

Impact Sequential Programs in Corn.

Trial ID: 10-51E-N70

Location: Belleville Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu

City State Zip Country: Belleville IL 62221 USA

Trial Status: FINAL Initiation Date: 06-04-10

Objectives: To compare performance of Impact to other postemergence products when used in sequential weed control programs and in tank-mixes with glyphosate.

Crop 1: ZEAMD Dent corn Variety: DKC 61-69 Description: RR2 (VT3)
 Planting Method: SEEDED Planting Date: 06-04-10
 Rate, Unit: 28000 S/A Depth, Unit: 1.5 IN
 Row Spacing, Unit: 30 IN

Pest 1 Type: W Code: GGGAN grasses, annual
 Pest 2 Type: W Code: AMATA Amaranthus rudis Sauer waterhemp, common
 Pest 3 Type: W Code: AMBTR Ambrosia trifida L. ragweed, giant
 Pest 4 Type: W Code: ABUTH Abutilon theophrasti Medicus velvetleaf
 Pest 5 Type: W Code: IPOHE Ipomoea hederacea (L.) Jacq. morningglory, ivyleaf

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 27 FT Tillage Type: REDUCED-TILL
 Replications: 3 Study Design: Randomized Complete Block

Prior Crops, Year
 1. GLXMA 2009

Field Prep./Maintenance: N 150 LB/A, P205 0 LB/A, K20 100 LB/A

% OM: 1.7 Texture: SILT LOAM
 pH: 6.6 Soil Name: PIERRON
 CEC: 10 Fert. Level: P1: 75 LB/A, K: 347 LB/A

Application Description

	A	B	C
Application Date:	06-05-10	06-21-10	06-24-10
Time of Day:	13:25	10:00	13:30
Application Method:	Spray	Spray	Spray
Application Timing:	PRE	2-4"W	4-6"W
Application Placement:	BROSOL	BROFOL	BROFOL
Applied By:	NVH	JW	JW
Air Temperature, Unit:	84 F	88 F	80 F
% Relative Humidity:	64	92	74
Wind Velocity, Unit:	3 MPH	7 MPH	7 MPH
Wind Direction:	SW	N	N
Dew Presence (Y/N):	N	N	N
Soil Moisture:	NORMAL	NORMAL	NORMAL
% Cloud Cover:	90	0	10

	06-05-10	06-21-10	06-24-10
Crop stage at application:	NA	V4-V5	V5-V6
Height Min, Max (inch):		11 14 12	15

Pest Stage At Each Application

	06-05-10	06-21-10	06-24-10
Application Date:	06-05-10	06-21-10	06-24-10
Weed Code:	GGGAN	GGGAN	GGGAN
Stage Majority (leaves):	NA	4	4
Stage Min, Max:		2 4	4 6
Height Majority:		2 IN	4 IN
Height Min, Max:		0.5 3	4 6
Density, Unit:		0.01 FT2	0.01 FT2
Weed Code:	AMATA	AMATA	AMATA
Stage Majority (leaves):	NA	6	8
Stage Min, Max:		4 6	6 8
Height Majority:		1.5 IN	2 IN
Height Min, Max:		1 2	1.5 3
Density, Unit:		0.01 FT2	0.01 FT2
Weed Code:	AMBTR	AMBTR	AMBTR
Stage Majority (leaves):	NA	6	8
Stage Min, Max:		3 8	4 8
Height Majority:		3 IN	4 IN
Height Min, Max:		0.5 5	0.5 5
Density, Unit:		1 FT2	1 FT2
Weed Code:	ABUTH	ABUTH	ABUTH
Stage Majority (leaves):	NA	5	6
Stage Min, Max:		2 7	2 8
Height Majority:		2 IN	4 IN
Height Min, Max:		0.5 4	0.5 5
Density, Unit:		0.01 FT2	0.01 FT2
Weed Code:	IPOHE	IPOHE	IPOHE
Stage Majority (leaves):	NA	6	10
Stage Min, Max:		2 10	2 14
Height Majority:		2 IN	6 IN
Height Min, Max:		0.5 3	0.5 8
Density, Unit:		1 FT2	1 FT2

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Application Equipment

Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer
Operating Pressure:	30 PSI	30 PSI	30 PSI
Nozzle Type:	Flat fan	Flat fan	Flat fan
Nozzle Size:	XR 8002	XR 8002	XR 8002
Boom Length, Unit:	7.5 FT	7.5 FT	7.5 FT
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA

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Pest Code	GGGAN	GGGAN	GGGAN	AMATA	AMATA	AMATA
Crop Code						
Rating Date						
Rating Data Type	Control	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent
Rating Timing						
Trt-Eval Interval	14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code						
1	NONTREATED									0 c	0 c	0 c	0 b	0 b	0 b
2	BICEP II MAGNUM	5.5	SC	1.44	lb ai/a	2.1	pt/a	PRE	A	98 b	88 b	91 b	99 a	99 a	99 a
3	BICEP II MAGNUM	5.5	SC	1.44	lb ai/a	2.1	pt/a	PRE	A	99 a	96 ab	98 a	99 a	99 a	99 a
3	IMPACT	2.8	SC	0.0164	lb ai/a	0.75	fl oz/a	2-4"W	B						
3	AATREX	4	SC	0.5	lb ai/a	1	pt/a	2-4"W	B						
3	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	2-4"W	B						
3	28% UAN	100	SL	2.5	% v/v	2.5	% v/v	2-4"W	B						
4	BICEP II MAGNUM	5.5	SC	1.44	lb ai/a	2.1	pt/a	PRE	A	99 a	96 ab	98 a	99 a	99 a	99 a
4	LAUDIS	3.5	SC	0.082	lb ai/a	3	fl oz/a	2-4"W	B						
4	AATREX	4	SC	0.5	lb ai/a	1	pt/a	2-4"W	B						
4	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	2-4"W	B						
4	28% UAN	100	SL	3	pt/a	3	pt/a	2-4"W	B						
5	BICEP II MAGNUM	5.5	SC	1.44	lb ai/a	2.1	pt/a	PRE	A	99 a	99 a	99 a	99 a	99 a	99 a
5	CAPRENO	3.45	SC	0.081	lb ai/a	3	fl oz/a	2-4"W	B						
5	AATREX	4	SC	0.5	lb ai/a	1	pt/a	2-4"W	B						
5	COC (PRIME OIL)	100	SL	1	% v/v	1	% v/v	2-4"W	B						
5	28% UAN	100	SL	3	pt/a	3	pt/a	2-4"W	B						
6	INTEGRITY	5.57	EC	0.435	lb ai/a	10	fl oz/a	PRE	A	99 a	95 ab	97 a	99 a	99 a	99 a
6	IMPACT	2.8	SC	0.0164	lb ai/a	0.75	fl oz/a	2-4"W	B						
6	AATREX	4	SC	0.5	lb ai/a	1	pt/a	2-4"W	B						
6	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	2-4"W	B						
6	28% UAN	100	SL	2.5	% v/v	2.5	% v/v	2-4"W	B						
7	DUAL II MAGNUM	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	99 a	93 ab	98 a	99 a	99 a	99 a
7	IMPACT	2.8	SC	0.0219	lb ai/a	1	fl oz/a	4-6"W	C						
7	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4-6"W	C						
7	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	4-6"W	C						
7	28% UAN	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	C						
8	DUAL II MAGNUM	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	99 a	96 ab	99 a	99 a	99 a	99 a
8	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C						
8	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"W	C						
9	DUAL II MAGNUM	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	99 a	94 ab	99 a	99 a	99 a	99 a
9	IMPACT	2.8	SC	0.0109	lb ai/a	0.5	fl oz/a	4-6"W	C						
9	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C						
9	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4-6"W	C						
9	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"W	C						
10	DUAL II MAGNUM	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	99 a	98 a	99 a	99 a	99 a	99 a
10	IMPACT	2.8	SC	0.0164	lb ai/a	0.75	fl oz/a	4-6"W	C						
10	ROUNDUP POWERMAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	4-6"W	C						
10	HSOC (DESTINY HC)	100	SL	0.5	% v/v	0.5	% v/v	4-6"W	C						
10	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"W	C						
LSD (P=.05)										0.5	10.2	3.7	0.0	0.0	0.0
Replicate F										1.000	0.933	0.448	0.000	0.000	0.000
Replicate Prob(F)										0.3874	0.4114	0.6461	1.0000	1.0000	1.0000
Treatment F										29340.003	76.903	612.505	0.000	0.000	0.000
Treatment Prob(F)										0.0001	0.0001	0.0001	1.0000	1.0000	1.0000

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

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Pest Code													
Crop Code													
Rating Date													
Rating Data Type								Control	Control	Control	Control	Control	Control
Rating Unit								Percent	Percent	Percent	Percent	Percent	Percent
Rating Timing													
Trt-Eval Interval								14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
1	NONTREATED									0 c	0 e	0 c	0 d 0 d 0 c
2	BICEP II MAGNUM	5.5	SC	1.44	lb ai/a	2.1	pt/a	PRE	A	73 b	48 d	15 b	37 c 27 c 58 b
3	BICEP II MAGNUM	5.5	SC	1.44	lb ai/a	2.1	pt/a	PRE	A	99 a	97 ab	99 a	99 a 96 a 99 a
3	IMPACT	2.8	SC	0.0164	lb ai/a	0.75	fl oz/a	2-4"W	B				
3	AATREX	4	SC	0.5	lb ai/a	1	pt/a	2-4"W	B				
3	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	2-4"W	B				
3	28% UAN	100	SL	2.5	% v/v	2.5	% v/v	2-4"W	B				
4	BICEP II MAGNUM	5.5	SC	1.44	lb ai/a	2.1	pt/a	PRE	A	99 a	98 a	99 a	99 a 97 a 99 a
4	LAUDIS	3.5	SC	0.082	lb ai/a	3	fl oz/a	2-4"W	B				
4	AATREX	4	SC	0.5	lb ai/a	1	pt/a	2-4"W	B				
4	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	2-4"W	B				
4	28% UAN	100	SL	3	pt/a	3	pt/a	2-4"W	B				
5	BICEP II MAGNUM	5.5	SC	1.44	lb ai/a	2.1	pt/a	PRE	A	98 a	97 ab	99 a	99 a 97 a 99 a
5	CAPRENO	3.45	SC	0.081	lb ai/a	3	fl oz/a	2-4"W	B				
5	AATREX	4	SC	0.5	lb ai/a	1	pt/a	2-4"W	B				
5	COC (PRIME OIL)	100	SL	1	% v/v	1	% v/v	2-4"W	B				
5	28% UAN	100	SL	3	pt/a	3	pt/a	2-4"W	B				
6	INTEGRITY	5.57	EC	0.435	lb ai/a	10	fl oz/a	PRE	A	99 a	97 ab	99 a	99 a 98 a 99 a
6	IMPACT	2.8	SC	0.0164	lb ai/a	0.75	fl oz/a	2-4"W	B				
6	AATREX	4	SC	0.5	lb ai/a	1	pt/a	2-4"W	B				
6	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	2-4"W	B				
6	28% UAN	100	SL	2.5	% v/v	2.5	% v/v	2-4"W	B				
7	DUAL II MAGNUM	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	99 a	98 ab	99 a	98 a 96 a 98 a
7	IMPACT	2.8	SC	0.0219	lb ai/a	1	fl oz/a	4-6"W	C				
7	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4-6"W	C				
7	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	4-6"W	C				
7	28% UAN	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	C				
8	DUAL II MAGNUM	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	98 a	90 c	96 a	95 b 92 b 97 a
8	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C				
8	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"W	C				
9	DUAL II MAGNUM	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	99 a	92 bc	97 a	98 a 94 ab 98 a
9	IMPACT	2.8	SC	0.0109	lb ai/a	0.5	fl oz/a	4-6"W	C				
9	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C				
9	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4-6"W	C				
9	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"W	C				
10	DUAL II MAGNUM	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	99 a	96 ab	98 a	98 a 96 a 98 a
10	IMPACT	2.8	SC	0.0164	lb ai/a	0.75	fl oz/a	4-6"W	C				
10	ROUNDUP POWERMAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	4-6"W	C				
10	HSOC (DESTINY HC)	100	SL	0.5	% v/v	0.5	% v/v	4-6"W	C				
10	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"W	C				
LSD (P=.05)								3.3	6.3	3.4	1.7	4.3	17.1
Replicate F								0.775	0.766	0.233	1.037	1.140	1.274
Replicate Prob(F)								0.4757	0.4794	0.7945	0.3747	0.3418	0.3037
Treatment F								816.013	230.397	1147.460	3633.621	592.224	31.620
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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Pest Code	IPOHE	IPOHE	IPOHE
Crop Code			
Rating Date			
Rating Data Type	Control	Control	Control
Rating Unit	Percent	Percent	Percent
Rating Timing			
Trt-Eval Interval	14 DAT	28 DAT	56 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	NONTREATED									0 e	0 e	0 d
2	BICEP II MAGNUM	5.5	SC	1.44	lb ai/a	2.1	pt/a	PRE	A	40 d	25 d	28 c
3	BICEP II MAGNUM	5.5	SC	1.44	lb ai/a	2.1	pt/a	PRE	A	94 a	92 a	98 a
3	IMPACT	2.8	SC	0.0164	lb ai/a	0.75	fl oz/a	2-4"W	B			
3	AATREX	4	SC	0.5	lb ai/a	1	pt/a	2-4"W	B			
3	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	2-4"W	B			
3	28% UAN	100	SL	2.5	% v/v	2.5	% v/v	2-4"W	B			
4	BICEP II MAGNUM	5.5	SC	1.44	lb ai/a	2.1	pt/a	PRE	A	97 a	92 a	96 a
4	LAUDIS	3.5	SC	0.082	lb ai/a	3	fl oz/a	2-4"W	B			
4	AATREX	4	SC	0.5	lb ai/a	1	pt/a	2-4"W	B			
4	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	2-4"W	B			
4	28% UAN	100	SL	3	pt/a	3	pt/a	2-4"W	B			
5	BICEP II MAGNUM	5.5	SC	1.44	lb ai/a	2.1	pt/a	PRE	A	97 a	93 a	96 a
5	CAPRENO	3.45	SC	0.081	lb ai/a	3	fl oz/a	2-4"W	B			
5	AATREX	4	SC	0.5	lb ai/a	1	pt/a	2-4"W	B			
5	COC (PRIME OIL)	100	SL	1	% v/v	1	% v/v	2-4"W	B			
5	28% UAN	100	SL	3	pt/a	3	pt/a	2-4"W	B			
6	INTEGRITY	5.57	EC	0.435	lb ai/a	10	fl oz/a	PRE	A	95 a	89 ab	96 a
6	IMPACT	2.8	SC	0.0164	lb ai/a	0.75	fl oz/a	2-4"W	B			
6	AATREX	4	SC	0.5	lb ai/a	1	pt/a	2-4"W	B			
6	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	2-4"W	B			
6	28% UAN	100	SL	2.5	% v/v	2.5	% v/v	2-4"W	B			
7	DUAL II MAGNUM	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	87 b	83 b	95 a
7	IMPACT	2.8	SC	0.0219	lb ai/a	1	fl oz/a	4-6"W	C			
7	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4-6"W	C			
7	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	4-6"W	C			
7	28% UAN	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	C			
8	DUAL II MAGNUM	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	78 c	70 c	90 b
8	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C			
8	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"W	C			
9	DUAL II MAGNUM	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	96 a	89 ab	97 a
9	IMPACT	2.8	SC	0.0109	lb ai/a	0.5	fl oz/a	4-6"W	C			
9	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C			
9	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4-6"W	C			
9	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"W	C			
10	DUAL II MAGNUM	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	77 c	68 c	85 b
10	IMPACT	2.8	SC	0.0164	lb ai/a	0.75	fl oz/a	4-6"W	C			
10	ROUNDUP POWERMAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	4-6"W	C			
10	HSOC (DESTINY HC)	100	SL	0.5	% v/v	0.5	% v/v	4-6"W	C			
10	AMS	100	SG	1	% w/w	8.5	lb/100 gal	4-6"W	C			
LSD (P=.05)										3.6	6.1	5.1
Replicate F										0.677	0.822	0.388
Replicate Prob(F)										0.5204	0.4556	0.6837
Treatment F										682.042	249.035	404.780
Treatment Prob(F)										0.0001	0.0001	0.0001

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

Trial Comments

1. Protocol: AMVAC.
 2. Ratings: CI at 7, 14, and 28 days after each POST; Overall weed burndown at 7 days after each POST; WC at 14, 28, and 56 days after each POST.
 3. Yield.
 4. Crop injury was chlorosis.
- TTTTT, Burndown = Overall weed burndown (all weeds).

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GGGAN = Annual grasses including SETFA (giant foxtail), PANDI (fall panicum) and DIGSA (large crabgrass).

DAT = Days after either the 2-4"W (B) application or the 4-6"W (C) application.

Ratings at 7 days after the 2-4"W (B) and 4-6"W (C) application were on 6-28-10 and 7-1-10, respectively.

Ratings at 14 days after the 2-4"W (B) and 4-6"W (C) application were on 7-5-10 and 7-8-10, respectively.

Ratings at 28 days after the 2-4"W (B) and 4-6"W (C) application were on 7-19-10 and 7-22-10, respectively.

Ratings at 56 days after the 2-4"W (B) and 4-6"W (C) application were on 8-16-10 and 8-19-10, respectively.

5. Harvested 10-18-10, (2) 30 inch rows by 24 ft.