

MSU Weed Science Research Program

Micronutrient effects on glyphosate in Roundup Ready soybean

Trial ID: SOY01-11 Study Dir.: Sprague, Powell
Conducted: C-12E Crops Investigator: Christy Sprague

Date Planted: 5/10/2011 Row Spacing: 30 IN
Variety: Pioneer 92M61 No. of Reps: 4
Population: 155,000 % OM: 3.4
Soil Type: Silt Loam pH: 7.5
Plot Size: 10 X 30 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fallow 2010- Drain tillage installed, Spring soil finish
Fertilizer: None at planting

Crop and Weed Description

Table with 4 columns: Weed, Code, Common Name, Scientific Name. Lists weeds 1-4 and crop 1.

Application Description

Application Timing: POST
Date Treated: 6/15/2011
Time Treated: 7:30 am
% Cloud Cover: 90
Air Temp., Unit: 57 F
% Relative Humidity: 78
Wind Speed/Unit/Dir: 4 mph E
Soil Temp., Unit: 71 F
Soil/Leaf Surface M: 5 3
Soil Moist (1=w 5=d): 3

Crop Stage at Each Application

Crop Name: GLXMA
Height (In.): 3-4 1/2"
Stage (L): V2

Weed Stage at Each Application

Weed 1 Name: ANGR
Height (In.): 6-8"
Stage (L): 4-5
Weed 2 Name: AMBEL
Height (In.): 2-3"
Stage (L): 6-8
Weed 3 Name: ABUTH
Height (In.): 3"
Stage (L): 6
Weed 4 Name: POROL
Height (In.): 3-4" d
Stage (L): 8-19

Weed Density (plants/sq. ft.)

Table with 4 columns: Weed Name, Density. Lists weeds ANGR, AMBEL, ABUTH, POROL and their densities.

Application Equipment

Table with 11 columns: Appl, Sprayer, Speed, Nozzle, Nozzle, Nozzle, Boom, GPA, Carrier, PSI. Lists application equipment details.

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Table with columns: Weed Code, Crop Code, Rating Data Type, Rating Unit, Rating Date, Trt-Eval Interval, # Subsamples, Dec., ANGR, AMBEL, ABUTH, POROL, ANGR. Rows include treatments like Roundup PowerMax, N Pak Liquid AMS, AGM 09026, and Untreated, with associated injury and control percentages.

Means followed by same letter do not significantly differ (P=.05, LSD)
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Weed Code	AMBEL	ABUTH	POROL	ANGR	AMBEL	ABUTH
Crop Code						
Rating Data Type	control	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent
Rating Date	6/29/2011	6/29/2011	6/29/2011	7/13/2011	7/13/2011	7/13/2011
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	28 DA-A	28 DA-A	28 DA-A
# Subsamples, Dec.	0	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	AMBEL	ABUTH	POROL	ANGR	AMBEL	ABUTH
1	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	95	84	74	98	96	95
2	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	96	91	67	97	97	96
2	N Pak Liquid AMS		L	2.5	% v/v	POST	A						
3	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	98	89	92	98	98	95
3	AG 8034		L	2	% v/v	POST	A						
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	92	71	72	98	96	94
4	AGM 09026		L	1	qt/a	POST	A						
5	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	94	92	76	97	96	97
5	AGM 09026		L	1	qt/a	POST	A						
5	Class Act NG		L	2.5	% v/v	POST	A						
6	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	94	80	72	97	96	97
6	AGM 09026		L	1	qt/a	POST	A						
6	AG 8034		L	1	% v/v	POST	A						
7	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	93	63	85	97	97	92
7	AGM 09026		L	1	qt/a	POST	A						
7	AG 8034		L	1.5	% v/v	POST	A						
8	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	95	70	88	97	97	97
8	AGM 09026		L	1	qt/a	POST	A						
8	AG 8034		L	2	% v/v	POST	A						
9	Untreated							0	0	0	0	0	0
LSD (P=.05)								2.6	22.8	14.8	2.6	2.4	5.0
Standard Deviation								1.8	15.6	10.1	1.8	1.6	3.4
CV								2.13	21.95	14.62	2.08	1.92	4.07

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Weed Code	POROL		
Crop Code		GLXMA	GLXMA
Rating Data Type	control	moisture	yield
Rating Unit	percent	percent	bu/acre
Rating Date	7/13/2011	10/31/2011	10/31/2011
Trt-Eval Interval	28 DA-A	138 DA-A	138 DA-A
# Subsamples, Dec.	0	1	1

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	95	14.1	61.2
2	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	96	14.3	60.4
2	N Pak Liquid AMS		L	2.5	% v/v	POST	A			
3	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	97	13.7	64.6
3	AG 8034		L	2	% v/v	POST	A			
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	94	13.3	64.0
4	AGM 09026		L	1	qt/a	POST	A			
5	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	97	14.2	64.2
5	AGM 09026		L	1	qt/a	POST	A			
5	Class Act NG		L	2.5	% v/v	POST	A			
6	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	93	13.3	68.7
6	AGM 09026		L	1	qt/a	POST	A			
6	AG 8034		L	1	% v/v	POST	A			
7	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	95	12.9	66.1
7	AGM 09026		L	1	qt/a	POST	A			
7	AG 8034		L	1.5	% v/v	POST	A			
8	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	98	13.9	68.2
8	AGM 09026		L	1	qt/a	POST	A			
8	AG 8034		L	2	% v/v	POST	A			
9	Untreated							0	14.5	22.0
LSD (P=.05)								5.5	1.67	15.52
Standard Deviation								3.8	1.13	10.52
CV								4.44	8.21	17.56

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Table with 7 columns: Weed Code, Crop Code, Rating Data Type, Rating Unit, Rating Date, Trt-Eval Interval, # Subsamples, Dec. and 6 treatment columns: ANGR, AMBEL, ABUTH, POROL, ANGR. Values include injury percent and control percent for various dates and intervals.

Main data table with 15 columns: Trt No., Treatment Name, Form Conc, Form Type, Rate, Rate Unit, Grow Stg, Appl Code, Plot, and 6 injury percent columns. Rows include treatments 1-9 with various herbicide applications and their effects on plots.

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Table with 7 columns: Weed Code, Crop Code, Rating Data Type, Rating Unit, Rating Date, Trt-Eval Interval, # Subsamples, Dec. and 6 data columns: AMBEL, ABUTH, POROL, ANGR, AMBEL, ABUTH.

Main data table with columns: Trt No., Treatment Name, Form Conc, Form Type, Rate, Rate Unit, Grow Stg, Appl Code, Plot, and 6 data columns (AMBEL, ABUTH, POROL, ANGR, AMBEL, ABUTH). Includes multiple rows for treatments 1-9 and their means.

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Weed Code		POROL		
Crop Code			GLXMA	GLXMA
Rating Data Type		control	moisture	yield
Rating Unit		percent	percent	bu/acre
Rating Date		7/13/2011	10/31/2011	10/31/2011
Trt-Eval Interval		28 DA-A	138 DA-A	138 DA-A
# Subsamples, Dec.		0	1	1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	Plot			
1	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	101	88	13.7	59.1
								208	97	14.0	59.2
								305	98	14.2	61.9
								404	96	14.4	64.4
	Mean =								95	14.1	61.2
2	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	102	98	14.5	54.3
	N Pak Liquid AMS		L	2.5	% v/v	POST	A	205	95	14.2	63.1
								304	95	14.2	63.9
								407	97	.	.
	Mean =								96	14.3	60.4
3	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	103	97	14.1	57.9
	AG 8034		L	2	% v/v	POST	A	206	98	14.1	67.5
								303	97	14.3	70.3
								406	97	12.3	62.8
	Mean =								97	13.7	64.6
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	104	99	14.4	59.2
	AGM 09026		L	1	qt/a	POST	A	209	93	11.2	63.1
								302	87	.	.
								401	98	14.2	69.6
	Mean =								94	13.3	64.0
5	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	105	98	14.3	61.1
	AGM 09026		L	1	qt/a	POST	A	202	92	13.9	64.4
	Class Act NG		L	2.5	% v/v	POST	A	306	98	14.3	67.2
								408	98	.	.
	Mean =								97	14.2	64.2
6	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	106	96	14.5	63.9
	AGM 09026		L	1	qt/a	POST	A	201	82	12.9	66.5
	AG 8034		L	1	% v/v	POST	A	308	97	14.1	72.6
								409	97	11.6	71.9
	Mean =								93	13.3	68.7
7	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	107	90	10.0	69.5
	AGM 09026		L	1	qt/a	POST	A	203	96	13.9	62.9
	AG 8034		L	1.5	% v/v	POST	A	307	97	13.7	69.4
								402	97	14.1	62.7
	Mean =								95	12.9	66.1
8	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	A	108	99	14.2	64.3
	AGM 09026		L	1	qt/a	POST	A	207	96	13.9	65.8
	AG 8034		L	2	% v/v	POST	A	309	97	13.3	76.2
								403	98	14.1	66.6
	Mean =								98	13.9	68.2
9	Untreated							109	0	.	.
								204	0	14.1	1.9
								301	0	14.7	62.8
								405	0	14.8	1.2
	Mean =								0	14.5	22.0