

**Leading with Liberty Ultra for weed control in Enlist E3 soybean**

Trial ID: SOY07-24 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:** 2.8  
**Soil Type:** CL clay loam **pH:** 7.0  
**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	mostly giant foxtail and barnyardgrass
2	CHEAL	common lambsquarters	Chenopodium album
3	AMAPO	Powell amaranth	Amaranthus powellii
4	AMBEL	common ragweed	Ambrosia artemisiifolia
5	SINAR	wild mustard	Sinapis arvensis
6	ACCRH	three-seed mercury	Acalypha rhomboidea
Crop	Code	Common Name	
1	GLXMA	Soybean	

**Application Description**

	A	B
<b>Application Timing:</b>	POST	+14d
<b>Date Treated:</b>	Jun-11-2024	Jun-28-2024
<b>Time Treated:</b>	1:30 PM	2:30 PM
<b>% Cloud Cover:</b>	10	95
<b>Air Temp., Unit:</b>	69 F	62 F
<b>% Relative Humidity:</b>	46	62
<b>Wind Speed/Unit/Dir:</b>	4 MPH SE	3 MPH SSE
<b>Soil Temp, Unit:</b>	63 F	67 F
<b>Leaf Moist/Dew Presence (Y/N):</b>	N	N
<b>Soil Moist:</b>	5	5

**Crop Stage at Each Application**

	A	B
<b>Crop 1 Name:</b>	GLXMA	GLXMA
<b>Height:</b>	5-5 " (5)	16-16 " (16)
<b>Stage:</b>	V2-V3	V15

**Weed Stage at Each Application**

	A	B
<b>Weed 1 Name:</b>	ANGR	ANGR
<b>Height:</b>	3-5 " (4)	10-24 " (17)
<b>Stage:</b>	3-5L	3-15L
<b>Weed 2 Name:</b>	CHEAL	CHEAL
<b>Height:</b>	0.5-4 " (2)	4-11 " (8)
<b>Stage:</b>	4-24L	16-37L
<b>Weed 3 Name:</b>	AMAPO	AMAPO
<b>Height:</b>	0.5-3 " (3)	12-15 " (14)
<b>Stage:</b>	2-10L	20-50L
<b>Weed 4 Name:</b>	AMBEL	AMBEL
<b>Height:</b>	0.5-10 " (5)	11-20 " (16)
<b>Stage:</b>	2-4L	11-25L
<b>Weed 5 Name:</b>	SINAR	SINAR
<b>Height:</b>	0-2 " (1)	18-23 " (21)
<b>Stage:</b>	2-6L	flower
<b>Weed 6 Name:</b>	ACCRH	ACCRH
<b>Height:</b>	0.5-3 " (3)	2-6 " (5)
<b>Stage:</b>	2-10L	10-12L

**Weed Density**

	1	2	3	4	5	6
<b>Date:</b>	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	SINAR	ACCRH
<b>Density:</b>	9 FT2	2 FT2	1 FT2	3 FT2	1 FT2	1 FT2

**Application Equipment**

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<b>Appl</b>	<b>Sprayer Type</b>	<b>Ground Speed</b>	<b>Nozzle Type</b>	<b>Nozzle Size</b>	<b>Nozzle Height</b>	<b>Nozzle Spacing</b>	<b>Boom Width</b>	<b>Spray Volume</b>	<b>Carrier</b>	<b>Operation Pressure</b>
<b>A</b>	CUB	3.8 MPH	AIXR	11003	24.0 "	20.0 "	100.0 "	19 GAL/AC	WATER	30 PSI
<b>B</b>	CUB	3.8 MPH	AIXR	11003	28.0 "	20.0 "	120.0 "	19 GAL/AC	WATER	30 PSI

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

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Trial ID: SOY07-24

Protocol ID: SOY07-24 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-18-2024	Jun-18-2024	Jun-18-2024
Rating Type	injury	control	control	control	control	control
Rating Unit	%	%	%	%	%	%
Crop Type, Code	C, GLXMA					
Pest Code		ANGR	CHEAL	AMAPO	AMBEL	ACCRH
Trt-Eval Interval	7 DA-A	7 DA-A	7 DA-A	7 DA-A	7 DA-A	7 DA-A
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Appl Unit	Appl Code	Appl Timing						
1	Untreated					0	0	0	0	0	0
2	Liberty Ultra	24 fl oz/a	A		POST	4	95	100	100	99	100
	Select Max	12 fl oz/a	A		POST						
	Zidua SC	2.5 fl oz/a	A		POST						
	Crop oil concentrate	1 % v/v	A		POST						
	AMS	1.5 lb/a	A		POST						
3	Liberty Ultra	24 fl oz/a	A		POST	5	100	100	100	100	99
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Zidua SC	2.5 fl oz/a	A		POST						
	AMS	1.5 lb/a	A		POST						
4	Enlist One	32 fl oz/a	A		POST	4	10	99	100	93	100
	Dual II Magnum	1 pt/a	A		POST						
	Crop oil concentrate	1 % v/v	A		POST						
	AMS	1.5 lb/a	A		POST						
5	Enlist One	32 fl oz/a	A		POST	7	100	100	100	100	100
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Dual II Magnum	1 pt/a	A		POST						
	AMS	1.5 lb/a	A		POST						
6	Liberty Ultra	24 fl oz/a	A		POST	5	97	100	100	100	100
	Enlist One	32 fl oz/a	A		POST						
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Zidua SC	2.5 fl oz/a	A		POST						
	AMS	1.5 lb/a	A		POST						
7	Liberty Ultra	24 fl oz/a	A		POST	5	98	100	100	100	100
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Zidua SC	2.5 fl oz/a	A		POST						
	AMS	1.5 lb/a	A		POST						
	Enlist One	32 fl oz/a	B		+14 d						
	Roundup PowerMax 3	30 fl oz/a	B		+14 d						
	AMS	1.5 lb/a	B		+14 d						
8	Enlist One	32 fl oz/a	A		POST	9	99	100	100	100	100
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Dual II Magnum	1 pt/a	A		POST						
	AMS	1.5 lb/a	A		POST						
	Liberty Ultra	24 fl oz/a	B		+14 d						
	Roundup PowerMax 3	30 fl oz/a	B		+14 d						
	AMS	1.5 lb/a	B		+14 d						
	LSD P=.05					2.8	2.8	1.4	0.5	2.1	0.8
	Standard Deviation					1.9	1.9	1.0	0.4	1.4	0.5
	CV					39.65	2.52	1.11	0.4	1.67	0.61

Could not calculate LSD (% mean diff) or mean separation letters for columns 12,17,19,20,23,25 because error variance is 0. Mean separation letters are 'na' (not applicable) when error variance is 0

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Trial ID: SOY07-24

Protocol ID: SOY07-24 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	Jun-25-2024	Jun-25-2024
Rating Type	injury	control	control	control	control	control
Rating Unit	%	%	%	%	%	%
Crop Type, Code	C, GLXMA					
Pest Code		ANGR	CHEAL	AMAPO	AMBEL	SINAR
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Appl Unit	Appl Code	Appl Timing						
1	Untreated					0	0	0	0	0	0
2	Liberty Ultra	24 fl oz/a	A		POST	2	95	98	100	99	100
	Select Max	12 fl oz/a	A		POST						
	Zidua SC	2.5 fl oz/a	A		POST						
	Crop oil concentrate	1 % v/v	A		POST						
	AMS	1.5 lb/a	A		POST						
3	Liberty Ultra	24 fl oz/a	A		POST	3	100	99	100	98	100
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Zidua SC	2.5 fl oz/a	A		POST						
	AMS	1.5 lb/a	A		POST						
4	Enlist One	32 fl oz/a	A		POST	3	0	100	100	100	100
	Dual II Magnum	1 pt/a	A		POST						
	Crop oil concentrate	1 % v/v	A		POST						
	AMS	1.5 lb/a	A		POST						
5	Enlist One	32 fl oz/a	A		POST	5	100	100	100	99	100
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Dual II Magnum	1 pt/a	A		POST						
	AMS	1.5 lb/a	A		POST						
6	Liberty Ultra	24 fl oz/a	A		POST	3	98	99	100	99	100
	Enlist One	32 fl oz/a	A		POST						
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Zidua SC	2.5 fl oz/a	A		POST						
	AMS	1.5 lb/a	A		POST						
7	Liberty Ultra	24 fl oz/a	A		POST	2	98	99	99	100	100
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Zidua SC	2.5 fl oz/a	A		POST						
	AMS	1.5 lb/a	A		POST						
	Enlist One	32 fl oz/a	B		+14 d						
	Roundup PowerMax 3	30 fl oz/a	B		+14 d						
	AMS	1.5 lb/a	B		+14 d						
8	Enlist One	32 fl oz/a	A		POST	6	100	100	100	99	100
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Dual II Magnum	1 pt/a	A		POST						
	AMS	1.5 lb/a	A		POST						
	Liberty Ultra	24 fl oz/a	B		+14 d						
	Roundup PowerMax 3	30 fl oz/a	B		+14 d						
	AMS	1.5 lb/a	B		+14 d						
	LSD P=.05					2.4	2.1	1.4	1.3	1.8	.
	Standard Deviation					1.6	1.4	1.0	0.9	1.2	0.0
	CV					55.53	1.94	1.13	1.01	1.42	0.0

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Protocol ID: SOY07-24 Location: Campus, T-12 Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Jun-25-2024	Jul-2-2024	Jul-2-2024	Jul-2-2024	Jul-2-2024	Jul-2-2024	Jul-2-2024
Rating Type	control	injury	control	control	control	control	control
Rating Unit	%	%	%	%	%	%	%
Crop Type, Code	C, GLXMA						
Pest Code	ACCRH		ANGR	CHEAL	AMAPO	AMBEL	SINAR
Trt-Eval Interval	14 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

Trt No.	Treatment Name	Rate	Appl Unit	Appl Code	Appl Timing	Control %	Injury %	Control %	Control %	Control %	Control %
1	Untreated					0	0	0	0	0	0
2	Liberty Ultra	24 fl oz/a	A		POST	98	2	94	96	100	99
	Select Max	12 fl oz/a	A		POST						
	Zidua SC	2.5 fl oz/a	A		POST						
	Crop oil concentrate	1 % v/v	A		POST						
	AMS	1.5 lb/a	A		POST						
3	Liberty Ultra	24 fl oz/a	A		POST	96	1	100	98	100	98
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Zidua SC	2.5 fl oz/a	A		POST						
	AMS	1.5 lb/a	A		POST						
4	Enlist One	32 fl oz/a	A		POST	100	2	0	100	100	100
	Dual II Magnum	1 pt/a	A		POST						
	Crop oil concentrate	1 % v/v	A		POST						
	AMS	1.5 lb/a	A		POST						
5	Enlist One	32 fl oz/a	A		POST	99	3	100	100	100	98
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Dual II Magnum	1 pt/a	A		POST						
	AMS	1.5 lb/a	A		POST						
6	Liberty Ultra	24 fl oz/a	A		POST	100	0	99	100	100	100
	Enlist One	32 fl oz/a	A		POST						
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Zidua SC	2.5 fl oz/a	A		POST						
	AMS	1.5 lb/a	A		POST						
7	Liberty Ultra	24 fl oz/a	A		POST	97	0	100	100	100	100
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Zidua SC	2.5 fl oz/a	A		POST						
	AMS	1.5 lb/a	A		POST						
	Enlist One	32 fl oz/a	B		+14 d						
	Roundup PowerMax 3	30 fl oz/a	B		+14 d						
	AMS	1.5 lb/a	B		+14 d						
8	Enlist One	32 fl oz/a	A		POST	100	4	100	100	100	100
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Dual II Magnum	1 pt/a	A		POST						
	AMS	1.5 lb/a	A		POST						
	Liberty Ultra	24 fl oz/a	B		+14 d						
	Roundup PowerMax 3	30 fl oz/a	B		+14 d						
	AMS	1.5 lb/a	B		+14 d						
	LSD P=.05					3.0	1.6	2.0	2.6	.	3.2
	Standard Deviation					2.0	1.1	1.4	1.8	0.0	2.2
	CV					2.37	82.66	1.83	2.06	0.0	2.52

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Trial ID: SOY07-24

Protocol ID: SOY07-24 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	Jul-9-2024	Jul-9-2024	Jul-9-2024
Rating Type	injury	control	control	control	control	control	control
Rating Unit	%	%	%	%	%	%	%
Crop Type, Code	C, GLXMA						
Pest Code	ACCRH	ANGR	CHEAL	AMAPO	AMBEL	SINAR	ACCRH
Trt-Eval Interval	28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A
Number of Decimals	0	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Appl Unit	Appl Code	Appl Timing						
1	Untreated					0	0	0	0	0	0
2	Liberty Ultra	24 fl oz/a	A		POST	0	92	94	100	99	100
	Select Max	12 fl oz/a	A		POST						
	Zidua SC	2.5 fl oz/a	A		POST						
	Crop oil concentrate	1 % v/v	A		POST						
	AMS	1.5 lb/a	A		POST						
3	Liberty Ultra	24 fl oz/a	A		POST	0	99	96	100	95	100
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Zidua SC	2.5 fl oz/a	A		POST						
	AMS	1.5 lb/a	A		POST						
4	Enlist One	32 fl oz/a	A		POST	0	0	100	100	100	100
	Dual II Magnum	1 pt/a	A		POST						
	Crop oil concentrate	1 % v/v	A		POST						
	AMS	1.5 lb/a	A		POST						
5	Enlist One	32 fl oz/a	A		POST	0	100	100	100	98	100
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Dual II Magnum	1 pt/a	A		POST						
	AMS	1.5 lb/a	A		POST						
6	Liberty Ultra	24 fl oz/a	A		POST	0	97	100	100	99	100
	Enlist One	32 fl oz/a	A		POST						
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Zidua SC	2.5 fl oz/a	A		POST						
	AMS	1.5 lb/a	A		POST						
7	Liberty Ultra	24 fl oz/a	A		POST	0	100	100	100	100	100
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Zidua SC	2.5 fl oz/a	A		POST						
	AMS	1.5 lb/a	A		POST						
	Enlist One	32 fl oz/a	B		+14 d						
	Roundup PowerMax 3	30 fl oz/a	B		+14 d						
	AMS	1.5 lb/a	B		+14 d						
8	Enlist One	32 fl oz/a	A		POST	0	100	100	100	100	100
	Roundup PowerMax 3	30 fl oz/a	A		POST						
	Dual II Magnum	1 pt/a	A		POST						
	AMS	1.5 lb/a	A		POST						
	Liberty Ultra	24 fl oz/a	B		+14 d						
	Roundup PowerMax 3	30 fl oz/a	B		+14 d						
	AMS	1.5 lb/a	B		+14 d						
	LSD P=.05					.	2.7	4.0	.	3.5	.
	Standard Deviation					0.0	1.8	2.7	0.0	2.4	0.0
	CV					0.0	2.48	3.14	0.0	2.78	0.0

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