

Parallel Plus Ratio and Rate Comparisons.

Project Code: 05-21N-W150 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:** 11-14-05

Objective:

Determine the efficacy of different premix formulation ratios of metolachlor and atrazine on important corn weeds.

Weed Code	Common Name	Scientific Name
1.	SETFA foxtail, giant	Setaria faberi Herrm.
2.	XANST cocklebur, common	Xanthium strumarium L.
3.	ABUTH velvetleaf	Abutilon theophrasti Medicus
4.	CHEAL lambsquarters, common	Chenopodium album L.
5.	AMATA waterhemp, common	Amaranthus rudis Sauer
6.	AMBTR ragweed, giant	Ambrosia trifida L.

Crop 1: ZEAMX corn, field **Variety:** 33P65 RR
Planting Method: Seeded **Planting Date:** 5-5-05
Rate: 28000 S/A **Depth:** 1.5 IN
Row Spacing: 30 IN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 30 FT **Reps:** 4
Tillage Type: Reduced-Till **Study Design:** Randomized complete block
Previous Crop, Year: GLXMA, 2004

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

Soil Name: Ebbert **% OM:** 2.7 **pH:** 6.2 **CEC:** 14
Texture: Silt loam **Fert. Level:** P1: 115 LB/A, K: 500 LB/A

APPLICATION DESCRIPTION

A
Application Date: 05-06-05
Time of Day: 9:30
Application Method: Spray
Application Timing: PRE
Applic. Placement: BROSOI
Air Temp., Unit: 60 F
% Relative Humidity: 44
Wind Velocity, Unit: 5 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:

Parallel Plus Ratio and Rate Comparisons.

Project Code: 05-21N-W150 Location: Belleville Research Center
 Investigator: Bryan Young

					ZEAMX			SETFA		SETFA		SETFA	
					Injury	Injury	Injury	Control	Control	Control	Control	Control	Control
					Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
					05-27-05	06-10-05	06-24-05	05-27-05	06-10-05	06-24-05	07-08-05	07-08-05	07-08-05
					14 DAE	28 DAE	42 DAE	14 DAE	28 DAE	42 DAE	56 DAE	56 DAE	56 DAE
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
2	MANA-283	5.97	L	1.84	lb ai/a	1.23	qt/a	PRE	A	0	0	0	60
3	MANA-283	5.97	L	2.75	lb ai/a	1.84	qt/a	PRE	A	0	0	0	88
4	MANA-283	5.97	L	3.67	lb ai/a	2.46	qt/a	PRE	A	0	0	0	94
5	MANA-284	5.5	L	1.77	lb ai/a	1.29	qt/a	PRE	A	0	0	0	61
6	MANA-284	5.5	L	2.67	lb ai/a	1.94	qt/a	PRE	A	0	0	0	85
7	MANA-284	5.5	L	3.55	lb ai/a	2.58	qt/a	PRE	A	0	0	0	90
8	BICEP II MAGNUM	5.5	L	1.53	lb ai/a	1.11	qt/a	PRE	A	0	0	0	66
9	BICEP II MAGNUM	5.5	L	2.3	lb ai/a	1.67	qt/a	PRE	A	0	0	0	86
10	BICEP II MAGNUM	5.5	L	3.44	lb ai/a	2.5	qt/a	PRE	A	0	0	0	95
11	BICEP II MAGNUM	5.5	L	4.6	lb ai/a	3.34	qt/a	PRE	A	0	0	0	97
LSD (P=.05)					0.0	0.0	0.0	10.2	13.7	16.0	18.0		
Replicate F					0.000	0.000	0.000	1.799	4.572	7.128	4.422		
Replicate Prob(F)					1.0000	1.0000	1.0000	0.1687	0.0094	0.0009	0.0109		
Treatment F					0.000	0.000	0.000	63.741	24.650	15.986	11.839		
Treatment Prob(F)					1.0000	1.0000	1.0000	0.0001	0.0001	0.0001	0.0001		

Parallel Plus Ratio and Rate Comparisons.

Project Code: 05-21N-W150 Location: Belleville Research Center
 Investigator: Bryan Young

					XANST			XANST		ABUTH		ABUTH		ABUTH	
					Control	Control	Control	Control	Control	Control	Control	Control	Control		
					Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent		
					05-27-05	06-10-05	06-24-05	07-08-05	05-27-05	06-10-05	06-24-05	07-08-05	07-08-05		
					14 DAE	28 DAE	42 DAE	56 DAE	14 DAE	28 DAE	42 DAE	56 DAE	56 DAE		
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		
2	MANA-283	5.97	L	1.84	lb ai/a	1.23	qt/a	PRE	A	25	15	15	15		
3	MANA-283	5.97	L	2.75	lb ai/a	1.84	qt/a	PRE	A	44	25	20	15		
4	MANA-283	5.97	L	3.67	lb ai/a	2.46	qt/a	PRE	A	58	41	30	25		
5	MANA-284	5.5	L	1.77	lb ai/a	1.29	qt/a	PRE	A	33	3	3	3		
6	MANA-284	5.5	L	2.67	lb ai/a	1.94	qt/a	PRE	A	44	23	20	20		
7	MANA-284	5.5	L	3.55	lb ai/a	2.58	qt/a	PRE	A	58	35	30	28		
8	BICEP II MAGNUM	5.5	L	1.53	lb ai/a	1.11	qt/a	PRE	A	30	3	3	5		
9	BICEP II MAGNUM	5.5	L	2.3	lb ai/a	1.67	qt/a	PRE	A	41	21	10	8		
10	BICEP II MAGNUM	5.5	L	3.44	lb ai/a	2.5	qt/a	PRE	A	68	55	54	55		
11	BICEP II MAGNUM	5.5	L	4.6	lb ai/a	3.34	qt/a	PRE	A	73	64	53	53		
LSD (P=.05)					15.2	14.3	15.4	16.8	15.1	20.2	19.4	17.6			
Replicate F					1.888	0.809	3.288	1.989	1.636	0.454	0.254	0.472			
Replicate Prob(F)					0.1529	0.4989	0.0341	0.1369	0.2018	0.7165	0.8581	0.7044			
Treatment F					15.775	18.415	12.314	10.375	24.677	13.385	14.972	17.611			
Treatment Prob(F)					0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001			

Parallel Plus Ratio and Rate Comparisons.

Project Code: 05-21N-W150 Location: Belleville Research Center
 Investigator: Bryan Young

Weed Code	CHEAL	CHEAL	CHEAL	CHEAL	AMATA	AMATA	AMATA	AMATA										
Crop Code																		
Rating Data Type	Control	Control	Control	Control	Control	Control	Control	Control										
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent										
Rating Date	05-27-05	06-10-05	06-24-05	07-08-05	05-27-05	06-10-05	06-24-05	07-08-05										
Trt-Eval Interval	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									
1	NONTREATED									0	0	0	0	0	0	0	0	0
2	MANA-283	5.97	L	1.84	lb ai/a	1.23	qt/a	PRE	A	99	99	99	99	99	99	99	99	99
3	MANA-283	5.97	L	2.75	lb ai/a	1.84	qt/a	PRE	A	99	99	99	99	99	99	99	99	99
4	MANA-283	5.97	L	3.67	lb ai/a	2.46	qt/a	PRE	A	99	99	99	99	99	99	99	99	99
5	MANA-284	5.5	L	1.77	lb ai/a	1.29	qt/a	PRE	A	99	98	98	99	99	98	98	98	99
6	MANA-284	5.5	L	2.67	lb ai/a	1.94	qt/a	PRE	A	99	99	99	99	99	98	98	98	99
7	MANA-284	5.5	L	3.55	lb ai/a	2.58	qt/a	PRE	A	99	99	99	99	99	99	99	99	99
8	BICEP II MAGNUM	5.5	L	1.53	lb ai/a	1.11	qt/a	PRE	A	99	99	99	99	99	98	98	98	99
9	BICEP II MAGNUM	5.5	L	2.3	lb ai/a	1.67	qt/a	PRE	A	99	99	99	99	99	99	99	99	99
10	BICEP II MAGNUM	5.5	L	3.44	lb ai/a	2.5	qt/a	PRE	A	99	99	99	99	99	99	99	99	99
11	BICEP II MAGNUM	5.5	L	4.6	lb ai/a	3.34	qt/a	PRE	A	99	99	99	99	99	99	99	99	99
LSD (P=.05)										0.0	0.8	0.8	0.0	0.0	1.3	1.3	0.6	
Replicate F										0.000	1.000	1.000	0.000	0.000	1.822	1.493	2.222	
Replicate Prob(F)										1.0000	0.4064	0.4064	1.0000	1.0000	0.1644	0.2366	0.1060	
Treatment F										0.000	10914.769	10914.769	0.000	0.000	4360.156	4354.299	21737.002	
Treatment Prob(F)										1.0000	0.0001	0.0001	1.0000	1.0000	0.0001	0.0001	0.0001	

Parallel Plus Ratio and Rate Comparisons.

Project Code: 05-21N-W150 Location: Belleville Research Center
 Investigator: Bryan Young

Weed Code	AMBTR	AMBTR									
Crop Code											
Rating Data Type	Control	Control									
Rating Unit	Percent	Percent									
Rating Date	06-24-05	07-08-05									
Trt-Eval Interval	42 DAE	56 DAE									
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code		
1	NONTREATED									0	0
2	MANA-283	5.97	L	1.84	lb ai/a	1.23	qt/a	PRE	A	14	14
3	MANA-283	5.97	L	2.75	lb ai/a	1.84	qt/a	PRE	A	18	25
4	MANA-283	5.97	L	3.67	lb ai/a	2.46	qt/a	PRE	A	28	29
5	MANA-284	5.5	L	1.77	lb ai/a	1.29	qt/a	PRE	A	25	25
6	MANA-284	5.5	L	2.67	lb ai/a	1.94	qt/a	PRE	A	19	21
7	MANA-284	5.5	L	3.55	lb ai/a	2.58	qt/a	PRE	A	35	35
8	BICEP II MAGNUM	5.5	L	1.53	lb ai/a	1.11	qt/a	PRE	A	11	4
9	BICEP II MAGNUM	5.5	L	2.3	lb ai/a	1.67	qt/a	PRE	A	0	0
10	BICEP II MAGNUM	5.5	L	3.44	lb ai/a	2.5	qt/a	PRE	A	24	24
11	BICEP II MAGNUM	5.5	L	4.6	lb ai/a	3.34	qt/a	PRE	A	56	57
LSD (P=.05)										31.3	33.3
Replicate F										8.336	6.878
Replicate Prob(F)										0.0004	0.0012
Treatment F										2.142	2.124
Treatment Prob(F)										0.0523	0.0542

Trial Comments

1. Protocol: MANA.
2. Ratings: CI/WC 14, 28, 42, and 56 DAE.
3. DAE - Days after emergence.