

Sharpen Adjuvant Study - Exacto Half Rate.

Trial ID: 10-YRC-ExactoHalf Location: Young Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu
 City State Zip Country: Murphysboro IL 62966 USA
 Trial Status: FINAL Initiation Date: 06-04-10

Objectives: Determine the efficacy of experimental adjuvants with Roundup Powermax and Sharpen for control of glyphosate-resistant marestail and other weed species.

Crop 1: YACKR Arable land Variety: NON-CROP

Pest 1 Type: W Code: ERICA Conyza canadensis (L.) Crong. horseweed
 Pest Description: glyphosate-resistant marestail
 Pest 2 Type: W Code: AMASS Amaranthus species amaranthus species

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 30 FT Tillage Type: NO-TILL
 Replications: 3 Study Design: Randomized Complete Block

Prior Crops, Year
 1. ZEAMD 2009

Field Prep./Maintenance: N 0 LB/A, P2O5 0 LB/A, K2O 0 LB/A

% OM: 2.1 Texture: VERY FINE SANDY LOAM
 pH: 5 Soil Name: ALVIN
 CEC: 9 Fert. Level: P1 133 LB/A, K 209 LB/A

Application Description

A
 Application Date: 06-04-10
 Time of Day: 12:00
 Application Method: Spray
 Application Timing: 4-6"MT
 Application Placement: BROFOL
 Applied By: DKT
 Air Temperature, Unit: 90 F
 % Relative Humidity: 52
 Wind Velocity, Unit: 4 MPH
 Wind Direction: S
 Dew Presence (Y/N): N
 Soil Temperature, Unit: 80 F
 Soil Moisture: NORMAL
 % Cloud Cover: 60

06-04-10
 Crop stage at application: NA

Pest Stage At Each Application

Application Date: 06-04-10
 Weed Code: ERICA
 Stage Majority (leaves): 20
 Stage Min, Max: 6 35
 Height Majority: 6 IN
 Height Min, Max: 1 8
 Density, Unit: 3 FT2
 Weed Code: AMASS
 Stage Majority (leaves): 8
 Stage Min, Max: COTY 20
 Height Majority: 6 IN
 Height Min, Max: 0.25 12
 Density, Unit: 4 FT2

Application Equipment

Appl. Equipment: CO2 sprayer
 Operating Pressure: 30 PSI
 Nozzle Type: Flat fan
 Nozzle Size: TT 110015
 Boom Length, Unit: 6.67 FT
 Spray Volume, Unit: 10 GPA

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Pest Code										ERICA-HR	ERICA-HR	ERICA-HR	AMASS	AMASS	AMASS
Crop Code															
Rating Date										06-10-10	06-16-10	06-24-10	06-10-10	06-16-10	06-24-10
Rating Data Type										Control	Control	Control	Control	Control	Control
Rating Unit										Percent	Percent	Percent	Percent	Percent	Percent
Rating Timing															
Trt-Eval Interval										6 DA-A	12 DA-A	20 DA-A	6 DA-A	12 DA-A	20 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code						
1	SHARPEN	2.85	SC	0.0111	lb ai/a	0.5	fl oz/a	4-6"MT	A	89 cd	92 bc	87 bc	68 i	65 d	37 c
2	CORNERSTONE PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	4-6"MT	A	32 e	42 f	32 f	75 h	85 c	83 b
3	SHARPEN	2.85	SC	0.0111	lb ai/a	0.5	fl oz/a	4-6"MT	A	89 d	88 de	78 e	84 g	91 b	95 a
3	CORNERSTONE PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	4-6"MT	A						
4	SHARPEN	2.85	SC	0.0111	lb ai/a	0.5	fl oz/a	4-6"MT	A	97 a	96 abc	90 abc	90 de	97 a	97 a
4	CORNERSTONE PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	4-6"MT	A						
4	EXT 797	100	SL	0.5	% v/v	0.5	% v/v	4-6"MT	A						
4	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"MT	A						
5	SHARPEN	2.85	SC	0.0111	lb ai/a	0.5	fl oz/a	4-6"MT	A	97 a	97 a	92 ab	96 abc	98 a	99 a
5	CORNERSTONE PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	4-6"MT	A						
5	EXT 291	100	SL	1	% v/v	1	% v/v	4-6"MT	A						
5	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"MT	A						
6	SHARPEN	2.85	SC	0.0111	lb ai/a	0.5	fl oz/a	4-6"MT	A	97 a	95 abc	93 a	97 ab	97 a	97 a
6	CORNERSTONE PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	4-6"MT	A						
6	EXT 812	100	SL	0.5	% v/v	0.5	% v/v	4-6"MT	A						
6	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"MT	A						
7	SHARPEN	2.85	SC	0.0111	lb ai/a	0.5	fl oz/a	4-6"MT	A	97 a	95 abc	90 abc	92 cd	96 ab	97 a
7	CORNERSTONE PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	4-6"MT	A						
7	EXT 824	100	SL	0.5	% v/v	0.5	% v/v	4-6"MT	A						
7	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"MT	A						
8	SHARPEN	2.85	SC	0.0111	lb ai/a	0.5	fl oz/a	4-6"MT	A	97 a	94 abc	92 ab	90 de	96 ab	98 a
8	CORNERSTONE PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	4-6"MT	A						
8	EXT 704	100	SL	1	% v/v	1	% v/v	4-6"MT	A						
8	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"MT	A						
9	SHARPEN	2.85	SC	0.0111	lb ai/a	0.5	fl oz/a	4-6"MT	A	97 a	96 abc	91 ab	98 a	96 ab	96 a
9	CORNERSTONE PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	4-6"MT	A						
9	EXT 704	100	SL	1	% v/v	1	% v/v	4-6"MT	A						
10	SHARPEN	2.85	SC	0.0111	lb ai/a	0.5	fl oz/a	4-6"MT	A	93 bc	92 cd	86 cd	85 fg	95 ab	96 a
10	CORNERSTONE PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	4-6"MT	A						
10	EXT 705A	100	SL	1	% v/v	1	% v/v	4-6"MT	A						
10	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"MT	A						
11	SHARPEN	2.85	SC	0.0111	lb ai/a	0.5	fl oz/a	4-6"MT	A	90 cd	86 e	82 de	86 efg	96 ab	95 a
11	CORNERSTONE PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	4-6"MT	A						
11	EXT 705A	100	SL	1	% v/v	1	% v/v	4-6"MT	A						
12	SHARPEN	2.85	SC	0.0111	lb ai/a	0.5	fl oz/a	4-6"MT	A	97 a	96 abc	92 a	98 a	98 a	97 a
12	CORNERSTONE PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	4-6"MT	A						
12	EXT 829	100	SL	1	% v/v	1	% v/v	4-6"MT	A						
12	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"MT	A						
13	SHARPEN	2.85	SC	0.0111	lb ai/a	0.5	fl oz/a	4-6"MT	A	96 ab	95 abc	91 ab	93 bcd	97 a	98 a
13	CORNERSTONE PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	4-6"MT	A						
13	EXT 830	100	SL	1	% v/v	1	% v/v	4-6"MT	A						
13	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"MT	A						
14	SHARPEN	2.85	SC	0.0111	lb ai/a	0.5	fl oz/a	4-6"MT	A	95 ab	96 ab	92 ab	89 def	97 ab	97 a
14	CORNERSTONE PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	4-6"MT	A						
14	EXT 831	100	SL	0.5	% v/v	0.5	% v/v	4-6"MT	A						
14	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"MT	A						
15	NONTREATED									0 f	0 g	0 g	0 j	0 e	0 d
LSD (P=.05)										3.6	4.0	4.9	4.1	5.6	9.1
Replicate F										1.855	0.277	0.776	0.263	0.157	0.821
Replicate Prob(F)										0.1752	0.7602	0.4698	0.7708	0.8554	0.4501
Treatment F										539.084	372.485	248.182	308.094	179.343	81.403
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

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Trial Comments

1. Protocol: Exacto.
2. Ratings: WC 4-7, 10-14, and 20-24 DAT.
3. ERICA-HR = Herbicide-resistant marestail (glyphosate).
 AMASS = Amaranth species including AMATA (common waterhemp) and AMARE (redroot pigweed).
4. Blanket burndown application of glyphosate (1.13 lbae/A) plus NIS (0.5% v/v) plus AMS solution (5% v/v) was applied 4-19-10.
5. Not harvested.