

Commercial vs. Small Plot Herbicide Applications.

Project Code: 03-Baechle Location: Mascoutah, IL

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Mascoutah IL 62224 USA
 Trial Status: Final Updated: 9-3-03

Objective:

Determine the influence of application speed and nozzle size on the interaction of drift reduction nozzle and drift control agents on waterhemp control with glyphosate. The results will be representative of commercial vs. small plot research applications.

Weed Code	Common Name	Scientific Name
1.	AMATA waterhemp, common	Amaranthus rudis Sauer

Crop 1:	GLXMA soybean	Variety:	Asgrow 4403 RR
Planting Method:	Seeded	Planting Date:	5-31-03
Rate:	75 lb/A	Depth:	1.0 IN
Row Spacing:	15 IN		

Plot Width, Unit:	10 FT	Plot Length, Unit:	70 FT	Reps:	4
Tillage Type:	Reduced-Till	Study Design:	Randomized complete block		
Previous Crop, Year:	GLXMA, 2002				

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

% OM: 1.9 pH: 6.6
 Fert. Level: P1: 56 LB/A, K: 180 LB/A

APPLICATION DESCRIPTION

	A
Application Date:	7-3-03
Application Method:	Spray
Application Timing:	6-8"W
Applic. Placement:	BROFOL
	F
	MPH
	F

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GLXMA
	IN

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code:	AMATA

APPLICATION EQUIPMENT

	A
Appl. Equipment:	See note
Operating Pressure:	See note
Nozzle Type:	See note
Nozzle Size:	See note
Boom Length, Unit:	6.67 FT
Spray Volume, Unit:	10 GPA

NOTES:

Application equipment was an ATV sprayer using CO2. See treatment list.
 Not harvested.

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Weed Code	AMATA	AMATA	AMATA
Crop Code			
Rating Data Type	Control	Control	Control
Rating Unit	Percent	Percent	Percent
Rating Date	7-17-03	7-31-03	8-28-03
Trt-Eval Interval	14 DA-A	28 DA-A	EOS

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code			
1	NONTREATED									0	0	0
2	SMALL PLOT 4.5 MPH									60	67	38
2	FLAT FAN XR110015											
2	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			
3	SMALL PLOT 4.5 MPH									78	75	36
3	DRIFT GUARD 110015											
3	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			
4	SMALL PLOT 4.5 MPH									75	73	36
4	TURBO TEEJET 110015											
4	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			
5	SMALL PLOT 4.5 MPH									74	80	51
5	AIR INDUCTION 110015											
5	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			
6	SMALL PLOT 4.5 MPH									81	74	40
6	FLAT FAN XR110015											
6	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			
6	HPG	77.5	WG	8.0	OZ A/100 GAL	10.3	OZ/100 GAL	6-8"	W A			
7	SMALL PLOT 4.5 MPH									88	83	44
7	DRIFT GUARD 110015											
7	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			
7	HPG	77.5	WG	8.0	OZ A/100 GAL	10.3	OZ/100 GAL	6-8"	W A			
8	SMALL PLOT 4.5 MPH									85	85	48
8	TURBO TEEJET 110015											
8	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			
8	HPG	77.5	WG	8.0	OZ A/100 GAL	10.3	OZ/100 GAL	6-8"	W A			
9	SMALL PLOT 4.5 MPH									80	78	44
9	AIR INDUCTION 110015											
9	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			
9	HPG	77.5	WG	8.0	OZ A/100 GAL	10.3	OZ/100 GAL	6-8"	W A			
10	COMMERCIAL 12 MPH									81	75	38
10	FLAT FAN XR11004											
10	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			
11	COMMERCIAL 12 MPH									70	74	40
11	DRIFT GUARD 11004											
11	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			

Weed Code	AMATA	AMATA	AMATA
Crop Code			
Rating Data Type	Control	Control	Control
Rating Unit	Percent	Percent	Percent
Rating Date	7-17-03	7-31-03	8-28-03
Trt-Eval Interval	14 DA-A	28 DA-A	EOS

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code			
12	COMMERCIAL 12 MPH									80	76	39
12	TURBO TEEJET 11004											
12	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			
13	COMMERCIAL 12 MPH									80	76	36
13	AIR INDUCTION 11004											
13	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			
14	COMMERCIAL 12 MPH									68	73	38
14	AIR INDUCTION 11003											
14	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			
15	COMMERCIAL 12 MPH									75	76	39
15	FLAT FAN XR11004											
15	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			
15	HPG	77.5	WG	8.0	OZ A/100 GAL	10.3	OZ/100 GAL	6-8"	W A			
16	COMMERCIAL 12 MPH									74	70	36
16	DRIFT GUARD 11004											
16	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			
16	HPG	77.5	WG	8.0	OZ A/100 GAL	10.3	OZ/100 GAL	6-8"	W A			
17	COMMERCIAL 12 MPH									80	78	41
17	TURBO TEEJET 11004											
17	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			
17	HPG	77.5	WG	8.0	OZ A/100 GAL	10.3	OZ/100 GAL	6-8"	W A			
18	COMMERCIAL 12 MPH									75	73	35
18	AIR INDUCTION 11004											
18	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			
18	HPG	77.5	WG	8.0	OZ A/100 GAL	10.3	OZ/100 GAL	6-8"	W A			
19	COMMERCIAL 12 MPH									79	79	39
19	AIR INDUCTION 11003											
19	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6-8"	W A			
19	HPG	77.5	WG	8.0	OZ A/100 GAL	10.3	OZ/100 GAL	6-8"	W A			
20	NONTREATED									0	0	0
21	NONTREATED									0	0	0
LSD (P=.05)										8.7	7.7	9.5
Replicate F										0.498	1.004	1.087
Replicate Prob(F)										0.6848	0.3973	0.3618
Treatment F										84.528	100.268	19.418
Treatment Prob(F)										0.0001	0.0001	0.0001

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Trial Comments

1. Protocol: ISPOB.
2. Ratings: CI and WC 14 and 28 DAT and EOS.
3. Mix size = (1) 3 liter bottle or 0.79 gallon, spray width = 6.67 ft, overage = 0.36 gallon.
4. DA-A = days after 6-8"W application. EOS = end of season.