

MSU Weed Science Research Program

High input systems in corn - Syngenta

Trial ID: C06-13 Study Dir.: Sprague, Powell
 Conducted: Campus C-25 Investigator: Christy Sprague

Date Planted: May/06/2013 **Row Spacing:** 30 IN
Variety: 88A69-3000GT **No. of Reps:** 4
Population: 32,000 seeds/A **% OM:** 3.4
Soil Type: clay loam **pH:** 7.0
Plot Size: 10 X 40 FT **Design:** RANDOMIZED COMPLETE BLOCK

Tillage: Fall chisel, spring soil finish x2
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.	AMAPO	AMARANTH, POWELL	AMARANTHUS POWELLII S.WATS.
4.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
5.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
Crop	Code	Common Name	
1.	ZEAMX	CORN, FIELD	

Application Description

	A	B	C	D
Application Timing:	PRE	POST	V4-V8	R1
Date Treated:	May/07/2013	Jun/15/2013	Jun/15/2013	Jul/16/2013
Time Treated:	11:30 PM	11:45 AM	1:45 PM	2:45 PM
% Cloud Cover:	20	100	100	20
Air Temp., Unit:	72 F	74 F	76 F	93 F
% Relative Humidity:	39	56	46	56
Wind Speed/Unit/Dir:	3 mph E	3 mph SW	3 mph SW	4 mph SW
Soil Temp., Unit:	62 F	68 F	68 F	84 F
Soil/Leaf Surface M:	3 -	2 5	2 5	1 5
Soil Moist (1=w 5=d):	3	2	2	2

Crop Stage at Each Application

	A	B	C	D
Crop Name:	ZEAMX	ZEAMX	ZEAMX	ZEAMX
Height (In.):	-	12"	12"	102"
Stage (L):	-	V5	V5	R1

Weed Stage at Each Application

	A	B	C	D
Weed 1 Name:	ANGR	ANGR	ANGR	ANGR
Height (In.):	-	4"	-	-
Stage (L):	-	4	-	-
Weed 2 Name:	CHEAL	CHEAL	CHEAL	CHEAL
Height (In.):	-	3"	-	-
Stage (L):	-	10	-	-
Weed 3 Name:	AMAPO	AMAPO	AMAPO	AMAPO
Height (In.):	-	4"	-	-
Stage (L):	-	12	-	-
Weed 4 Name:	AMBEL	AMBEL	AMBEL	AMBEL
Height (In.):	-	4"	-	-
Stage (L):	-	10	-	-
Weed 5 Name:	ABUTH	ABUTH	ABUTH	ABUTH
Height (In.):	-	2"	-	-
Stage (L):	-	3	-	-

Weed Density (plants/sq. ft.)

	1	2	3	4	5
Date:	Jul/11/2013	Jul/11/2013	Jul/11/2013	Jul/11/2013	Jul/11/2013
Weed Name:	ANGR	CHEAL	AMAPO	AMBEL	ABUTH
Density:	10	3	2	7	<1

Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom			
	Type	MPH	Type	Size	Height	Spacing	width	GPA	Carrier	PSI
A	Cub	3.8	AIXR	11003	22"	20"	100"	19	water	35
B	Cub	3.8	AIXR	11003	29"	20"	100"	19	water	30
C	Cub	3.8	AIXR	11003	29"	20"	100"	19	water	30
D	Backpack	3.8	AIXR	11003	120"	20"	100"	19	water	30

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Trial ID: C06-13 Study Dir.: Sprague, Powell
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Weed Code	ANGR	CHEAL	AMAPO	AMBEL
Crop Code	ZEAMX			
Rating Data Type	injury	control	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	Jun/14/2013	Jun/14/2013	Jun/14/2013	Jun/14/2013
Trt-Eval Interval	38 DA-A	38 DA-A	38 DA-A	38 DA-A
# Subsamples, Dec.	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Grow Stg	Appl Code					
1	Lumax EZ	3.67	L	2.7 qt/a	PRE	A	0	91	95	99	99
	Halex GT	4.38	L	3.6 pt/a	POST	B					
	Surfactant		L	0.25 % v/v	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
2	Lumax EZ	3.67	L	2.7 qt/a	PRE	A	0	97	99	99	97
	Halex GT	4.38	L	3.6 pt/a	POST	B					
	Surfactant		L	0.25 % v/v	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5 fl oz/a	V4-V8	C					
3	Lumax EZ	3.67	L	2.7 qt/a	PRE	A	0	95	99	99	99
	Halex GT	4.38	L	3.6 pt/a	POST	B					
	Surfactant		L	0.25 % v/v	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5 fl oz/a	R1	D					
	Warrior II	2.08	L	1.6 fl oz/a	R1	D					
4	Lumax EZ	3.67	L	2.7 qt/a	PRE	A	0	94	96	99	97
	Halex GT	4.38	L	3.6 pt/a	POST	B					
	Surfactant		L	0.25 % v/v	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5 fl oz/a	V4-V8	C					
	Quilt Xcel	2.2	L	10.5 fl oz/a	R1	D					
	Warrior II	2.08	L	1.6 fl oz/a	R1	D					
5	Bicep II Magnum	5.5	L	2.1 qt/a	PRE	A	0	94	96	99	85
	Touchdown Total	4.17	SL	24 fl oz/a	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
6	Bicep II Magnum	5.5	L	2.1 qt/a	PRE	A	0	96	93	99	84
	Touchdown Total	4.17	SL	24 fl oz/a	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5 fl oz/a	V4-V8	C					
	Quilt Xcel	2.2	L	10.5 fl oz/a	R1	D					
	Warrior II	2.08	L	1.6 fl oz/a	R1	D					
7	Untreated						0	0	0	0	0
LSD (P=.05)							0.0	5.5	7.1	0.0	4.7
CV							0.0	4.54	5.75	0.0	3.97

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

MSU Weed Science Research Program

Weed Code											
Crop Code											
Rating Data Type											
Rating Unit											
Rating Date											
Trt-Eval Interval											
# Subsamples, Dec.											

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	0	99	99	99	99
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
2	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	15	99	99	99	99
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5	fl oz/a	V4-V8	C					
3	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	0	99	99	99	99
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5	fl oz/a	R1	D					
	Warrior II	2.08	L	1.6	fl oz/a	R1	D					
4	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	13	99	99	99	99
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5	fl oz/a	V4-V8	C					
	Quilt Xcel	2.2	L	10.5	fl oz/a	R1	D					
	Warrior II	2.08	L	1.6	fl oz/a	R1	D					
5	Bicep II Magnum	5.5	L	2.1	qt/a	PRE	A	0	99	99	99	99
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
6	Bicep II Magnum	5.5	L	2.1	qt/a	PRE	A	3	99	99	99	99
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5	fl oz/a	V4-V8	C					
	Quilt Xcel	2.2	L	10.5	fl oz/a	R1	D					
	Warrior II	2.08	L	1.6	fl oz/a	R1	D					
7	Untreated							0	0	0	0	0
LSD (P=.05)								1.8	0.0	0.0	0.0	0.0
CV								27.73	0.0	0.0	0.0	0.0

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

MSU Weed Science Research Program

Weed Code	ABUTH	ZEAMX	ANGR	CHEAL	AMAPO
Crop Code					
Rating Data Type	control	injury	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Rating Date	Jun/22/2013	Jun/28/2013	Jun/28/2013	Jun/28/2013	Jun/28/2013
Trt-Eval Interval	7 DA-B	13 DA-B	13 DA-B	13 DA-B	13 DA-B
# Subsamples, Dec.	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	99	0	99	99	99
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant AMS		L	0.25	% v/v	POST	B					
2	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	99	5	99	99	99
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant AMS		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
3	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	99	0	99	99	99
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant AMS		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5	fl oz/a	V4-V8	C					
4	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	99	5	99	99	99
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant AMS		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5	fl oz/a	V4-V8	C					
5	Bicep II Magnum	5.5	L	2.1	qt/a	PRE	A	99	0	99	99	99
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5	fl oz/a	V4-V8	C					
	Warrior II	2.08	L	1.6	fl oz/a	R1	D					
6	Bicep II Magnum	5.5	L	2.1	qt/a	PRE	A	99	3	99	99	99
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5	fl oz/a	V4-V8	C					
	Warrior II	2.08	L	1.6	fl oz/a	R1	D					
7	Untreated							0	0	0	0	0
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)

MSU Weed Science Research Program

Weed Code	AMBEL	ABUTH		ANGR	CHEAL
Crop Code			ZEAMX		
Rating Data Type	control	control	injury	control	control
Rating Unit	percent	percent	percent	percent	percent
Rating Date	Jun/28/2013	Jun/28/2013	Jul/12/2013	Jul/12/2013	Jul/12/2013
Trt-Eval Interval	13 DA-B	13 DA-B	27 DA-B	27 DA-B	27 DA-B
# Subsamples, Dec.	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	AMBEL	ABUTH	ZEAMX	ANGR	CHEAL
1	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	99	99	0	99	99
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant AMS		L	0.25	% v/v	POST	B					
2	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	99	99	0	99	99
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant AMS		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
3	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	99	99	0	99	99
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant AMS		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5	fl oz/a	V4-V8	C					
4	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	99	99	0	99	99
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant AMS		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5	fl oz/a	V4-V8	C					
5	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	99	99	0	99	99
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant AMS		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5	fl oz/a	V4-V8	C					
6	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	99	99	0	99	99
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant AMS		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5	fl oz/a	V4-V8	C					
7	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	99	99	0	99	99
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant AMS		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5	fl oz/a	V4-V8	C					
Untreated							0	0	0	0	0	
LSD (P=.05)							2.4	1.1	0.0	0.3	0.0	
CV							1.91	0.84	0.0	0.22	0.0	

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

MSU Weed Science Research Program

Weed Code	AMAPO	AMBEL	ABUTH	ZEAMX	ZEAMX
Crop Code				moisture	yield
Rating Data Type	control	control	control	percent	bu/acre
Rating Unit	percent	percent	percent		
Rating Date	Jul/12/2013	Jul/12/2013	Jul/12/2013	Nov/23/2013	Nov/23/2013
Trt-Eval Interval	27 DA-B	27 DA-B	27 DA-B	200 DA-A	at 15% M
# Subsamples, Dec.	0	0	0	1	1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	AMAPO	AMBEL	ABUTH	ZEAMX	ZEAMX
1	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	99	99	99	17.3	231.2
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
2	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	99	99	99	16.9	219.6
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
3	Quilt Xcel	2.2	L	10.5	fl oz/a	V4-V8	C					
	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	99	99	99	17.2	228.1
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
4	Quilt Xcel	2.2	L	10.5	fl oz/a	R1	D					
	Warrior II	2.08	L	1.6	fl oz/a	R1	D					
	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	99	99	99	17.3	227.4
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	Surfactant		L	0.25	% v/v	POST	B					
5	AMS		WG	17	lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5	fl oz/a	V4-V8	C					
	Bicep II Magnum	5.5	L	2.1	qt/a	PRE	A	98	99	99	17.3	223.0
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B					
6	AMS		WG	17	lb/100 gal	POST	B					
	Quilt Xcel	2.2	L	10.5	fl oz/a	V4-V8	C					
	Warrior II	2.08	L	1.6	fl oz/a	R1	D					
	Bicep II Magnum	5.5	L	2.1	qt/a	PRE	A	99	98	99	17.4	225.8
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B					
7	Untreated							0	0	0	17.2	115.6
	LSD (P=.05)							0.6	0.7	0.4	0.26	11.50
	CV							0.5	0.6	0.32	1.02	3.68

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