

Glyphosate-resistant horseweed management in RR2 Xtend soybean

Trial ID: NTS11-17 Study Dir.: Sprague, Powell, Stiles
 Conducted: Isabella Co. Investigator: Christy Sprague

Planting Date: May-19-2017 **Row Spacing:** 30 IN
Variety: Pioneer 28T24X **No. of Reps:** 4
Population: 150000 S/A **% OM:** 2.2
Soil Type: SL sandy loam **pH:** 7.2
Plot Size: 10 X 30 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: No-tilled into soybean stubble

Fertilizer:

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1	ERICA	horseweed	Conyza canadensis
Crop	Code	Common Name	
1	GLXMA	Soybean	

Application Description

	A	B
Application Timing:	PRE	POST
Date Treated:	May-19-2017	Jul-5-2017
Time Treated:	12:00 PM	1:30 PM
% Cloud Cover:	100	10
Air Temp., Unit:	57 F	80 F
% Relative Humidity:	72	77
Wind Speed/Unit/Dir:	6 mph NE	4 mph W
Soil Temp, Unit:	56 F	79 F
Leaf Moist/Dew Presence (Y/N):	4	5
Soil Moist:	3	4

Crop Stage at Each Application

	A	B
Crop 1 Name:	GLXMA	GLXMA
Height:		9-11 " (10)
Stage:		V4

Weed Stage at Each Application

	A	B
Weed 1 Name:	ERICA	ERICA
Height:	2-4 " (3)	2-6 " (5)
Stage:	4-15L	boltin

Weed Density

	1
Date:	May-19-2017
Weed Name:	ERICA
Density:	13 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	TTI	11003	24 "	20 "	100 "	19 GPA	WATER	25 PSI
B	CUB	3.8 MPH	AIXR	11003	28 "	20 "	110 "	19 GPA	WATER	30 PSI

Comments: The horseweed population at this location is resistant to Group 2 (ALS-inhibiting) and Group 9 (glyphosate) herbicides.

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Pest Code	ERICA	GLXMA	ERICA	GLXMA	ERICA	GLXMA
Crop Code						
Rating Date	May-24-2017	Jun-15-2017	Jun-15-2017	Jul-5-2017	Jul-5-2017	Jul-17-2017
Rating Type	control	injury	control	injury	control	injury
Rating Unit	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	5 DA-A	27 DA-A	27 DA-A	47 DA-A	47 DA-A	59 DA-A
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Code	*	*	*	*	*	*
1	Roundup PowerMax	4.5 L		32 fl oz/a		A	18	0	13	0	23	0
1	AMS	WG		17 lb/100 gal		A						
1	Roundup PowerMax	4.5 L		32 fl oz/a		B						
1	AMS	WG		17 lb/100 gal		B						
2	XtendiMax	2.9 SL		22 fl oz/a		A	90	0	97	0	100	0
2	Roundup PowerMax	4.5 L		32 fl oz/a		A						
2	Intact	L		0.5 % v/v		A						
2	Roundup PowerMax	4.5 L		32 fl oz/a		B						
2	AMS	WG		17 lb/100 gal		B						
3	Valor	51 WG		2.5 oz/a		A	91	0	94	0	95	0
3	XtendiMax	2.9 SL		22 fl oz/a		A						
3	Roundup PowerMax	4.5 L		32 fl oz/a		A						
3	Intact	L		0.5 % v/v		A						
3	Roundup PowerMax	4.5 L		32 fl oz/a		B						
3	AMS	WG		17 lb/100 gal		B						
4	Valor	51 WG		2.5 oz/a		A	90	0	94	0	99	0
4	Metribuzin	75 WG		8 oz/a		A						
4	XtendiMax	2.9 SL		22 fl oz/a		A						
4	Roundup PowerMax	4.5 L		32 fl oz/a		A						
4	Intact	L		0.5 % v/v		A						
4	Roundup PowerMax	4.5 L		32 fl oz/a		B						
4	AMS	WG		17 lb/100 gal		B						
5	Spartan	4 L		8 fl oz/a		A	86	0	92	0	96	0
5	XtendiMax	2.9 SL		22 fl oz/a		A						
5	Roundup PowerMax	4.5 L		32 fl oz/a		A						
5	Intact	L		0.5 % v/v		A						
5	Roundup PowerMax	4.5 L		32 fl oz/a		B						
5	AMS	WG		17 lb/100 gal		B						
6	Spartan	4 L		8 fl oz/a		A	86	0	93	0	100	0
6	Metribuzin	75 WG		8 oz/a		A						
6	XtendiMax	2.9 SL		22 fl oz/a		A						
6	Roundup PowerMax	4.5 L		32 fl oz/a		A						
6	Intact	L		0.5 % v/v		A						
6	Roundup PowerMax	4.5 L		32 fl oz/a		B						
6	AMS	WG		17 lb/100 gal		B						
7	Metribuzin	75 WG		8 oz/a		A	90	0	97	0	98	0
7	XtendiMax	2.9 SL		22 fl oz/a		A						
7	Roundup PowerMax	4.5 L		32 fl oz/a		A						
7	Intact	L		0.5 % v/v		A						
7	Roundup PowerMax	4.5 L		32 fl oz/a		B						
7	AMS	WG		17 lb/100 gal		B						

* Adjusted means

Could not calculate LSD (% mean diff) for columns 2,4,6,8 because error mean square = 0.

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Pest Code						
Crop Code						
Rating Date	May-24-2017	Jun-15-2017	Jun-15-2017	Jul-5-2017	Jul-5-2017	Jul-17-2017
Rating Type	control	injury	control	injury	control	injury
Rating Unit	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	5 DA-A	27 DA-A	27 DA-A	47 DA-A	47 DA-A	59 DA-A
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Code	*	*	*	*	*	*
8	Authority MTZ	45	WG	16 oz/a		A	86	0	89	0	95	0
8	XtendiMax	2.9	SL	22 fl oz/a		A						
8	Roundup PowerMax	4.5	L	32 fl oz/a		A						
8	Intact		L	0.5 % v/v		A						
8	Roundup PowerMax	4.5	L	32 fl oz/a		B						
8	AMS		WG	17 lb/100 gal		B						
9	Trivence	61.3	WG	8 oz/a		A	89	0	93	0	95	0
9	XtendiMax	2.9	SL	22 fl oz/a		A						
9	Roundup PowerMax	4.5	L	32 fl oz/a		A						
9	Intact		L	0.5 % v/v		A						
9	Roundup PowerMax	4.5	L	32 fl oz/a		B						
9	AMS		WG	17 lb/100 gal		B						
10	Zidua PRO	4.09	L	6 fl oz/a		A	100	0	100	0	100	0
10	XtendiMax	2.9	SL	22 fl oz/a		A						
10	Roundup PowerMax	4.5	L	32 fl oz/a		A						
10	MSO		L	1 % v/v		A						
10	Intact		L	0.5 % v/v		A						
10	Roundup PowerMax	4.5	L	32 fl oz/a		B						
10	AMS		WG	17 lb/100 gal		B						
11	Roundup PowerMax	4.5	L	32 fl oz/a		A	18	0	10	0	50	0
11	AMS		WG	17 lb/100 gal		A						
11	Roundup PowerMax	4.5	L	32 fl oz/a		B						
11	AMS		WG	17 lb/100 gal		B						
12	XtendiMax	2.9	SL	22 fl oz/a		A	81	0	89	0	98	0
12	Roundup PowerMax	4.5	L	32 fl oz/a		A						
12	Intact		L	0.5 % v/v		A						
12	Roundup PowerMax	4.5	L	32 fl oz/a		B						
12	AMS		WG	17 lb/100 gal		B						
LSD P=.05							7.5	.	6.5	.	6.1	.
Standard Deviation							5.2	0.0	4.5	0.0	4.2	0.0
CV							6.77	0.0	5.67	0.0	4.86	0.0

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Pest Code					
Crop Code					
Rating Date	Jul-17-2017	Aug-1-2017	Aug-1-2017	Aug-16-2017	Sep-21-2017
Rating Type	control	injury	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Trt-Eval Interval	59 DA-A	74 DA-A	74 DA-A	89 DA-A	125 DA-A
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Code	*	*	*	*	*
1	Roundup PowerMax	4.5 L		32 fl oz/a		A	30	0	20	21	20
1	AMS	WG		17 lb/100 gal		A					
1	Roundup PowerMax	4.5 L		32 fl oz/a		B					
1	AMS	WG		17 lb/100 gal		B					
2	XtendiMax	2.9 SL		22 fl oz/a		A	98	0	86	77	71
2	Roundup PowerMax	4.5 L		32 fl oz/a		A					
2	Intact	L		0.5 % v/v		A					
2	Roundup PowerMax	4.5 L		32 fl oz/a		B					
2	AMS	WG		17 lb/100 gal		B					
3	Valor	51 WG		2.5 oz/a		A	91	0	90	90	84
3	XtendiMax	2.9 SL		22 fl oz/a		A					
3	Roundup PowerMax	4.5 L		32 fl oz/a		A					
3	Intact	L		0.5 % v/v		A					
3	Roundup PowerMax	4.5 L		32 fl oz/a		B					
3	AMS	WG		17 lb/100 gal		B					
4	Valor	51 WG		2.5 oz/a		A	99	0	94	93	87
4	Metribuzin	75 WG		8 oz/a		A					
4	XtendiMax	2.9 SL		22 fl oz/a		A					
4	Roundup PowerMax	4.5 L		32 fl oz/a		A					
4	Intact	L		0.5 % v/v		A					
4	Roundup PowerMax	4.5 L		32 fl oz/a		B					
4	AMS	WG		17 lb/100 gal		B					
5	Spartan	4 L		8 fl oz/a		A	92	0	92	99	93
5	XtendiMax	2.9 SL		22 fl oz/a		A					
5	Roundup PowerMax	4.5 L		32 fl oz/a		A					
5	Intact	L		0.5 % v/v		A					
5	Roundup PowerMax	4.5 L		32 fl oz/a		B					
5	AMS	WG		17 lb/100 gal		B					
6	Spartan	4 L		8 fl oz/a		A	99	0	98	98	98
6	Metribuzin	75 WG		8 oz/a		A					
6	XtendiMax	2.9 SL		22 fl oz/a		A					
6	Roundup PowerMax	4.5 L		32 fl oz/a		A					
6	Intact	L		0.5 % v/v		A					
6	Roundup PowerMax	4.5 L		32 fl oz/a		B					
6	AMS	WG		17 lb/100 gal		B					
7	Metribuzin	75 WG		8 oz/a		A	98	0	88	81	78
7	XtendiMax	2.9 SL		22 fl oz/a		A					
7	Roundup PowerMax	4.5 L		32 fl oz/a		A					
7	Intact	L		0.5 % v/v		A					
7	Roundup PowerMax	4.5 L		32 fl oz/a		B					
7	AMS	WG		17 lb/100 gal		B					

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Crop Code											
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Rating Type	control	injury	control	control	control						
Rating Unit	percent	percent	percent	percent	percent						
Trt-Eval Interval	59 DA-A	74 DA-A	74 DA-A	89 DA-A	125 DA-A						
Number of Decimals	0	0	0	0	0						
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Code	*	*	*	*	*
8	Authority MTZ	45	WG	16 oz/a		A	92	0	93	90	89
8	XtendiMax	2.9	SL	22 fl oz/a		A					
8	Roundup PowerMax	4.5	L	32 fl oz/a		A					
8	Intact		L	0.5 % v/v		A					
8	Roundup PowerMax	4.5	L	32 fl oz/a		B					
8	AMS		WG	17 lb/100 gal		B					
9	Trivence	61.3	WG	8 oz/a		A	92	0	90	90	84
9	XtendiMax	2.9	SL	22 fl oz/a		A					
9	Roundup PowerMax	4.5	L	32 fl oz/a		A					
9	Intact		L	0.5 % v/v		A					
9	Roundup PowerMax	4.5	L	32 fl oz/a		B					
9	AMS		WG	17 lb/100 gal		B					
10	Zidua PRO	4.09	L	6 fl oz/a		A	100	0	99	98	94
10	XtendiMax	2.9	SL	22 fl oz/a		A					
10	Roundup PowerMax	4.5	L	32 fl oz/a		A					
10	MSO		L	1 % v/v		A					
10	Intact		L	0.5 % v/v		A					
10	Roundup PowerMax	4.5	L	32 fl oz/a		B					
10	AMS		WG	17 lb/100 gal		B					
11	Roundup PowerMax	4.5	L	32 fl oz/a		A	38	0	20	21	25
11	AMS		WG	17 lb/100 gal		A					
11	Roundup PowerMax	4.5	L	32 fl oz/a		B					
11	AMS		WG	17 lb/100 gal		B					
12	XtendiMax	2.9	SL	22 fl oz/a		A	98	0	89	84	79
12	Roundup PowerMax	4.5	L	32 fl oz/a		A					
12	Intact		L	0.5 % v/v		A					
12	Roundup PowerMax	4.5	L	32 fl oz/a		B					
12	AMS		WG	17 lb/100 gal		B					
LSD P=.05							6.0	.	9.5	6.1	9.3
Standard Deviation							4.2	0.0	6.6	4.2	6.4
CV							4.91	0.0	8.35	5.45	8.59

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