

Weed control and crop tolerance with increasing rates of metribuzin in no-till soybean

Trial ID: NTS03-23 Study Dir.: Sprague, Stiles
 Conducted: Campus, C-13 Investigator: Christy Sprague

Planting Date: May-15-2023 **Row Spacing:** 30 IN
Variety: P25A16E **No. of Reps:** 4
Population: 150000 seeds/A **% OM:** 2.7
Soil Type: CL clay loam **pH:** 7.0
Plot Size: 10 X 25 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: No-tilled into corn stubble.

Fertilizer:

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1	ERICA	horseweed (marestail)	Erigeron (Conyza) canadensis
Crop	Code	Common Name	
1	GLXMA	Soybean	

Application Description

A
Application Timing: PRE
Date Treated: May-15-2023
Time Treated: 11:20 AM
% Cloud Cover: 0
Air Temp., Unit: 61 F
% Relative Humidity: 41
Wind Speed/Unit/Dir: 2 MPH NNE
Soil Temp, Unit: 63 F
Leaf Moist/Dew Presence (Y/N): N
Soil Moist: 5

Crop Stage at Each Application

A
Crop 1 Name: GLXMA
Height:
Stage:

Weed Stage at Each Application

A
Weed 1 Name: ERICA
Height: 1-3 " (2)
Stage: 5L-16L

Weed Density

1
Date: May-15-2023
Weed Name: ERICA
Density: 2 FT2

Application Equipment

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 "	20 "	100.0 "	19 GAL/AC	WATER	30 PSI

Comments: Horseweed (ERICA) at this location is resistant to the Group 2 (ALS-inhibiting) and Group 9 (glyphosate) herbicides. Roundup PowerMax 3 (30 fl oz/A) + AMS was applied to all treatments on July 24.

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Protocol ID: NTS03-23 Location: Campus, C-13 Trial Year: 2023

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Rating Date	Jun-26-2023	Jun-26-2023	Jun-5-2023	Jul-10-2023	Jul-10-2023	Aug-3-2023
Rating Type	injury	control	injury	injury	control	injury
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	
Crop Type, Code	C, GLXMA		C, GLXMA	C, GLXMA		C, GLXMA
Pest Code		ERICA			ERICA	
Trt-Eval Interval	42 DA-A	42 DA-A	21 DA-A	56 DA-A	56 DA-A	80 DA-A
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing	Jun-26-2023 injury	Jun-26-2023 control	Jun-5-2023 injury	Jul-10-2023 injury	Jul-10-2023 control	Aug-3-2023 injury
1	Liberty	32 fl oz/a		A	PRE	0	0	0	0	0	0
	Roundup PowerMax 3	30 fl oz/a		A	PRE						
	AMS	17 lb/100 gal		A	PRE						
2	Metribuzin	4 oz/a		A	PRE	0	96	0	0	91	0
	Liberty	32 fl oz/a		A	PRE						
	Roundup PowerMax 3	30 fl oz/a		A	PRE						
	AMS	17 lb/100 gal		A	PRE						
3	Metribuzin	6 oz/a		A	PRE	0	100	0	0	98	0
	Liberty	32 fl oz/a		A	PRE						
	Roundup PowerMax 3	30 fl oz/a		A	PRE						
	AMS	17 lb/100 gal		A	PRE						
4	Metribuzin	8 oz/a		A	PRE	0	99	0	0	97	0
	Liberty	32 fl oz/a		A	PRE						
	Roundup PowerMax 3	30 fl oz/a		A	PRE						
	AMS	17 lb/100 gal		A	PRE						
5	Metribuzin	10 oz/a		A	PRE	0	99	0	0	100	0
	Liberty	32 fl oz/a		A	PRE						
	Roundup PowerMax 3	30 fl oz/a		A	PRE						
	AMS	17 lb/100 gal		A	PRE						
6	Metribuzin	12 oz/a		A	PRE	0	100	0	0	100	0
	Liberty	32 fl oz/a		A	PRE						
	Roundup PowerMax 3	30 fl oz/a		A	PRE						
	AMS	17 lb/100 gal		A	PRE						
7	Metribuzin	16 oz/a		A	PRE	0	99	0	0	100	0
	Liberty	32 fl oz/a		A	PRE						
	Roundup PowerMax 3	30 fl oz/a		A	PRE						
	AMS	17 lb/100 gal		A	PRE						
	LSD P=.05					.	4.9	.	.	5.7	.
	Standard Deviation					0.0	3.3	0.0	0.0	3.8	0.0
	CV					0.0	3.87	0.0	0.0	4.54	0.0

Missing data estimates are included in columns: Average=9,10

Could not calculate LSD (% mean diff) for columns 1,3,4,6 because error mean square = 0.

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Rating Date	Aug-3-2023	Oct-23-2023	Oct-31-2023	Oct-31-2023
Rating Type	control	control	moisture	yield
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	bu/A, -, -
Crop Type, Code			C, GLXMA	C, GLXMA
Pest Code	ERICA	ERICA		
Trt-Eval Interval	80 DA-A	161 DA-A	169 DA-A	169 DA-A
Number of Decimals	0	0	1	1

Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing	Aug-3-2023	Oct-23-2023	Oct-31-2023	Oct-31-2023
1	Liberty	32 fl oz/a		A	PRE	0	0	11.9	60.1
	Roundup PowerMax 3	30 fl oz/a		A	PRE				
	AMS	17 lb/100 gal		A	PRE				
2	Metribuzin	4 oz/a		A	PRE	85	85	11.8	69.0
	Liberty	32 fl oz/a		A	PRE				
	Roundup PowerMax 3	30 fl oz/a		A	PRE				
	AMS	17 lb/100 gal		A	PRE				
3	Metribuzin	6 oz/a		A	PRE	95	98	11.8	73.6
	Liberty	32 fl oz/a		A	PRE				
	Roundup PowerMax 3	30 fl oz/a		A	PRE				
	AMS	17 lb/100 gal		A	PRE				
4	Metribuzin	8 oz/a		A	PRE	96	98	11.7	69.5
	Liberty	32 fl oz/a		A	PRE				
	Roundup PowerMax 3	30 fl oz/a		A	PRE				
	AMS	17 lb/100 gal		A	PRE				
5	Metribuzin	10 oz/a		A	PRE	100	99	11.2	73.3
	Liberty	32 fl oz/a		A	PRE				
	Roundup PowerMax 3	30 fl oz/a		A	PRE				
	AMS	17 lb/100 gal		A	PRE				
6	Metribuzin	12 oz/a		A	PRE	98	96	11.5	73.4
	Liberty	32 fl oz/a		A	PRE				
	Roundup PowerMax 3	30 fl oz/a		A	PRE				
	AMS	17 lb/100 gal		A	PRE				
7	Metribuzin	16 oz/a		A	PRE	100	100	11.3	69.9
	Liberty	32 fl oz/a		A	PRE				
	Roundup PowerMax 3	30 fl oz/a		A	PRE				
	AMS	17 lb/100 gal		A	PRE				
	LSD P=.05					5.1	6.7	1.11	4.58
	Standard Deviation					3.5	4.5	0.74	3.07
	CV					4.22	5.52	6.43	4.4

Missing data estimates are included in columns: Average=9,10

Could not calculate LSD (% mean diff) for columns 1,3,4,6 because error mean square = 0.