

MSU Weed Science Research Program

**Weed control in non-GMO soybean**

Trial ID: SOY20-22 Study Dir.: Sprague, Stiles, Powell  
 Conducted: Campus, T-12 Investigator:

**Planting Date:** May-17-2022 **Row Spacing:** 30 IN  
**Variety:** ZFS 2221 **No. of Reps:** 4  
**Population:** 150000 seeds/A **% OM:** 3.3  
**Soil Type:** CL clay loam **pH:** 6.3  
**Plot Size:** 10 X 35 FT **Study Design:** Randomized Complete Block (RCB)

**Tillage/Previous Crops:** Fall chisel plow; Spring soil finish twice.  
**Fertilizer:**

**Crop and Weed Description**

Weed	Code	Common Name	Scientific Name
1	ANGR	annual grass	mainly foxtail species and barnyardgrass
2	CHEAL	common lambsquarters	Chenopodium album
3	AMAPO	Powell amaranth	Amaranthus powellii
4	AMBEL	common ragweed	Ambrosia artemisiifolia
5	ABUTH	velvetleaf	Abutilon theophrasti
6	SINAR	wild mustard	Sinapis arvensis
Crop	Code	Common Name	
1	GLXMA	Soybean	

**Application Description**

	A	B	C
<b>Application Timing:</b>	PRE	POST	LPOS
<b>Date Treated:</b>	May-17-2022	Jun-21-2022	Jun-28-2022
<b>Time Treated:</b>	7:00 PM	8:25 AM	9:10 AM
<b>% Cloud Cover:</b>	30	0	0
<b>Air Temp., Unit:</b>	67 F	80 F	82 F
<b>% Relative Humidity:</b>	38	50	55
<b>Wind Speed/Unit/Dir:</b>	5 MPH N	10 MPH WSW	10 MPH SW
<b>Soil Temp, Unit:</b>	F	79 F	81 F
<b>Leaf Moist/Dew Presence (Y/N):</b>	N	N	N
<b>Soil Moist:</b>	5	5	5

**Crop Stage at Each Application**

	A	B	C
<b>Crop 1 Name:</b>	GLXMA	GLXMA	GLXMA
<b>Height:</b>		9-10 " (9)	12 "
<b>Stage:</b>		V4	V4

**Weed Stage at Each Application**

	A	B	C
<b>Weed 1 Name:</b>	ANGR	ANGR	ANGR
<b>Height:</b>		2-5 " (4)	5-10 " (6)
<b>Stage:</b>		3L-6L (4 L)	3L-8L (5 L)
<b>Weed 2 Name:</b>	CHEAL	CHEAL	CHEAL
<b>Height:</b>		1-3 " (2)	
<b>Stage:</b>		4L-10L (6)	
<b>Weed 3 Name:</b>	AMAPO	AMAPO	AMAPO
<b>Height:</b>			
<b>Stage:</b>			
<b>Weed 4 Name:</b>	AMBEL	AMBEL	AMBEL
<b>Height:</b>		2-4 " (3)	3-11 " (5)
<b>Stage:</b>		4L-8L (6)	6L-14L (8)
<b>Weed 5 Name:</b>	ABUTH	ABUTH	ABUTH
<b>Height:</b>		4 "	3 "
<b>Stage:</b>		4L	4L
<b>Weed 6 Name:</b>	SINAR	SINAR	SINAR
<b>Height:</b>			
<b>Stage:</b>			

**Weed Density**

	1	2	3	4	5	6
<b>Date:</b>	Jun-28-2022	Jun-28-2022	Jun-28-2022	Jun-28-2022	Jun-28-2022	Jun-28-2022
<b>Weed Name:</b>	ANGR	CHEAL	AMAPO	AMBEL	ABUTH	SINAR
<b>Density:</b>	4 FT2	1 FT2	1 FT2	3 FT2	1 FT2	1 FT2

**Application Equipment**

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 Conducted: Campus, T-12      Investigator:

Appl	Sprayer Type	Ground Speed	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	Spray Volume	Carrier	Operation Pressure
A	CUB	3.8 MPH	AIXR	11003	18.0 "	20.0 "	100.0 "	19 GAL/AC	WATER	30 PSI
B	CUB	3.8 MPH	AIXR	11003	26.0 "	20.0 "	100.0 "	19 GAL/AC	WATER	30 PSI
C	CUB	3.8 MPH	AIXR	11003	26.0 "	20.0 "	100.0 "	19 GAL/AC	WATER	30 PSI

**Comments:** Common ragweed at this location is resistant to the Group 2 (ALS-inhibiting) herbicides.

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 Project ID: Project ID 2: Project ID 3:  
 Study Director: Sprague, Stiles, Powell Sponsor Contact:  
 Investigator (Creator): Christy Sprague

Pest Code	ANGR	CHEAL	AMAPO	AMBEL	ABUTH	SINAR
Crop Type, Code	C, GLXMA					
Rating Date	Jun-7-2022	Jun-7-2022	Jun-7-2022	Jun-7-2022	Jun-7-2022	Jun-7-2022
Rating Type	injury	control	control	control	control	control
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100
Trt-Eval Interval	21 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code							
1	Boundary	2.4	pt/a	PRE	A	3	100	100	100	96	100	100
	Flexstar	1	pt/a	LPOS	C							
	Crop oil concentrate	1	% v/v	LPOS	C							
	AMS	2.5	lb/a	LPOS	C							
2	BroadAxe XC	32	fl oz/a	PRE	A	5	100	100	100	89	100	100
	Cobra	10	fl oz/a	POST	B							
	Crop oil concentrate	0.5	% v/v	POST	B							
	AMS	2.5	lb/a	POST	B							
3	Sonic	6	oz/a	PRE	A	3	100	100	100	99	100	100
	Boundary	1.5	pt/a	PRE	A							
	SelectMax	9	fl oz/a	LPOS	C							
	Surfactant	0.25	% v/v	LPOS	C							
	AMS	2.5	lb/a	LPOS	C							
4	Surveil	3.5	oz/a	PRE	A	5	94	100	100	100	100	100
	Metribuzin	6	oz/a	PRE	A							
	SelectMax	9	fl oz/a	POST	B							
	Surfactant	0.25	% v/v	POST	B							
	AMS	2.5	lb/a	POST	B							
5	Untreated					0	0	0	0	0	0	0
6	Dimetric Charged	12	fl oz/a	PRE	A	3	94	100	100	100	93	100
	Flexstar	1	pt/a	POST	B							
	Harmony SG	0.125	oz/a	POST	B							
	SelectMax	12	fl oz/a	POST	B							
	Surfactant	0.25	% v/v	POST	B							
	AMS	2.5	lb/a	POST	B							
7	Valor EZ	2.5	fl oz/a	PRE	A	10	99	99	100	99	100	100
	Prowl H2O	2	pt/a	PRE	A							
	Flexstar	1	pt/a	POST	B							
	SelectMax	12	fl oz/a	POST	B							
	Crop oil concentrate	1	% v/v	POST	B							
	AMS	2.5	lb/a	POST	B							
8	Fierce EZ	7.5	fl oz/a	PRE	A	4	100	100	100	93	100	100
	Cobra	10	fl oz/a	POST	B							
	Crop oil concentrate	0.5	% v/v	POST	B							
	AMS	2.5	lb/a	POST	B							
9	Fierce MTZ	16	fl oz/a	PRE	A	9	100	100	100	99	100	100
10	Fierce XLT	4	oz/a	PRE	A	8	96	100	100	98	97	100
	Cobra	10	fl oz/a	POST	B							
	SelectMax	12	fl oz/a	POST	B							
	Crop oil concentrate	0.5	% v/v	POST	B							
	AMS	2.5	lb/a	POST	B							
11	Tendovo	2.35	qt/a	PRE	A	9	100	100	100	100	100	100
12	Authority MTZ	16	oz/a	PRE	A	3	97	100	100	91	100	100
	Flexstar	1	pt/a	POST	B							
	Fusilade DX	12	fl oz/a	POST	B							
	Crop oil concentrate	1	% v/v	POST	B							
13	Authority Edge	9	fl oz/a	PRE	A	6	100	100	100	91	100	100
	Flexstar	1	pt/a	POST	B							
	Crop oil concentrate	1	% v/v	POST	B							
	AMS	2.5	lb/a	POST	B							

Missing data estimates are included in columns: Average=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37  
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Pest Code				ANGR	CHEAL	AMAPO	AMBEL	ABUTH	SINAR			
Crop Type, Code	C, GLXMA											
Rating Date	Jun-7-2022	Jun-7-2022	Jun-7-2022	Jun-7-2022	Jun-7-2022	Jun-7-2022	Jun-7-2022	Jun-7-2022	Jun-7-2022			
Rating Type	injury	control	control	control	control	control	control	control	control			
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100			
Trt-Eval Interval	21 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A			
Number of Decimals	0	0	0	0	0	0	0	0	0			
Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code							
14	Authority Edge	7 fl oz/a		PRE	A	3	100	100	100	99	100	100
	Metribuzin	6 oz/a		PRE	A							
	Marvel	7.25 fl oz/a		POST	B							
	Crop oil concentrate	1 % v/v		POST	B							
	AMS	2.5 lb/a		POST	B							
15	Zidua PRO	6 fl oz/a		PRE	A	6	100	100	100	99	100	100
16	Zidua PRO	6 fl oz/a		PRE	A	5	100	100	100	100	100	100
	Metribuzin	6 oz/a		PRE	A							
17	Valor XLT	2.5 oz/a		PRE	A	5	97	100	100	100	100	100
	Valor EZ	1.5 fl oz/a		PRE	A							
	Metribuzin	8 oz/a		PRE	A							
	Assure II	7 fl oz/a		POST	B							
	Crop oil concentrate	1 % v/v		POST	B							
	AMS	2.5 lb/a		POST	B							
18	Prefix	2 pt/a		PRE	A	5	100	100	100	100	100	100
	Metribuzin	6 oz/a		PRE	A							
	Perpetuo	6 fl oz/a		LPOS	C							
	Crop oil concentrate	1 % v/v		LPOS	C							
	AMS	2.5 lb/a		LPOS	C							
19	Warrant Ultra	50 fl oz/a		PRE	A	2	100	100	100	100	100	100
	Metribuzin	6 oz/a		PRE	A							
	Marvel	7.25 fl oz/a		LPOS	C							
	Crop oil concentrate	1 % v/v		LPOS	C							
	AMS	2.5 lb/a		LPOS	C							
20	Matador-S	3 pt/a		PRE	A	4	100	100	100	95	100	100
	Flexstar	1 pt/a		LPOS	C							
	Crop oil concentrate	1 % v/v		LPOS	C							
	AMS	2.5 lb/a		LPOS	C							
21	Up-Stage	21 fl oz/a		PRE	A	2	100	100	100	100	100	100
	Preview 2.1	25 fl oz/a		PRE	A							
22	Preview 2.1	25 fl oz/a		PRE	A	2	98	100	100	98	100	100
	Ultra Blazer	24 fl oz/a		POST	B							
	Crop oil concentrate	2 pt/a		POST	B							
	Shadow	8 fl oz/a		LPOS	C							
	Crop oil concentrate	2 pt/a		LPOS	C							
23	Up-Stage	21 fl oz/a		PRE	A	3	100	100	100	100	100	100
	Moccasin MTZ	42 fl oz/a		PRE	A							
	LSD P=.05					4.5	4.0	0.4	.	8.6	3.2	.
	Standard Deviation					3.2	2.9	0.3	0.0	6.1	2.3	0.0
	CV					71.71	3.02	0.33	0.0	6.51	2.37	0.0

Missing data estimates are included in columns: Average=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37  
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Crop Type, Code	C, GLXMA					
Rating Date	Jun-21-2022	Jun-21-2022	Jun-21-2022	Jun-21-2022	Jun-21-2022	Jun-21-2022
Rating Type	injury	control	control	control	control	control
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100
Trt-Eval Interval	35 DA-A	35 DA-A	35 DA-A	35 DA-A	35 DA-A	35 DA-A
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code						
1	Boundary	2.4	pt/a	PRE	A	3	98	100	100	93	97
	Flexstar	1	pt/a	LPOS	C						
	Crop oil concentrate	1	% v/v	LPOS	C						
	AMS	2.5	lb/a	LPOS	C						
2	BroadAxe XC	32	fl oz/a	PRE	A	4	100	100	100	77	99
	Cobra	10	fl oz/a	POST	B						
	Crop oil concentrate	0.5	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
3	Sonic	6	oz/a	PRE	A	3	99	100	100	98	100
	Boundary	1.5	pt/a	PRE	A						
	SelectMax	9	fl oz/a	LPOS	C						
	Surfactant	0.25	% v/v	LPOS	C						
	AMS	2.5	lb/a	LPOS	C						
4	Surveil	3.5	oz/a	PRE	A	9	84	100	100	98	100
	Metribuzin	6	oz/a	PRE	A						
	SelectMax	9	fl oz/a	POST	B						
	Surfactant	0.25	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
5	Untreated					0	0	0	0	0	0
6	Dimetric Charged	12	fl oz/a	PRE	A	7	86	96	100	95	95
	Flexstar	1	pt/a	POST	B						
	Harmony SG	0.125	oz/a	POST	B						
	SelectMax	12	fl oz/a	POST	B						
	Surfactant	0.25	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
7	Valor EZ	2.5	fl oz/a	PRE	A	8	95	98	100	90	100
	Prowl H2O	2	pt/a	PRE	A						
	Flexstar	1	pt/a	POST	B						
	SelectMax	12	fl oz/a	POST	B						
	Crop oil concentrate	1	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
8	Fierce EZ	7.5	fl oz/a	PRE	A	6	95	99	100	87	97
	Cobra	10	fl oz/a	POST	B						
	Crop oil concentrate	0.5	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
9	Fierce MTZ	16	fl oz/a	PRE	A	11	99	100	100	97	99
10	Fierce XLT	4	oz/a	PRE	A	6	89	100	100	89	100
	Cobra	10	fl oz/a	POST	B						
	SelectMax	12	fl oz/a	POST	B						
	Crop oil concentrate	0.5	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
11	Tendovo	2.35	qt/a	PRE	A	3	100	100	100	98	100
12	Authority MTZ	16	oz/a	PRE	A	3	78	100	100	82	99
	Flexstar	1	pt/a	POST	B						
	Fusilade DX	12	fl oz/a	POST	B						
	Crop oil concentrate	1	% v/v	POST	B						
13	Authority Edge	9	fl oz/a	PRE	A	2	100	100	100	84	100
	Flexstar	1	pt/a	POST	B						
	Crop oil concentrate	1	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						

Missing data estimates are included in columns: Average=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37  
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Investigator (Creator): Christy Sprague

Pest Code		ANGR	CHEAL	AMAPO	AMBEL	ABUTH
Crop Type, Code	C, GLXMA					
Rating Date	Jun-21-2022	Jun-21-2022	Jun-21-2022	Jun-21-2022	Jun-21-2022	Jun-21-2022
Rating Type	injury	control	control	control	control	control
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100
Trt-Eval Interval	35 DA-A	35 DA-A	35 DA-A	35 DA-A	35 DA-A	35 DA-A
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code						
14	Authority Edge	7 fl oz/a		PRE	A	1	96	100	100	86	95
	Metribuzin	6 oz/a		PRE	A						
	Marvel	7.25 fl oz/a		POST	B						
	Crop oil concentrate	1 % v/v		POST	B						
	AMS	2.5 lb/a		POST	B						
15	Zidua PRO	6 fl oz/a		PRE	A	7	94	100	100	99	100
16	Zidua PRO	6 fl oz/a		PRE	A	7	100	100	100	100	100
	Metribuzin	6 oz/a		PRE	A						
17	Valor XLT	2.5 oz/a		PRE	A	15	90	100	100	98	100
	Valor EZ	1.5 fl oz/a		PRE	A						
	Metribuzin	8 oz/a		PRE	A						
	Assure II	7 fl oz/a		POST	B						
	Crop oil concentrate	1 % v/v		POST	B						
	AMS	2.5 lb/a		POST	B						
18	Prefix	2 pt/a		PRE	A	4	99	100	100	100	95
	Metribuzin	6 oz/a		PRE	A						
	Perpetuo	6 fl oz/a		LPOS	C						
	Crop oil concentrate	1 % v/v		LPOS	C						
	AMS	2.5 lb/a		LPOS	C						
19	Warrant Ultra	50 fl oz/a		PRE	A	1	98	100	100	96	92
	Metribuzin	6 oz/a		PRE	A						
	Marvel	7.25 fl oz/a		LPOS	C						
	Crop oil concentrate	1 % v/v		LPOS	C						
	AMS	2.5 lb/a		LPOS	C						
20	Matador-S	3 pt/a		PRE	A	3	96	100	100	94	100
	Flexstar	1 pt/a		LPOS	C						
	Crop oil concentrate	1 % v/v		LPOS	C						
	AMS	2.5 lb/a		LPOS	C						
21	Up-Stage	21 fl oz/a		PRE	A	1	100	100	100	100	100
	Preview 2.1	25 fl oz/a		PRE	A						
22	Preview 2.1	25 fl oz/a		PRE	A	0	89	100	100	95	100
	Ultra Blazer	24 fl oz/a		POST	B						
	Crop oil concentrate	2 pt/a		POST	B						
	Shadow	8 fl oz/a		LPOS	C						
	Crop oil concentrate	2 pt/a		LPOS	C						
23	Up-Stage	21 fl oz/a		PRE	A	3	100	100	100	100	100
	Moccasin MTZ	42 fl oz/a		PRE	A						
	LSD P=.05					3.4	8.9	2.0	.	11.0	5.4
	Standard Deviation					2.4	6.3	1.5	0.0	7.8	3.8
	CV					53.33	6.94	1.52	0.0	8.72	4.05

Missing data estimates are included in columns: Average=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37  
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Investigator (Creator): Christy Sprague

Pest Code	SINAR	C, GLXMA	ANGR	CHEAL	AMAPO	AMBEL
Crop Type, Code						
Rating Date	Jun-21-2022	Jun-28-2022	Jun-28-2022	Jun-28-2022	Jun-28-2022	Jun-28-2022
Rating Type	control	injury	control	control	control	control
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100
Trt-Eval Interval	35 DA-A	7 DA-B	7 DA-B	7 DA-B	7 DA-B	7 DA-B
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code						
1	Boundary	2.4	pt/a	PRE	A	100	0	100	100	100	90
	Flexstar	1	pt/a	LPOS	C						
	Crop oil concentrate	1	% v/v	LPOS	C						
	AMS	2.5	lb/a	LPOS	C						
2	BroadAxe XC	32	fl oz/a	PRE	A	100	21	99	100	100	93
	Cobra	10	fl oz/a	POST	B						
	Crop oil concentrate	0.5	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
3	Sonic	6	oz/a	PRE	A	100	0	95	100	100	100
	Boundary	1.5	pt/a	PRE	A						
	SelectMax	9	fl oz/a	LPOS	C						
	Surfactant	0.25	% v/v	LPOS	C						
	AMS	2.5	lb/a	LPOS	C						
4	Surveil	3.5	oz/a	PRE	A	100	2	92	100	100	97
	Metribuzin	6	oz/a	PRE	A						
	SelectMax	9	fl oz/a	POST	B						
	Surfactant	0.25	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
5	Untreated					0	0	0	0	0	0
6	Dimetric Charged	12	fl oz/a	PRE	A	100	27	96	99	100	100
	Flexstar	1	pt/a	POST	B						
	Harmony SG	0.125	oz/a	POST	B						
	SelectMax	12	fl oz/a	POST	B						
	Surfactant	0.25	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
7	Valor EZ	2.5	fl oz/a	PRE	A	100	16	99	97	100	100
	Prowl H2O	2	pt/a	PRE	A						
	Flexstar	1	pt/a	POST	B						
	SelectMax	12	fl oz/a	POST	B						
	Crop oil concentrate	1	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
8	Fierce EZ	7.5	fl oz/a	PRE	A	100	20	96	99	100	98
	Cobra	10	fl oz/a	POST	B						
	Crop oil concentrate	0.5	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
9	Fierce MTZ	16	fl oz/a	PRE	A	100	2	99	100	100	99
10	Fierce XLT	4	oz/a	PRE	A	100	18	97	100	100	98
	Cobra	10	fl oz/a	POST	B						
	SelectMax	12	fl oz/a	POST	B						
	Crop oil concentrate	0.5	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
11	Tendovo	2.35	qt/a	PRE	A	100	0	100	100	100	99
12	Authority MTZ	16	oz/a	PRE	A	100	16	97	100	100	99
	Flexstar	1	pt/a	POST	B						
	Fusilade DX	12	fl oz/a	POST	B						
	Crop oil concentrate	1	% v/v	POST	B						
13	Authority Edge	9	fl oz/a	PRE	A	100	12	99	100	100	100
	Flexstar	1	pt/a	POST	B						
	Crop oil concentrate	1	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						

Missing data estimates are included in columns: Average=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37  
 Could not calculate LSD (% mean diff) for columns 4,7,11,14,18,21,28,29,32,35 because error mean square = 0.

Michigan State University

Weed control in non-GMO soybean

Trial ID: SOY20-22

Protocol ID: SOY20-22 Location: Campus, T-12 Trial Year: 2022

Project ID: Project ID 2: Project ID 3:

Study Director: Sprague, Stiles, Powell Sponsor Contact:

Investigator (Creator): Christy Sprague

Pest Code	SINAR	ANGR	CHEAL	AMAPO	AMBEL
Crop Type, Code	C, GLXMA				
Rating Date	Jun-21-2022	Jun-28-2022	Jun-28-2022	Jun-28-2022	Jun-28-2022
Rating Type	control	injury	control	control	control
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100
Trt-Eval Interval	35 DA-A	7 DA-B	7 DA-B	7 DA-B	7 DA-B
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code						
14	Authority Edge	7 fl oz/a		PRE	A	100	18	95	100	100	99
	Metribuzin	6 oz/a		PRE	A						
	Marvel	7.25 fl oz/a		POST	B						
	Crop oil concentrate	1 % v/v		POST	B						
	AMS	2.5 lb/a		POST	B						
15	Zidua PRO	6 fl oz/a		PRE	A	100	1	93	100	100	99
16	Zidua PRO	6 fl oz/a		PRE	A	100	3	100	100	100	100
	Metribuzin	6 oz/a		PRE	A						
17	Valor XLT	2.5 oz/a		PRE	A	100	12	88	100	100	96
	Valor EZ	1.5 fl oz/a		PRE	A						
	Metribuzin	8 oz/a		PRE	A						
	Assure II	7 fl oz/a		POST	B						
	Crop oil concentrate	1 % v/v		POST	B						
	AMS	2.5 lb/a		POST	B						
18	Prefix	2 pt/a		PRE	A	100	0	98	100	100	99
	Metribuzin	6 oz/a		PRE	A						
	Perpetuo	6 fl oz/a		LPOS	C						
	Crop oil concentrate	1 % v/v		LPOS	C						
	AMS	2.5 lb/a		LPOS	C						
19	Warrant Ultra	50 fl oz/a		PRE	A	100	0	98	100	100	94
	Metribuzin	6 oz/a		PRE	A						
	Marvel	7.25 fl oz/a		LPOS	C						
	Crop oil concentrate	1 % v/v		LPOS	C						
	AMS	2.5 lb/a		LPOS	C						
20	Matador-S	3 pt/a		PRE	A	100	0	100	100	100	93
	Flexstar	1 pt/a		LPOS	C						
	Crop oil concentrate	1 % v/v		LPOS	C						
	AMS	2.5 lb/a		LPOS	C						
21	Up-Stage	21 fl oz/a		PRE	A	100	0	100	100	100	100
	Preview 2.1	25 fl oz/a		PRE	A						
22	Preview 2.1	25 fl oz/a		PRE	A	100	20	97	100	100	99
	Ultra Blazer	24 fl oz/a		POST	B						
	Crop oil concentrate	2 pt/a		POST	B						
	Shadow	8 fl oz/a		LPOS	C						
	Crop oil concentrate	2 pt/a		LPOS	C						
23	Up-Stage	21 fl oz/a		PRE	A	100	0	100	100	100	99
	Moccasin MTZ	42 fl oz/a		PRE	A						
	LSD P=.05	.					3.4	5.8	1.1	.	6.0
	Standard Deviation	0.0					2.4	4.1	0.8	0.0	4.3
	CV	0.0					29.3	4.45	0.82	0.0	4.55

Missing data estimates are included in columns: Average=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37  
 Could not calculate LSD (% mean diff) for columns 4,7,11,14,18,21,28,29,32,35 because error mean square = 0.



Michigan State University

Weed control in non-GMO soybean

Trial ID: SOY20-22

Protocol ID: SOY20-22 Location: Campus, T-12 Trial Year: 2022

Project ID: Project ID 2: Project ID 3:

Study Director: Sprague, Stiles, Powell Sponsor Contact:

Investigator (Creator): Christy Sprague

Pest Code	ABUTH	SINAR	C, GLXMA	ANGR	CHEAL	AMAPO	AMBEL
Crop Type, Code							
Rating Date	Jun-28-2022	Jun-28-2022	Jul-5-2022	Jul-5-2022	Jul-5-2022	Jul-5-2022	Jul-5-2022
Rating Type	control	control	injury	control	control	control	control
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100
Trt-Eval Interval	7 DA-B	7 DA-B	7 DA-C	7 DA-C	7 DA-C	7 DA-C	7 DA-C
Number of Decimals	0	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code						
1	Boundary	2.4	pt/a	PRE	A	99	100	9	100	100	100
	Flexstar	1	pt/a	LPOS	C						
	Crop oil concentrate	1	% v/v	LPOS	C						
	AMS	2.5	lb/a	LPOS	C						
2	BroadAxe XC	32	fl oz/a	PRE	A	100	100	7	96	100	96
	Cobra	10	fl oz/a	POST	B						
	Crop oil concentrate	0.5	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
3	Sonic	6	oz/a	PRE	A	100	100	0	99	100	98
	Boundary	1.5	pt/a	PRE	A						
	SelectMax	9	fl oz/a	LPOS	C						
	Surfactant	0.25	% v/v	LPOS	C						
	AMS	2.5	lb/a	LPOS	C						
4	Surveil	3.5	oz/a	PRE	A	100	100	1	99	100	98
	Metribuzin	6	oz/a	PRE	A						
	SelectMax	9	fl oz/a	POST	B						
	Surfactant	0.25	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
5	Untreated					0	0	0	0	0	0
6	Dimetric Charged	12	fl oz/a	PRE	A	98	100	20	100	100	100
	Flexstar	1	pt/a	POST	B						
	Harmony SG	0.125	oz/a	POST	B						
	SelectMax	12	fl oz/a	POST	B						
	Surfactant	0.25	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
7	Valor EZ	2.5	fl oz/a	PRE	A	100	100	2	100	98	100
	Prowl H2O	2	pt/a	PRE	A						
	Flexstar	1	pt/a	POST	B						
	SelectMax	12	fl oz/a	POST	B						
	Crop oil concentrate	1	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
8	Fierce EZ	7.5	fl oz/a	PRE	A	99	100	7	92	100	99
	Cobra	10	fl oz/a	POST	B						
	Crop oil concentrate	0.5	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
9	Fierce MTZ	16	fl oz/a	PRE	A	99	100	0	98	100	97
10	Fierce XLT	4	oz/a	PRE	A	100	100	9	99	100	100
	Cobra	10	fl oz/a	POST	B						
	SelectMax	12	fl oz/a	POST	B						
	Crop oil concentrate	0.5	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						
11	Tendovo	2.35	qt/a	PRE	A	99	100	0	99	100	99
12	Authority MTZ	16	oz/a	PRE	A	100	100	4	98	100	98
	Flexstar	1	pt/a	POST	B						
	Fusilade DX	12	fl oz/a	POST	B						
	Crop oil concentrate	1	% v/v	POST	B						
13	Authority Edge	9	fl oz/a	PRE	A	100	100	3	98	100	99
	Flexstar	1	pt/a	POST	B						
	Crop oil concentrate	1	% v/v	POST	B						
	AMS	2.5	lb/a	POST	B						

Missing data estimates are included in columns: Average=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37  
 Could not calculate LSD (% mean diff) for columns 4,7,11,14,18,21,28,29,32,35 because error mean square = 0.

Michigan State University

Weed control in non-GMO soybean

Trial ID: SOY20-22

Protocol ID: SOY20-22 Location: Campus, T-12 Trial Year: 2022

Project ID: Project ID 2: Project ID 3:

Study Director: Sprague, Stiles, Powell Sponsor Contact:

Investigator (Creator): Christy Sprague

Pest Code		ABUTH	SINAR	C, GLXMA	ANGR	CHEAL	AMAPO	AMBEL				
Crop Type, Code		Jun-28-2022	Jun-28-2022	Jul-5-2022	Jul-5-2022	Jul-5-2022	Jul-5-2022	Jul-5-2022				
Rating Date		control	control	injury	control	control	control	control				
Rating Type		%	%	%	%	%	%	%				
Rating Unit/Min/Max		0, 100	0, 100	0, 100	0, 100	0, 100	0, 100	0, 100				
Trt-Eval Interval		7 DA-B	7 DA-B	7 DA-C	7 DA-C	7 DA-C	7 DA-C	7 DA-C				
Number of Decimals		0	0	0	0	0	0	0				
Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code							
14	Authority Edge	7 fl oz/a		PRE	A	100	100	5	98	100	100	99
	Metribuzin	6 oz/a		PRE	A							
	Marvel	7.25 fl oz/a		POST	B							
	Crop oil concentrate	1 % v/v		POST	B							
	AMS	2.5 lb/a		POST	B							
15	Zidua PRO	6 fl oz/a		PRE	A	100	100	0	95	100	100	98
16	Zidua PRO	6 fl oz/a		PRE	A	100	100	0	100	100	100	100
	Metribuzin	6 oz/a		PRE	A							
17	Valor XLT	2.5 oz/a		PRE	A	99	100	2	89	100	100	97
	Valor EZ	1.5 fl oz/a		PRE	A							
	Metribuzin	8 oz/a		PRE	A							
	Assure II	7 fl oz/a		POST	B							
	Crop oil concentrate	1 % v/v		POST	B							
	AMS	2.5 lb/a		POST	B							
18	Prefix	2 pt/a		PRE	A	91	100	12	97	100	100	99
	Metribuzin	6 oz/a		PRE	A							
	Perpetuo	6 fl oz/a		LPOS	C							
	Crop oil concentrate	1 % v/v		LPOS	C							
	AMS	2.5 lb/a		LPOS	C							
19	Warrant Ultra	50 fl oz/a		PRE	A	89	100	10	98	100	100	100
	Metribuzin	6 oz/a		PRE	A							
	Marvel	7.25 fl oz/a		LPOS	C							
	Crop oil concentrate	1 % v/v		LPOS	C							
	AMS	2.5 lb/a		LPOS	C							
20	Matador-S	3 pt/a		PRE	A	100	100	12	100	100	100	100
	Flexstar	1 pt/a		LPOS	C							
	Crop oil concentrate	1 % v/v		LPOS	C							
	AMS	2.5 lb/a		LPOS	C							
21	Up-Stage	21 fl oz/a		PRE	A	100	100	0	99	100	100	100
	Preview 2.1	25 fl oz/a		PRE	A							
22	Preview 2.1	25 fl oz/a		PRE	A	100	100	6	100	100	100	100
	Ultra Blazer	24 fl oz/a		POST	B							
	Crop oil concentrate	2 pt/a		POST	B							
	Shadow	8 fl oz/a		LPOS	C							
	Crop oil concentrate	2 pt/a		LPOS	C							
23	Up-Stage	21 fl oz/a		PRE	A	100	100	0	99	100	100	100
	Moccasin MTZ	42 fl oz/a		PRE	A							
	LSD P=.05					4.4	.	2.2	4.3	0.7	0.3	3.7
	Standard Deviation					3.1	0.0	1.6	3.0	0.5	0.2	2.6
	CV					3.33	0.0	34.16	3.23	0.54	0.22	2.77

Missing data estimates are included in columns: Average=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37  
 Could not calculate LSD (% mean diff) for columns 4,7,11,14,18,21,28,29,32,35 because error mean square = 0.

Michigan State University

Weed control in non-GMO soybean

Trial ID: SOY20-22  
 Protocol ID: SOY20-22 Location: Campus, T-12 Trial Year: 2022  
 Project ID: Project ID 2: Project ID 3:  
 Study Director: Sprague, Stiles, Powell Sponsor Contact:  
 Investigator (Creator): Christy Sprague

Pest Code	ABUTH	SINAR	C, GLXMA	ANGR	CHEAL	AMAPO	AMBEL
Crop Type, Code							
Rating Date	Jul-5-2022	Jul-5-2022	Jul-26-2022	Jul-26-2022	Jul-26-2022	Jul-26-2022	Jul-26-2022
Rating Type	control	control	injury	control	control	control	control
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100
Trt-Eval Interval	7 DA-C	7 DA-C	28 DA-C	28 DA-C	28 DA-C	28 DA-C	28 DA-C
Number of Decimals	0	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code							
1	Boundary	2.4	pt/a	PRE	A	99	100	0	99	100	100	100
	Flexstar	1	pt/a	LPOS	C							
	Crop oil concentrate	1	% v/v	LPOS	C							
	AMS	2.5	lb/a	LPOS	C							
2	BroadAxe XC	32	fl oz/a	PRE	A	100	100	0	94	100	100	94
	Cobra	10	fl oz/a	POST	B							
	Crop oil concentrate	0.5	% v/v	POST	B							
	AMS	2.5	lb/a	POST	B							
3	Sonic	6	oz/a	PRE	A	100	100	0	100	100	100	91
	Boundary	1.5	pt/a	PRE	A							
	SelectMax	9	fl oz/a	LPOS	C							
	Surfactant	0.25	% v/v	LPOS	C							
	AMS	2.5	lb/a	LPOS	C							
4	Surveil	3.5	oz/a	PRE	A	100	100	0	99	100	100	95
	Metribuzin	6	oz/a	PRE	A							
	SelectMax	9	fl oz/a	POST	B							
	Surfactant	0.25	% v/v	POST	B							
	AMS	2.5	lb/a	POST	B							
5	Untreated					0	0	0	0	0	0	0
6	Dimetric Charged	12	fl oz/a	PRE	A	93	100	0	99	100	100	100
	Flexstar	1	pt/a	POST	B							
	Harmony SG	0.125	oz/a	POST	B							
	SelectMax	12	fl oz/a	POST	B							
	Surfactant	0.25	% v/v	POST	B							
	AMS	2.5	lb/a	POST	B							
7	Valor EZ	2.5	fl oz/a	PRE	A	100	100	0	99	95	100	100
	Prowl H2O	2	pt/a	PRE	A							
	Flexstar	1	pt/a	POST	B							
	SelectMax	12	fl oz/a	POST	B							
	Crop oil concentrate	1	% v/v	POST	B							
	AMS	2.5	lb/a	POST	B							
8	Fierce EZ	7.5	fl oz/a	PRE	A	98	100	0	89	96	100	97
	Cobra	10	fl oz/a	POST	B							
	Crop oil concentrate	0.5	% v/v	POST	B							
	AMS	2.5	lb/a	POST	B							
9	Fierce MTZ	16	fl oz/a	PRE	A	100	100	0	97	100	100	94
10	Fierce XLT	4	oz/a	PRE	A	100	100	0	100	100	100	100
	Cobra	10	fl oz/a	POST	B							
	SelectMax	12	fl oz/a	POST	B							
	Crop oil concentrate	0.5	% v/v	POST	B							
	AMS	2.5	lb/a	POST	B							
11	Tendovo	2.35	qt/a	PRE	A	100	100	0	100	100	100	100
12	Authority MTZ	16	oz/a	PRE	A	100	100	0	95	100	100	93
	Flexstar	1	pt/a	POST	B							
	Fusilade DX	12	fl oz/a	POST	B							
	Crop oil concentrate	1	% v/v	POST	B							
13	Authority Edge	9	fl oz/a	PRE	A	100	100	0	95	100	100	100
	Flexstar	1	pt/a	POST	B							
	Crop oil concentrate	1	% v/v	POST	B							
	AMS	2.5	lb/a	POST	B							

Missing data estimates are included in columns: Average=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37  
 Could not calculate LSD (% mean diff) for columns 4,7,11,14,18,21,28,29,32,35 because error mean square = 0.

Michigan State University

Weed control in non-GMO soybean

Trial ID: SOY20-22  
 Protocol ID: SOY20-22 Location: Campus, T-12 Trial Year: 2022  
 Project ID: Project ID 2: Project ID 3:  
 Study Director: Sprague, Stiles, Powell Sponsor Contact:  
 Investigator (Creator): Christy Sprague

Pest Code		ABUTH	SINAR	C, GLXMA	ANGR	CHEAL	AMAPO	AMBEL				
Crop Type, Code												
Rating Date		Jul-5-2022	Jul-5-2022	Jul-26-2022	Jul-26-2022	Jul-26-2022	Jul-26-2022	Jul-26-2022				
Rating Type		control	control	injury	control	control	control	control				
Rating Unit/Min/Max		%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100				
Trt-Eval Interval		7 DA-C	7 DA-C	28 DA-C	28 DA-C	28 DA-C	28 DA-C	28 DA-C				
Number of Decimals		0	0	0	0	0	0	0				
Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code							
14	Authority Edge	7 fl oz/a		PRE	A	100	100	0	99	100	100	99
	Metribuzin	6 oz/a		PRE	A							
	Marvel	7.25 fl oz/a		POST	B							
	Crop oil concentrate	1 % v/v		POST	B							
	AMS	2.5 lb/a		POST	B							
15	Zidua PRO	6 fl oz/a		PRE	A	100	100	0	91	100	100	92
16	Zidua PRO	6 fl oz/a		PRE	A	100	100	0	100	100	100	100
	Metribuzin	6 oz/a		PRE	A							
17	Valor XLT	2.5 oz/a		PRE	A	100	100	0	83	100	100	93
	Valor EZ	1.5 fl oz/a		PRE	A							
	Metribuzin	8 oz/a		PRE	A							
	Assure II	7 fl oz/a		POST	B							
	Crop oil concentrate	1 % v/v		POST	B							
	AMS	2.5 lb/a		POST	B							
18	Prefix	2 pt/a		PRE	A	100	100	0	100	100	100	100
	Metribuzin	6 oz/a		PRE	A							
	Perpetuo	6 fl oz/a		LPOS	C							
	Crop oil concentrate	1 % v/v		LPOS	C							
	AMS	2.5 lb/a		LPOS	C							
19	Warrant Ultra	50 fl oz/a		PRE	A	100	100	0	97	100	100	100
	Metribuzin	6 oz/a		PRE	A							
	Marvel	7.25 fl oz/a		LPOS	C							
	Crop oil concentrate	1 % v/v		LPOS	C							
	AMS	2.5 lb/a		LPOS	C							
20	Matador-S	3 pt/a		PRE	A	100	100	0	100	100	100	100
	Flexstar	1 pt/a		LPOS	C							
	Crop oil concentrate	1 % v/v		LPOS	C							
	AMS	2.5 lb/a		LPOS	C							
21	Up-Stage	21 fl oz/a		PRE	A	100	100	0	100	100	100	100
	Preview 2.1	25 fl oz/a		PRE	A							
22	Preview 2.1	25 fl oz/a		PRE	A	100	100	0	100	100	100	96
	Ultra Blazer	24 fl oz/a		POST	B							
	Crop oil concentrate	2 pt/a		POST	B							
	Shadow	8 fl oz/a		LPOS	C							
	Crop oil concentrate	2 pt/a		LPOS	C							
23	Up-Stage	21 fl oz/a		PRE	A	100	100	0	98	100	100	100
	Moccasin MTZ	42 fl oz/a		PRE	A							
	LSD P=.05					3.2	.	.	6.9	2.9	.	7.7
	Standard Deviation					2.3	0.0	0.0	4.9	2.1	0.0	5.4
	CV					2.41	0.0	0.0	5.25	2.17	0.0	5.83

Missing data estimates are included in columns: Average=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37  
 Could not calculate LSD (% mean diff) for columns 4,7,11,14,18,21,28,29,32,35 because error mean square = 0.

## Weed control in non-GMO soybean

Trial ID: SOY20-22

Protocol ID: SOY20-22 Location: Campus, T-12 Trial Year: 2022

Project ID: Project ID 2: Project ID 3:

Study Director: Sprague, Stiles, Powell Sponsor Contact:

Investigator (Creator): Christy Sprague

Pest Code	ABUTH	SINAR	C, GLXMA	C, GLXMA
Crop Type, Code				
Rating Date	Jul-26-2022	Jul-26-2022	Oct-21-2022	Oct-21-2022
Rating Type	control	control	moisture	yield
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	bu/A, -, -
Trt-Eval Interval	28 DA-C	28 DA-C	115 DA-C	at 13% M
Number of Decimals	0	0	1	1

Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code				
1	Boundary	2.4	pt/a	PRE	A	98	100	16.2	72.6
	Flexstar	1	pt/a	LPOS	C				
	Crop oil concentrate	1	% v/v	LPOS	C				
	AMS	2.5	lb/a	LPOS	C				
2	BroadAxe XC	32	fl oz/a	PRE	A	100	100	16.1	69.1
	Cobra	10	fl oz/a	POST	B				
	Crop oil concentrate	0.5	% v/v	POST	B				
	AMS	2.5	lb/a	POST	B				
3	Sonic	6	oz/a	PRE	A	100	100	15.6	77.6
	Boundary	1.5	pt/a	PRE	A				
	SelectMax	9	fl oz/a	LPOS	C				
	Surfactant	0.25	% v/v	LPOS	C				
	AMS	2.5	lb/a	LPOS	C				
4	Surveil	3.5	oz/a	PRE	A	100	100	16.2	70.4
	Metribuzin	6	oz/a	PRE	A				
	SelectMax	9	fl oz/a	POST	B				
	Surfactant	0.25	% v/v	POST	B				
	AMS	2.5	lb/a	POST	B				
5	Untreated					0	0	18.5	21.2
6	Dimetric Charged	12	fl oz/a	PRE	A	96	100	16.1	70.0
	Flexstar	1	pt/a	POST	B				
	Harmony SG	0.125	oz/a	POST	B				
	SelectMax	12	fl oz/a	POST	B				
	Surfactant	0.25	% v/v	POST	B				
	AMS	2.5	lb/a	POST	B				
7	Valor EZ	2.5	fl oz/a	PRE	A	100	100	16.2	76.1
	Prowl H2O	2	pt/a	PRE	A				
	Flexstar	1	pt/a	POST	B				
	SelectMax	12	fl oz/a	POST	B				
	Crop oil concentrate	1	% v/v	POST	B				
	AMS	2.5	lb/a	POST	B				
8	Fierce EZ	7.5	fl oz/a	PRE	A	100	100	16.0	68.6
	Cobra	10	fl oz/a	POST	B				
	Crop oil concentrate	0.5	% v/v	POST	B				
	AMS	2.5	lb/a	POST	B				
9	Fierce MTZ	16	fl oz/a	PRE	A	96	100	15.8	75.5
10	Fierce XLT	4	oz/a	PRE	A	100	100	15.8	73.2
	Cobra	10	fl oz/a	POST	B				
	SelectMax	12	fl oz/a	POST	B				
	Crop oil concentrate	0.5	% v/v	POST	B				
	AMS	2.5	lb/a	POST	B				
11	Tendovo	2.35	qt/a	PRE	A	100	100	15.8	75.5
12	Authority MTZ	16	oz/a	PRE	A	100	100	16.2	72.1
	Flexstar	1	pt/a	POST	B				
	Fusilade DX	12	fl oz/a	POST	B				
	Crop oil concentrate	1	% v/v	POST	B				
13	Authority Edge	9	fl oz/a	PRE	A	100	100	16.0	72.8
	Flexstar	1	pt/a	POST	B				
	Crop oil concentrate	1	% v/v	POST	B				
	AMS	2.5	lb/a	POST	B				

Missing data estimates are included in columns: Average=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37  
 Could not calculate LSD (% mean diff) for columns 4,7,11,14,18,21,28,29,32,35 because error mean square = 0.

## Michigan State University

Weed control in non-GMO soybean

Trial ID: SOY20-22

Protocol ID: SOY20-22 Location: Campus, T-12 Trial Year: 2022

Project ID: Project ID 2: Project ID 3:

Study Director: Sprague, Stiles, Powell Sponsor Contact:

Investigator (Creator): Christy Sprague

Pest Code			ABUTH	SINAR		C, GLXMA	C, GLXMA
Crop Type, Code			Jul-26-2022	Jul-26-2022	Oct-21-2022	Oct-21-2022	
Rating Date			control	control	moisture	yield	
Rating Type			%	%	%	bu/A, -, -	
Rating Unit/Min/Max			0, 100	0, 100	0, 100		
Trt-Eval Interval			28 DA-C	28 DA-C	115 DA-C	at 13% M	
Number of Decimals			0	0	1	1	
Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code		
14	Authority Edge	7 fl oz/a		PRE	A	100	100
	Metribuzin	6 oz/a		PRE	A		
	Marvel	7.25 fl oz/a		POST	B		
	Crop oil concentrate	1 % v/v		POST	B		
	AMS	2.5 lb/a		POST	B		
15	Zidua PRO	6 fl oz/a		PRE	A	100	100
16	Zidua PRO	6 fl oz/a		PRE	A	97	100
	Metribuzin	6 oz/a		PRE	A		
17	Valor XLT	2.5 oz/a		PRE	A	100	100
	Valor EZ	1.5 fl oz/a		PRE	A		
	Metribuzin	8 oz/a		PRE	A		
	Assure II	7 fl oz/a		POST	B		
	Crop oil concentrate	1 % v/v		POST	B		
	AMS	2.5 lb/a		POST	B		
18	Prefix	2 pt/a		PRE	A	100	100
	Metribuzin	6 oz/a		PRE	A		
	Perpetuo	6 fl oz/a		LPOS	C		
	Crop oil concentrate	1 % v/v		LPOS	C		
	AMS	2.5 lb/a		LPOS	C		
19	Warrant Ultra	50 fl oz/a		PRE	A	100	100
	Metribuzin	6 oz/a		PRE	A		
	Marvel	7.25 fl oz/a		LPOS	C		
	Crop oil concentrate	1 % v/v		LPOS	C		
	AMS	2.5 lb/a		LPOS	C		
20	Matador-S	3 pt/a		PRE	A	100	100
	Flexstar	1 pt/a		LPOS	C		
	Crop oil concentrate	1 % v/v		LPOS	C		
	AMS	2.5 lb/a		LPOS	C		
21	Up-Stage	21 fl oz/a		PRE	A	100	100
	Preview 2.1	25 fl oz/a		PRE	A		
22	Preview 2.1	25 fl oz/a		PRE	A	100	100
	Ultra Blazer	24 fl oz/a		POST	B		
	Crop oil concentrate	2 pt/a		POST	B		
	Shadow	8 fl oz/a		LPOS	C		
	Crop oil concentrate	2 pt/a		LPOS	C		
23	Up-Stage	21 fl oz/a		PRE	A	100	100
	Moccasin MTZ	42 fl oz/a		PRE	A		
	LSD P=.05					3.6	.
	Standard Deviation					2.5	0.0
	CV					2.65	0.0
							0.95
							6.27
							0.67
							4.44
							6.35

Missing data estimates are included in columns: Average=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37  
 Could not calculate LSD (% mean diff) for columns 4,7,11,14,18,21,28,29,32,35 because error mean square = 0.