL	0.04	lb ai/a	5.1	fl oz/a	10-12"W	E				
10	AMS	100	SG	2.0	% w/w	2	% w/w	10-12"W	E				
LSD (P=.05)								11.6	15.7	17.3	0.6	20.7	18.5
Replicate F								0.748	1.672	1.858	1.000	3.274	3.434
Replicate Prob(F)								0.5128	0.2232	0.1847	0.4219	0.0682	0.0545
Treatment F								0.811	24.216	10.235	1.000	12.464	13.284
Treatment Prob(F)								0.5325	0.0001	0.0001	0.4547	0.0001	0.0001

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

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									CHEAL	CHEAL	CHEAL	CHEAL
Pest Code												
Crop Code												
Rating Date												
Rating Data Type									Height	Leaf	Height	Leaf
Rating Unit									cm	count	cm	count
Rating Timing									Avg 10 plts	Avg 10 plts	Avg 10 plts	Avg 10 plts
Trt-Eval Interval									0 DAT	0 DAT	42 DAT	42 DAT
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
1	5 GPA								8.6 c	11.3 c	0.0 d	0.0 d
1	ROUNDUP POWERMAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		3-4"W	A				
1	AMS	100 SG		2.0 % w/w	2 % w/w		3-4"W	A				
2	5 GPA								26.9 b	15.8 b	27.5 bc	4.8 bc
2	ROUNDUP POWERMAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		10-12"W	B				
2	AMS	100 SG		2.0 % w/w	2 % w/w		10-12"W	B				
3	5 GPA								44.2 a	22.9 a	35.9 a	0.4 d
3	ROUNDUP POWERMAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		16-18"W	C				
3	AMS	100 SG		2.0 % w/w	2 % w/w		16-18"W	C				
4	15 GPA								8.8 c	11.8 c	0.0 d	0.0 d
4	ROUNDUP POWERMAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		3-4"W	D				
4	AMS	100 SG		2.0 % w/w	2 % w/w		3-4"W	D				
5	15 GPA								27.0 b	16.0 b	28.8 b	6.7 ab
5	ROUNDUP POWERMAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		10-12"W	E				
5	AMS	100 SG		2.0 % w/w	2 % w/w		10-12"W	E				
6	15 GPA								44.4 a	23.2 a	35.9 a	0.5 d
6	ROUNDUP POWERMAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		16-18"W	F				
6	AMS	100 SG		2.0 % w/w	2 % w/w		16-18"W	F				
7	5 GPA								8.8 c	11.9 c	0.0 d	0.0 d
7	ROUNDUP POWERMAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		3-4"W	A				
7	RAPTOR	1 SL		0.04 lb ai/a	5.1 fl oz/a		3-4"W	A				
7	AMS	100 SG		2.0 % w/w	2 % w/w		3-4"W	A				
8	5 GPA								27.0 b	17.0 b	25.6 c	3.4 c
8	ROUNDUP POWERMAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		10-12"W	B				
8	RAPTOR	1 SL		0.04 lb ai/a	5.1 fl oz/a		10-12"W	B				
8	AMS	100 SG		2.0 % w/w	2 % w/w		10-12"W	B				
9	15 GPA								9.0 c	12.5 c	0.5 d	0.0 d
9	ROUNDUP POWERMAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		3-4"W	D				
9	RAPTOR	1 SL		0.04 lb ai/a	5.1 fl oz/a		3-4"W	D				
9	AMS	100 SG		2.0 % w/w	2 % w/w		3-4"W	D				
10	15 GPA								26.5 b	15.8 b	28.2 b	8.3 a
10	ROUNDUP POWERMAX	4.5 SL		0.75 lb ae/a	21.3 fl oz/a		10-12"W	E				
10	RAPTOR	1 SL		0.04 lb ai/a	5.1 fl oz/a		10-12"W	E				
10	AMS	100 SG		2.0 % w/w	2 % w/w		10-12"W	E				
LSD (P=.05)									1.00	1.99	2.21	2.47
Replicate F									2.873	0.619	2.195	3.819
Replicate Prob(F)									0.0826	0.5497	0.1402	0.0415
Treatment F									1728.429	41.580	460.416	14.562
Treatment Prob(F)									0.0001	0.0001	0.0001	0.0001

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

Trial Comments

1. Protocol: Monsanto (76-14).
2. Ratings: WC (average control across flagged plants) at 14 and 42 days after each application, rate all treated plots at each 14 and 42 DAT rating timing.
Height of flagged plants at 42 days after each application, measure all treated plants at each 42 DAT rating timing, (average of flagged plants per plot) measure along the main stem.
3. Special instructions at application; prior to application flag 10-12 plants that are the correct size for the application timing.
Remove other plants from around the flagged plants such that flagged plant is easy to find.
For each flagged plant, at application, record height along the main stem and count leaves on the main stem, do not count cotyledons, do not count leaves on side shoots.

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Record height and leaf count for each flagged plant at application and report average of the plot.

4. Report minimum and maximum air temperature for the three days before and after each application.

5. Avg 10 plts = Average of the 10 plants per plot.

DAT = Days after treatment various application timings.

Ratings at 14 days after the 3-4"W, 10-12"W, and 16-18"W applications were on 5-12-10, 6-2-10, and 6-17-10, respectively.

Ratings at 42 days after the 3-4"W, 10-12"W, and 16-18"W applications were on 6-9-10, 6-30-10, and 7-15-10, respectively.

6. Not harvested (non-crop).