

Weed Management Systems in Corn - Monsanto.

Trial ID: 08-10B-ME80 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: 06-15-08

Objectives: Evaluate tank-mix partners (Impact and Status) for glyphosate use in glyphosate-resistant corn including tough to control weeds.

Crop 1: ZEAMD Dent corn Variety: DKC 61-73 RR2/YGCB
 Planting Method: SEEDS Planting Date: 06-15-08
 Rate, Unit: 28000 S/A Depth, Unit: 1.5 IN
 Row Spacing, Unit: 30 IN

Pest 1 Type: W Code: ABUTH Abutilon theophrasti Medicus velvetleaf
 Pest 2 Type: W Code: AMBTR Ambrosia trifida L. ragweed, giant
 Pest 3 Type: W Code: XANST Xanthium strumarium L. cocklebur, common
 Pest 4 Type: W Code: CYPES Cyperus esculentus L. nutsedge, yellow
 Pest 5 Type: W Code: SETFA Setaria faberi Herrm. foxtail, giant
 Pest 6 Type: W Code: IPOHE Ipomoea hederacea (L.) jacq. morningglory, annual

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 24 FT Tillage Type: REDUCED-TILL
 Replications: 4 Study Design: Randomized Complete Block

Prior Crops, Year
 1. ZEAMD 2007

Field Prep./Maintenance: N 150 LB/A, P205 50 LB/A, K20 100 LB/A

% OM: 2 Texture: SILT LOAM
 pH: 6.2 Soil Name: PIERRON
 CEC: 11 Fert. Level: P1 88 LB/A, K 445 LB/A

	Application Description		
	A	B	C
Application Date:	06-15-08	07-01-08	07-14-08
Time of Day:	12:00	10:30	15:45
Application Method:	Spray	Spray	Spray
Application Timing:	PRE	3-4"W	3-4"RG
Application Placement:	BROSOI	BROFOL	BROFOL
Applied By:	DKT	TGM	TGM
Air Temperature, Unit:	86 F	78 F	86 F
% Relative Humidity:	52	67	50
Wind Velocity, Unit:	2 MPH	4 MPH	2 MPH
Dew Presence (Y/N):	N	N	
Soil Temperature, Unit:	80 F	75 F	82 F
Soil Moisture:	NORMAL	NORMAL	ABONOR
% Cloud Cover:		5	10
Crop stage at application:	06-15-08 NA	07-01-08 NA	07-14-08 V7
Height Min, Max (inch):			35 37

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		Pest Stage At Each Application			
Application Date:		06-15-08	07-01-08	07-14-08	
Weed Code:	ABUTH	ABUTH	ABUTH	ABUTH	
Stage Majority (leaves):	NA	3	3		
Stage Min, Max:		COTY 4	COTY 5		
Height Majority:		3	IN 4	IN	
Height Min, Max:		1	4	1	6
Density, Unit:		3	FT2 1	FT2	
Weed Code:	AMBTR	AMBTR	AMBTR		
Stage Majority (leaves):	NA	4	2		
Stage Min, Max:		2	4	COTY 6	
Height Majority:		3	IN 4	IN	
Height Min, Max:		2	4	1	5
Density, Unit:		2	FT2 1	FT2	
Weed Code:	XANST	XANST	XANST		
Stage Majority (leaves):	NA	2	2		
Stage Min, Max:		COTY 2	COTY 4		
Height Majority:		3	IN 3	IN	
Height Min, Max:		2	4	1	6
Density, Unit:		1	FT2 0.5	FT2	
Weed Code:	CYPES	CYPES	CYPES		
Stage Majority (leaves):	NA	4	4		
Stage Min, Max:		3	6	3	6
Height Majority:		5	IN 5	IN	
Height Min, Max:		3	8	3	8
Density, Unit:		4	FT2 4	FT2	
Weed Code:	SETFA	SETFA	SETFA		
Stage Majority (leaves):	NA	NA	NA		
Weed Code:	IPOHE	IPOHE	IPOHE		
Stage Majority (leaves):	NA	3	3		
Stage Min, Max:		COTY 5	COTY 4		
Height Majority:		3	IN 3	IN	
Height Min, Max:		1	5	1	5
Density, Unit:		0.5	FT2 2	FT2	

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										ZEAMD	ZEAMD	ZEAMD	ZEAMD	ABUTH	ABUTH	AMBTR	AMBTR							
Crop Code										11-13-08	11-13-08													
Rating Date										Moisture	Yield	Injury	Injury	Control	Control	Control	Control							
Rating Data Type										Percent	bu/A	Percent	Percent	Percent	Percent	Percent	Percent	Percent						
Rating Unit												14 DAT	20 DACT	14 DAT	20 DACT	14 DAT	20 DACT							
Rating Timing																								
Trt-Eval Interval																								
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code															
1	DUAL II MAG	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	18.1	a	204	a	0	a	0	a							
1	IMPACT	2.8	SC	0.011	lb ai/a	0.5	fl oz/a	3-4"W	B															
1	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-4"W	B															
1	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	B															
2	DUAL II MAG	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	18.1	a	218	a	0	a	0	a							
2	IMPACT	2.8	SC	0.011	lb ai/a	0.5	fl oz/a	3-4"W	B															
2	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	3-4"W	B															
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	B															
3	DUAL II MAG	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	17.8	a	200	a	0	a	0	a							
3	IMPACT	2.8	SC	0.016	lb ai/a	0.73	fl oz/a	3-4"W	B															
3	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-4"W	B															
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	B															
4	DUAL II MAG	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	18.2	a	214	a	0	a	0	a							
4	IMPACT	2.8	SC	0.016	lb ai/a	0.73	fl oz/a	3-4"W	B															
4	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	3-4"W	B															
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	B															
5	DUAL II MAG	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	18.2	a	219	a	0	a	0	a							
5	STATUS	56	WG	0.0875	lb ai/a	2.5	oz/a	3-4"W	B															
5	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-4"W	B															
5	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	B															
6	DUAL II MAG	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	18.1	a	216	a	0	a	0	a							
6	STATUS	56	WG	0.0875	lb ai/a	2.5	oz/a	3-4"W	B															
6	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	3-4"W	B															
6	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	B															
7	DUAL II MAG	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	17.4	a	201	a	0	a	0	a							
7	STATUS	56	WG	0.175	lb ai/a	5	oz/a	3-4"W	B															
7	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-4"W	B															
7	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	B															
8	DUAL II MAG	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	17.3	a	210	a	0	a	0	a							
8	STATUS	56	WG	0.175	lb ai/a	5	oz/a	3-4"W	B															
8	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	3-4"W	B															
8	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	B															
9	DUAL II MAG	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	17.3	a	220	a	0	a	0	a							
9	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	3-4"W	B															
9	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	B															
9	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	3-4"RG	C															
9	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"RG	C															
10	DUAL II MAG	7.64	EC	0.716	lb ai/a	0.75	pt/a	PRE	A	17.9	a	158	b	0	a	0	d							
10	NO POST HERBS																							
LSD (P=.05)										1.01		25.0		0.0		0.0		3.4		3.1		1.7		2.3
Replicate F										10.000		0.766		0.000		0.000		0.589		0.758		1.771		0.326
Replicate Prob(F)										0.0001		0.5232		1.0000		1.0000		0.6275		0.5274		0.1764		0.8064
Treatment F										1.090		4.522		0.000		0.000		614.560		772.947		2675.538		1480.874
Treatment Prob(F)										0.4018		0.0011		1.0000		1.0000		0.0001		0.0001		0.0001		0.0001

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

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Location: Belleville Res. Center

									XANST	XANST	CYPES	CYPES	SETFA	SETFA	IPOHE	IPOHE
Pest Code																
Crop Code																
Rating Date																
Rating Data Type									Control	Control	Control	Control	Control	Control	Control	Control
Rating Unit									Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Timing									14 DAT	20 DACT	14 DAT	20 DACT	14 DAT	20 DACT	14 DAT	20 DACT
Trt-Eval Interval																
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Other Rate	Other Rate Unit	Growth Stage	Appl Code								
1	DUAL II MAG	7.64	EC	0.716 lb ai/a	0.75	pt/a	PRE	A	87 d	86 d	65 c	65 c	99 a	99 a	28 e	25 e
1	IMPACT	2.8	SC	0.011 lb ai/a	0.5	fl oz/a	3-4"W	B								
1	PRIME OIL COC	100	SL	1 % v/v	1	% v/v	3-4"W	B								
1	N-PAK AMS	100	SL	5 % v/v	5	% v/v	3-4"W	B								
2	DUAL II MAG	7.64	EC	0.716 lb ai/a	0.75	pt/a	PRE	A	88 cd	87 d	88 a	88 a	98 abc	98 abc	87 ab	87 ab
2	IMPACT	2.8	SC	0.011 lb ai/a	0.5	fl oz/a	3-4"W	B								
2	ROUNDUP P-MAX	4.5	SL	0.75 lb ae/a	21.3	fl oz/a	3-4"W	B								
2	N-PAK AMS	100	SL	5 % v/v	5	% v/v	3-4"W	B								
3	DUAL II MAG	7.64	EC	0.716 lb ai/a	0.75	pt/a	PRE	A	89 bcd	89 cd	69 bc	69 bc	98 ab	98 ab	51 d	40 d
3	IMPACT	2.8	SC	0.016 lb ai/a	0.73	fl oz/a	3-4"W	B								
3	PRIME OIL COC	100	SL	1 % v/v	1	% v/v	3-4"W	B								
3	N-PAK AMS	100	SL	5 % v/v	5	% v/v	3-4"W	B								
4	DUAL II MAG	7.64	EC	0.716 lb ai/a	0.75	pt/a	PRE	A	89 a-d	88 d	89 a	89 a	99 a	99 a	85 bc	83 bc
4	IMPACT	2.8	SC	0.016 lb ai/a	0.73	fl oz/a	3-4"W	B								
4	ROUNDUP P-MAX	4.5	SL	0.75 lb ae/a	21.3	fl oz/a	3-4"W	B								
4	N-PAK AMS	100	SL	5 % v/v	5	% v/v	3-4"W	B								
5	DUAL II MAG	7.64	EC	0.716 lb ai/a	0.75	pt/a	PRE	A	86 d	86 d	70 bc	70 bc	97 cd	97 cd	81 c	79 c
5	STATUS	56	WG	0.0875 lb ai/a	2.5	oz/a	3-4"W	B								
5	PRIME OIL COC	100	SL	1 % v/v	1	% v/v	3-4"W	B								
5	N-PAK AMS	100	SL	5 % v/v	5	% v/v	3-4"W	B								
6	DUAL II MAG	7.64	EC	0.716 lb ai/a	0.75	pt/a	PRE	A	92 ab	92 bc	86 a	86 a	99 a	99 a	87 ab	85 ab
6	STATUS	56	WG	0.0875 lb ai/a	2.5	oz/a	3-4"W	B								
6	ROUNDUP P-MAX	4.5	SL	0.75 lb ae/a	21.3	fl oz/a	3-4"W	B								
6	N-PAK AMS	100	SL	5 % v/v	5	% v/v	3-4"W	B								
7	DUAL II MAG	7.64	EC	0.716 lb ai/a	0.75	pt/a	PRE	A	90 abc	93 b	74 b	74 b	97 bc	97 bc	88 ab	86 ab
7	STATUS	56	WG	0.175 lb ai/a	5	oz/a	3-4"W	B								
7	PRIME OIL COC	100	SL	1 % v/v	1	% v/v	3-4"W	B								
7	N-PAK AMS	100	SL	5 % v/v	5	% v/v	3-4"W	B								
8	DUAL II MAG	7.64	EC	0.716 lb ai/a	0.75	pt/a	PRE	A	93 a	89 bcd	87 a	87 a	99 a	99 a	90 a	89 a
8	STATUS	56	WG	0.175 lb ai/a	5	oz/a	3-4"W	B								
8	ROUNDUP P-MAX	4.5	SL	0.75 lb ae/a	21.3	fl oz/a	3-4"W	B								
8	N-PAK AMS	100	SL	5 % v/v	5	% v/v	3-4"W	B								
9	DUAL II MAG	7.64	EC	0.716 lb ai/a	0.75	pt/a	PRE	A	89 bcd	98 a	89 a	85 a	99 a	99 a	87 ab	78 c
9	ROUNDUP P-MAX	4.5	SL	0.75 lb ae/a	21.3	fl oz/a	3-4"W	B								
9	N-PAK AMS	100	SL	5 % v/v	5	% v/v	3-4"W	B								
9	ROUNDUP P-MAX	4.5	SL	0.75 lb ae/a	21.3	fl oz/a	3-4"RG	C								
9	N-PAK AMS	100	SL	5 % v/v	5	% v/v	3-4"RG	C								
10	DUAL II MAG	7.64	EC	0.716 lb ai/a	0.75	pt/a	PRE	A	0 e	0 e	75 b	70 bc	96 d	96 d	0 f	0 f
10	NO POST HERBS															
LSD (P=.05)									3.7	3.6	6.7	6.8	1.1	1.1	4.8	5.7
Replicate F									0.645	0.847	3.894	6.338	0.390	0.390	3.758	2.463
Replicate Prob(F)									0.5931	0.4803	0.0196	0.0021	0.7611	0.7611	0.0224	0.0840
Treatment F									478.169	518.972	17.211	16.651	6.689	6.689	359.672	260.800
Treatment Prob(F)									0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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

Trial Comments

1. Protocol: Monsanto (04-03).
2. Ratings: CI/WC 14-20 DAT; CI/WC 20 days after tassel.
3. Yield.
4. Blanket application of Dual II Magnum (0.75 pt/A) applied PRE to all plots 10 ft wide on 6-15-08.
5. DAT = Days after the either the 3-4"W or 3-4"RG application. DACT = Days after corn tassel.
Ratings at 14 days after the 3-4"W and 3-4"RG application were on 7-17-08 and 7-31-08, respectively.
Ratings at 20 days after corn tassel were on 8-24-08.
6. At the Belleville Research Center the above normal rainfall in spring 2008 (no more than four consecutive rain-free days between March 22 and June 15) delayed corn and soybean planting until mid-June.
Following the PRE application on June 15, rainfall was 0.29 inch 5 days later and 0.35 inch 12 days later.
7. Harvested 11-13-08, (2) 30 inch rows by 21 ft.