

MSU Weed Science Research Program

Weed control systems with Syngenta herbicides

Trial ID: SOY10-13 Study Dir.: Sprague, Powell  
 Conducted: Campus C-14 Investigator: Christy Sprague

**Date Planted:** May/08/2013 **Row Spacing:** 30 IN  
**Variety:** NK(S19-A6) **No. of Reps:** 4  
**Population:** 155,000 seeds/A **% OM:** 2.9  
**Soil Type:** Silt loam **pH:** 7.0  
**Plot Size:** 10 X 30 FT **Design:** RANDOMIZED COMPLETE BLOCK

**Tillage:** Fall chisel, spring soil finish x2  
**Fertilizer:** None

**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.	SINAR	MUSTARD, WILD	SINAPIS ARVENSIS L.
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

**Application Description**

	A	B	C	D
<b>Application Timing:</b>	PRE	EPOS	POST	LPOS
<b>Date Treated:</b>	May/08/2013	Jun/07/2013	Jun/19/2013	Jun/27/2013
<b>Time Treated:</b>	4:00 PM	8:20 AM	9:30 AM	10:00 AM
<b>% Cloud Cover:</b>	60	100	0	10
<b>Air Temp., Unit:</b>	80 F	53 F	63 F	83 F
<b>% Relative Humidity:</b>	27	54	47	62
<b>Wind Speed/Unit/Dir:</b>	4 mph NE	3 mph NE	3 mph NE	1 mph NW
<b>Soil Temp., Unit:</b>	68 F	60 F	60 F	73 F
<b>Soil/Leaf Surface M:</b>	3 -	3 5	2 4	2 4
<b>Soil Moist (1=w 5=d):</b>	3	3	2	2

**Crop Stage at Each Application**

	A	B	C	D
<b>Crop Name:</b>	GLXMA	GLXMA	GLXMA	GLXMA
<b>Height (In.):</b>	-	4"	7"	13"
<b>Stage (L):</b>	-	V1	V3	R1

**Weed Stage at Each Application**

	A	B	C	D
<b>Weed 1 Name:</b>	ANGR	ANGR	ANGR	ANGR
<b>Height (In.):</b>	-	3"	7"	13"
<b>Stage (L):</b>	-	3	3-4	9
<b>Weed 2 Name:</b>	CHEAL	CHEAL	CHEAL	CHEAL
<b>Height (In.):</b>	-	2"	3.5"	10"
<b>Stage (L):</b>	-	6	10	40
<b>Weed 3 Name:</b>	AMBEL	AMBEL	AMBEL	AMBEL
<b>Height (In.):</b>	-	2"	3"	9"
<b>Stage (L):</b>	-	4	8	24
<b>Weed 4 Name:</b>	ABUTH	ABUTH	ABUTH	ABUTH
<b>Height (In.):</b>	-	1"	3.5"	10"
<b>Stage (L):</b>	-	2	3	8
<b>Weed 5 Name:</b>	SINAR	SINAR	SINAR	SINAR
<b>Height (In.):</b>	-	2"	-	-
<b>Stage (L):</b>	-	4	-	-

**Weed Density (plants/sq. ft.)**

	1	2	3	4	5
<b>Date:</b>	Jul/11/2013	Jul/11/2013	Jul/11/2013	Jul/11/2013	Jul/11/2013
<b>Weed Name:</b>	ANGR	CHEAL	AMBEL	ABUTH	SINAR
<b>Density:</b>	12	12	31	3	3

**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	22"	20"	100"	19	water	35
B	Cub	3.8	AIXR	11003	22"	20"	100"	19	water	30
C	Cub	3.8	AIXR	11003	24"	20"	100"	19	water	30
D	Cub	3.8	AIXR	11003	27"	20"	100"	19	water	35

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Trial ID: SOY10-13 Study Dir.: Sprague, Powell  
 Conducted: Campus C-14 Investigator: Christy Sprague

Weed Code		ANGR	CHEAL	AMBEL	ABUTH
Crop Code	GLXMA				
Rating Data Type	injury	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Rating Date	Jun/18/2013	Jun/18/2013	Jun/18/2013	Jun/18/2013	Jun/18/2013
Trt-Eval Interval	41 DA-A	41 DA-A	41 DA-A	41 DA-A	41 DA-A
# Subsamples, Dec.	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code					
1	Touchdown Total	4.17	SL	24	fl oz/a	EPOS B	B	6	98	99	97	99
	AMS		WG	17	lb/100 gal	EPOS B	B					
2	Touchdown Total	4.17	SL	24	fl oz/a	EPOS B	B	5	99	99	97	99
	AMS		WG	17	lb/100 gal	EPOS B	B					
	Touchdown Total	4.17	SL	24	fl oz/a	LPOS D	D					
	AMS		WG	17	lb/100 gal	LPOS D	D					
3	Boundary	6.5	L	1.5	pt/a	PRE	A	0	99	99	70	99
	Touchdown Total	4.17	SL	24	fl oz/a	POST	C					
	AMS		WG	17	lb/100 gal	POST	C					
4	Untreated							0	0	0	0	0
5	Boundary	6.5	L	1.5	pt/a	PRE	A	0	99	99	70	99
	Flexstar GT	3.5	L	3.5	pt/a	POST	C					
	MSO		L	1	% v/v	POST	C					
	AMS		WG	17	lb/100 gal	POST	C					
6	Prefix	5.29	L	2	pt/a	PRE	A	0	99	91	95	34
	Touchdown Total	4.17	SL	24	fl oz/a	POST	C					
	AMS		WG	17	lb/100 gal	POST	C					
7	Prefix	5.29	L	2	pt/a	PRE	A	0	99	87	95	38
	Touchdown Total	4.17	SL	24	fl oz/a	LPOS	D					
	AMS		WG	17	lb/100 gal	LPOS	D					
8	Touchdown Total	4.17	SL	24	fl oz/a	LPOS	D	0	0	0	0	0
	AMS		WG	17	lb/100 gal	LPOS	D					
LSD (P=.05)								3.2	0.6	9.4	4.7	7.8
CV								168.09	0.54	8.9	4.85	9.14

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

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Weed Code	SINAR		ANGR	AMBEL	ABUTH
Crop Code		GLXMA			
Rating Data Type	control	injury	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Rating Date	Jun/18/2013	Jun/26/2013	Jun/26/2013	Jun/26/2013	Jun/26/2013
Trt-Eval Interval	41 DA-A	7 DA-C	7 DA-C	7 DA-C	7 DA-C
# Subsamples, Dec.	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Touchdown Total	4.17	SL	24	fl oz/a	EPOS B		99	0	89	88	98
	AMS		WG	17	lb/100 gal	EPOS B						
2	Touchdown Total	4.17	SL	24	fl oz/a	EPOS B		99	0	88	89	99
	AMS		WG	17	lb/100 gal	EPOS B						
	Touchdown Total	4.17	SL	24	fl oz/a	LPOS D						
	AMS		WG	17	lb/100 gal	LPOS D						
3	Boundary	6.5	L	1.5	pt/a	PRE A		99	0	99	86	99
	Touchdown Total	4.17	SL	24	fl oz/a	POST C						
	AMS		WG	17	lb/100 gal	POST C						
4	Untreated							0	0	0	0	0
5	Boundary	6.5	L	1.5	pt/a	PRE A		99	20	99	99	99
	Flexstar GT	3.5	L	3.5	pt/a	POST C						
	MSO		L	1	% v/v	POST C						
	AMS		WG	17	lb/100 gal	POST C						
6	Prefix	5.29	L	2	pt/a	PRE A		99	0	99	95	75
	Touchdown Total	4.17	SL	24	fl oz/a	POST C						
	AMS		WG	17	lb/100 gal	POST C						
7	Prefix	5.29	L	2	pt/a	PRE A		99	0	98	92	5
	Touchdown Total	4.17	SL	24	fl oz/a	LPOS D						
	AMS		WG	17	lb/100 gal	LPOS D						
8	Touchdown Total	4.17	SL	24	fl oz/a	LPOS D		0	0	0	0	0
	AMS		WG	17	lb/100 gal	LPOS D						
LSD (P=.05)								0.0	0.0	1.8	2.2	7.2
CV								0.0	0.0	1.69	2.17	8.29

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Weed Code	CHEAL	GLXMA	ANGR	CHEAL	AMBEL							
Crop Code												
Rating Data Type	control	injury	control	control	control							
Rating Unit	percent	percent	percent	percent	percent							
Rating Date	Jun/26/2013	Jul/03/2013	Jul/03/2013	Jul/03/2013	Jul/03/2013							
Trt-Eval Interval	7 DA-C	14 DA-C	14 DA-C	14 DA-C	14 DA-C							
# Subsamples, Dec.	0	0	0	0	0							
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Grow Stg	Appl Code					
1	Touchdown Total	4.17	SL	24	fl oz/a	EPOS B		96	0	87	96	91
	AMS		WG	17	lb/100 gal	EPOS B						
2	Touchdown Total	4.17	SL	24	fl oz/a	EPOS B		98	0	98	99	98
	AMS		WG	17	lb/100 gal	EPOS B						
	Touchdown Total	4.17	SL	24	fl oz/a	LPOS D						
	AMS		WG	17	lb/100 gal	LPOS D						
3	Boundary	6.5	L	1.5	pt/a	PRE A		99	0	99	99	94
	Touchdown Total	4.17	SL	24	fl oz/a	POST C						
	AMS		WG	17	lb/100 gal	POST C						
4	Untreated							0	0	0	0	0
5	Boundary	6.5	L	1.5	pt/a	PRE A		99	10	99	99	99
	Flexstar GT	3.5	L	3.5	pt/a	POST C						
	MSO		L	1	% v/v	POST C						
	AMS		WG	17	lb/100 gal	POST C						
6	Prefix	5.29	L	2	pt/a	PRE A		99	0	99	99	99
	Touchdown Total	4.17	SL	24	fl oz/a	POST C						
	AMS		WG	17	lb/100 gal	POST C						
7	Prefix	5.29	L	2	pt/a	PRE A		79	0	99	98	97
	Touchdown Total	4.17	SL	24	fl oz/a	LPOS D						
	AMS		WG	17	lb/100 gal	LPOS D						
8	Touchdown Total	4.17	SL	24	fl oz/a	LPOS D		0	0	63	60	46
	AMS		WG	17	lb/100 gal	LPOS D						
LSD (P=.05)								10.7	0.0	4.4	2.3	4.1
CV								10.27	0.0	3.71	1.91	3.56

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

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Weed Code							ABUTH	SINAR	GLXMA	ANGR	CHEAL	
Crop Code							control	control	injury	control	control	
Rating Data Type							percent	percent	percent	percent	percent	
Rating Unit							14 DA-C	14 DA-C	28 DA-C	28 DA-C	28 DA-C	
Rating Date							Jul/03/2013	Jul/03/2013	Jul/17/2013	Jul/17/2013	Jul/17/2013	
Trt-Eval Interval							14 DA-C	14 DA-C	28 DA-C	28 DA-C	28 DA-C	
# Subsamples, Dec.							0	0	0	0	0	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Touchdown Total	4.17	SL	24	fl oz/a	EPOS B		98	99	0	28	78
	AMS		WG	17	lb/100 gal	EPOS B						
2	Touchdown Total	4.17	SL	24	fl oz/a	EPOS B		99	99	0	94	97
	AMS		WG	17	lb/100 gal	EPOS B						
	Touchdown Total	4.17	SL	24	fl oz/a	LPOS D						
	AMS		WG	17	lb/100 gal	LPOS D						
3	Boundary	6.5	L	1.5	pt/a	PRE A		99	99	0	98	97
	Touchdown Total	4.17	SL	24	fl oz/a	POST C						
	AMS		WG	17	lb/100 gal	POST C						
4	Untreated							0	0	0	0	0
5	Boundary	6.5	L	1.5	pt/a	PRE A		99	99	0	99	99
	Flexstar GT	3.5	L	3.5	pt/a	POST C						
	MSO		L	1	% v/v	POST C						
	AMS		WG	17	lb/100 gal	POST C						
6	Prefix	5.29	L	2	pt/a	PRE A		96	99	0	98	99
	Touchdown Total	4.17	SL	24	fl oz/a	POST C						
	AMS		WG	17	lb/100 gal	POST C						
7	Prefix	5.29	L	2	pt/a	PRE A		75	99	0	99	99
	Touchdown Total	4.17	SL	24	fl oz/a	LPOS D						
	AMS		WG	17	lb/100 gal	LPOS D						
8	Touchdown Total	4.17	SL	24	fl oz/a	LPOS D		65	71	0	98	88
	AMS		WG	17	lb/100 gal	LPOS D						
LSD (P=.05)								9.2	11.1	0.0	3.2	9.6
CV								7.94	9.06	0.0	2.81	7.95

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

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Weed Code							AMBEL	ABUTH	SINAR	GLXMA	GLXMA	
Crop Code							control	control	control	moisture	yield	
Rating Data Type							percent	percent	percent	percent	bu/acre	
Rating Unit							percent	percent	percent	percent	bu/acre	
Rating Date							Jul/17/2013	Jul/17/2013	Jul/17/2013	Oct/11/2013	Oct/11/2013	
Trt-Eval Interval							28 DA-C	28 DA-C	28 DA-C	114 DA-C	at 13% M	
# Subsamples, Dec.							0	0	0	1	1	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Touchdown Total AMS	4.17	SL	24	fl oz/a	EPOS B	B	74	93	99	10.6	47.3
			WG	17	lb/100 gal	EPOS B	B					
2	Touchdown Total AMS	4.17	SL	24	fl oz/a	EPOS B	B	97	96	99	10.6	55.4
			WG	17	lb/100 gal	EPOS B	B					
	Touchdown Total AMS	4.17	SL	24	fl oz/a	LPOS D	D					
			WG	17	lb/100 gal	LPOS D	D					
3	Boundary	6.5	L	1.5	pt/a	PRE A	A	95	95	99	10.6	48.0
	Touchdown Total AMS	4.17	SL	24	fl oz/a	POST C	C					
			WG	17	lb/100 gal	POST C	C					
4	Untreated							0	0	0	10.7	26.5
5	Boundary	6.5	L	1.5	pt/a	PRE A	A	99	98	99	10.5	51.0
	Flexstar GT MSO	3.5	L	3.5	pt/a	POST C	C					
			L	1	% v/v	POST C	C					
			WG	17	lb/100 gal	POST C	C					
6	Prefix	5.29	L	2	pt/a	PRE A	A	97	93	99	10.7	58.1
	Touchdown Total AMS	4.17	SL	24	fl oz/a	POST C	C					
			WG	17	lb/100 gal	POST C	C					
7	Prefix	5.29	L	2	pt/a	PRE A	A	99	96	99	10.5	53.2
	Touchdown Total AMS	4.17	SL	24	fl oz/a	LPOS D	D					
			WG	17	lb/100 gal	LPOS D	D					
8	Touchdown Total AMS	4.17	SL	24	fl oz/a	LPOS D	D	99	98	99	10.6	48.3
			WG	17	lb/100 gal	LPOS D	D					
LSD (P=.05)								8.2	4.5	0.0	0.26	6.64
CV								6.75	3.67	0.0	1.64	9.31

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