

MSU Weed Science Research Program

Evaluation of Rate Reducing Products with Glyphosate

Trial ID: SOY08-08
 Conducted: T-12 Botany

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Date Planted: 6/2/08
 Variety: Dehl Fields 8243 RR
 Population: 210,000 seeds/Acre
 Soil Type: Clay Loam
 Plot Size: 10 X 35 FT
 Row Spacing: 7.5 IN
 No. of Reps: 4
 % OM: 3.3
 pH: 7.2
 Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall chisel plow, soil finish x2 on 5/8/08
 Fertilizer: None at planting

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	ANGR	mainly foxtail species	SETARIA SP.
2.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
3.	AMASS	REDROOT PIGWEED, POWELL AMARANTH	AMARANTHUS SP.
4.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIFOLIA L.
5.	BRAKA	MUSTARD, WILD	BRASSICA KABER
6.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
7.	SOLPT	NIGHTSHADE, EASTERN BLACK	SOLANUM PTYCANTHUM DUNAL
8.	POLPE	LADYSTHUMB	POLYGONUM PERSICARIA L.
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

Application Description

A
 Application Timing: POST
 Date Treated: 6/26/08
 Time Treated: 2:00 PM
 % Cloud Cover: 30
 Air Temp., Unit: 86 F
 % Relative Humidity: 56
 Wind Speed/Unit/Dir: 7 mph SW
 Soil Temp., Unit: 75 F
 Soil/Leaf Surface M: 5 5
 Soil Moist (1=w 5=d): 4

Crop Stage at Each Application

A
 Crop Name: GLXMA
 Height (In.): 5-6
 Stage (L): V2

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Weed Stage at Each Application

A
 Weed 1 Name: ANGR
 Height (In.): 1-7
 Stage (L): 1-6
 Weed 2 Name: CHEAL
 Height (In.): 2-6
 Stage (L): 4-many
 Weed 3 Name: AMASS
 Height (In.): 1-5
 Stage (L): 4-10
 Weed 4 Name: AMBEL
 Height (In.): 2-4
 Stage (L): 4-10
 Weed 5 Name: BRAKA
 Height (In.): 4-6
 Stage (L): 4-8
 Weed 6 Name: ABUTH
 Height (In.): -
 Stage (L): -
 Weed 7 Name: SOLPT
 Height (In.): -
 Stage (L): -
 Weed 8 Name: POLPE
 Height (In.): -
 Stage (L): -

Weed Density (plants/sq. ft.)

	1	2	3	4	5	6	7	8
Date:	7/25/08	7/25/08	7/25/08	7/25/08	7/25/08	7/25/08	7/25/08	7/25/08
Weed Name:	CHEAL	ABUTH	ANGR	BRAKA	AMBEL	AMAPO	POLPE	SOLPT
Density:	5.625	0.5	105	0.5	4.75	30	0.5	0.125

Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom	GPA	Carrier	PSI
	Type	MPH	Type	Size	Height	Spacing	Width			
A	Cub	3.8	AirMix	11003	25	20	100	19	water	28

Comments: Previous Crop- Fallow

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Weed Code	ANGR	CHEAL	AMAPO	AMBEL
Crop Code	GLXMA			
Rating Data Type	injury	control	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	7/5/08	7/5/08	7/5/08	7/5/08
Trt-Eval Interval	9 DA-A	9 DA-A	9 DA-A	9 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	3	98	99	99	99
1	Ammonium Sulfate		DF	17	lb/100 gal	POST	A					
2	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	3	98	99	99	99
2	LBE-01		L	3.42	fl oz/a	POST	A					
2	Ammonium Sulfate		DF	17	lb/100 gal	POST	A					
3	Roundup PowerMax	4.5	SL	15.4	fl oz/a	POST	A	3	97	96	99	99
3	LBE-01		L	3.42	fl oz/a	POST	A					
3	Ammonium Sulfate		DF	17	lb/100 gal	POST	A					
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	3	99	99	99	99
4	FBS-1030		L	6	fl oz/a	POST	A					
4	Ammonium Sulfate		DF	17	lb/100 gal	POST	A					
5	Roundup PowerMax	4.5	SL	15.4	fl oz/a	POST	A	3	96	99	99	99
5	FBS-1030		L	6	fl oz/a	POST	A					
5	Ammonium Sulfate		DF	17	lb/100 gal	POST	A					
6	Untreated							1	0	0	0	0
7	Roundup PowerMax	4.5	SL	15.4	fl oz/a	POST	A	2	96	99	99	99
7	Ammonium Sulfate		DF	17	lb/100 gal	POST	A					
LSD (P=.10)								1.0	1.0	1.9	0.0	0.0
Standard Deviation								0.8	0.8	1.6	0.0	0.0
CV								30.3	1.01	1.87	0.0	0.0

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Weed Code	ABUTH	ANGR	CHEAL	AMAPO
Crop Code	GLXMA			
Rating Data Type	control	injury	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	7/5/08	7/9/08	7/9/08	7/9/08
Trt-Eval Interval	9 DA-A	13 DA-A	13 DA-A	13 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code	ABUTH	GLXMA	ANGR	CHEAL	AMAPO
1	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	99	5	98	98	99
1	Ammonium Sulfate		DF	17	lb/100 gal	POST	A					
2	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	99	5	99	99	99
2	LBE-01		L	3.42	fl oz/a	POST	A					
2	Ammonium Sulfate		DF	17	lb/100 gal	POST	A					
3	Roundup PowerMax	4.5	SL	15.4	fl oz/a	POST	A	99	5	96	96	99
3	LBE-01		L	3.42	fl oz/a	POST	A					
3	Ammonium Sulfate		DF	17	lb/100 gal	POST	A					
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	99	5	99	99	99
4	FBS-1030		L	6	fl oz/a	POST	A					
4	Ammonium Sulfate		DF	17	lb/100 gal	POST	A					
5	Roundup PowerMax	4.5	SL	15.4	fl oz/a	POST	A	99	5	93	98	99
5	FBS-1030		L	6	fl oz/a	POST	A					
5	Ammonium Sulfate		DF	17	lb/100 gal	POST	A					
6	Untreated							0	0	0	0	0
7	Roundup PowerMax	4.5	SL	15.4	fl oz/a	POST	A	99	5	92	93	98
7	Ammonium Sulfate		DF	17	lb/100 gal	POST	A					
LSD (P=.10)								0.0	0.7	2.5	4.7	1.4
Standard Deviation								0.0	0.5	2.0	3.8	1.1
CV								0.0	13.26	2.45	4.61	1.34

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Weed Code	AMBEL	ANGR	CHEAL	AMAPO
Crop Code				
Rating Data Type	control	control	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	7/9/08	7/17/08	7/17/08	7/17/08
Trt-Eval Interval	13 DA-A	21 DA-A	21 DA-A	21 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
1	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	99	90	96	94
1	Ammonium Sulfate		DF	17	lb/100 gal	POST	A				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	99	93	96	92
2	LBE-01		L	3.42	fl oz/a	POST	A				
2	Ammonium Sulfate		DF	17	lb/100 gal	POST	A				
3	Roundup PowerMax	4.5	SL	15.4	fl oz/a	POST	A	97	91	96	90
3	LBE-01		L	3.42	fl oz/a	POST	A				
3	Ammonium Sulfate		DF	17	lb/100 gal	POST	A				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	99	89	99	92
4	FBS-1030		L	6	fl oz/a	POST	A				
4	Ammonium Sulfate		DF	17	lb/100 gal	POST	A				
5	Roundup PowerMax	4.5	SL	15.4	fl oz/a	POST	A	99	90	97	93
5	FBS-1030		L	6	fl oz/a	POST	A				
5	Ammonium Sulfate		DF	17	lb/100 gal	POST	A				
6	Untreated							0	0	0	0
7	Roundup PowerMax	4.5	SL	15.4	fl oz/a	POST	A	97	91	94	89
7	Ammonium Sulfate		DF	17	lb/100 gal	POST	A				
LSD (P=.10)								2.6	2.6	5.9	4.9
Standard Deviation								2.1	2.1	4.8	4.0
CV								2.49	2.7	5.84	5.08

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Weed Code	AMBEL	ABUTH	BRAKA	
Crop Code				GLXMA
Rating Data Type	control	control	control	moisture
Rating Unit	percent	percent	percent	percent
Rating Date	7/17/08	7/17/08	7/17/08	10/23/08
Trt-Eval Interval	21 DA-A	21 DA-A	21 DA-A	119 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code	AMBEL	ABUTH	BRAKA	GLXMA
1	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	96	99	99	13.4
1	Ammonium Sulfate		DF	17	lb/100 gal	POST	A				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	98	99	99	13.4
2	LBE-01		L	3.42	fl oz/a	POST	A				
2	Ammonium Sulfate		DF	17	lb/100 gal	POST	A				
3	Roundup PowerMax	4.5	SL	15.4	fl oz/a	POST	A	94	99	99	13.4
3	LBE-01		L	3.42	fl oz/a	POST	A				
3	Ammonium Sulfate		DF	17	lb/100 gal	POST	A				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	97	99	99	13.3
4	FBS-1030		L	6	fl oz/a	POST	A				
4	Ammonium Sulfate		DF	17	lb/100 gal	POST	A				
5	Roundup PowerMax	4.5	SL	15.4	fl oz/a	POST	A	96	99	99	13.4
5	FBS-1030		L	6	fl oz/a	POST	A				
5	Ammonium Sulfate		DF	17	lb/100 gal	POST	A				
6	Untreated							0	0	0	15.4
7	Roundup PowerMax	4.5	SL	15.4	fl oz/a	POST	A	90	99	99	13.6
7	Ammonium Sulfate		DF	17	lb/100 gal	POST	A				
LSD (P=.10)								6.4	0.5	0.0	0.46
Standard Deviation								5.2	0.4	0.0	0.38
CV								6.37	0.45	0.0	2.75

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Weed Code
 Crop Code
 Rating Data Type
 Rating Unit
 Rating Date
 Trt-Eval Interval

GLXMA
 yield
 bu/acre
 10/23/08
 at 13% M

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	
1	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	56.3
1	Ammonium Sulfate		DF	17	lb/100 gal	POST	A	
2	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	55.8
2	LBE-01		L	3.42	fl oz/a	POST	A	
2	Ammonium Sulfate		DF	17	lb/100 gal	POST	A	
3	Roundup PowerMax	4.5	SL	15.4	fl oz/a	POST	A	53.5
3	LBE-01		L	3.42	fl oz/a	POST	A	
3	Ammonium Sulfate		DF	17	lb/100 gal	POST	A	
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	57.3
4	FBS-1030		L	6	fl oz/a	POST	A	
4	Ammonium Sulfate		DF	17	lb/100 gal	POST	A	
5	Roundup PowerMax	4.5	SL	15.4	fl oz/a	POST	A	57.3
5	FBS-1030		L	6	fl oz/a	POST	A	
5	Ammonium Sulfate		DF	17	lb/100 gal	POST	A	
6	Untreated							19.2
7	Roundup PowerMax	4.5	SL	15.4	fl oz/a	POST	A	55.2
7	Ammonium Sulfate		DF	17	lb/100 gal	POST	A	
LSD (P=.10)								4.97
Standard Deviation								4.05
CV								8.0