

MSU Weed Science Research Program

Evaluation of new TripleFLEX formulations in corn

Trial ID: C09-14 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 and Weed Description

Weed	Code	Common Name	Scientific Name
1.	ANGR	mainly foxtail species	SETARIA SP.
2.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
3.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
4.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
5.	POROL	PURSLANE, COMMON	PORTULACA OLERACEA L.
Crop	Code	Common Name	
1.	ZEAMX	CORN, FIELD	

Application Description

	A	B
Application Timing:	PRE	POST
Date Treated:	May/09/2014	Jun/05/2014
Time Treated:	10:41 AM	5:10 PM
% Cloud Cover:	100	10
Air Temp., Unit:	74 F	73 F
% Relative Humidity:	63	31
Wind Speed/Unit/Dir:	7 mph SW	3 mph N
Soil Temp., Unit:	62 F	72 F
Soil/Leaf Surface M:	5 -	4 4
Soil Moist (1=w 5=d):	5	4

Crop Stage at Each Application

	A	B
Crop Name:	ZEAMX	ZEAMX
Height (In.):	-	6.5"
Stage (L):	-	V3-V4

Weed Stage at Each Application

	A	B
Weed 1 Name:	ANGR	ANGR
Height (In.):	-	2-3"
Stage (L):	-	2
Weed 2 Name:	CHEAL	CHEAL
Height (In.):	-	1-2"
Stage (L):	-	4-6
Weed 3 Name:	AMBEL	AMBEL
Height (In.):	-	1.5"
Stage (L):	-	2
Weed 4 Name:	ABUTH	ABUTH
Height (In.):	-	2"
Stage (L):	-	4
Weed 5 Name:	POROL	POROL
Height (In.):	-	1.5" dia
Stage (L):	-	4-6

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:	4	2	<1	3	<1

Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom	GPA	Carrier	PSI
	Type	MPH	Type	Size	Height	Spacing	Width			
A	Cub	3.8	AIXR	11003	21"	20"	100"	19	Water	30
B	Cub	3.8	AIXR	11003	22"	20"	100"	19	Water	30

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Weed Code								ZEAMX	ANGR	CHEAL	AMBEL
Crop Code								injury	control	control	control
Rating Data Type								percent	percent	percent	percent
Rating Unit								Jun/05/2014	Jun/05/2014	Jun/05/2014	Jun/05/2014
Rating Date								27 DA-A	27 DA-A	27 DA-A	27 DA-A
Trt-Eval Interval								0	0	0	0
# Subsamples, Dec.											
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
1	TripleFLEX	4.16	L	2	pt/a	PRE	A	0	99	99	97
2	TripleFLEX	4.16	L	4	pt/a	PRE	A	11	99	99	99
3	MON 63476	4.16	L	2	pt/a	PRE	A	0	99	99	95
4	MON 63476	4.16	L	4	pt/a	PRE	A	13	99	99	99
5	TripleFLEX	4.16	L	2	pt/a	PRE	A	0	99	99	99
5	AAtrex	90	WG	1.1	lb/a	PRE	A				
6	MON 63476	4.16	L	2	pt/a	PRE	A	3	99	99	99
6	AAtrex	90	WG	1.1	lb/a	PRE	A				
7	Untreated							0	0	0	0
8	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
8	AMS		WG	17	lb/100 gal	POST	B				
9	TripleFLEX	4.16	L	2	pt/a	POST	B				
9	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
9	AMS		WG	17	lb/100 gal	POST	B				
10	TripleFLEX	4.16	L	4	pt/a	POST	B				
10	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
10	AMS		WG	17	lb/100 gal	POST	B				
11	MON 63476	4.16	L	2	pt/a	POST	B				
11	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
11	AMS		WG	17	lb/100 gal	POST	B				
12	MON 63476	4.16	L	4	pt/a	POST	B				
12	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
12	AMS		WG	17	lb/100 gal	POST	B				
13	TripleFLEX	4.16	L	2	pt/a	POST	B				
13	AAtrex	90	WG	1.1	lb/a	POST	B				
13	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
13	AMS		WG	17	lb/100 gal	POST	B				
14	MON 63476	4.16	L	2	pt/a	POST	B				
14	AAtrex	90	WG	1.1	lb/a	POST	B				
14	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
14	AMS		WG	17	lb/100 gal	POST	B				
LSD (P=.05)								2.5	0.3	0.0	2.3
CV								45.05	0.22	0.0	1.81

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

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								ABUTH	POROL	ZEAMX	ANGR
								control	control	injury	control
								percent	percent	percent	percent
								Jun/05/2014	Jun/05/2014	Jun/12/2014	Jun/12/2014
								27 DA-A	27 DA-A	7 DA-B	7 DA-B
								0	0	0	0
Trt	Treatment	Form	Form	Rate	Rate	Grow	Appl				
No.	Name	Conc	Type	Unit	Unit	Stg	Code				
1	TripleFLEX	4.16	L	2	pt/a	PRE	A	99	99	0	99
2	TripleFLEX	4.16	L	4	pt/a	PRE	A	99	99	5	99
3	MON 63476	4.16	L	2	pt/a	PRE	A	99	99	0	99
4	MON 63476	4.16	L	4	pt/a	PRE	A	99	99	6	99
5	TripleFLEX	4.16	L	2	pt/a	PRE	A	99	99	1	99
5	AAtrex	90	WG	1.1	lb/a	PRE	A				
6	MON 63476	4.16	L	2	pt/a	PRE	A	99	99	0	99
6	AAtrex	90	WG	1.1	lb/a	PRE	A				
7	Untreated							0	0	0	0
8	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B			0	99
8	AMS		WG	17	lb/100 gal	POST	B				
9	TripleFLEX	4.16	L	2	pt/a	POST	B			0	99
9	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
9	AMS		WG	17	lb/100 gal	POST	B				
10	TripleFLEX	4.16	L	4	pt/a	POST	B			6	99
10	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
10	AMS		WG	17	lb/100 gal	POST	B				
11	MON 63476	4.16	L	2	pt/a	POST	B			0	99
11	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
11	AMS		WG	17	lb/100 gal	POST	B				
12	MON 63476	4.16	L	4	pt/a	POST	B			4	99
12	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
12	AMS		WG	17	lb/100 gal	POST	B				
13	TripleFLEX	4.16	L	2	pt/a	POST	B			3	92
13	AAtrex	90	WG	1.1	lb/a	POST	B				
13	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
13	AMS		WG	17	lb/100 gal	POST	B				
14	MON 63476	4.16	L	2	pt/a	POST	B			1	86
14	AAtrex	90	WG	1.1	lb/a	POST	B				
14	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
14	AMS		WG	17	lb/100 gal	POST	B				
LSD (P=.05)								0.8	0.0	1.9	2.1
CV								0.65	0.0	71.44	1.66

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

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								CHEAL	AMBEL	ABUTH	POROL
								control	control	control	control
								percent	percent	percent	percent
								Jun/12/2014	Jun/12/2014	Jun/12/2014	Jun/12/2014
								7 DA-B	7 DA-B	7 DA-B	7 DA-B
								0	0	0	0
Trt	Treatment	Form	Form	Rate	Rate	Grow	Appl				
No.	Name	Conc	Type	Unit	Unit	Stg	Code				
1	TripleFLEX	4.16	L	2	pt/a	PRE	A	99	92	98	99
2	TripleFLEX	4.16	L	4	pt/a	PRE	A	99	99	99	99
3	MON 63476	4.16	L	2	pt/a	PRE	A	99	89	97	99
4	MON 63476	4.16	L	4	pt/a	PRE	A	99	99	99	99
5	TripleFLEX	4.16	L	2	pt/a	PRE	A	99	99	99	99
5	AAtrex	90	WG	1.1	lb/a	PRE	A				
6	MON 63476	4.16	L	2	pt/a	PRE	A	99	99	99	99
6	AAtrex	90	WG	1.1	lb/a	PRE	A				
7	Untreated							0	0	0	0
8	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	92	83	90	99
8	AMS		WG	17	lb/100 gal	POST	B				
9	TripleFLEX	4.16	L	2	pt/a	POST	B	96	86	93	99
9	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
9	AMS		WG	17	lb/100 gal	POST	B				
10	TripleFLEX	4.16	L	4	pt/a	POST	B	99	95	94	99
10	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
10	AMS		WG	17	lb/100 gal	POST	B				
11	MON 63476	4.16	L	2	pt/a	POST	B	97	87	97	99
11	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
11	AMS		WG	17	lb/100 gal	POST	B				
12	MON 63476	4.16	L	4	pt/a	POST	B	99	93	98	99
12	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
12	AMS		WG	17	lb/100 gal	POST	B				
13	TripleFLEX	4.16	L	2	pt/a	POST	B	99	98	94	99
13	AAtrex	90	WG	1.1	lb/a	POST	B				
13	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
13	AMS		WG	17	lb/100 gal	POST	B				
14	MON 63476	4.16	L	2	pt/a	POST	B	99	91	90	99
14	AAtrex	90	WG	1.1	lb/a	POST	B				
14	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
14	AMS		WG	17	lb/100 gal	POST	B				
LSD (P=.05)								3.6	5.9	5.4	0.7
CV								2.78	4.74	4.22	0.5

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

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Weed Code								ZEAMX	ANGR	CHEAL	AMBEL
Crop Code								injury	control	control	control
Rating Data Type								percent	percent	percent	percent
Rating Unit								Jun/26/2014	Jun/26/2014	Jun/26/2014	Jun/26/2014
Rating Date								21 DA-B	21 DA-B	21 DA-B	21 DA-B
Trt-Eval Interval								0	0	0	0
# Subsamples, Dec.											
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
1	TripleFLEX	4.16	L	2	pt/a	PRE	A	0	99	99	93
2	TripleFLEX	4.16	L	4	pt/a	PRE	A	5	99	99	99
3	MON 63476	4.16	L	2	pt/a	PRE	A	0	99	99	92
4	MON 63476	4.16	L	4	pt/a	PRE	A	5	99	99	99
5	TripleFLEX	4.16	L	2	pt/a	PRE	A	1	99	99	99
5	AAtrex	90	WG	1.1	lb/a	PRE	A				
6	MON 63476	4.16	L	2	pt/a	PRE	A	0	99	99	99
6	AAtrex	90	WG	1.1	lb/a	PRE	A				
7	Untreated							0	0	0	0
8	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	0	98	98	92
8	AMS		WG	17	lb/100 gal	POST	B				
9	TripleFLEX	4.16	L	2	pt/a	POST	B	2	99	99	98
9	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
9	AMS		WG	17	lb/100 gal	POST	B				
10	TripleFLEX	4.16	L	4	pt/a	POST	B	1	99	99	99
10	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
10	AMS		WG	17	lb/100 gal	POST	B				
11	MON 63476	4.16	L	2	pt/a	POST	B	1	99	99	98
11	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
11	AMS		WG	17	lb/100 gal	POST	B				
12	MON 63476	4.16	L	4	pt/a	POST	B	0	99	99	99
12	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
12	AMS		WG	17	lb/100 gal	POST	B				
13	TripleFLEX	4.16	L	2	pt/a	POST	B	1	99	99	99
13	AAtrex	90	WG	1.1	lb/a	POST	B				
13	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
13	AMS		WG	17	lb/100 gal	POST	B				
14	MON 63476	4.16	L	2	pt/a	POST	B	0	99	99	99
14	AAtrex	90	WG	1.1	lb/a	POST	B				
14	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
14	AMS		WG	17	lb/100 gal	POST	B				
LSD (P=.05)								1.7	1.0	0.4	3.6
CV								111.66	0.78	0.29	2.82

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

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Weed Code								ABUTH	POROL	ZEAMX	ZEAMX
Crop Code								control	control	moisture	yield
Rating Data Type								percent	percent	percent	bu/acre
Rating Unit								Jun/26/2014	Jun/26/2014	Nov/09/2014	Nov/09/2014
Rating Date								21 DA-B	21 DA-B	157 DA-B	at 15% M
Trt-Eval Interval								0	0	1	0
# Subsamples, Dec.											
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
1	TripleFLEX	4.16	L	2	pt/a	PRE	A	98	99	15.6	228
2	TripleFLEX	4.16	L	4	pt/a	PRE	A	99	99	18.3	230
3	MON 63476	4.16	L	2	pt/a	PRE	A	99	99	17.0	244
4	MON 63476	4.16	L	4	pt/a	PRE	A	99	99	16.7	245
5	TripleFLEX	4.16	L	2	pt/a	PRE	A	99	99	16.7	234
5	AAtrex	90	WG	1.1	lb/a	PRE	A				
6	MON 63476	4.16	L	2	pt/a	PRE	A	99	99	18.0	238
6	AAtrex	90	WG	1.1	lb/a	PRE	A				
7	Untreated							0	0	17.1	173
8	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	99	97	16.9	237
8	AMS		WG	17	lb/100 gal	POST	B				
9	TripleFLEX	4.16	L	2	pt/a	POST	B	99	99	16.9	228
9	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
9	AMS		WG	17	lb/100 gal	POST	B				
10	TripleFLEX	4.16	L	4	pt/a	POST	B	99	99	16.2	221
10	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
10	AMS		WG	17	lb/100 gal	POST	B				
11	MON 63476	4.16	L	2	pt/a	POST	B	99	98	15.7	231
11	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
11	AMS		WG	17	lb/100 gal	POST	B				
12	MON 63476	4.16	L	4	pt/a	POST	B	99	99	18.1	234
12	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
12	AMS		WG	17	lb/100 gal	POST	B				
13	TripleFLEX	4.16	L	2	pt/a	POST	B	99	99	16.0	240
13	AAtrex	90	WG	1.1	lb/a	POST	B				
13	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
13	AMS		WG	17	lb/100 gal	POST	B				
14	MON 63476	4.16	L	2	pt/a	POST	B	99	99	15.8	238
14	AAtrex	90	WG	1.1	lb/a	POST	B				
14	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
14	AMS		WG	17	lb/100 gal	POST	B				
LSD (P=.05)								1.0	1.0	1.91	20.8
CV								0.78	0.73	7.95	6.32

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