

MSU Weed Science Research Program

Impact of micronutrients and glyphosate on corn yield

Trial ID: C08-14 Study Dir.: Sprague and Powell
 Conducted: Campus T-11 Investigator: Christy Sprague

Date Planted: May/09/2014 Row Spacing: 30 IN
 Variety: DKC 48-12 No. of Reps: 4
 Population: 32,000 seeds/A % OM: 3.1
 Soil Type: Loam pH: 6.9
 Plot Size: 10 X 35 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall chisel plow, spring soil finish
 Fertilizer: 300 lb urea broadcast, 150 lb 19-19-19 starter
 Crop Code Common Name
 1. ZEAMX CORN, FIELD

Application Description

	A	B
Application Timing:	V1	V4
Date Treated:	May/30/2014	Jun/05/2014
Time Treated:	2:10 PM	5:30 PM
% Cloud Cover:	5	10
Air Temp., Unit:	77 F	73 F
% Relative Humidity:	39	31
Wind Speed/Unit/Dir:	3 mph SE	3 mph N
Soil Temp., Unit:	65 F	72 F
Soil/Leaf Surface M:	5 5	5 5
Soil Moist (1=w 5=d):	5	5

Crop Stage at Each Application

	A	B
Crop Name:	ZEAMX	ZEAMX
Height (In.):	5"	8"
Stage (L):	V2	V4

Weed Density (plants/sq. ft.)

	1	2	3	4	5
Date:	Jul/17/2014	Jul/17/2014	Jul/17/2014	Jul/17/2014	Jul/17/2014
Weed Name:	ANGR	CHEAL	AMAPO	AMBEL	ABUTH
Density:	-	-	-	-	-

Application Equipment

Appl	Sprayer Type	Speed MPH	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	GPA	Carrier	PSI
A	Cub	3.8	AIXR	11003	25"	20"	110"	19	Water	30
B	Cub	3.8	AIXR	11003	25"	20"	100"	19	Water	30

Comments: Blanket of BicepLite II Magnum applied PRE at 1.5 qt/A.
 Plant greenness scale: -10 to +10

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Weed Code	Crop Code	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	# Subsamples, Dec.	ZEAMX injury percent	ZEAMX greenness -10 +10	ANGR control percent	CHEAL control percent	AMBEL control percent	
				Jun/06/2014	7 DA-A	0	Jun/06/2014	7 DA-A	Jun/06/2014	7 DA-A	Jun/06/2014	7 DA-A
							0	0	0	0	0	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	0	0	99	99	99
1	N-Tank		L	0.5	% v/v	V1	A					
2	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	0	0	99	99	99
2	BB141		L	1	qt/a	V1	A					
2	N-Tank		L	0.5	% v/v	V1	A					
3	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	0	0	99	99	99
3	BB142		L	1	qt/a	V1	A					
3	N-Tank		L	0.5	% v/v	V1	A					
4	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	0	0	99	99	99
4	N-Tank		L	0.5	% v/v	V4	B					
5	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	0	0	99	99	99
5	BB141		L	1	qt/a	V4	B					
5	N-Tank		L	0.5	% v/v	V4	B					
6	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	0	0	99	99	99
6	BB142		L	1	qt/a	V4	B					
6	N-Tank		L	0.5	% v/v	V4	B					
LSD (P=.05)								0.0	0.0	0.0	0.0	0.0
CV								0.0	0.0	0.0	0.0	0.0

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

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Weed Code								ABUTH	ZEAMX	ZEAMX	ANGR	CHEAL
Crop Code								control	injury	greenness	control	control
Rating Data Type								percent	percent	-10 +10	percent	percent
Rating Unit								Jun/06/2014	Jun/12/2014	Jun/12/2014	Jun/12/2014	Jun/12/2014
Rating Date								7 DA-A	7 DA-B	7 DA-B	7 DA-B	7 DA-B
Trt-Eval Interval								0	0	0	0	0
# Subsamples, Dec.								0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	99	0	0	99	99
1	N-Tank		L	0.5	% v/v	V1	A					
2	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	99	0	0	99	99
2	BB141		L	1	qt/a	V1	A					
2	N-Tank		L	0.5	% v/v	V1	A					
3	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	99	0	0	99	99
3	BB142		L	1	qt/a	V1	A					
3	N-Tank		L	0.5	% v/v	V1	A					
4	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	99	0	0	99	99
4	N-Tank		L	0.5	% v/v	V4	B					
5	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	99	0	0	99	99
5	BB141		L	1	qt/a	V4	B					
5	N-Tank		L	0.5	% v/v	V4	B					
6	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	99	0	0	99	99
6	BB142		L	1	qt/a	V4	B					
6	N-Tank		L	0.5	% v/v	V4	B					
LSD (P=.05)								0.0	0.0	0.0	0.0	0.0
CV								0.0	0.0	0.0	0.0	0.0

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Trial ID: C08-14
 Conducted: Campus T-11

Study Dir.: Sprague and Powell
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Weed Code								AMBEL	ABUTH	ZEAMX	ZEAMX	ANGR
Crop Code								control	control	injury	greenness	control
Rating Data Type								percent	percent	percent	-10 +10	percent
Rating Unit								Jun/12/2014	Jun/12/2014	Jun/19/2014	Jun/19/2014	Jun/19/2014
Rating Date								7 DA-B	7 DA-B	14 DA-B	14 DA-B	14 DA-B
Trt-Eval Interval								0	0	0	0	0
# Subsamples, Dec.								0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	99	99	0	0	99
1	N-Tank		L	0.5	% v/v	V1	A					
2	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	99	99	0	0	99
2	BB141		L	1	qt/a	V1	A					
2	N-Tank		L	0.5	% v/v	V1	A					
3	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	99	99	0	0	99
3	BB142		L	1	qt/a	V1	A					
3	N-Tank		L	0.5	% v/v	V1	A					
4	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	99	99	0	0	99
4	N-Tank		L	0.5	% v/v	V4	B					
5	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	99	99	0	0	99
5	BB141		L	1	qt/a	V4	B					
5	N-Tank		L	0.5	% v/v	V4	B					
6	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	99	99	0	0	99
6	BB142		L	1	qt/a	V4	B					
6	N-Tank		L	0.5	% v/v	V4	B					
LSD (P=.05)								0.0	0.8	0.0	0.0	0.0
CV								0.0	0.52	0.0	0.0	0.0

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Impact of micronutrients and glyphosate on corn yield

Trial ID: C08-14 Study Dir.: Sprague and Powell
 Conducted: Campus T-11 Investigator: Christy Sprague

Weed Code								CHEAL	AMBEL	ABUTH	ZEAMX	ZEAMX
Crop Code								control	control	control	injury	greenness
Rating Data Type								percent	percent	percent	percent	-10 +10
Rating Unit								Jun/19/2014	Jun/19/2014	Jun/19/2014	Jul/03/2014	Jul/03/2014
Rating Date								14 DA-B	14 DA-B	14 DA-B	28 DA-B	28 DA-B
Trt-Eval Interval								0	0	0	0	0
# Subsamples, Dec.								0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	99	99	99	0	0
1	N-Tank		L	0.5	% v/v	V1	A					
2	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	99	99	99	0	0
2	BB141		L	1	qt/a	V1	A					
2	N-Tank		L	0.5	% v/v	V1	A					
3	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	99	99	99	0	0
3	BB142		L	1	qt/a	V1	A					
3	N-Tank		L	0.5	% v/v	V1	A					
4	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	99	99	99	0	0
4	N-Tank		L	0.5	% v/v	V4	B					
5	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	99	99	99	0	0
5	BB141		L	1	qt/a	V4	B					
5	N-Tank		L	0.5	% v/v	V4	B					
6	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	99	99	99	0	0
6	BB142		L	1	qt/a	V4	B					
6	N-Tank		L	0.5	% v/v	V4	B					
LSD (P=.05)								0.0	0.0	0.0	0.0	0.0
CV								0.0	0.0	0.0	0.0	0.0

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Weed Code								ANGR	CHEAL	AMBEL	ABUTH	ZEAMX
Crop Code								control	control	control	control	moisture
Rating Data Type								percent	percent	percent	percent	percent
Rating Unit								Jul/03/2014	Jul/03/2014	Jul/03/2014	Jul/03/2014	Nov/09/2014
Rating Date								28 DA-B	28 DA-B	28 DA-B	28 DA-B	157 DA-B
Trt-Eval Interval								0	0	0	0	1
# Subsamples, Dec.								0	0	0	0	1
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	99	99	99	99	16.6
1	N-Tank		L	0.5	% v/v	V1	A					
2	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	99	99	99	99	15.7
2	BB141		L	1	qt/a	V1	A					
2	N-Tank		L	0.5	% v/v	V1	A					
3	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	99	99	99	99	17.4
3	BB142		L	1	qt/a	V1	A					
3	N-Tank		L	0.5	% v/v	V1	A					
4	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	99	99	99	99	18.1
4	N-Tank		L	0.5	% v/v	V4	B					
5	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	99	99	99	98	17.6
5	BB141		L	1	qt/a	V4	B					
5	N-Tank		L	0.5	% v/v	V4	B					
6	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	99	99	99	98	16.7
6	BB142		L	1	qt/a	V4	B					
6	N-Tank		L	0.5	% v/v	V4	B					
LSD (P=.05)								0.0	0.6	0.6	1.2	1.92
CV								0.0	0.41	0.41	0.81	7.51

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Study Dir.: Sprague and Powell

Conducted: Campus T-11

Investigator: Christy Sprague

Weed Code

Crop Code

Rating Data Type

Rating Unit

Rating Date

Trt-Eval Interval

Subsamples, Dec.

ZEAMX

yield

bu/acre

Nov/09/2014

at 15% M

0

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code	
1	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	238
1	N-Tank		L	0.5	% v/v	V1	A	
2	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	236
2	BB141		L	1	qt/a	V1	A	
2	N-Tank		L	0.5	% v/v	V1	A	
3	Roundup PowerMax	4.5	SL	32	fl oz/a	V1	A	220
3	BB142		L	1	qt/a	V1	A	
3	N-Tank		L	0.5	% v/v	V1	A	
4	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	237
4	N-Tank		L	0.5	% v/v	V4	B	
5	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	241
5	BB141		L	1	qt/a	V4	B	
5	N-Tank		L	0.5	% v/v	V4	B	
6	Roundup PowerMax	4.5	SL	32	fl oz/a	V4	B	244
6	BB142		L	1	qt/a	V4	B	
6	N-Tank		L	0.5	% v/v	V4	B	
LSD (P=.05)								26.5
CV								7.46

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