

Southern Illinois University

Adjuvants for Enhanced Roundup / Sharpen Efficacy in Fall Burndown.

Trial ID: 13-YRC-SharpenADJ Location: Young Res. Center Trial Year: 2013
Investigator: Bryan Young

Trial Status: F one-year/final Initiation Date: 11-15-13 City: Murphysboro Country: USA State/Prov.: Illinois IL Postal Code: 62966	Trial Location
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Objectives: Evaluate United Suppliers adjuvants for enhanced burndown control of marestalk with Roundup plus Sharpen.

Study Director: Bryan Young Organization: Southern Illinois University Address: 1205 Lincoln Drive - AG 176 - MC 4415 City+State/Prov: Carbondale IL Postal Code: 62901 Country: USA	Title: Professor Phone No.: 618-453-7679 Mobile No.: 618-713-6471 E-mail: bgyoung@siu.edu	Contacts
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Crop 1: NONE - Non-crop	Crop Description
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Pest 1 Type: W Code: ERICA Conyza canadensis (L.) Crong. Common Name: horseweed Description: glyphosate-resistant marestalk	Pest Description
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Treated Plot Width: 6.67 FT Total Plot Width: 10 FT Site Type: FIELD Treated Plot Length: 30 FT Total Plot Length: 30 FT Experimental Unit: 1 PLOT Replications: 4 Tillage Type: NOTILL no-till Untreated Arrangement: INCLUDED single control randomized in each block Study Design: RACOB L Randomized Complete Block (RCB)	Site and Design						
<table border="1"> <thead> <tr> <th>No.</th> <th>Previous Crop</th> <th>Year</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>NON-CROP</td> <td>2013</td> </tr> </tbody> </table>	No.	Previous Crop	Year	1.	NON-CROP	2013	
No.	Previous Crop	Year					
1.	NON-CROP	2013					

<table border="1"> <thead> <tr> <th>No.</th> <th>Maintenance Product Name</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>N 0 LB/A, P2O5 0 LB/A, K2O 0 LB/A</td> </tr> </tbody> </table>	No.	Maintenance Product Name	1.	N 0 LB/A, P2O5 0 LB/A, K2O 0 LB/A	Maintenance
No.	Maintenance Product Name				
1.	N 0 LB/A, P2O5 0 LB/A, K2O 0 LB/A				

% OM: 1.82 Texture: SIL silt loam pH: 6.2 Soil Name: Alvin CEC: 6.16	Soil Description									
<table border="1"> <thead> <tr> <th>Element</th> <th>Quantity</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>P1</td> <td>154</td> <td>lb/A</td> </tr> <tr> <td>K</td> <td>264</td> <td>lb/A</td> </tr> </tbody> </table>	Element	Quantity	Unit	P1	154	lb/A	K	264	lb/A	Additional Measured Elements
Element	Quantity	Unit								
P1	154	lb/A								
K	264	lb/A								

Overall Moisture Conditions: NORMAL Closest Weather Station: SOUTHERN IL AIRPORT (93810)	Moisture and Weather Conditions Distance, Unit: 3.5 MI
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No.	Date	Amount	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Temp Unit
1.	10-12-13	0.29	IN	RAIN	rain	1	DAY			
2.	10-14-13					7	DAY	38	68	F
3.	10-15-13	0.13	IN	RAIN	rain	2	DAY			
4.	10-19-13	0.3	IN	RAIN	rain	3	DAY			
5.	10-21-13					7	DAY	25	63	F
6.	10-22-13	0.04	IN	RAIN	rain	1	DAY			
7.	10-28-13					7	DAY	30	76	F
8.	10-31-13	2.44	IN	RAIN	rain	4	DAY			
9.	11-4-13					7	DAY	28	65	F
10.	11-6-13	0.51	IN	RAIN	rain	3	DAY			
11.	11-11-13					7	DAY	17	77	F
12.	11-17-13	1.32	IN	RAIN	rain	2	DAY			
13.	11-18-13					7	DAY	16	57	F
14.	11-21-13	1.08	IN	RAIN	rain	2	DAY			
15.	11-25-13					7	DAY	17	59	F
16.	12-2-13					7	DAY	6	67	F
17.	12-5-13	1.61	IN	RAIN	rain	2	DAY			
18.	12-9-13					7	DAY	0	38	F
19.	12-14-13	0.54	IN	RAIN	rain	2	DAY			
20.	12-16-13					7	DAY	21	64	F
21.	12-20-13	1.5	IN	RAIN	rain	2	DAY			
22.	12-23-13					7	DAY	12	52	F

Application Description

	A
Application Date:	11-15-13
Appl. Start Time:	10:15
Appl. Stop Time:	11:00
Application Method:	Spray
Application Timing:	FALL
Application Placement:	BROFOL
Applied By:	EJM
Air Temperature, Unit:	53 F
% Relative Humidity:	47
Wind Velocity, Unit:	2 MPH
Wind Direction:	S
Dew Presence (Y/N):	N
Soil Temperature, Unit:	45 F
Soil Moisture:	NORMAL
% Cloud Cover:	100
Next Moisture Occurred On:	11-16-13
Time to Next Moisture, Unit:	27 HR

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	NONE
Stage Scale Used:	DESC
Stage Majority, Percent:	NA

Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	ERICA W
Stage Majority, Percent:	30
Stage Minimum, Percent:	10
Stage Maximum, Percent:	40
Height, Unit:	1 IN
Height Minimum, Maximum:	0.5 1
Density, Unit:	0.05 FT2

Adjuvants for Enhanced Roundup / Sharpen Efficacy in Fall Burndown.

Trial ID: 13-YRC-SharpenADJ Location: Young Res. Center Trial Year: 2013
Investigator: Bryan Young**Application Equipment**

	A
Appl. Equipment:	CO2 sprayer
Equipment Type:	BACSPR
Operation Pressure, Unit:	30 PSI
Nozzle Type:	TTI
Nozzle Size:	110015
Boom Length, Unit:	6.67 FT
Spray Volume, Unit:	10 GPA

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Adjuvants for Enhanced Roundup / Sharpen Efficacy in Fall Burndown.

Trial ID: 13-YRC-SharpENADJ Location: Young Res. Center Trial Year: 2013
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Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval										ERICA-HR 11-22-13 Control Percent 7 DA-A	ERICA-HR 11-29-13 Control Percent 14 DA-A	ERICA-HR 12-19-13 Control Percent 34 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	ROUNDUP POWERMAX SHARPEN	4.5 SL 2.85 SC		0.387 lb ae/a 0.0111 lb ai/a		11 fl oz/a 0.5 fl oz/a		FALL FALL	A A	40 ab	69 c	62 c
2	ROUNDUP POWERMAX SHARPEN SUCCEED	4.5 SL 2.85 SC 100 SL		0.387 lb ae/a 0.0111 lb ai/a 1 pt/a		11 fl oz/a 0.5 fl oz/a 1 pt/a		FALL FALL FALL	A A A	48 ab	87 a	90 ab
3	ROUNDUP POWERMAX SHARPEN WO-03	4.5 SL 2.85 SC 100 SL		0.387 lb ae/a 0.0111 lb ai/a 1 pt/a		11 fl oz/a 0.5 fl oz/a 1 pt/a		FALL FALL FALL	A A A	50 a	79 abc	88 ab
4	ROUNDUP POWERMAX SHARPEN WO-06-02	4.5 SL 2.85 SC 100 SL		0.387 lb ae/a 0.0111 lb ai/a 1 pt/a		11 fl oz/a 0.5 fl oz/a 1 pt/a		FALL FALL FALL	A A A	46 ab	75 abc	86 ab
5	ROUNDUP POWERMAX SHARPEN WO-09	4.5 SL 2.85 SC 100 SL		0.387 lb ae/a 0.0111 lb ai/a 1 pt/a		11 fl oz/a 0.5 fl oz/a 1 pt/a		FALL FALL FALL	A A A	45 ab	74 bc	84 ab
6	ROUNDUP POWERMAX SHARPEN UAD-1362	4.5 SL 2.85 SC 100 SL		0.387 lb ae/a 0.0111 lb ai/a 0.75 pt/a		11 fl oz/a 0.5 fl oz/a 0.75 pt/a		FALL FALL FALL	A A A	43 ab	75 abc	88 ab
7	ROUNDUP POWERMAX SHARPEN UAD-1365	4.5 SL 2.85 SC 100 SL		0.387 lb ae/a 0.0111 lb ai/a 1 pt/a		11 fl oz/a 0.5 fl oz/a 1 pt/a		FALL FALL FALL	A A A	48 ab	75 abc	94 a
8	ROUNDUP POWERMAX SHARPEN UAD-1381	4.5 SL 2.85 SC 100 SL		0.387 lb ae/a 0.0111 lb ai/a 1 pt/a		11 fl oz/a 0.5 fl oz/a 1 pt/a		FALL FALL FALL	A A A	41 ab	83 ab	95 a
9	ROUNDUP POWERMAX SHARPEN UAD-1384	4.5 SL 2.85 SC 100 SL		0.387 lb ae/a 0.0111 lb ai/a 1 pt/a		11 fl oz/a 0.5 fl oz/a 1 pt/a		FALL FALL FALL	A A A	39 b	78 abc	81 b
10	ROUNDUP POWERMAX SHARPEN UAD-1382	4.5 SL 2.85 SC 100 SL		0.387 lb ae/a 0.0111 lb ai/a 0.5 pt/a		11 fl oz/a 0.5 fl oz/a 0.5 pt/a		FALL FALL FALL	A A A	41 ab	74 bc	86 ab
11	ROUNDUP POWERMAX SHARPEN UAD-1386	4.5 SL 2.85 SC 100 SL		0.387 lb ae/a 0.0111 lb ai/a 0.75 pt/a		11 fl oz/a 0.5 fl oz/a 0.75 pt/a		FALL FALL FALL	A A A	40 ab	83 ab	94 a
12	ROUNDUP POWERMAX SHARPEN UAD-1387	4.5 SL 2.85 SC 100 SL		0.387 lb ae/a 0.0111 lb ai/a 1 pt/a		11 fl oz/a 0.5 fl oz/a 1 pt/a		FALL FALL FALL	A A A	45 ab	81 ab	86 ab
13	NONTREATED									0 c	0 d	0 d
LSD (P=.05)										10.1	12.4	11.5
Standard Deviation										7.1	8.7	8.1
CV										17.47	12.1	10.15
Replicate F										0.386	1.796	2.817
Replicate Prob(F)										0.7635	0.1655	0.0528
Treatment F										12.792	25.899	39.396
Treatment Prob(F)										0.0001	0.0001	0.0001

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

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Trial Comments

1. Protocol: United Suppliers (AD14004 Sharpen).
2. Ratings: WC 7, 14 and 21 or 28 DA-A.
3. Target marestail.
4. ERICA-HR = Herbicide-resistant marestail (glyphosate).
Marestail stage at application was rosette, majority at 3 inches wide, ranging from 0.5 to 4 inches.
5. The planned 28 DA-A ratings was delayed due to snow cover.
6. Not harvested (non-crop).