

MANA Metolachlor plus Atrazine Formulations.

Trial ID: 11-5D

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: 6-5-11

Objectives: Determine the crop response and weed control of various formulations of metolachlor plus atrazine.

Crop 1: ZEAMD Dent corn Variety: DKC 61-21 GENSS Description: RR2/LL
 Planting Method: SEEDED Planting Date: 6-5-11
 Rate, Unit: 28000 S/A Depth, Unit: 1.5 IN
 Row Spacing, Unit: 30 IN

Pest 1 Type: W Code: XANST Xanthium strumarium L. cocklebur, common
 Pest 2 Type: W Code: PANDI Panicum dichotomiflorum Michx. panicum, fall

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 30 FT Tillage Type: REDUCED-TILL
 Replications: 4 Study Design: Randomized Complete Block

Prior Crops, Year
 1. GLXMA 2010

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

% OM: 1.7 Texture: SILT LOAM
 pH: 6.9 Soil Name: WINFIELD
 CEC: 6 Fert. Level: P1: 96 LB/A, K: 304 LB/A

Application Description

	A	B
Application Date:	6-5-11	6-15-11
Time of Day:	14:00	8:00
Application Method:	Spray	Spray
Application Timing:	PRE	V2-3
Application Placement:	BROSOI	BROFOL
Applied By:	LAH	BA
Air Temperature, Unit:	88 F	74 F
% Relative Humidity:	42	87
Wind Velocity, Unit:	2 MPH	2 MPH
Wind Direction:	SE	S
Dew Presence (Y/N):	N	N
Soil Temperature, Unit:	75 F	74 F
Soil Moisture:	NORMAL	ABONOR
% Cloud Cover:	10	0

	5-6-11	15-6-11
Crop stage at application:	NA	V2
Height Min, Max (inch):	4	5

Pest Stage At Each Application

	6-5-11	6-15-11
Application Date:	6-5-11	6-15-11
Weed Code:	XANST	XANST
Stage Majority (leaves):	NA	5
Stage Min, Max:		5 6
Height Majority:		2 IN
Height Min, Max:		1 2
Density, Unit:		0.01 FT2
Weed Code:	PANDI	PANDI
Stage Majority (leaves):	NA	2
Stage Min, Max:		1 2
Height Majority:		0.5 IN
Height Min, Max:		0 1
Density, Unit:		0.01 FT2

Application Equipment

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

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Pest Code	Crop Code	Rating Date	Rating Data Type	Rating Unit	Rating Timing	Trt-Eval Interval	ZEAMD	ZEAMD	ZEAMD	ZEAMD	ZEAMD	XANST	XANST	XANST
							6-22-11	7-6-11	7-20-11	7-6-11	7-6-11	7-6-11	7-20-11	8-15-11
							Injury	Injury	Injury	Plants	Height	Control	Control	Control
							Percent	Percent	Percent	000/A	Inch	Percent	Percent	Percent
							14 DAE	28 DAE	42 DAE	28 DAE	28 DAE	28 DAE	42 DAE	68 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code								
1	NONTREATED									0 g	0 c	0 b	30.4 ab	27.0 a	0 d	0 c	0 c
2	PARALLEL PLUS	5.5	SC	2.06	lb ai/a	1.5	qt/a	PRE	A	1 fg	1 c	0 b	30.1 ab	30.1 a	94 abc	84 ab	93 a
3	BICEP II MAGNUM	5.5	SC	1.86	lb ai/a	1.35	qt/a	PRE	A	3 efg	0 c	0 b	30.8 a	28.2 a	93 bc	82 b	92 ab
4	PARALLEL PLUS	5.5	SC	3.9	lb ai/a	2.83	qt/a	PRE	A	4 ef	0 c	0 b	31.3 a	27.2 a	97 ab	94 a	94 a
5	BICEP II MAGNUM	5.5	SC	3.44	lb ai/a	2.5	qt/a	PRE	A	5 e	5 bc	0 b	30.8 a	25.7 a	92 c	85 ab	89 ab
6	PARALLEL PLUS	5.5	SC	2.06	lb ai/a	1.5	qt/a	PRE	A	2 efg	1 c	0 b	29.0 b	27.8 a	96 abc	90 ab	91 ab
6	CALLISTO	4	SC	0.125	lb ai/a	4	fl oz/a	PRE	A								
7	PARALLEL PLUS	5.5	SC	1.86	lb ai/a	1.35	qt/a	PRE	A	3 efg	1 c	0 b	30.6 a	28.4 a	98 a	94 a	95 a
7	CALLISTO	4	SC	0.195	lb ai/a	6.25	fl oz/a	PRE	A								
8	PARALLEL PLUS	5.5	SC	2.06	lb ai/a	1.5	qt/a	V2-3	B	16 cd	10 ab	3 a	30.6 a	25.3 a	98 a	88 ab	92 a
8	COC (PRIME OIL)	100	SL	1	% v/v	1	% v/v	V2-3	B								
9	BICEP II MAGNUM	5.5	SC	1.86	lb ai/a	1.35	qt/a	V2-3	B	13 d	5 bc	0 b	30.9 a	27.9 a	97 ab	88 ab	94 a
9	COC (PRIME OIL)	100	SL	1	% v/v	1	% v/v	V2-3	B								
10	PARALLEL PLUS	5.5	SC	3.9	lb ai/a	2.83	qt/a	V2-3	B	23 a	15 a	3 a	30.8 a	24.9 a	94 abc	86 ab	90 ab
10	COC (PRIME OIL)	100	SL	1	% v/v	1	% v/v	V2-3	B								
11	BICEP II MAGNUM	5.5	SC	3.44	lb ai/a	2.5	qt/a	V2-3	B	22 ab	15 a	3 a	31.0 a	25.7 a	95 abc	86 ab	92 ab
11	COC (PRIME OIL)	100	SL	1	% v/v	1	% v/v	V2-3	B								
12	PARALLEL PLUS	5.5	SC	1.92	lb ai/a	1.4	qt/a	V2-3	B	19 bc	6 bc	0 b	30.9 a	25.3 a	97 ab	91 ab	95 a
12	CALLISTO	4	SC	0.094	lb ai/a	3	fl oz/a	V2-3	B								
12	COC (PRIME OIL)	100	SL	1	% v/v	1	% v/v	V2-3	B								
13	PARALLEL PLUS	5.5	SC	2.75	lb ai/a	2	qt/a	V2-3	B	20 ab	14 a	2 ab	31.3 a	26.0 a	96 abc	93 a	76 b
13	CALLISTO	4	SC	0.094	lb ai/a	3	fl oz/a	V2-3	B								
13	COC (PRIME OIL)	100	SL	1	% v/v	1	% v/v	V2-3	B								
LSD (P=.05)										3.3	6.4	2.1	1.54	5.84	4.1	9.8	15.9
Replicate F										1.292	1.550	1.534	0.781	3.057	14.914	24.205	6.079
Replicate Prob(F)										0.2919	0.2184	0.2223	0.5124	0.0406	0.0001	0.0001	0.0019
Treatment F										61.119	6.921	3.454	1.165	0.581	334.902	52.118	21.483
Treatment Prob(F)										0.0001	0.0001	0.0019	0.3432	0.8431	0.0001	0.0001	0.0001

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

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Pest Code	PANDI	PANDI	PANDI
Crop Code			
Rating Date	7-6-11	7-20-11	8-15-11
Rating Data Type	Control	Control	Control
Rating Unit	Percent	Percent	Percent
Rating Timing			
Trt-Eval Interval	28 DAE	42 DAE	68 DAE

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	NONTREATED									0 d	0 c	0 e
2	PARALLEL PLUS	5.5	SC	2.06	lb ai/a	1.5	qt/a	PRE	A	93 c	85 b	93 c
3	BICEP II MAGNUM	5.5	SC	1.86	lb ai/a	1.35	qt/a	PRE	A	93 c	85 b	96 abc
4	PARALLEL PLUS	5.5	SC	3.9	lb ai/a	2.83	qt/a	PRE	A	98 a	94 a	97 a
5	BICEP II MAGNUM	5.5	SC	3.44	lb ai/a	2.5	qt/a	PRE	A	98 a	94 a	97 a
6	PARALLEL PLUS	5.5	SC	2.06	lb ai/a	1.5	qt/a	PRE	A	93 c	83 b	89 d
6	CALLISTO	4	SC	0.125	lb ai/a	4	fl oz/a	PRE	A			
7	PARALLEL PLUS	5.5	SC	1.86	lb ai/a	1.35	qt/a	PRE	A	94 bc	84 b	93 bc
7	CALLISTO	4	SC	0.195	lb ai/a	6.25	fl oz/a	PRE	A			
8	PARALLEL PLUS	5.5	SC	2.06	lb ai/a	1.5	qt/a	V2-3	B	92 c	80 b	96 abc
8	COC (PRIME OIL)	100	SL	1	% v/v	1	% v/v	V2-3	B			
9	BICEP II MAGNUM	5.5	SC	1.86	lb ai/a	1.35	qt/a	V2-3	B	99 a	94 a	97 a
9	COC (PRIME OIL)	100	SL	1	% v/v	1	% v/v	V2-3	B			
10	PARALLEL PLUS	5.5	SC	3.9	lb ai/a	2.83	qt/a	V2-3	B	98 a	93 a	96 abc
10	COC (PRIME OIL)	100	SL	1	% v/v	1	% v/v	V2-3	B			
11	BICEP II MAGNUM	5.5	SC	3.44	lb ai/a	2.5	qt/a	V2-3	B	98 a	92 a	97 a
11	COC (PRIME OIL)	100	SL	1	% v/v	1	% v/v	V2-3	B			
12	PARALLEL PLUS	5.5	SC	1.92	lb ai/a	1.4	qt/a	V2-3	B	97 ab	96 a	96 ab
12	CALLISTO	4	SC	0.094	lb ai/a	3	fl oz/a	V2-3	B			
12	COC (PRIME OIL)	100	SL	1	% v/v	1	% v/v	V2-3	B			
13	PARALLEL PLUS	5.5	SC	2.75	lb ai/a	2	qt/a	V2-3	B	99 a	96 a	97 a
13	CALLISTO	4	SC	0.094	lb ai/a	3	fl oz/a	V2-3	B			
13	COC (PRIME OIL)	100	SL	1	% v/v	1	% v/v	V2-3	B			

LSD (P=.05)

3.6 6.6 3.2

Replicate F

2.496 5.367 3.597

Replicate Prob(F)

0.0753 0.0037 0.0227

Treatment F

460.970 119.637 557.926

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: MANA (Meto).
2. Ratings: CI at 14, 28, and 42 DAE; record corn stand counts (2 rows, 17 ft 5 inch long) and corn plant heights (10 per plot, height to uppermost horizontal leaf) at 28 DAE. WC at 28, 42, and 68 DAE and at 14, 28, and 42 days after POST glyphosate blanket.
3. The planned blanket POST application of Glyphogan Plus (32 fl oz/A) at 28 DA-B, after the 42 DAE rating, was not applied, corn was too tall.
4. Use light pressure on closing wheels to create opportunity for herbicide entry into seed slot and potential injury.
5. 000/A = Thousands per acre.