

Weed Control in Corn with MANA-283 and Tank Mixtures - 1.

Project Code: 04-2A-ME140 Location: Belleville Research Center
 Investigator: Bryan Young

Investigator: Bryan Young, Associate Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
 Trial Status: Final Updated: 8-31-04

Objective:

To evaluate efficacy of MANA-282 vs Bicep II Magnum applied alone and with Balance Pro.

Weed Code	Common Name	Scientific Name
1. GGGAN	grasses, annual	
2. AMATA	waterhemp, common	Amaranthus rudis Sauer
3. AMBEL	ragweed, common	Ambrosia artemisiifolia L.
4. XANST	cocklebur, common	Xanthium strumarium L.
5. ABUTH	velvetleaf	Abutilon theophrasti Medicus
6. SETFA	foxtail, giant	Setaria faberi Herrm.
7. PANDI	panicum, fall	Panicum dichotomiflorum Michx.

Crop 1: ZEAMX corn, field Variety: DKC 60-17 RR
 Planting Method: Seeded Planting Date: 5-7-04
 Rate: 28000 S/A Depth: 1.5 IN
 Row Spacing: 30 IN

Plot Width, Unit: 10 FT Plot Length, Unit: 28 FT Reps: 4
 Tillage Type: Reduced-Till Study Design: Randomized complete block
 Previous Crop, Year: GLXMA, 2003

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

Soil Name: Weir % OM: 1.6 pH: 6.1 CEC: 8
 Texture: Silt loam Fert. Level: P1: 91 LB/A, K: 410 LB/A

APPLICATION DESCRIPTION

A
 Application Date: 5-10-04
 Time of Day: 18:00
 Application Method: Spray
 Application Timing: PRE
 Applic. Placement: BROFOL
 Air Temp., Unit: 84 F
 % Relative Humidity: 44
 Wind Velocity, Unit: 0 MPH
 Soil Moisture: NORMAL

CROP STAGE AT EACH APPLICATION

A
 Crop 1 Code, Stage: ZEAMX NA
 Height, Unit: NA NA

APPLICATION EQUIPMENT

A
 Appl. Equipment: CO2 sprayer
 Operating Pressure: 40 PSI
 Nozzle Type: Flat fan
 Nozzle Size: 8003
 Boom Length, Unit: 7.5 FT
 Spray Volume, Unit: 20 GPA

NOTES:

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Weed Code		ZEAMX				GGGAN				AMATA													
Crop Code		Injury	Injury	Injury	Injury	Control	Control	Control	Control	Control	Control	Control	Control										
Rating Data Type		Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent										
Rating Unit		5-28-04	6-11-04	6-25-04	7-9-04	5-28-04	6-11-04	6-25-04	7-9-04	5-28-04	6-11-04	6-25-04	7-9-04										
Rating Date		14 DAE	28 DAE	42 DAE	56 DAE	14 DAE	28 DAE	42 DAE	56 DAE	14 DAE	28 DAE	42 DAE	56 DAE										
Trt-Eval Interval																							
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code														
1	NONTREATED									0	0	0	0	0	0	0	0	0	0				
2	BICEP II MAGNUM	5.5 L		1.79 LB A/A		1.3 QT/A		PRE	A	8	0	0	0	99	98	96	93	99	97	95	91		
3	BICEP II MAGNUM	5.5 L		3.05 LB A/A		2.22 QT/A		PRE	A	11	0	0	0	99	99	99	98	99	99	97	95		
4	BICEP II MAGNUM	5.5 L		3.58 LB A/A		2.6 QT/A		PRE	A	13	0	0	0	99	99	98	98	99	99	98	97		
5	MANA-283	5.97 L		1.43 LB A/A		0.96 QT/A		PRE	A	6	0	0	0	99	96	89	86	99	95	91	90		
5	AATREX	90 WG		0.35 LB A/A		0.39 LB/A		PRE	A														
6	MANA-283	5.97 L		2.15 LB A/A		1.44 QT/A		PRE	A	8	0	0	0	99	98	95	94	99	98	95	92		
6	AATREX	90 WG		0.54 LB A/A		0.6 LB/A		PRE	A														
7	MANA-283	5.97 L		2.43 LB A/A		1.63 QT/A		PRE	A	11	0	0	0	99	98	95	95	99	98	95	92		
7	AATREX	90 WG		0.62 LB A/A		0.69 LB/A		PRE	A														
8	MANA-283	5.97 L		2.85 LB A/A		1.91 QT/A		PRE	A	16	0	0	0	99	98	96	96	99	98	94	91		
8	AATREX	90 WG		0.7 LB A/A		0.78 LB/A		PRE	A														
9	MANA-283	5.97 L		3.66 LB A/A		2.45 QT/A		PRE	A	10	0	0	0	99	99	98	97	99	99	99	98		
10	MANA-283	5.97 L		4.3 LB A/A		2.87 QT/A		PRE	A	15	0	0	0	99	99	99	98	99	99	98	98		
11	MANA-283	5.97 L		1.43 LB A/A		0.96 QT/A		PRE	A	14	0	0	0	99	98	96	96	99	98	95	96		
11	AATREX	90 WG		0.35 LB A/A		0.39 LB/A		PRE	A														
11	BALANCE PRO	4 SC		0.047 LB A/A		1.5 FL OZ/A		PRE	A														
12	MANA-283	5.97 L		2.15 LB A/A		1.44 QT/A		PRE	A	11	0	0	0	99	99	99	97	99	98	97	95		
12	AATREX	90 WG		0.54 LB A/A		0.6 LB/A		PRE	A														
12	BALANCE PRO	4 SC		0.047 LB A/A		1.5 FL OZ/A		PRE	A														
13	MANA-283	5.97 L		2.85 LB A/A		1.91 QT/A		PRE	A	15	0	0	0	99	99	99	98	99	99	99	97		
13	AATREX	90 WG		0.7 LB A/A		0.78 LB/A		PRE	A														
13	BALANCE PRO	4 SC		0.047 LB A/A		1.5 FL OZ/A		PRE	A														
14	MANA-283	5.97 L		3.66 LB A/A		2.45 QT/A		PRE	A	15	0	0	0	99	99	99	99	99	98	97	95		
14	BALANCE PRO	4 SC		0.047 LB A/A		1.5 FL OZ/A		PRE	A														
15	MANA-283	5.97 L		4.3 LB A/A		2.87 QT/A		PRE	A	11	0	0	0	99	99	99	98	99	99	99	98		
15	BALANCE PRO	4 SC		0.047 LB A/A		1.5 FL OZ/A		PRE	A														
16	MANA-283	5.97 L		1.43 LB A/A		0.96 QT/A		PRE	A	12	0	0	0	99	99	98	98	99	98	98	97		
16	AATREX	90 WG		0.35 LB A/A		0.39 LB/A		PRE	A														
16	BALANCE PRO	4 SC		0.07 LB A/A		2.25 FL OZ/A		PRE	A														
17	MANA-283	5.97 L		2.15 LB A/A		1.44 QT/A		PRE	A	11	0	0	0	99	99	98	97	99	99	99	98		
17	AATREX	90 WG		0.54 LB A/A		0.6 LB/A		PRE	A														
17	BALANCE PRO	4 SC		0.07 LB A/A		2.25 FL OZ/A		PRE	A														

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Weed Code		ZEAMX				GGGAN				AMATA												
Crop Code	Rating Data Type	Injury Percent	Injury Percent	Injury Percent	Injury Percent	Control Percent	Control Percent	Control Percent	Control Percent	Control Percent	Control Percent	Control Percent	Control Percent									
Rating Unit	Rating Date	5-28-04	6-11-04	6-25-04	7-9-04	5-28-04	6-11-04	6-25-04	7-9-04	5-28-04	6-11-04	6-25-04	7-9-04									
Trt-Eval Interval		14 DAE	28 DAE	42 DAE	56 DAE	14 DAE	28 DAE	42 DAE	56 DAE	14 DAE	28 DAE	42 DAE	56 DAE									
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code													
18	MANA-283	5.97	L	2.85	LB A/A	1.91	QT/A	PRE	A	14	0	0	0	99	99	99	98	99	98	98		
18	AATREX	90	WG	0.7	LB A/A	0.78	LB/A	PRE	A													
18	BALANCE PRO	4	SC	0.07	LB A/A	2.25	FL OZ/A	PRE	A													
19	MANA-283	5.97	L	3.66	LB A/A	2.45	QT/A	PRE	A	18	0	0	0	99	99	99	98	99	99	98		
19	BALANCE PRO	4	SC	0.07	LB A/A	2.25	FL OZ/A	PRE	A													
20	MANA-283	5.97	L	4.3	LB A/A	2.87	QT/A	PRE	A	10	0	0	0	99	99	99	99	99	99	98		
20	BALANCE PRO	4	SC	0.07	LB A/A	2.25	FL OZ/A	PRE	A													
21	NONTREATED									0	0	0	0	0	0	0	0	0	0	0		
LSD (P=.05)		5.0		0.0		0.0				0.0		0.0		0.7		2.1		2.3	0.0	1.4	2.8	4.8
Replicate F		4.793		0.000		0.000				0.000		0.000		4.053		1.670		1.804	0.000	4.846	6.032	7.415
Replicate Prob(F)		0.0046		1.0000		1.0000				1.0000		1.0000		0.0109		0.1829		0.1561	1.0000	0.0044	0.0012	0.0003
Treatment F		6.726		0.000		0.000				0.000		12987.449		1607.548		1274.706		0.000	3566.018	849.017	283.282	
Treatment Prob(F)		0.0001		1.0000		1.0000				1.0000		1.0000		0.0001		0.0001		0.0001	1.0000	0.0001	0.0001	0.0001

Weed Control in Corn with MANA-283 and Tank Mixtures - 1.

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Weed Code				AMBEL	AMBEL	AMBEL	AMBEL	XANST	XANST	XANST	XANST	ABUTH	ABUTH	ABUTH	ABUTH						
Crop Code				Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control						
Rating Data Type				Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent						
Rating Unit				5-28-04	6-11-04	6-25-04	7-9-04	5-28-04	6-11-04	6-25-04	7-9-04	5-28-04	6-11-04	6-25-04	7-9-04						
Rating Date				14 DAE	28 DAE	42 DAE	56 DAE	14 DAE	28 DAE	42 DAE	56 DAE	14 DAE	28 DAE	42 DAE	56 DAE						
Trt-Eval Interval																					
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code												
1	NONTREATED									0	0	0	0	0	0	0	0	0	0		
2	BICEP II MAGNUM	5.5 L		1.79 LB A/A		1.3 QT/A		PRE	A	99	96	93	88	99	94	94	95	99	95	92	92
3	BICEP II MAGNUM	5.5 L		3.05 LB A/A		2.22 QT/A		PRE	A	99	98	98	92	99	95	92	93	99	94	94	91
4	BICEP II MAGNUM	5.5 L		3.58 LB A/A		2.6 QT/A		PRE	A	99	97	97	96	99	95	93	95	99	99	97	95
5	MANA-283	5.97 L		1.43 LB A/A		0.96 QT/A		PRE	A	99	95	88	85	99	94	92	90	99	92	90	87
5	AATREX	90 WG		0.35 LB A/A		0.39 LB/A		PRE	A												
6	MANA-283	5.97 L		2.15 LB A/A		1.44 QT/A		PRE	A	99	96	96	94	99	95	94	94	99	94	91	89
6	AATREX	90 WG		0.54 LB A/A		0.6 LB/A		PRE	A												
7	MANA-283	5.97 L		2.43 LB A/A		1.63 QT/A		PRE	A	99	96	94	92	99	94	91	93	99	92	92	87
7	AATREX	90 WG		0.62 LB A/A		0.69 LB/A		PRE	A												
8	MANA-283	5.97 L		2.85 LB A/A		1.91 QT/A		PRE	A	99	97	93	91	99	97	94	94	99	92	93	86
8	AATREX	90 WG		0.7 LB A/A		0.78 LB/A		PRE	A												
9	MANA-283	5.97 L		3.66 LB A/A		2.45 QT/A		PRE	A	99	96	94	91	99	93	92	92	99	96	95	93
10	MANA-283	5.97 L		4.3 LB A/A		2.87 QT/A		PRE	A	99	97	94	92	99	95	93	96	99	95	95	95
11	MANA-283	5.97 L		1.43 LB A/A		0.96 QT/A		PRE	A	99	98	98	98	99	95	93	95	99	97	98	98
11	AATREX	90 WG		0.35 LB A/A		0.39 LB/A		PRE	A												
11	BALANCE PRO	4 SC		0.047 LB A/A		1.5 FL OZ/A		PRE	A												
12	MANA-283	5.97 L		2.15 LB A/A		1.44 QT/A		PRE	A	99	98	97	92	99	96	96	96	99	98	98	97
12	AATREX	90 WG		0.54 LB A/A		0.6 LB/A		PRE	A												
12	BALANCE PRO	4 SC		0.047 LB A/A		1.5 FL OZ/A		PRE	A												
13	MANA-283	5.97 L		2.85 LB A/A		1.91 QT/A		PRE	A	99	99	99	99	99	97	94	95	99	99	95	94
13	AATREX	90 WG		0.7 LB A/A		0.78 LB/A		PRE	A												
13	BALANCE PRO	4 SC		0.047 LB A/A		1.5 FL OZ/A		PRE	A												
14	MANA-283	5.97 L		3.66 LB A/A		2.45 QT/A		PRE	A	99	99	98	97	99	97	96	96	99	97	97	95
14	BALANCE PRO	4 SC		0.047 LB A/A		1.5 FL OZ/A		PRE	A												
15	MANA-283	5.97 L		4.3 LB A/A		2.87 QT/A		PRE	A	99	99	99	98	99	97	98	98	99	98	98	96
15	BALANCE PRO	4 SC		0.047 LB A/A		1.5 FL OZ/A		PRE	A												
16	MANA-283	5.97 L		1.43 LB A/A		0.96 QT/A		PRE	A	99	98	98	98	99	95	94	95	99	98	98	98
16	AATREX	90 WG		0.35 LB A/A		0.39 LB/A		PRE	A												
16	BALANCE PRO	4 SC		0.07 LB A/A		2.25 FL OZ/A		PRE	A												
17	MANA-283	5.97 L		2.15 LB A/A		1.44 QT/A		PRE	A	99	99	97	98	99	95	93	96	99	98	98	98
17	AATREX	90 WG		0.54 LB A/A		0.6 LB/A		PRE	A												
17	BALANCE PRO	4 SC		0.07 LB A/A		2.25 FL OZ/A		PRE	A												

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Weed Code		AMBEL	AMBEL	AMBEL	AMBEL	XANST	XANST	XANST	XANST	ABUTH	ABUTH	ABUTH	ABUTH								
Crop Code																					
Rating Data Type		Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control								
Rating Unit		Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent								
Rating Date		5-28-04	6-11-04	6-25-04	7-9-04	5-28-04	6-11-04	6-25-04	7-9-04	5-28-04	6-11-04	6-25-04	7-9-04								
Trt-Eval Interval		14 DAE	28 DAE	42 DAE	56 DAE	14 DAE	28 DAE	42 DAE	56 DAE	14 DAE	28 DAE	42 DAE	56 DAE								
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code												
18	MANA-283	5.97	L	2.85	LB A/A	1.91	QT/A	PRE	A	99	99	99	99	99	96	95	97	99	98	98	97
18	AATREX	90	WG	0.7	LB A/A	0.78	LB/A	PRE	A												
18	BALANCE PRO	4	SC	0.07	LB A/A	2.25	FL OZ/A	PRE	A												
19	MANA-283	5.97	L	3.66	LB A/A	2.45	QT/A	PRE	A	99	99	98	97	99	97	97	98	99	99	98	97
19	BALANCE PRO	4	SC	0.07	LB A/A	2.25	FL OZ/A	PRE	A												
20	MANA-283	5.97	L	4.3	LB A/A	2.87	QT/A	PRE	A	99	99	99	96	99	96	96	97	99	99	99	97
20	BALANCE PRO	4	SC	0.07	LB A/A	2.25	FL OZ/A	PRE	A												
21	NONTREATED									0	0	0	0	0	0	0	0	0	0	0	0
LSD (P=.05)		0.0		2.1		3.5		4.6		0.5	3.1	4.7	3.8	0.0	3.1	4.7	6.5				
Replicate F		0.000		0.940		2.845		1.240		3.333	1.965	8.157	9.156	0.000	14.028	11.113	12.824				
Replicate Prob(F)		1.0000		0.4272		0.0451		0.3032		0.0253	0.1289	0.0001	0.0001	1.0000	0.0001	0.0001	0.0001				
Treatment F		0.000	1559.121	558.911	304.354	24140.838	693.940	290.888	458.051	0.000	686.342	301.460	152.573								
Treatment Prob(F)		1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	1.0000	0.0001	0.0001	0.0001				

Trial Comments

1. Protocol: Makhteshim - Agan.
2. Ratings: CI and WC 14, 28, 42 and 56 DAE.
3. GGGAN= Annual grasses, including SETFA and PANDI.
4. DAE = Days after emergence.