

MSU Weed Science Research Program

**Comparison of commercial weed control programs in Enlist E3 soybean**

Trial ID: SOY11-24 Study Dir.: Sprague, Stiles  
 Conducted: Campus, T-12 Investigator: Christy Sprague

**Planting Date:** May-15-2024 **Row Spacing:** 30 IN  
**Variety:** P25A16E **No. of Reps:** 4  
**Population:** 150000 S/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 (3-times)  
**Fertilizer:**

**Crop and Weed Description**

Weed	Code	Common Name	Scientific Name
1	ANGR	annual grasses	mainly giant foxtail 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
7	SOLPT	eastern black nightshade	Solanum ptychanthum
Crop	Code	Common Name	
1	GLXMA	Soybean	

**Application Description**

	A	B	C
<b>Application Timing:</b>	PRE	POST	LPOS
<b>Date Treated:</b>	May-15-2024	Jun-11-2024	Jun-28-2024
<b>Time Treated:</b>	11:00 AM	10:15 AM	11:00 AM
<b>% Cloud Cover:</b>	10	10	95
<b>Air Temp., Unit:</b>	66 F	60 F	62 F
<b>% Relative Humidity:</b>	53	46	62
<b>Wind Speed/Unit/Dir:</b>	9 MPH E	4 MPH SE	3 MPH SSE
<b>Soil Temp, Unit:</b>	61 F	63 F	67 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>		5-6 " (5.5)	15 "
<b>Stage:</b>		V2	V5

**Weed Stage at Each Application**

	A	B	C
<b>Weed 1 Name:</b>	ANGR	ANGR	ANGR
<b>Height:</b>		4-6 " (5)	2-4 " (4)
<b>Stage:</b>		4-6L	4-6L
<b>Weed 2 Name:</b>	CHEAL	CHEAL	CHEAL
<b>Height:</b>		1-2 " (1.5)	2 "
<b>Stage:</b>		8-12L	6L
<b>Weed 3 Name:</b>	AMAPO	AMAPO	AMAPO
<b>Height:</b>		1-5 " (2.5)	3 "
<b>Stage:</b>		2-16L	6L
<b>Weed 4 Name:</b>	AMBEL	AMBEL	AMBEL
<b>Height:</b>		2-3 " (3)	2-3 " (3)
<b>Stage:</b>		2-10L	4-8L
<b>Weed 5 Name:</b>	ABUTH	ABUTH	ABUTH
<b>Height:</b>		0.5-1 " (1)	
<b>Stage:</b>		2-4L	
<b>Weed 6 Name:</b>	SINAR	SINAR	SINAR
<b>Height:</b>		1-2 " (1)	
<b>Stage:</b>		4L	
<b>Weed 7 Name:</b>	SOLPT	SOLPT	SOLPT
<b>Height:</b>		2 "	
<b>Stage:</b>		6L	

**Weed Density**

	1	2	3	4	5	6	7
<b>Date:</b>	Jun-11-2024	Jun-11-2024	Jun-11-2024	Jun-11-2024	Jun-11-2024	Jun-11-2024	Jun-11-2024
<b>Weed Name:</b>	ANGR	CHEAL	AMAPO	AMBEL	ABUTH	SINAR	SOLPT
<b>Density:</b>	9 FT2	5 FT2	8 FT2	4 FT2	1 FT2	1 FT2	1 FT2

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Appl	Sprayer Type	Ground Speed	Application Equipment					Spray Volume	Carrier	Operation Pressure
			Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width			
<b>A</b>	CUB	3.8 MPH	AIXR	11003	16.0 "	20.0 "	100.0 "	19 GAL/AC	WATER	30 PSI
<b>B</b>	CUB	3.8 MPH	AIXR	11003	24.0 "	20.0 "	100.0 "	19 GAL/AC	WATER	30 PSI
<b>C</b>	CUB	3.8 MPH	AIXR	11003	28.0 "	20.0 "	100.0 "	19 GAL/AC	WATER	30 PSI

**Comments:** Common ragweed is Group 2 (ALS) resistant.

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Trial ID: SOY11-24

Protocol ID: SOY11-24 Location: Campus, T-12 Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Jun-5-2024	Jun-10-2024	Jun-10-2024	Jun-10-2024	Jun-10-2024	Jun-10-2024
Rating Type	injury	injury	control	control	control	control
Rating Unit	%	%	%	%	%	%
Crop Type, Code	C, GLXMA					
Pest Code			ANGR	CHEAL	AMBEL	ABUTH
Trt-Eval Interval	21 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing	Jun-5-2024 injury %	Jun-10-2024 injury %	Jun-10-2024 control %	Jun-10-2024 control %	Jun-10-2024 control %	Jun-10-2024 control %
1	Zidua PRO	4.5 fl oz/a		A	PRE	1	3	71	56	66	88
	Liberty Ultra	24 fl oz/a		B	POST						
	AMS	1.5 lb/a		B	POST						
2	Zidua PRO	4.5 fl oz/a		A	PRE	1	2	71	60	66	80
	Liberty Ultra	24 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	AMS	1.5 lb/a		B	POST						
3	Verdict	5 fl oz/a		A	PRE	0	1	59	73	66	90
	Metribuzin	5 oz/a		A	PRE						
	Liberty Ultra	24 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	AMS	1.5 lb/a		B	POST						
4	Warrant	3 pt/a		A	PRE	7	4	84	82	71	75
	Metribuzin	6 oz/a		A	PRE						
	Liberty	32 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	AMS	17 lb/100 gal		B	POST						
5	Fierce MTZ	16 fl oz/a		A	PRE	18	11	85	94	91	100
	Warrant	3 pt/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	AMS	17 lb/100 gal		B	POST						
6	Tendovo	2.1 qt/a		A	PRE	8	7	87	82	79	89
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	AMS	8.5 lb/a		B	POST						
7	Untreated					0	0	0	0	0	0
8	Authority Supreme	6.5 fl oz/a		A	PRE	0	0	60	79	50	75
	Anthem MAXX	2.5 fl oz/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
9	Authority Edge	7 fl oz/a		A	PRE	2	0	70	87	53	79
	Anthem MAXX	3 fl oz/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
10	Blank										
11	Tendovo	2.1 qt/a		A	PRE	7	6	90	91	81	98
	Sequence	3.5 pt/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	AMS	8.5 lb/a		B	POST						
12	Boundary	2 pt/a		A	PRE	8	4	89	73	65	64
	Sequence	3.5 pt/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
13	Sonic	4 oz/a		A	PRE	0	0	70	84	66	69
	Enversa	3 pt/a		B	POST						
	Enlist One	32 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	AMSOL	2.4 qt/a		B	POST						

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Rating Date		Jun-5-2024	Jun-10-2024	Jun-10-2024	Jun-10-2024	Jun-10-2024	Jun-10-2024			
Rating Type		injury	injury	control	control	control	control			
Rating Unit		%	%	%	%	%	%			
Crop Type, Code		C, GLXMA								
Pest Code				ANGR	CHEAL	AMBEL	ABUTH			
Trt-Eval Interval		21 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A			
Number of Decimals		0	0	0	0	0	0			
Trt No.	Treatment Name	Rate	Appl Code	Appl Timing						
14	Sonic	4 oz/a	A	PRE	0	1	69	76	68	87
	Enversa	3 pt/a	B	POST						
	Enlist One	32 fl oz/a	B	POST						
	Liberty	32 fl oz/a	B	POST						
	Crop oil concentrate	1 % v/v	B	POST						
	AMSOL	3 qt/a	B	POST						
15	Zidua PRO	6 fl oz/a	A	PRE	4	0	75	80	72	85
	Zidua	2.5 fl oz/a	B	POST						
	Enlist One	32 fl oz/a	B	POST						
	Liberty	32 fl oz/a	B	POST						
	AMS	8.5 lb/100 gal	B	POST						
16	Fierce EZ	6 fl oz/a	A	PRE	17	11	83	97	84	98
	Perpetuo	6 fl oz/a	B	POST						
	Enlist One	32 fl oz/a	B	POST						
	Liberty	32 fl oz/a	B	POST						
	Crop oil concentrate	1 % v/v	B	POST						
	AMS	8.5 lb/100 gal	B	POST						
17	Fierce MTZ	16 fl oz/a	A	PRE	21	15	87	96	86	99
	Perpetuo	6 fl oz/a	B	POST						
	Enlist One	32 fl oz/a	B	POST						
	Liberty	32 fl oz/a	B	POST						
	Crop oil concentrate	1 % v/v	B	POST						
	AMS	8.5 lb/100 gal	B	POST						
18	Fierce XLT	3.75 oz/a	A	PRE	11	8	85	86	80	100
	Perpetuo	6 fl oz/a	B	POST						
	Enlist One	32 fl oz/a	B	POST						
	Liberty	32 fl oz/a	B	POST						
	Crop oil concentrate	1 % v/v	B	POST						
	AMS	8.5 lb/100 gal	B	POST						
19	Zalo	32 fl oz/a	B	POST	0	0	0	0	0	0
	Dual II Magnum	1.33 pt/a	B	POST						
	Crop oil concentrate	1 % v/v	B	POST						
	AMS	3 lb/a	B	POST						
20	Zalo	32 fl oz/a	B	POST	0	0	0	0	0	0
	Crop oil concentrate	1 % v/v	B	POST						
	AMS	3 lb/a	B	POST						
	Zalo	32 fl oz/a	C	LPOS						
	Crop oil concentrate	1 % v/v	C	LPOS						
	AMS	3 lb/a	C	LPOS						
21	Roundup PowerMax 3	30 fl oz/a	B	POST	0	0	0	0	0	0
	AMS	17 lb/100 gal	B	POST						
22	Liberty	32 fl oz/a	B	POST	0	0	0	0	0	0
	AMS	8.5 lb/100 gal	B	POST						
23	Roundup PowerMax 3	30 fl oz/a	B	POST	0	0	0	0	0	0
	Liberty	32 fl oz/a	B	POST						
	AMS	17 lb/100 gal	B	POST						
24	Enlist One	32 fl oz/a	B	POST	0	0	0	0	0	0
	Liberty	32 fl oz/a	B	POST						
	AMS	8.5 lb/100 gal	B	POST						
25	Enlist Duo	4.75 pt/a	B	POST	0	0	0	0	0	0
	AMS	17 lb/100 gal	B	POST						
26	SAUSX-08	32 fl oz/a	A	PRE	5	4	82	86	77	90
	Liberty	28 fl oz/a	B	POST						
	Crop oil concentrate	1 % v/v	B	POST						
	AMS	8.5 lb/100 gal	B	POST						

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Rating Date	Jun-5-2024	Jun-10-2024	Jun-10-2024	Jun-10-2024	Jun-10-2024	Jun-10-2024					
Rating Type	injury	injury	control	control	control	control					
Rating Unit	%	%	%	%	%	%					
Crop Type, Code	C, GLXMA										
Pest Code			ANGR	CHEAL	AMBEL	ABUTH					
Trt-Eval Interval	21 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A					
Number of Decimals	0	0	0	0	0	0					
Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing						
27	SAUSX-08	32 fl oz/a		A	PRE	3	3	81	84	82	96
	Liberty	28 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	Crop oil concentrate	1 % v/v		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
28	SAUSX-08	24 fl oz/a		A	PRE	1	3	84	75	74	87
	SAUSX-08	16 fl oz/a		B	POST						
	Liberty	28 fl oz/a		B	POST						
	Crop oil concentrate	1 % v/v		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
	LSD P=.05					4.3	1.6	7.8	12.8	6.8	10.4
	Standard Deviation					3.0	1.2	5.6	9.1	4.8	7.4
	CV					73.16	39.15	10.16	16.0	9.46	12.14

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Protocol ID: SOY11-24 Location: Campus, T-12 Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date		Jun-10-2024	Jun-10-2024	Jun-18-2024	Jun-18-2024	Jun-18-2024	Jun-18-2024	Jun-18-2024	Jun-18-2024		
Rating Type		control	control	injury	control	control	control	control	control		
Rating Unit		%	%	%	%	%	%	%	%		
Crop Type, Code				C, GLXMA							
Pest Code		SINAR	SOLPT		ANGR	CHEAL	AMAPO				
Trt-Eval Interval		26 DA-A	26 DA-A	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 Code	Appl Timing						
1	Zidua PRO	4.5 fl oz/a		A	PRE	93	96	1	98	94	95
	Liberty Ultra	24 fl oz/a		B	POST						
	AMS	1.5 lb/a		B	POST						
2	Zidua PRO	4.5 fl oz/a		A	PRE	94	100	1	96	99	99
	Liberty Ultra	24 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	AMS	1.5 lb/a		B	POST						
3	Verdict	5 fl oz/a		A	PRE	100	98	1	96	98	98
	Metribuzin	5 oz/a		A	PRE						
	Liberty Ultra	24 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	AMS	1.5 lb/a		B	POST						
4	Warrant	3 pt/a		A	PRE	97	100	0	98	99	100
	Metribuzin	6 oz/a		A	PRE						
	Liberty	32 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	AMS	17 lb/100 gal		B	POST						
5	Fierce MTZ	16 fl oz/a		A	PRE	100	100	7	100	100	100
	Warrant	3 pt/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	AMS	17 lb/100 gal		B	POST						
6	Tendovo	2.1 qt/a		A	PRE	100	99	2	97	100	100
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	AMS	8.5 lb/a		B	POST						
7	Untreated					0	0	0	0	0	0
8	Authority Supreme	6.5 fl oz/a		A	PRE	100	85	10	94	99	100
	Anthem MAXX	2.5 fl oz/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
9	Authority Edge	7 fl oz/a		A	PRE	93	99	10	94	91	100
	Anthem MAXX	3 fl oz/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
10	Blank										
11	Tendovo	2.1 qt/a		A	PRE	100	100	12	100	100	100
	Sequence	3.5 pt/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	AMS	8.5 lb/a		B	POST						
12	Boundary	2 pt/a		A	PRE	100	100	11	100	100	100
	Sequence	3.5 pt/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
13	Sonic	4 oz/a		A	PRE	100	79	2	99	99	100
	Enversa	3 pt/a		B	POST						
	Enlist One	32 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	AMSOL	2.4 qt/a		B	POST						

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Study Director: Sprague, Stiles Sponsor Contact:

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Rating Date				Jun-10-2024	Jun-10-2024	Jun-18-2024	Jun-18-2024	Jun-18-2024	Jun-18-2024
Rating Type				control	control	injury	control	control	control
Rating Unit				%	%	%	%	%	%
Crop Type, Code						C, GLXMA			
Pest Code				SINAR	SOLPT		ANGR	CHEAL	AMAPO
Trt-Eval Interval				26 DA-A	26 DA-A	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	Appl Code	Appl Timing					
14	Sonic	4 oz/a	A	PRE	100	85	4	98	100
	Enversa	3 pt/a	B	POST					
	Enlist One	32 fl oz/a	B	POST					
	Liberty	32 fl oz/a	B	POST					
	Crop oil concentrate	1 % v/v	B	POST					
	AMSOL	3 qt/a	B	POST					
15	Zidua PRO	6 fl oz/a	A	PRE	100	100	7	100	100
	Zidua	2.5 fl oz/a	B	POST					
	Enlist One	32 fl oz/a	B	POST					
	Liberty	32 fl oz/a	B	POST					
	AMS	8.5 lb/100 gal	B	POST					
16	Fierce EZ	6 fl oz/a	A	PRE	100	100	11	94	99
	Perpetuo	6 fl oz/a	B	POST					
	Enlist One	32 fl oz/a	B	POST					
	Liberty	32 fl oz/a	B	POST					
	Crop oil concentrate	1 % v/v	B	POST					
	AMS	8.5 lb/100 gal	B	POST					
17	Fierce MTZ	16 fl oz/a	A	PRE	100	100	12	96	100
	Perpetuo	6 fl oz/a	B	POST					
	Enlist One	32 fl oz/a	B	POST					
	Liberty	32 fl oz/a	B	POST					
	Crop oil concentrate	1 % v/v	B	POST					
	AMS	8.5 lb/100 gal	B	POST					
18	Fierce XLT	3.75 oz/a	A	PRE	100	100	14	94	98
	Perpetuo	6 fl oz/a	B	POST					
	Enlist One	32 fl oz/a	B	POST					
	Liberty	32 fl oz/a	B	POST					
	Crop oil concentrate	1 % v/v	B	POST					
	AMS	8.5 lb/100 gal	B	POST					
19	Zalo	32 fl oz/a	B	POST	0	0	12	100	100
	Dual II Magnum	1.33 pt/a	B	POST					
	Crop oil concentrate	1 % v/v	B	POST					
	AMS	3 lb/a	B	POST					
20	Zalo	32 fl oz/a	B	POST	0	0	3	98	87
	Crop oil concentrate	1 % v/v	B	POST					
	AMS	3 lb/a	B	POST					
	Zalo	32 fl oz/a	C	LPOS					
	Crop oil concentrate	1 % v/v	C	LPOS					
	AMS	3 lb/a	C	LPOS					
21	Roundup PowerMax 3	30 fl oz/a	B	POST	0	0	0	97	99
	AMS	17 lb/100 gal	B	POST					
22	Liberty	32 fl oz/a	B	POST	0	0	0	87	93
	AMS	8.5 lb/100 gal	B	POST					
23	Roundup PowerMax 3	30 fl oz/a	B	POST	0	0	1	93	98
	Liberty	32 fl oz/a	B	POST					
	AMS	17 lb/100 gal	B	POST					
24	Enlist One	32 fl oz/a	B	POST	0	0	3	99	100
	Liberty	32 fl oz/a	B	POST					
	AMS	8.5 lb/100 gal	B	POST					
25	Enlist Duo	4.75 pt/a	B	POST	0	0	1	97	99
	AMS	17 lb/100 gal	B	POST					
26	SAUSX-08	32 fl oz/a	A	PRE	100	98	0	90	85
	Liberty	28 fl oz/a	B	POST					
	Crop oil concentrate	1 % v/v	B	POST					
	AMS	8.5 lb/100 gal	B	POST					

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Rating Date					Jun-10-2024	Jun-10-2024	Jun-18-2024	Jun-18-2024	Jun-18-2024	Jun-18-2024	
Rating Type					control	control	injury	control	control	control	
Rating Unit					%	%	%	%	%	%	
Crop Type, Code							C, GLXMA				
Pest Code					SINAR	SOLPT		ANGR	CHEAL	AMAPO	
Trt-Eval Interval					26 DA-A	26 DA-A	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 Code	Appl Timing						
27	SAUSX-08	32 fl oz/a		A	PRE	100	100	0	89	96	100
	Liberty	28 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	Crop oil concentrate	1 % v/v		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
28	SAUSX-08	24 fl oz/a		A	PRE	100	100	10	85	91	100
	SAUSX-08	16 fl oz/a		B	POST						
	Liberty	28 fl oz/a		B	POST						
	Crop oil concentrate	1 % v/v		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
	LSD P=.05					6.3	7.6	2.6	4.7	6.6	2.5
	Standard Deviation					4.5	5.4	1.9	3.4	4.7	1.7
	CV					6.41	7.92	38.17	3.64	5.03	1.82

Could not calculate LSD (% mean diff) or mean separation letters for columns 15,22 because error variance is 0. Mean separation letters are 'na' (not applicable) when error variance is 0



Michigan State University

Comparison of commercial weed control programs in Enlist E3 soybean

Trial ID: SOY11-24

Protocol ID: SOY11-24 Location: Campus, T-12 Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Jun-18-2024	Jun-18-2024	Jun-18-2024	Jun-25-2024	Jun-25-2024	Jun-25-2024
Rating Type	control	control	control	injury	control	control
Rating Unit	%	%	%	%	%	%
Crop Type, Code				C, GLXMA		
Pest Code	AMBEL	ABUTH	SINAR		ANGR	CHEAL
Trt-Eval Interval	7 DA-B	7 DA-B	7 DA-B	14 DA-B	14 DA-B	14 DA-B
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing	Jun-18-2024 control %	Jun-18-2024 control %	Jun-18-2024 control %	Jun-25-2024 injury %	Jun-25-2024 control %	Jun-25-2024 control %
1	Zidua PRO	4.5 fl oz/a		A	PRE	96	95	100	0	93	90
	Liberty Ultra	24 fl oz/a		B	POST						
	AMS	1.5 lb/a		B	POST						
2	Zidua PRO	4.5 fl oz/a		A	PRE	100	96	100	0	96	91
	Liberty Ultra	24 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	AMS	1.5 lb/a		B	POST						
3	Verdict	5 fl oz/a		A	PRE	100	99	100	0	93	99
	Metribuzin	5 oz/a		A	PRE						
	Liberty Ultra	24 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	AMS	1.5 lb/a		B	POST						
4	Warrant	3 pt/a		A	PRE	98	100	100	0	97	100
	Metribuzin	6 oz/a		A	PRE						
	Liberty	32 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	AMS	17 lb/100 gal		B	POST						
5	Fierce MTZ	16 fl oz/a		A	PRE	100	100	100	8	100	95
	Warrant	3 pt/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	AMS	17 lb/100 gal		B	POST						
6	Tendovo	2.1 qt/a		A	PRE	99	100	100	3	98	100
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	AMS	8.5 lb/a		B	POST						
7	Untreated					0	0	0	0	0	0
8	Authority Supreme	6.5 fl oz/a		A	PRE	99	100	100	3	92	100
	Anthem MAXX	2.5 fl oz/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
9	Authority Edge	7 fl oz/a		A	PRE	98	100	100	3	94	86
	Anthem MAXX	3 fl oz/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
10	Blank										
11	Tendovo	2.1 qt/a		A	PRE	100	99	100	7	99	100
	Sequence	3.5 pt/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	AMS	8.5 lb/a		B	POST						
12	Boundary	2 pt/a		A	PRE	98	100	100	6	100	100
	Sequence	3.5 pt/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
13	Sonic	4 oz/a		A	PRE	100	100	100	1	99	100
	Enversa	3 pt/a		B	POST						
	Enlist One	32 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	AMSOL	2.4 qt/a		B	POST						

Could not calculate LSD (% mean diff) or mean separation letters for columns 15,22 because error variance is 0. Mean separation letters are 'na' (not applicable) when error variance is 0

Michigan State University

Comparison of commercial weed control programs in Enlist E3 soybean

Trial ID: SOY11-24

Protocol ID: SOY11-24 Location: Campus, T-12 Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Jun-18-2024	Jun-18-2024	Jun-18-2024	Jun-25-2024	Jun-25-2024	Jun-25-2024
Rating Type	control	control	control	injury	control	control
Rating Unit	%	%	%	%	%	%
Crop Type, Code	C, GLXMA					
Pest Code	AMBEL	ABUTH	SINAR		ANGR	CHEAL
Trt-Eval Interval	7 DA-B	7 DA-B	7 DA-B	14 DA-B	14 DA-B	14 DA-B
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Appl Timing	100	100	100	1	97	100
14	Sonic	4 oz/a		A	PRE						
	Enversa	3 pt/a		B	POST						
	Enlist One	32 fl oz/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	Crop oil concentrate	1 % v/v		B	POST						
	AMSOL	3 qt/a		B	POST						
15	Zidua PRO	6 fl oz/a		A	PRE	100	100	100	2	100	100
	Zidua	2.5 fl oz/a		B	POST						
	Enlist One	32 fl oz/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
16	Fierce EZ	6 fl oz/a		A	PRE	100	100	100	5	97	100
	Perpetuo	6 fl oz/a		B	POST						
	Enlist One	32 fl oz/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	Crop oil concentrate	1 % v/v		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
17	Fierce MTZ	16 fl oz/a		A	PRE	100	100	100	8	96	100
	Perpetuo	6 fl oz/a		B	POST						
	Enlist One	32 fl oz/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	Crop oil concentrate	1 % v/v		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
18	Fierce XLT	3.75 oz/a		A	PRE	100	100	100	5	92	99
	Perpetuo	6 fl oz/a		B	POST						
	Enlist One	32 fl oz/a		B	POST						
	Liberty	32 fl oz/a		B	POST						
	Crop oil concentrate	1 % v/v		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
19	Zalo	32 fl oz/a		B	POST	98	100	100	8	100	98
	Dual II Magnum	1.33 pt/a		B	POST						
	Crop oil concentrate	1 % v/v		B	POST						
	AMS	3 lb/a		B	POST						
20	Zalo	32 fl oz/a		B	POST	100	100	100	0	93	78
	Crop oil concentrate	1 % v/v		B	POST						
	AMS	3 lb/a		B	POST						
	Zalo	32 fl oz/a		C	LPOS						
	Crop oil concentrate	1 % v/v		C	LPOS						
	AMS	3 lb/a		C	LPOS						
21	Roundup PowerMax 3	30 fl oz/a		B	POST	88	100	100	0	93	94
	AMS	17 lb/100 gal		B	POST						
22	Liberty	32 fl oz/a		B	POST	91	100	100	0	83	95
	AMS	8.5 lb/100 gal		B	POST						
23	Roundup PowerMax 3	30 fl oz/a		B	POST	94	100	100	0	89	95
	Liberty	32 fl oz/a		B	POST						
	AMS	17 lb/100 gal		B	POST						
24	Enlist One	32 fl oz/a		B	POST	97	100	100	0	97	100
	Liberty	32 fl oz/a		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
25	Enlist Duo	4.75 pt/a		B	POST	99	100	100	0	95	98
	AMS	17 lb/100 gal		B	POST						
26	SAUSX-08	32 fl oz/a		A	PRE	100	95	100	0	86	88
	Liberty	28 fl oz/a		B	POST						
	Crop oil concentrate	1 % v/v		B	POST						
	AMS	8.5 lb/100 gal		B	POST						

Could not calculate LSD (% mean diff) or mean separation letters for columns 15,22 because error variance is 0. Mean separation letters are 'na' (not applicable) when error variance is 0

Michigan State University

Comparison of commercial weed control programs in Enlist E3 soybean

Trial ID: SOY11-24

Protocol ID: SOY11-24 Location: Campus, T-12 Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date				Jun-18-2024	Jun-18-2024	Jun-18-2024	Jun-25-2024	Jun-25-2024	Jun-25-2024		
Rating Type				control	control	control	injury	control	control		
Rating Unit				%	%	%	%	%	%		
Crop Type, Code							C, GLXMA				
Pest Code				AMBEL	ABUTH	SINAR		ANGR	CHEAL		
Trt-Eval Interval				7 DA-B	7 DA-B	7 DA-B	14 DA-B	14 DA-B	14 DA-B		
Number of Decimals				0	0	0	0	0	0		
Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing						
27	SAUSX-08	32 fl oz/a		A	PRE	99	100	100	0	85	99
	Liberty	28 fl oz/a		B	POST						
	Roundup PowerMax 3	30 fl oz/a		B	POST						
	Crop oil concentrate	1 % v/v		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
28	SAUSX-08	24 fl oz/a		A	PRE	99	96	100	5	82	93
	SAUSX-08	16 fl oz/a		B	POST						
	Liberty	28 fl oz/a		B	POST						
	Crop oil concentrate	1 % v/v		B	POST						
	AMS	8.5 lb/100 gal		B	POST						
	LSD P=.05					4.4	4.2	.	3.1	6.1	9.1
	Standard Deviation					3.1	3.0	0.0	2.2	4.3	6.4
	CV					3.27	3.12	0.0	95.87	4.78	6.98

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Michigan State University

Comparison of commercial weed control programs in Enlist E3 soybean

Trial ID: SOY11-24

Protocol ID: SOY11-24 Location: Campus, T-12 Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Jun-25-2024	Jun-25-2024	Jun-25-2024	Jun-25-2024	Jul-9-2024	Jul-9-2024	Jul-9-2024
Rating Type	control	control	control	control	injury	control	control
Rating Unit	%	%	%	%	%	%	%
Crop Type, Code	C, GLXMA						
Pest Code	AMAPO	AMBEL	ABUTH	SINAR		ANGR	CHEAL
Trt-Eval Interval	14 DA-B	14 DA-B	14 DA-B	14 DA-B	28 DA-B	28 DA-B	28 DA-B
Number of Decimals	0	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing	91	100	100	100	0	94	87
1	Zidua PRO	4.5 fl oz/a		A	PRE							
	Liberty Ultra	24 fl oz/a		B	POST							
	AMS	1.5 lb/a		B	POST							
2	Zidua PRO	4.5 fl oz/a		A	PRE	99	96	98	100	0	95	97
	Liberty Ultra	24 fl oz/a		B	POST							
	Roundup PowerMax 3	30 fl oz/a		B	POST							
	AMS	1.5 lb/a		B	POST							
3	Verdict	5 fl oz/a		A	PRE	98	100	98	100	0	89	97
	Metribuzin	5 oz/a		A	PRE							
	Liberty Ultra	24 fl oz/a		B	POST							
	Roundup PowerMax 3	30 fl oz/a		B	POST							
	AMS	1.5 lb/a		B	POST							
4	Warrant	3 pt/a		A	PRE	100	97	100	100	0	98	100
	Metribuzin	6 oz/a		A	PRE							
	Liberty	32 fl oz/a		B	POST							
	Roundup PowerMax 3	30 fl oz/a		B	POST							
	AMS	17 lb/100 gal		B	POST							
5	Fierce MTZ	16 fl oz/a		A	PRE	100	100	100	100	1	98	100
	Warrant	3 pt/a		B	POST							
	Liberty	32 fl oz/a		B	POST							
	Roundup PowerMax 3	30 fl oz/a		B	POST							
	AMS	17 lb/100 gal		B	POST							
6	Tendovo	2.1 qt/a		A	PRE	97	99	99	100	0	97	100
	Roundup PowerMax 3	30 fl oz/a		B	POST							
	Liberty	32 fl oz/a		B	POST							
	AMS	8.5 lb/a		B	POST							
7	Untreated					0	0	0	0	0	0	0
8	Authority Supreme	6.5 fl oz/a		A	PRE	100	98	100	100	0	94	100
	Anthem MAXX	2.5 fl oz/a		B	POST							
	Liberty	32 fl oz/a		B	POST							
	AMS	8.5 lb/100 gal		B	POST							
9	Authority Edge	7 fl oz/a		A	PRE	100	98	100	100	0	94	87
	Anthem MAXX	3 fl oz/a		B	POST							
	Liberty	32 fl oz/a		B	POST							
	AMS	8.5 lb/100 gal		B	POST							
10	Blank											
11	Tendovo	2.1 qt/a		A	PRE	100	99	99	100	0	100	100
	Sequence	3.5 pt/a		B	POST							
	Liberty	32 fl oz/a		B	POST							
	AMS	8.5 lb/a		B	POST							
12	Boundary	2 pt/a		A	PRE	100	95	100	100	0	100	100
	Sequence	3.5 pt/a		B	POST							
	Liberty	32 fl oz/a		B	POST							
	AMS	8.5 lb/100 gal		B	POST							
13	Sonic	4 oz/a		A	PRE	100	100	100	100	0	99	100
	Enversa	3 pt/a		B	POST							
	Enlist One	32 fl oz/a		B	POST							
	Roundup PowerMax 3	30 fl oz/a		B	POST							
	AMSOL	2.4 qt/a		B	POST							

Could not calculate LSD (% mean diff) or mean separation letters for columns 15,22 because error variance is 0. Mean separation letters are 'na' (not applicable) when error variance is 0

Michigan State University

Comparison of commercial weed control programs in Enlist E3 soybean

Trial ID: SOY11-24

Protocol ID: SOY11-24 Location: Campus, T-12 Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date				Jun-25-2024	Jun-25-2024	Jun-25-2024	Jun-25-2024	Jul-9-2024	Jul-9-2024	Jul-9-2024	
Rating Type				control	control	control	control	injury	control	control	
Rating Unit				%	%	%	%	%	%	%	
Crop Type, Code								C, GLXMA			
Pest Code				AMAPO	AMBEL	ABUTH	SINAR		ANGR	CHEAL	
Trt-Eval Interval				14 DA-B	14 DA-B	14 DA-B	14 DA-B	28 DA-B	28 DA-B	28 DA-B	
Number of Decimals				0	0	0	0	0	0	0	
Trt No.	Treatment Name	Rate	Appl Code	Appl Timing							
14	Sonic	4 oz/a	A	PRE	100	100	100	100	0	94	100
	Enversa	3 pt/a	B	POST							
	Enlist One	32 fl oz/a	B	POST							
	Liberty	32 fl oz/a	B	POST							
	Crop oil concentrate	1 % v/v	B	POST							
	AMSOL	3 qt/a	B	POST							
15	Zidua PRO	6 fl oz/a	A	PRE	100	100	100	100	0	100	100
	Zidua	2.5 fl oz/a	B	POST							
	Enlist One	32 fl oz/a	B	POST							
	Liberty	32 fl oz/a	B	POST							
	AMS	8.5 lb/100 gal	B	POST							
16	Fierce EZ	6 fl oz/a	A	PRE	100	100	100	100	0	96	100
	Perpetuo	6 fl oz/a	B	POST							
	Enlist One	32 fl oz/a	B	POST							
	Liberty	32 fl oz/a	B	POST							
	Crop oil concentrate	1 % v/v	B	POST							
	AMS	8.5 lb/100 gal	B	POST							
17	Fierce MTZ	16 fl oz/a	A	PRE	100	100	100	100	1	95	100
	Perpetuo	6 fl oz/a	B	POST							
	Enlist One	32 fl oz/a	B	POST							
	Liberty	32 fl oz/a	B	POST							
	Crop oil concentrate	1 % v/v	B	POST							
	AMS	8.5 lb/100 gal	B	POST							
18	Fierce XLT	3.75 oz/a	A	PRE	100	100	100	100	0	94	100
	Perpetuo	6 fl oz/a	B	POST							
	Enlist One	32 fl oz/a	B	POST							
	Liberty	32 fl oz/a	B	POST							
	Crop oil concentrate	1 % v/v	B	POST							
	AMS	8.5 lb/100 gal	B	POST							
19	Zalo	32 fl oz/a	B	POST	100	99	100	100	0	100	95
	Dual II Magnum	1.33 pt/a	B	POST							
	Crop oil concentrate	1 % v/v	B	POST							
	AMS	3 lb/a	B	POST							
20	Zalo	32 fl oz/a	B	POST	100	99	100	100	0	100	100
	Crop oil concentrate	1 % v/v	B	POST							
	AMS	3 lb/a	B	POST							
	Zalo	32 fl oz/a	C	LPOS							
	Crop oil concentrate	1 % v/v	C	LPOS							
	AMS	3 lb/a	C	LPOS							
21	Roundup PowerMax 3	30 fl oz/a	B	POST	99	92	99	100	0	85	90
	AMS	17 lb/100 gal	B	POST							
22	Liberty	32 fl oz/a	B	POST	93	93	100	100	0	82	89
	AMS	8.5 lb/100 gal	B	POST							
23	Roundup PowerMax 3	30 fl oz/a	B	POST	99	93	100	100	0	82	93
	Liberty	32 fl oz/a	B	POST							
	AMS	17 lb/100 gal	B	POST							
24	Enlist One	32 fl oz/a	B	POST	99	100	100	100	0	90	98
	Liberty	32 fl oz/a	B	POST							
	AMS	8.5 lb/100 gal	B	POST							
25	Enlist Duo	4.75 pt/a	B	POST	100	98	99	100	0	89	96
	AMS	17 lb/100 gal	B	POST							
26	SAUSX-08	32 fl oz/a	A	PRE	98	95	95	100	0	87	90
	Liberty	28 fl oz/a	B	POST							
	Crop oil concentrate	1 % v/v	B	POST							
	AMS	8.5 lb/100 gal	B	POST							

Could not calculate LSD (% mean diff) or mean separation letters for columns 15,22 because error variance is 0. Mean separation letters are 'na' (not applicable) when error variance is 0

Michigan State University

Comparison of commercial weed control programs in Enlist E3 soybean

Trial ID: SOY11-24

Protocol ID: SOY11-24 Location: Campus, T-12 Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Jun-25-2024	Jun-25-2024	Jun-25-2024	Jun-25-2024	Jul-9-2024	Jul-9-2024	Jul-9-2024					
Rating Type	control	control	control	control	injury	control	control					
Rating Unit	%	%	%	%	%	%	%					
Crop Type, Code	C, GLXMA											
Pest Code	AMAPO	AMBEL	ABUTH	SINAR		ANGR	CHEAL					
Trt-Eval Interval	14 DA-B	14 DA-B	14 DA-B	14 DA-B	28 DA-B	28 DA-B	28 DA-B					
Number of Decimals	0	0	0	0	0	0	0					
Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing							
27	SAUSX-08	32 fl oz/a		A	PRE	100	100	100	100	0	85	97
	Liberty	28 fl oz/a		B	POST							
	Roundup PowerMax 3	30 fl oz/a		B	POST							
	Crop oil concentrate	1 % v/v		B	POST							
	AMS	8.5 lb/100 gal		B	POST							
28	SAUSX-08	24 fl oz/a		A	PRE	100	98	98	100	0	81	95
	SAUSX-08	16 fl oz/a		B	POST							
	Liberty	28 fl oz/a		B	POST							
	Crop oil concentrate	1 % v/v		B	POST							
	AMS	8.5 lb/100 gal		B	POST							
	LSD P=.05					4.0	5.8	3.8	.	0.6	6.0	8.5
	Standard Deviation					2.8	4.1	2.7	0.0	0.4	4.3	6.0
	CV					2.99	4.34	2.84	0.0	739.54	4.79	6.47

Could not calculate LSD (% mean diff) or mean separation letters for columns 15,22 because error variance is 0. Mean separation letters are 'na' (not applicable) when error variance is 0

Michigan State University

Comparison of commercial weed control programs in Enlist E3 soybean

Trial ID: SOY11-24

Protocol ID: SOY11-24 Location: Campus, T-12 Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Jul-9-2024	Jul-9-2024	Jul-9-2024	Jul-9-2024	Sep-30-2024	Sep-30-2024	Sep-30-2024
Rating Type	control	control	control	control	control	control	control
Rating Unit	%	%	%	%	%	%	%
Crop Type, Code							
Pest Code	AMAPO	AMBEL	ABUTH	SINAR	ANGR	CHEAL	AMAPO
Trt-Eval Interval	28 DA-B	28 DA-B	28 DA-B	28 DA-B	111 DA-B	111 DA-B	111 DA-B
Number of Decimals	0	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing	AMAPO	AMBEL	ABUTH	SINAR	ANGR	CHEAL	AMAPO
1	Zidua PRO	4.5 fl oz/a		A	PRE	90	96	100	100	95	93	93
	Liberty Ultra	24 fl oz/a		B	POST							
	AMS	1.5 lb/a		B	POST							
2	Zidua PRO	4.5 fl oz/a		A	PRE	96	95	100	100	99	100	100
	Liberty Ultra	24 fl oz/a		B	POST							
	Roundup PowerMax 3	30 fl oz/a		B	POST							
	AMS	1.5 lb/a		B	POST							
3	Verdict	5 fl oz/a		A	PRE	94	94	93	100	96	100	100
	Metribuzin	5 oz/a		A	PRE							
	Liberty Ultra	24 fl oz/a		B	POST							
	Roundup PowerMax 3	30 fl oz/a		B	POST							
	AMS	1.5 lb/a		B	POST							
4	Warrant	3 pt/a		A	PRE	97	92	100	100	99	100	100
	Metribuzin	6 oz/a		A	PRE							
	Liberty	32 fl oz/a		B	POST							
	Roundup PowerMax 3	30 fl oz/a		B	POST							
	AMS	17 lb/100 gal		B	POST							
5	Fierce MTZ	16 fl oz/a		A	PRE	100	100	100	100	98	100	100
	Warrant	3 pt/a		B	POST							
	Liberty	32 fl oz/a		B	POST							
	Roundup PowerMax 3	30 fl oz/a		B	POST							
	AMS	17 lb/100 gal		B	POST							
6	Tendovo	2.1 qt/a		A	PRE	100	100	100	100	99	100	100
	Roundup PowerMax 3	30 fl oz/a		B	POST							
	Liberty	32 fl oz/a		B	POST							
	AMS	8.5 lb/a		B	POST							
7	Untreated					0	0	0	0	0	0	0
8	Authority Supreme	6.5 fl oz/a		A	PRE	99	96	100	100	95	96	100
	Anthem MAXX	2.5 fl oz/a		B	POST							
	Liberty	32 fl oz/a		B	POST							
	AMS	8.5 lb/100 gal		B	POST							
9	Authority Edge	7 fl oz/a		A	PRE	99	94	100	100	92	87	100
	Anthem MAXX	3 fl oz/a		B	POST							
	Liberty	32 fl oz/a		B	POST							
	AMS	8.5 lb/100 gal		B	POST							
10	Blank											
11	Tendovo	2.1 qt/a		A	PRE	100	100	100	100	100	100	100
	Sequence	3.5 pt/a		B	POST							
	Liberty	32 fl oz/a		B	POST							
	AMS	8.5 lb/a		B	POST							
12	Boundary	2 pt/a		A	PRE	99	92	100	100	100	100	100
	Sequence	3.5 pt/a		B	POST							
	Liberty	32 fl oz/a		B	POST							
	AMS	8.5 lb/100 gal		B	POST							
13	Sonic	4 oz/a		A	PRE	100	99	100	100	100	100	100
	Enversa	3 pt/a		B	POST							
	Enlist One	32 fl oz/a		B	POST							
	Roundup PowerMax 3	30 fl oz/a		B	POST							
	AMSOL	2.4 qt/a		B	POST							

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Michigan State University

Comparison of commercial weed control programs in Enlist E3 soybean

Trial ID: SOY11-24

Protocol ID: SOY11-24 Location: Campus, T-12 Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Rating Type	Rating Unit	Crop Type, Code	Pest Code	Trt-Eval Interval	Number of Decimals	Jul-9-2024 control %	Jul-9-2024 control %	Jul-9-2024 control %	Jul-9-2024 control %	Sep-30-2024 control %	Sep-30-2024 control %	Sep-30-2024 control %
							AMAPO 28 DA-B 0	AMBEL 28 DA-B 0	ABUTH 28 DA-B 0	SINAR 28 DA-B 0	ANGR 111 DA-B 0	CHEAL 111 DA-B 0	AMAPO 111 DA-B 0
Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing								
14	Sonic	4 oz/a		A	PRE		100	100	100	100	98	100	100
	Enversa	3 pt/a		B	POST								
	Enlist One	32 fl oz/a		B	POST								
	Liberty	32 fl oz/a		B	POST								
	Crop oil concentrate	1 % v/v		B	POST								
	AMSOL	3 qt/a		B	POST								
15	Zidua PRO	6 fl oz/a		A	PRE		100	100	100	100	100	100	100
	Zidua	2.5 fl oz/a		B	POST								
	Enlist One	32 fl oz/a		B	POST								
	Liberty	32 fl oz/a		B	POST								
	AMS	8.5 lb/100 gal		B	POST								
16	Fierce EZ	6 fl oz/a		A	PRE		100	100	100	100	97	100	100
	Perpetuo	6 fl oz/a		B	POST								
	Enlist One	32 fl oz/a		B	POST								
	Liberty	32 fl oz/a		B	POST								
	Crop oil concentrate	1 % v/v		B	POST								
	AMS	8.5 lb/100 gal		B	POST								
17	Fierce MTZ	16 fl oz/a		A	PRE		100	100	100	100	98	100	100
	Perpetuo	6 fl oz/a		B	POST								
	Enlist One	32 fl oz/a		B	POST								
	Liberty	32 fl oz/a		B	POST								
	Crop oil concentrate	1 % v/v		B	POST								
	AMS	8.5 lb/100 gal		B	POST								
18	Fierce XLT	3.75 oz/a		A	PRE		100	100	100	100	90	100	100
	Perpetuo	6 fl oz/a		B	POST								
	Enlist One	32 fl oz/a		B	POST								
	Liberty	32 fl oz/a		B	POST								
	Crop oil concentrate	1 % v/v		B	POST								
	AMS	8.5 lb/100 gal		B	POST								
19	Zalo	32 fl oz/a		B	POST		99	90	99	100	100	97	100
	Dual II Magnum	1.33 pt/a		B	POST								
	Crop oil concentrate	1 % v/v		B	POST								
	AMS	3 lb/a		B	POST								
20	Zalo	32 fl oz/a		B	POST		100	100	100	100	100	99	100
	Crop oil concentrate	1 % v/v		B	POST								
	AMS	3 lb/a		B	POST								
	Zalo	32 fl oz/a		C	LPOS								
	Crop oil concentrate	1 % v/v		C	LPOS								
	AMS	3 lb/a		C	LPOS								
21	Roundup PowerMax 3	30 fl oz/a		B	POST		95	80	100	100	95	93	99
	AMS	17 lb/100 gal		B	POST								
22	Liberty	32 fl oz/a		B	POST		92	84	100	96	85	89	91
	AMS	8.5 lb/100 gal		B	POST								
23	Roundup PowerMax 3	30 fl oz/a		B	POST		90	91	100	100	92	94	96
	Liberty	32 fl oz/a		B	POST								
	AMS	17 lb/100 gal		B	POST								
24	Enlist One	32 fl oz/a		B	POST		98	92	100	100	98	100	99
	Liberty	32 fl oz/a		B	POST								
	AMS	8.5 lb/100 gal		B	POST								
25	Enlist Duo	4.75 pt/a		B	POST		98	93	100	100	100	98	100
	AMS	17 lb/100 gal		B	POST								
26	SAUSX-08	32 fl oz/a		A	PRE		100	100	97	100	91	90	100
	Liberty	28 fl oz/a		B	POST								
	Crop oil concentrate	1 % v/v		B	POST								
	AMS	8.5 lb/100 gal		B	POST								

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Michigan State University

Comparison of commercial weed control programs in Enlist E3 soybean

Trial ID: SOY11-24

Protocol ID: SOY11-24 Location: Campus, T-12 Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Jul-9-2024	Jul-9-2024	Jul-9-2024	Jul-9-2024	Sep-30-2024	Sep-30-2024	Sep-30-2024					
Rating Type	control	control	control	control	control	control	control					
Rating Unit	%	%	%	%	%	%	%					
Crop Type, Code												
Pest Code	AMAPO	AMBEL	ABUTH	SINAR	ANGR	CHEAL	AMAPO					
Trt-Eval Interval	28 DA-B	28 DA-B	28 DA-B	28 DA-B	111 DA-B	111 DA-B	111 DA-B					
Number of Decimals	0	0	0	0	0	0	0					
Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing							
27	SAUSX-08	32 fl oz/a		A	PRE	100	100	100	100	94	98	100
	Liberty	28 fl oz/a		B	POST							
	Roundup PowerMax 3	30 fl oz/a		B	POST							
	Crop oil concentrate	1 % v/v		B	POST							
	AMS	8.5 lb/100 gal		B	POST							
28	SAUSX-08	24 fl oz/a		A	PRE	100	100	96	100	81	94	100
	SAUSX-08	16 fl oz/a		B	POST							
	Liberty	28 fl oz/a		B	POST							
	Crop oil concentrate	1 % v/v		B	POST							
	AMS	8.5 lb/100 gal		B	POST							
	LSD P=.05					5.8	5.2	4.9	2.0	4.1	7.3	4.1
	Standard Deviation					4.1	3.7	3.4	1.4	2.9	5.2	2.9
	CV					4.4	4.01	3.6	1.5	3.17	5.56	3.08

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## Michigan State University

Comparison of commercial weed control programs in Enlist E3 soybean

Trial ID: SOY11-24

Protocol ID: SOY11-24 Location: Campus, T-12 Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Sep-30-2024	Sep-30-2024
Rating Type	control	yield
Rating Unit	%	bu/A
Crop Type, Code		C, GLXMA
Pest Code	AMBEL	
Trt-Eval Interval	111 DA-B	@13% M
Number of Decimals	0	1

Trt No.	Treatment Name	Rate Unit	Appl Code	Appl Timing		
1	Zidua PRO	4.5 fl oz/a	A	PRE	96	77.5
	Liberty Ultra	24 fl oz/a	B	POST		
	AMS	1.5 lb/a	B	POST		
2	Zidua PRO	4.5 fl oz/a	A	PRE	100	79.6
	Liberty Ultra	24 fl oz/a	B	POST		
	Roundup PowerMax 3	30 fl oz/a	B	POST		
	AMS	1.5 lb/a	B	POST		
3	Verdict	5 fl oz/a	A	PRE	100	79.8
	Metribuzin	5 oz/a	A	PRE		
	Liberty Ultra	24 fl oz/a	B	POST		
	Roundup PowerMax 3	30 fl oz/a	B	POST		
	AMS	1.5 lb/a	B	POST		
4	Warrant	3 pt/a	A	PRE	96	81.3
	Metribuzin	6 oz/a	A	PRE		
	Liberty	32 fl oz/a	B	POST		
	Roundup PowerMax 3	30 fl oz/a	B	POST		
	AMS	17 lb/100 gal	B	POST		
5	Fierce MTZ	16 fl oz/a	A	PRE	100	79.7
	Warrant	3 pt/a	B	POST		
	Liberty	32 fl oz/a	B	POST		
	Roundup PowerMax 3	30 fl oz/a	B	POST		
	AMS	17 lb/100 gal	B	POST		
6	Tendovo	2.1 qt/a	A	PRE	100	81.0
	Roundup PowerMax 3	30 fl oz/a	B	POST		
	Liberty	32 fl oz/a	B	POST		
	AMS	8.5 lb/a	B	POST		
7	Untreated				0	15.7
8	Authority Supreme	6.5 fl oz/a	A	PRE	100	76.2
	Anthem MAXX	2.5 fl oz/a	B	POST		
	Liberty	32 fl oz/a	B	POST		
	AMS	8.5 lb/100 gal	B	POST		
9	Authority Edge	7 fl oz/a	A	PRE	96	75.7
	Anthem MAXX	3 fl oz/a	B	POST		
	Liberty	32 fl oz/a	B	POST		
	AMS	8.5 lb/100 gal	B	POST		
10	Blank					52.6
11	Tendovo	2.1 qt/a	A	PRE	100	81.6
	Sequence	3.5 pt/a	B	POST		
	Liberty	32 fl oz/a	B	POST		
	AMS	8.5 lb/a	B	POST		
12	Boundary	2 pt/a	A	PRE	96	81.2
	Sequence	3.5 pt/a	B	POST		
	Liberty	32 fl oz/a	B	POST		
	AMS	8.5 lb/100 gal	B	POST		
13	Sonic	4 oz/a	A	PRE	100	80.4
	Enversa	3 pt/a	B	POST		
	Enlist One	32 fl oz/a	B	POST		
	Roundup PowerMax 3	30 fl oz/a	B	POST		
	AMSOL	2.4 qt/a	B	POST		

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Michigan State University

Comparison of commercial weed control programs in Enlist E3 soybean

Trial ID: SOY11-24

Protocol ID: SOY11-24 Location: Campus, T-12 Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Sep-30-2024	Sep-30-2024
Rating Type	control	yield
Rating Unit	%	bu/A
Crop Type, Code		C, GLXMA
Pest Code	AMBEL	
Trt-Eval Interval	111 DA-B	@13% M
Number of Decimals	0	1

Trt No.	Treatment Name	Rate Unit	Appl Code	Appl Timing		
14	Sonic	4 oz/a	A	PRE	100	83.5
	Enversa	3 pt/a	B	POST		
	Enlist One	32 fl oz/a	B	POST		
	Liberty	32 fl oz/a	B	POST		
	Crop oil concentrate	1 % v/v	B	POST		
	AMSOL	3 qt/a	B	POST		
15	Zidua PRO	6 fl oz/a	A	PRE	100	81.7
	Zidua	2.5 fl oz/a	B	POST		
	Enlist One	32 fl oz/a	B	POST		
	Liberty	32 fl oz/a	B	POST		
	AMS	8.5 lb/100 gal	B	POST		
16	Fierce EZ	6 fl oz/a	A	PRE	100	78.9
	Perpetuo	6 fl oz/a	B	POST		
	Enlist One	32 fl oz/a	B	POST		
	Liberty	32 fl oz/a	B	POST		
	Crop oil concentrate	1 % v/v	B	POST		
	AMS	8.5 lb/100 gal	B	POST		
17	Fierce MTZ	16 fl oz/a	A	PRE	100	76.8
	Perpetuo	6 fl oz/a	B	POST		
	Enlist One	32 fl oz/a	B	POST		
	Liberty	32 fl oz/a	B	POST		
	Crop oil concentrate	1 % v/v	B	POST		
	AMS	8.5 lb/100 gal	B	POST		
18	Fierce XLT	3.75 oz/a	A	PRE	100	80.1
	Perpetuo	6 fl oz/a	B	POST		
	Enlist One	32 fl oz/a	B	POST		
	Liberty	32 fl oz/a	B	POST		
	Crop oil concentrate	1 % v/v	B	POST		
	AMS	8.5 lb/100 gal	B	POST		
19	Zalo	32 fl oz/a	B	POST	100	83.0
	Dual II Magnum	1.33 pt/a	B	POST		
	Crop oil concentrate	1 % v/v	B	POST		
	AMS	3 lb/a	B	POST		
20	Zalo	32 fl oz/a	B	POST	100	82.7
	Crop oil concentrate	1 % v/v	B	POST		
	AMS	3 lb/a	B	POST		
	Zalo	32 fl oz/a	C	LPOS		
	Crop oil concentrate	1 % v/v	C	LPOS		
	AMS	3 lb/a	C	LPOS		
21	Roundup PowerMax 3	30 fl oz/a	B	POST	95	80.5
	AMS	17 lb/100 gal	B	POST		
22	Liberty	32 fl oz/a	B	POST	94	77.8
	AMS	8.5 lb/100 gal	B	POST		
23	Roundup PowerMax 3	30 fl oz/a	B	POST	95	79.0
	Liberty	32 fl oz/a	B	POST		
	AMS	17 lb/100 gal	B	POST		
24	Enlist One	32 fl oz/a	B	POST	100	78.4
	Liberty	32 fl oz/a	B	POST		
	AMS	8.5 lb/100 gal	B	POST		
25	Enlist Duo	4.75 pt/a	B	POST	100	79.4
	AMS	17 lb/100 gal	B	POST		
26	SAUSX-08	32 fl oz/a	A	PRE	100	82.3
	Liberty	28 fl oz/a	B	POST		
	Crop oil concentrate	1 % v/v	B	POST		
	AMS	8.5 lb/100 gal	B	POST		

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Michigan State University

Comparison of commercial weed control programs in Enlist E3 soybean

Trial ID: SOY11-24

Protocol ID: SOY11-24 Location: Campus, T-12 Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Sep-30-2024	Sep-30-2024
Rating Type	control	yield
Rating Unit	%	bu/A
Crop Type, Code		C, GLXMA
Pest Code	AMBEL	
Trt-Eval Interval	111 DA-B	@13% M
Number of Decimals	0	1

Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing		
27	SAUSX-08	32 fl oz/a		A	PRE	100	80.8
	Liberty	28 fl oz/a		B	POST		
	Roundup PowerMax 3	30 fl oz/a		B	POST		
	Crop oil concentrate	1 % v/v		B	POST		
	AMS	8.5 lb/100 gal		B	POST		
28	SAUSX-08	24 fl oz/a		A	PRE	100	76.1
	SAUSX-08	16 fl oz/a		B	POST		
	Liberty	28 fl oz/a		B	POST		
	Crop oil concentrate	1 % v/v		B	POST		
	AMS	8.5 lb/100 gal		B	POST		
	LSD P=.05					5.3	5.42
	Standard Deviation					3.8	3.85
	CV					3.99	5.03

Could not calculate LSD (% mean diff) or mean separation letters for columns 15,22 because error variance is 0. Mean separation letters are 'na' (not applicable) when error variance is 0