

Impact Tank-Mixes.

Trial ID: 13-DSO-Impact Location: De Soto, IL Trial Year: 2013
Investigator: Bryan Young

Trial Status: F one-year/final Initiation Date: 5-20-13 Completion Date: 10-21-13		Trial Location
City: De Soto Country: USA State/Prov.: Illinois IL Postal Code: 62924		

Objectives:
Evaluate Impact alone and in tank-mixes with glyphosate for control of glyphosate-resistant weeds.

Contacts	
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

Crop Description	
Crop 1: ZEAMD Zea mays indentata Dent corn Variety: DKC 63-33 BBCH Scale: BCOR Description: SS RIB Planting Rate, Unit: 28000 S/A Planting Date: 5-20-13 Depth, Unit: 2 IN Planting Method: SEEDED Row Spacing, Unit: 30 IN	

Pest Description	
Pest 1 Type: W Code: AMATA <i>Amaranthus rudis</i> Sauer Common Name: waterhemp, common Description: glyphosate-resistant waterhemp	

Site and Design	
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 Tillage Type: NOTILL no-till Study Design: RACOB L Randomized Complete Block (RCB) Replications: 4 Untreated Arrangement: INCLUDED single control randomized in each block	

No.	Previous Crop	Year
1.	GLXMA	2012

Maintenance	
No.	Maintenance Product Name
1.	N 150 LB/A, P2O5 0 LB/A, K2O 0 LB/A

Soil Description		
% Sand: 14 % OM: 2.12 Texture: SIL silt loam % Silt: 67 pH: 6.9 Soil Name: Okaw % Clay: 19 CEC: 12.7		
Additional Measured Elements		
Element	Quantity	Unit
P1	112	lb/A
K	386	lb/A

Moisture and Weather Conditions	
Overall Moisture Conditions: NORMAL Closest Weather Station: SOUTHERN IL AIRPORT (93810)	Distance, Unit: 1.5 MI

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No.	Date	Amount	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Temp Unit
1.	5-3-13	1.33	IN	RAIN	rain	3	DAY			
2.	5-5-13	0.75	IN	RAIN	rain	2	DAY			
3.	5-6-13					7	DAY	41	80	F
4.	5-10-13	0.17	IN	RAIN	rain	3	DAY			
5.	5-13-13					7	DAY	37	87	F
6.	5-16-13	0.23	IN	RAIN	rain	2	DAY			
7.	5-20-13					7	DAY	43	85	F
8.	5-21-13	0.91	IN	RAIN	rain	1	DAY			
9.	5-27-13					7	DAY	59	86	F
10.	5-31-13	0.7	IN	RAIN	rain	3	DAY			
11.	6-1-13	1.67	IN	RAIN	rain	2	DAY			
12.	6-3-13					7	DAY	50	82	F
13.	6-10-13	0.13	IN	RAIN	rain	5	DAY			
14.	6-10-13					7	DAY	57	93	F
15.	6-17-13	0.36	IN	RAIN	rain	2	DAY			
16.	6-17-13					7	DAY	61	92	F
17.	6-22-13	0.34	IN	RAIN	rain	2	DAY			
18.	6-24-13					7	DAY	64	93	F
19.	6-26-13	1.25	IN	RAIN	rain	2	DAY			
20.	6-30-13	0.3	IN	RAIN	rain	2	DAY			
21.	7-1-13					7	DAY	57	88	F
22.	7-2-13	1.16	IN	RAIN	rain	2	DAY			
23.	7-8-13					7	DAY	59	92	F
24.	7-14-13	0.05	IN	RAIN	rain	5	DAY			
25.	7-15-13					7	DAY	68	93	F
26.	7-20-13	1.24	IN	RAIN	rain	2	DAY			
27.	7-22-13					7	DAY	51	90	F
28.	7-27-13	0.13	IN	RAIN	rain	2	DAY			
29.	7-29-13					7	DAY	58	86	F
30.	7-30-13	0.98	IN	RAIN	rain	1	DAY			
31.	8-3-13	0.24	IN	RAIN	rain	3	DAY			
32.	8-5-13	0.53	IN	RAIN	rain	2	DAY			
33.	8-5-13					7	DAY	61	98	F
34.	8-8-13	1.78	IN	RAIN	rain	4	DAY			
35.	8-12-13	0.12	IN	RAIN	rain	2	DAY			
36.	8-12-13					7	DAY	51	84	F
37.	8-17-13	0.21	IN	RAIN	rain	2	DAY			
38.	8-19-13	0.01	IN	RAIN	rain	1	DAY			
39.	8-19-13					7	DAY	60	90	F

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Application Description

	A
Application Date:	6-11-13
Appl. Start Time:	9:00
Appl. Stop Time:	9:15
Application Method:	Spray
Application Timing:	2-4"W
Application Placement:	BROFOL
Applied By:	NTH
Air Temperature, Unit:	88 F
% Relative Humidity:	65
Wind Velocity, Unit:	4 MPH
Wind Direction:	E
Dew Presence (Y/N):	N
Soil Temperature, Unit:	72 F
Soil Moisture:	NORMAL
% Cloud Cover:	10
Next Moisture Occurred On:	6-17-13
Time to Next Moisture, Unit:	6 DAY

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	ZEAMD
Stage Scale Used:	DESC
Stage Majority, Percent:	V4
Stage Minimum, Percent:	V3
Stage Maximum, Percent:	V4
Height, Unit:	8 IN
Height Minimum, Maximum:	6 8

Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	AMATA W
Stage Majority, Percent:	6
Stage Minimum, Percent:	COTY
Stage Maximum, Percent:	8
Height, Unit:	2 IN
Height Minimum, Maximum:	0.5 5
Density, Unit:	2 FT2

Application Equipment

	A
Appl. Equipment:	CO2 sprayer
Equipment Type:	BACSPR
Operation Pressure, Unit:	30 PSI
Nozzle Type:	XR
Nozzle Size:	8002
Boom Length, Unit:	6.67 FT
Spray Volume, Unit:	15 GPA

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Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval							ZEAMD 10-21-13 Moisture Percent	ZEAMD 10-21-13 Yield bu/A	ZEAMD 6-18-13 Injury Percent 7 DA-A	ZEAMD 6-26-13 Injury Percent 15 DA-A	ZEAMD 7-11-13 Injury Percent 30 DA-A	ZEAMD 8-10-13 Injury Percent 60 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Unit	Appl Code				
1	NONTREATED								16.6 a	190 b	0 a	0 a
2	IMPACT	2.8	SC	0.0219 lb ai/a	1 fl oz/a	2-4"W	A		16.8 a	226 a	0 a	0 a
	AATREX 4L	4	SC	0.5 lb ai/a	1 pt/a	2-4"W	A					
	MSO (MSO ULTRA)	100	SL	1 % v/v	1 % v/v	2-4"W	A					
	28% UAN	100	SL	2.5 % v/v	2.5 % v/v	2-4"W	A					
3	ROUNDUP POWERMAX	4.5	SL	1.13 lb ae/a	32 fl oz/a	2-4"W	A		16.9 a	231 a	0 a	0 a
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	2-4"W	A					
4	ROUNDUP POWERMAX	4.5	SL	1.13 lb ae/a	32 fl oz/a	2-4"W	A		17.5 a	241 a	0 a	0 a
	IMPACT	2.8	SC	0.0219 lb ai/a	1 fl oz/a	2-4"W	A					
	AATREX 4L	4	SC	0.5 lb ai/a	1 pt/a	2-4"W	A					
	MSO (MSO ULTRA)	100	SL	0.5 % v/v	0.5 % v/v	2-4"W	A					
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	2-4"W	A					
5	WARRANT	3	CS	1.13 lb ai/a	3 pt/a	2-4"W	A		16.9 a	230 a	0 a	0 a
	ROUNDUP POWERMAX	4.5	SL	1.13 lb ae/a	32 fl oz/a	2-4"W	A					
	IMPACT	2.8	SC	0.0219 lb ai/a	1 fl oz/a	2-4"W	A					
	AATREX 4L	4	SC	0.5 lb ai/a	1 pt/a	2-4"W	A					
	MSO (MSO ULTRA)	100	SL	0.5 % v/v	0.5 % v/v	2-4"W	A					
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	2-4"W	A					
6	HALEX GT	4.389	CS	1.98 lb ai/a	3.6 pt/a	2-4"W	A		17.1 a	235 a	0 a	0 a
	AATREX 4L	4	SC	0.5 lb ai/a	1 pt/a	2-4"W	A					
	NIS (ACTIVATOR 90)	100	SL	0.25 % v/v	0.25 % v/v	2-4"W	A					
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	2-4"W	A					
LSD (P=.05)							1.12	19.3	0.0	0.0	0.0	0.0
Standard Deviation							0.75	12.8	0.0	0.0	0.0	0.0
CV							4.39	5.7	0.0	0.0	0.0	0.0
Replicate F							1.154	0.083	0.000	0.000	0.000	0.000
Replicate Prob(F)							0.3598	0.9682	1.0000	1.0000	1.0000	1.0000
Treatment F							0.635	8.078	0.000	0.000	0.000	0.000
Treatment Prob(F)							0.6764	0.0007	1.0000	1.0000	1.0000	1.0000

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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Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval								AMATA-HR 6-18-13 Control Percent 7 DA-A	AMATA-HR 6-26-13 Control Percent 15 DA-A	AMATA-HR 7-11-13 Control Percent 30 DA-A	AMATA-HR 8-10-13 Control Percent 60 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Other Rate	Other Rate	Growth Unit	Stage	Appl Code	
1	NONTREATED										0 c
2	IMPACT	2.8	SC	0.0219	lb ai/a	1 fl oz/a		2-4"	W	A	99 a
	AATREX 4L	4	SC	0.5	lb ai/a	1 pt/a		2-4"	W	A	99 a
	MSO (MSO ULTRA)	100	SL	1	% v/v	1	% v/v	2-4"	W	A	99 a
	28% UAN	100	SL	2.5	% v/v	2.5	% v/v	2-4"	W	A	98 a
3	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32 fl oz/a		2-4"	W	A	85 b
	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	2-4"	W	A	87 b
4	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32 fl oz/a		2-4"	W	A	99 a
	IMPACT	2.8	SC	0.0219	lb ai/a	1 fl oz/a		2-4"	W	A	99 a
	AATREX 4L	4	SC	0.5	lb ai/a	1 pt/a		2-4"	W	A	99 a
	MSO (MSO ULTRA)	100	SL	0.5	% v/v	0.5	% v/v	2-4"	W	A	99 a
	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	2-4"	W	A	99 a
5	WARRANT	3	CS	1.13	lb ai/a	3 pt/a		2-4"	W	A	99 a
	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32 fl oz/a		2-4"	W	A	99 a
	IMPACT	2.8	SC	0.0219	lb ai/a	1 fl oz/a		2-4"	W	A	99 a
	AATREX 4L	4	SC	0.5	lb ai/a	1 pt/a		2-4"	W	A	99 a
	MSO (MSO ULTRA)	100	SL	0.5	% v/v	0.5	% v/v	2-4"	W	A	99 a
	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	2-4"	W	A	99 a
6	HALEX GT	4.389	CS	1.98	lb ai/a	3.6 pt/a		2-4"	W	A	99 a
	AATREX 4L	4	SC	0.5	lb ai/a	1 pt/a		2-4"	W	A	99 a
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	2-4"	W	A	99 a
	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	2-4"	W	A	99 a
LSD (P=.05)								2.5	2.9	2.4	2.6
Standard Deviation								1.7	1.9	1.6	1.7
CV								2.08	2.39	1.93	2.15
Replicate F								1.000	1.000	1.855	2.367
Replicate Prob(F)								0.4199	0.4199	0.1806	0.1118
Treatment F								2266.224	1701.746	2588.647	2104.955
Treatment Prob(F)								0.0001	0.0001	0.0001	0.0001

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Trial Comments

1. Protocol: Amvac (13C04H059A).
2. Ratings: CI/WC 7, 15, and 30 DA-A; WC 60 DA-A.
3. Application A is 2-4 inch weeds, target V3-V4 corn.
4. Blanket burndown application of glyphosate (1.5 lbae/A) plus Salvo (12 floz/A) was applied to all plots on 4-2-13.
Blanket prior to planting of Gramoxone (3 pt/A) + Warrior (1.92 oz/A) was applied to all plots on 5-20-13.
5. Yield optional.
6. AMATA-HR = Herbicide-resistant waterhemp (glyphosate).
7. Following the 2-4"W application the first rainfall event, beginning 6 days later, was 0.36 inch over 2 days.
8. Harvest 10-21-13, (2) 30 inch rows by 26.5 ft.