

Comparison of no-till weed control programs in Roundup Ready 2 Xtend soybean

Trial ID: NTS02-20 Study Dir.: Sprague, Powell, Stiles
 Conducted: T-18 Campus Investigator: Christy Sprague

Planting Date: May-23-2020 **Row Spacing:** 30 IN
Variety: AG26X8 **No. of Reps:** 4
Population: 156000 seeds/A **% OM:** 2.5
Soil Type: L loam **pH:** 5.8
Plot Size: 10 X 35 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: No-tilled into standing corn stalks.

Fertilizer:

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1	STEME	common chickweed	Stellaria media
2	TAROF	dandelion	Taraxacum officinale
3	ERICA	horseweed	Erigeron canadensis
4	LAMPU	purple deadnettle	Lamium purpureum
5	ANGR	mainly foxtail species	Annual grass
6	CHEAL	common lambsquarters	Chenopodium album
7	POAAN	annual bluegrass	Poa annua
Crop	Code	Common Name	
1	GLXMA	Soybean	

Application Description

Application Timing: 7EPP
Date Treated: May-12-2020
Time Treated: 9:00 AM
% Cloud Cover: 0
Air Temp., Unit: 36 F
% Relative Humidity: 73
Wind Speed/Unit/Dir: 5 mph W
Soil Temp, Unit: 40 F
Leaf Moist/Dew Presence (Y/N): 4
Soil Moist: 3

Crop Stage at Each Application

A
Crop 1 Name: GLXMA
Height:
Stage:

Weed Stage at Each Application

A
Weed 1 Name: STEME
Height: 12-16 " (14)
Stage: many
Weed 2 Name: TAROF
Height: 4 "
Stage: 8-16L
Weed 3 Name: ERICA
Height: 1-3 " (2)
Stage: 2-6L
Weed 4 Name: LAMPU
Height: 4-6 " (5)
Stage: 16
Weed 5 Name: ANGR
Height:
Stage:
Weed 6 Name: CHEAL
Height: 3 "
Stage:
Weed 7 Name: POAAN
Height: 1-3 " (1)
Stage:

Weed Density

	1	2	3	4	5	6	7
Date:	May-12-2020	May-12-2020	May-12-2020	May-12-2020	May-12-2020	May-12-2020	May-12-2020
Weed Name:	STEME	TAROF	ERICA	LAMPU	ANGR	CHEAL	POAAN
Density:	8 FT2	1 FT2	4 FT2	2 FT2	2 FT2	3 FT2	6 FT2

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Appl	Sprayer Type	Ground Speed	Application Equipment							
			Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	Spray Volume	Carrier	Operation Pressure
A	CUB	3.8 mph	TTI	11003	28 "	20 "	100 "	19 GPA	WATER	27 psi

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

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 Project ID: Study Director: Sprague, Powell, Stiles
 Sponsor Contact:

Pest Code				STEME	TAROF	ERICA	CHEAL	POAAN	LAMPU
Crop Type, Code									
Rating Date				May-22-2020	May-22-2020	May-22-2020	May-22-2020	May-22-2020	May-22-2020
Rating Type				control	control	control	control	control	control
Rating Unit				percent	percent	percent	percent	percent	percent
Trt-Eval Interval				10 DA-A	10 DA-A	10 DA-A	10 DA-A	10 DA-A	10 DA-A
Number of Decimals				0	0	0	0	0	0
Trt No.	Treatment Name	Rate	Appl						
		Rate Unit	Appl Timing Code						
1	Roundup PowerMax	32 fl oz/a	7 EPP A	80	63	20	100	78	59
	AMS	17 lb/100 gal	7 EPP A						
2	Engenia Prime	16 fl oz/a	7 EPP A	74	61	98	100	71	74
	Roundup PowerMax	32 fl oz/a	7 EPP A						
	Induce	0.25 % v/v	7 EPP A						
	Intact	0.5 % v/v	7 EPP A						
3	Engenia PRO	16 fl oz/a	7 EPP A	73	70	98	100	80	61
	Roundup PowerMax	32 fl oz/a	7 EPP A						
	Induce	0.25 % v/v	7 EPP A						
	Intact	0.5 % v/v	7 EPP A						
4	Tavium	56.5 fl oz/a	7 EPP A	69	64	98	100	71	53
	Roundup PowerMax	32 fl oz/a	7 EPP A						
	Induce	0.25 % v/v	7 EPP A						
	Intact	0.5 % v/v	7 EPP A						
5	Untreated			0	0	0	0	0	0
6	2,4-D Ester	12 fl oz/a	7 EPP A	80	66	100	100	88	79
	Roundup PowerMax	32 fl oz/a	7 EPP A						
	Induce	0.25 % v/v	7 EPP A						
	AMS	17 lb/100 gal	7 EPP A						
7	Prefix	32 fl oz/a	7 EPP A	83	79	100	100	84	93
	2,4-D Ester	12 fl oz/a	7 EPP A						
	Roundup PowerMax	32 fl oz/a	7 EPP A						
	Crop oil concentrate	1 % v/v	7 EPP A						
	AMS	17 lb/100 gal	7 EPP A						
8	Anthem MAXX	3.25 fl oz/a	7 EPP A	80	73	100	100	81	86
	2,4-D Ester	12 fl oz/a	7 EPP A						
	Roundup PowerMax	32 fl oz/a	7 EPP A						
	Induce	0.25 % v/v	7 EPP A						
	AMS	17 lb/100 gal	7 EPP A						
9	Zidua PRO	6 fl oz/a	7 EPP A	89	80	100	100	81	83
	2,4-D Ester	12 fl oz/a	7 EPP A						
	Roundup PowerMax	32 fl oz/a	7 EPP A						
	Induce	0.25 % v/v	7 EPP A						
	AMS	17 lb/100 gal	7 EPP A						
	LSD P=.05			6.7	7.7	3.6	.	6.7	10.8
	Standard Deviation			4.6	5.3	2.5	0.0	4.6	7.4
	CV			6.59	8.6	3.16	0.0	6.54	11.32

Could not calculate LSD (% mean diff) for columns 4,13,24 because error mean square = 0.

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Location: T-18 Campus

Trial Year: 2020

Protocol ID: NTS02-20

Investigator (Creator): Christy Sprague

Study Director: Sprague, Powell, Stiles

Project ID:

Sponsor Contact:

Pest Code				STEME	TAROF	ERICA	CHEAL	POAAN	LAMPU	C GLXMA
Crop Type, Code				Jun-2-2020	Jun-2-2020	Jun-2-2020	Jun-2-2020	Jun-2-2020	Jun-2-2020	Jun-9-2020
Rating Date				control	control	control	control	control	control	injury
Rating Type				percent	percent	percent	percent	percent	percent	percent
Rating Unit				21 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A	28 DA-A
Trt-Eval Interval				0	0	0	0	0	0	0
Number of Decimals										
Trt No.	Treatment Name	Rate	Appl							
		Rate Unit	Appl Timing Code							
1	Roundup PowerMax	32 fl oz/a	7 EPP A	99	100	25	95	97	94	0
	AMS	17 lb/100 gal	7 EPP A							
2	Engenia Prime	16 fl oz/a	7 EPP A	100	97	100	100	99	89	0
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	Intact	0.5 % v/v	7 EPP A							
3	Engenia PRO	16 fl oz/a	7 EPP A	100	98	100	100	98	86	0
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	Intact	0.5 % v/v	7 EPP A							
4	Tavium	56.5 fl oz/a	7 EPP A	96	100	100	100	97	84	0
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	Intact	0.5 % v/v	7 EPP A							
5	Untreated			0	0	0	0	0	0	0
6	2,4-D Ester	12 fl oz/a	7 EPP A	100	98	100	99	96	90	0
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	AMS	17 lb/100 gal	7 EPP A							
7	Prefix	32 fl oz/a	7 EPP A	100	100	100	100	97	99	0
	2,4-D Ester	12 fl oz/a	7 EPP A							
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Crop oil concentrate	1 % v/v	7 EPP A							
	AMS	17 lb/100 gal	7 EPP A							
8	Anthem MAXX	3.25 fl oz/a	7 EPP A	100	93	100	100	99	93	0
	2,4-D Ester	12 fl oz/a	7 EPP A							
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	AMS	17 lb/100 gal	7 EPP A							
9	Zidua PRO	6 fl oz/a	7 EPP A	99	100	95	100	99	89	0
	2,4-D Ester	12 fl oz/a	7 EPP A							
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	AMS	17 lb/100 gal	7 EPP A							
LSD P=.05				3.8	4.6	6.4	4.8	4.5	8.6	.
Standard Deviation				2.6	3.1	4.4	3.3	3.1	5.9	0.0
CV				2.96	3.58	5.51	3.75	3.53	7.37	0.0

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Michigan State University

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 Protocol ID: NTS02-20 Investigator (Creator): Christy Sprague
 Project ID: Study Director: Sprague, Powell, Stiles
 Sponsor Contact:

Pest Code				STEME	TAROF	ERICA	CHEAL	POAAN	C GLXMA	STEME
Crop Type, Code										
Rating Date				Jun-9-2020	Jun-9-2020	Jun-9-2020	Jun-9-2020	Jun-23-2020	Jun-23-2020	Jun-23-2020
Rating Type				control	control	control	control	control	injury	control
Rating Unit				percent	percent	percent	percent	percent	percent	percent
Trt-Eval Interval				28 DA-A	28 DA-A	28 DA-A	28 DA-A	42 DA-A	42 DA-A	42 DA-A
Number of Decimals				0	0	0	0	0	0	0
Trt No.	Treatment Name	Rate	Appl							
		Rate Unit	Appl Timing Code							
1	Roundup PowerMax	32 fl oz/a	7 EPP A	99	100	23	89	93	0	100
	AMS	17 lb/100 gal	7 EPP A							
2	Engenia Prime	16 fl oz/a	7 EPP A	100	95	100	100	100	0	100
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	Intact	0.5 % v/v	7 EPP A							
3	Engenia PRO	16 fl oz/a	7 EPP A	100	99	98	100	100	0	99
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	Intact	0.5 % v/v	7 EPP A							
4	Tavium	56.5 fl oz/a	7 EPP A	99	97	100	96	100	1	100
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	Intact	0.5 % v/v	7 EPP A							
5	Untreated			0	0	0	0	0	0	0
6	2,4-D Ester	12 fl oz/a	7 EPP A	99	97	91	95	91	0	100
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	AMS	17 lb/100 gal	7 EPP A							
7	Prefix	32 fl oz/a	7 EPP A	100	100	99	100	99	0	100
	2,4-D Ester	12 fl oz/a	7 EPP A							
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Crop oil concentrate	1 % v/v	7 EPP A							
	AMS	17 lb/100 gal	7 EPP A							
8	Anthem MAXX	3.25 fl oz/a	7 EPP A	100	98	97	100	100	3	100
	2,4-D Ester	12 fl oz/a	7 EPP A							
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	AMS	17 lb/100 gal	7 EPP A							
9	Zidua PRO	6 fl oz/a	7 EPP A	100	99	94	100	100	3	100
	2,4-D Ester	12 fl oz/a	7 EPP A							
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	AMS	17 lb/100 gal	7 EPP A							
	LSD P=.05			1.8	5.4	9.1	7.8	10.0	1.3	1.4
	Standard Deviation			1.2	3.7	6.2	5.4	6.9	0.9	1.0
	CV			1.4	4.27	8.0	6.18	7.92	116.55	1.11

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 Project ID: Study Director: Sprague, Powell, Stiles
 Sponsor Contact:

Pest Code				ERICA	ANGR	CHEAL		ERICA	ANGR	CHEAL
Crop Type, Code							C GLXMA			
Rating Date				Jun-23-2020	Jun-23-2020	Jun-23-2020	Jul-7-2020	Jul-7-2020	Jul-7-2020	Jul-7-2020
Rating Type				control	control	control	injury	control	control	control
Rating Unit				percent	percent	percent	percent	percent	percent	percent
Trt-Eval Interval				42 DA-A	42 DA-A	42 DA-A	56 DA-A	56 DA-A	56 DA-A	56 DA-A
Number of Decimals				0	0	0	0	0	0	0
Trt No.	Treatment Name	Rate	Appl							
		Rate Unit	Appl Timing Code							
1	Roundup PowerMax	32 fl oz/a	7 EPP A	0	0	0	0	0	0	0
	AMS	17 lb/100 gal	7 EPP A							
2	Engenia Prime	16 fl oz/a	7 EPP A	99	98	100	0	86	93	93
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	Intact	0.5 % v/v	7 EPP A							
3	Engenia PRO	16 fl oz/a	7 EPP A	98	87	93	0	84	73	69
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	Intact	0.5 % v/v	7 EPP A							
4	Tavium	56.5 fl oz/a	7 EPP A	91	97	95	0	70	85	76
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	Intact	0.5 % v/v	7 EPP A							
5	Untreated			0	0	0	0	0	0	0
6	2,4-D Ester	12 fl oz/a	7 EPP A	55	0	76	0	53	0	18
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	AMS	17 lb/100 gal	7 EPP A							
7	Prefix	32 fl oz/a	7 EPP A	90	99	90	0	78	85	71
	2,4-D Ester	12 fl oz/a	7 EPP A							
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Crop oil concentrate	1 % v/v	7 EPP A							
	AMS	17 lb/100 gal	7 EPP A							
8	Anthem MAXX	3.25 fl oz/a	7 EPP A	85	98	96	0	78	90	76
	2,4-D Ester	12 fl oz/a	7 EPP A							
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	AMS	17 lb/100 gal	7 EPP A							
9	Zidua PRO	6 fl oz/a	7 EPP A	89	98	100	0	86	85	90
	2,4-D Ester	12 fl oz/a	7 EPP A							
	Roundup PowerMax	32 fl oz/a	7 EPP A							
	Induce	0.25 % v/v	7 EPP A							
	AMS	17 lb/100 gal	7 EPP A							
	LSD P=.05			9.1	6.5	8.2	.	9.8	6.7	9.2
	Standard Deviation			6.2	4.5	5.6	0.0	6.7	4.6	6.3
	CV			9.19	7.0	7.79	0.0	11.35	8.07	11.54

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 Protocol ID: NTS02-20 Investigator (Creator): Christy Sprague
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 Sponsor Contact:

Pest Code	ERICA		
Crop Type, Code	C	GLXMA	C GLXMA
Rating Date	Oct-13-2020	Oct-14-2020	Oct-14-2020
Rating Type	control	moisture	yield
Rating Unit	percent	percent	bu/acre
Trt-Eval Interval	154 DA-A	155 DA-A	at 13%M
Number of Decimals	0	1	1

Trt No.	Treatment Name	Rate	Unit	Appl	Appl			
				Timing	Code			
1	Roundup PowerMax	32 fl oz/a		7 EPP	A	0	16.5	67.9
	AMS	17 lb/100 gal		7 EPP	A			
2	Engenia Prime	16 fl oz/a		7 EPP	A	89	15.8	75.9
	Roundup PowerMax	32 fl oz/a		7 EPP	A			
	Induce	0.25 % v/v		7 EPP	A			
	Intact	0.5 % v/v		7 EPP	A			
3	Engenia PRO	16 fl oz/a		7 EPP	A	84	15.9	74.4
	Roundup PowerMax	32 fl oz/a		7 EPP	A			
	Induce	0.25 % v/v		7 EPP	A			
	Intact	0.5 % v/v		7 EPP	A			
4	Tavium	56.5 fl oz/a		7 EPP	A	80	16.0	76.9
	Roundup PowerMax	32 fl oz/a		7 EPP	A			
	Induce	0.25 % v/v		7 EPP	A			
	Intact	0.5 % v/v		7 EPP	A			
5	Untreated					0	16.7	59.4
6	2,4-D Ester	12 fl oz/a		7 EPP	A	38	16.1	79.2
	Roundup PowerMax	32 fl oz/a		7 EPP	A			
	Induce	0.25 % v/v		7 EPP	A			
	AMS	17 lb/100 gal		7 EPP	A			
7	Prefix	32 fl oz/a		7 EPP	A	73	15.8	74.8
	2,4-D Ester	12 fl oz/a		7 EPP	A			
	Roundup PowerMax	32 fl oz/a		7 EPP	A			
	Crop oil concentrate	1 % v/v		7 EPP	A			
	AMS	17 lb/100 gal		7 EPP	A			
8	Anthem MAXX	3.25 fl oz/a		7 EPP	A	74	15.8	76.3
	2,4-D Ester	12 fl oz/a		7 EPP	A			
	Roundup PowerMax	32 fl oz/a		7 EPP	A			
	Induce	0.25 % v/v		7 EPP	A			
	AMS	17 lb/100 gal		7 EPP	A			
9	Zidua PRO	6 fl oz/a		7 EPP	A	80	15.8	75.8
	2,4-D Ester	12 fl oz/a		7 EPP	A			
	Roundup PowerMax	32 fl oz/a		7 EPP	A			
	Induce	0.25 % v/v		7 EPP	A			
	AMS	17 lb/100 gal		7 EPP	A			
	LSD P=.05					9.3	0.77	8.65
	Standard Deviation					6.4	0.53	5.93
	CV					11.12	3.3	8.08

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