

## Residual Weed Control with Early Preplant Balance Pro Combinations.

00-2A-M60

**OBJECTIVE:** Evaluate the residual weed control of Balance Pro at different early preplant applications in no-till corn.

**SUMMARY:** Little to no corn injury was observed from any treatment. All treatments controlled at least 90% of giant foxtail at 56 days after planting (DAP) except treatments applied 30 days early preplant (EPP30). Fall panicum control was 85 to 96% from preemergence (PRE) treatments but less than 75% from all EPP treatments. All treatments provided good control of horseweed, Pennsylvania smartweed, common cocklebur, and common lambsquarters at 56 DAP. Common ragweed control was 91 to 96% from PRE and EPP14 treatments, however, EPP30 treatments provided only 70 to 75% common ragweed control. Only PRE treatments controlled greater than 90% of common waterhemp at 56 DAP.

Corn yield ranged from 73 bu/A in nontreated plots to 196 bu/A. The highest corn yield was observed in plots that received EPP14 or PRE herbicide treatments. Corn yield was significantly reduced in plots that were treated EPP30.

### HERBICIDES

AATREX 90 WG  
BALANCE PRO 4 SC  
BICEP II MAGNUM 5.5 L  
ROUNDUP ULTRA 3 SL

### WEEDS

COCKLEBUR, COMMON  
FOXTAIL, GIANT  
HORSEWEED  
LAMBSQUARTERS, COMMON  
NUTSEDGE, YELLOW  
PANICUM, FALL  
RAGWEED, COMMON  
SMARTWEED, PENNSYLVANIA  
WATERHEMP, COMMON

### CROP

CORN, FIELD

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

## Residual Weed Control with Early Preplant Balance Pro Combinations.

Project Code: 00-2A-M60 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

Weed Code	Common Name	Scientific Name
1. CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
2. AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
3. ERICA	HORSEWEED	CONYZA CANADENSIS (L.) CRONG.
4. SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
5. PANDI	PANICUM, FALL	PANICUM DICHOTOMIFLORUM MICHX.
6. CYPES	NUTSEDEGE, YELLOW	CYPERUS ESCULENTUS L.
7. AMATA	WATERHEMP, COMMON	AMARANTHUS RUDIS SAUER
8. POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENNSYLVANICUM L.
9. XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L.

Crop 1:	ZEAMX CORN, FIELD	Variety:	P33G28 LL
Planting Method:	SEEDED	Planting Date:	May-12-00
Rate:	28000 S/A	Depth:	1.5 IN
Row Spacing:	30 IN		

Plot Width, Unit:	10 FT	Plot Length, Unit:	28 FT	Reps:	3
Tillage Type:	NO-TILL	Study Design:	RCB		
Previous Crop, Year:	GLXMA, 1999	Fertilizer applied:	N 150 LB/A,	P <sub>2</sub> O <sub>5</sub> 0 LB/A,	K <sub>2</sub> O 0 LB/A

Soil Name:	WEIR	% OM:	2.3	pH:	6.5	CEC:	10
Texture:	SILT LOAM	P <sub>1</sub> :	78 LB/A,	K:	402 LB/A		

## APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	Apr-12-00	Apr-22-00	Apr-28-00	May-12-00
Time of Day:	14:00	9:00	9:00	13:00
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	EPP30	EPP21	EPP_4	PRE
Applic. Placement:	BROFOL	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	50 F	50 F	58 F	83 F
% Relative Humidity:	60	90	96	90
Wind Velocity, Unit:	3 MPH	0 MPH	0 MPH	5-10 MPH
Soil Moisture:	DRY	NORMAL	NORMAL	NORMAL
% Cloud Cover:	0	0	0	30

## CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	NA	NA	NA	ZEAMX PRE
Height, Unit:	NA	NA	NA	NA

## WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code:			CHEAL	CHEAL
Stage(leaves):			5-6	6-10
Height(inches):			3-4	4-6
Density:			LOW	LOW
Weed 2 Code:			AMBEL	AMBEL
Stage(leaves):			3-4	4-5
Height(inches):			3-4	4-5
Density:			LOW	MEDIUM
Weed 3 Code:			ERICA	ERICA
Stage(leaves):			10+	10+
Height(inches):			5-6	6-10
Density:			LOW	LOW

## APPLICATION EQUIPMENT

	A	B	C	D
Appl. Equipment:	CO <sub>2</sub> SPRAY	CO <sub>2</sub> SPRAY	CO <sub>2</sub> SPRAY	CO <sub>2</sub> SPRAY
Operating Pressure:	40 PSI	40 PSI	40 PSI	40 PSI
Nozzle Type:	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size:	8003	8003	8003	8003
Boom Length, Unit:	7.33 FT	7.33 FT	7.33 FT	7.33 FT
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA

## NOTES:

Harvested Oct-09-00, (2) 30 inch rows by 25 ft.

TABLE. RESIDUAL WEED CONTROL WITH EARLY PREPLANT BALANCE PRO COMBINATIONS. PROJECT CODE:00-2A-M60

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	YIELD BU/A	ZEAMX INJURY, DAP			CONTROL, DAYS AFTER PLANTING									
								14	28	56	SETFA			PANDI		CYPES		ERICA		
								%	%	%	%	%	%	%	%	%	%	%	%	%
1 BALANCE PRO	4 SC	0.1172	LB A/A	3.75 OZ/A	EPP30	A	149	2	0	0	99	75	67	72	33	96	86	99	99	99
1 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	EPP30	A														
1 BICEP II MAGNUM	5.5 L	1.65	LB A/A	1.2 QT/A	EPP30	A														
1 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	EPP30	A														
1 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	EPP30	A														
2 BALANCE PRO	4 SC	0.09375	LB A/A	3.0 OZ/A	EPP30	A	157	0	0	0	97	80	88	91	47	96	87	99	99	99
2 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	EPP30	A														
2 BICEP II MAGNUM	5.5 L	1.65	LB A/A	1.2 QT/A	EPP30	A														
2 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	EPP30	A														
2 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	EPP30	A														
3 BICEP II MAGNUM	5.5 L	3.3	LB A/A	2.4 QT/A	EPP30	A	141	0	0	0	99	85	82	57	40	96	89	99	99	99
3 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	EPP30	A														
3 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	EPP30	A														
4 BALANCE PRO	4 SC	0.1172	LB A/A	3.75 OZ/A	EPP21	B	172	0	0	0	99	93	91	93	62	95	70	99	99	99
4 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	EPP21	B														
4 BICEP II MAGNUM	5.5 L	1.44	LB A/A	1.05 QT/A	EPP21	B														
4 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	EPP21	B														
4 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	EPP21	B														
5 BALANCE PRO	4 SC	0.09375	LB A/A	3.0 OZ/A	EPP21	B	169	0	0	0	99	93	90	91	57	93	63	99	99	99
5 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	EPP21	B														
5 BICEP II MAGNUM	5.5 L	1.44	LB A/A	1.05 QT/A	EPP21	B														
5 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	EPP21	B														
5 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	EPP21	B														
6 BALANCE PRO	4 SC	0.1172	LB A/A	3.75 OZ/A	EPP14	C	184	0	0	0	99	98	90	96	72	96	81	99	99	99
6 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	EPP14	C														
6 BICEP II MAGNUM	5.5 L	1.44	LB A/A	1.05 QT/A	EPP14	C														
6 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	EPP14	C														
6 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	EPP14	C														
7 BALANCE PRO	4 SC	0.09375	LB A/A	3.0 OZ/A	EPP14	C	193	0	0	0	99	92	90	93	70	96	89	99	99	99
7 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	EPP14	C														
7 BICEP II MAGNUM	5.5 L	1.44	LB A/A	1.05 QT/A	EPP14	C														
7 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	EPP14	C														
7 AMS	100 DRY	2.0	% W/W	2.0 %W/W	EPP14	C														

(CONTINUED)

TABLE. RESIDUAL WEED CONTROL WITH EARLY PREPLANT BALANCE PRO COMBINATIONS. PROJECT CODE:00-2A-M60 (CONTINUED)

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	YIELD	ZEAMX			CONTROL, DAYS AFTER PLANTING									
								INJURY, DAP			SETFA			PANDI		CYPES		ERICA		
								14	28	56	14	28	56	28	56	28	56	14	28	56
8 BALANCE PRO	4 SC	0.1172	LB A/A	3.75 OZ/A	PRE	D	187	5	0	0	99	96	94	99	96	96	62	99	99	99
8 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	PRE	D														
8 BICEP II MAGNUM	5.5 L	1.44	LB A/A	1.05 QT/A	PRE	D														
8 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	PRE	D														
8 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	PRE	D														
9 BALANCE PRO	4 SC	0.09375	LB A/A	3.0 OZ/A	PRE	D	190	0	0	0	99	99	96	99	93	98	77	99	99	99
9 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	PRE	D														
9 BICEP II MAGNUM	5.5 L	1.44	LB A/A	1.05 QT/A	PRE	D														
9 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	PRE	D														
9 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	PRE	D														
10 BALANCE PRO	4 SC	0.04688	LB A/A	1.5 OZ/A	PRE	D	191	1	0	0	99	99	96	99	93	96	77	99	99	99
10 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	PRE	D														
10 BICEP II MAGNUM	5.5 L	1.44	LB A/A	1.05 QT/A	PRE	D														
10 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	PRE	D														
10 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	PRE	D														
11 BICEP II MAGNUM	5.5 L	2.89	LB A/A	2.1 QT/A	PRE	D	196	0	0	0	99	99	94	98	85	98	77	99	98	99
11 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	PRE	D														
11 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	PRE	D														
12 NONTREATED							73	0	0	0	0	0	0	0	0	0	0	0	0	0
LSD							25	3	0	0	1	10	13	15	10	3	27	0	1	0
P							0.01	0.03	1.0	1.0	0.01	0.01	0.01	0.01	0.01	0.01	0.01	1.0	0.01	1.0

(CONTINUED)

TABLE. RESIDUAL WEED CONTROL WITH EARLY PREPLANT BALANCE PRO COMBINATIONS. PROJECT CODE:00-2A-M60 (CONTINUED)

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	CONTROL, DAYS AFTER PLANTING												
							AMBEL			CHEAL			AMATA			POLPY		XANST	
							14	28	56	14	28	56	14	28	56	28	56	28	56
%	%	%	%	%	%	%	%	%	%	%	%	%							
1 BALANCE PRO	4 SC	0.1172	LB A/A	3.75 OZ/A	EPP30	A	98	83	70	99	99	99	99	70	33	98	99	85	83
1 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	EPP30	A													
1 BICEP II MAGNUM	5.5 L	1.65	LB A/A	1.2 QT/A	EPP30	A													
1 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	EPP30	A													
1 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	EPP30	A													
2 BALANCE PRO	4 SC	0.09375	LB A/A	3.0 OZ/A	EPP30	A	98	90	75	99	99	93	99	72	20	98	89	99	91
2 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	EPP30	A													
2 BICEP II MAGNUM	5.5 L	1.65	LB A/A	1.2 QT/A	EPP30	A													
2 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	EPP30	A													
2 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	EPP30	A													
3 BICEP II MAGNUM	5.5 L	3.3	LB A/A	2.4 QT/A	EPP30	A	95	87	75	99	99	99	91	60	27	98	93	98	98
3 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	EPP30	A													
3 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	EPP30	A													
4 BALANCE PRO	4 SC	0.1172	LB A/A	3.75 OZ/A	EPP21	B	99	96	87	99	99	99	99	88	65	99	99	96	93
4 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	EPP21	B													
4 BICEP II MAGNUM	5.5 L	1.44	LB A/A	1.05 QT/A	EPP21	B													
4 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	EPP21	B													
4 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	EPP21	B													
5 BALANCE PRO	4 SC	0.09375	LB A/A	3.0 OZ/A	EPP21	B	98	96	83	99	99	99	98	85	58	96	86	95	90
5 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	EPP21	B													
5 BICEP II MAGNUM	5.5 L	1.44	LB A/A	1.05 QT/A	EPP21	B													
5 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	EPP21	B													
5 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	EPP21	B													
6 BALANCE PRO	4 SC	0.1172	LB A/A	3.75 OZ/A	EPP14	C	99	96	91	99	99	99	99	95	77	98	93	96	88
6 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	EPP14	C													
6 BICEP II MAGNUM	5.5 L	1.44	LB A/A	1.05 QT/A	EPP14	C													
6 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	EPP14	C													
6 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	EPP14	C													
7 BALANCE PRO	4 SC	0.09375	LB A/A	3.0 OZ/A	EPP14	C	99	95	91	99	99	99	99	92	80	98	99	98	99
7 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	EPP14	C													
7 BICEP II MAGNUM	5.5 L	1.44	LB A/A	1.05 QT/A	EPP14	C													
7 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	EPP14	C													
7 AMS	100 DRY	2.0	% W/W	2.0 %W/W	EPP14	C													

(CONTINUED)

TABLE. RESIDUAL WEED CONTROL WITH EARLY PREPLANT BALANCE PRO COMBINATIONS. PROJECT CODE:00-2A-M60 (CONTINUED)

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	CONTROL, DAYS AFTER PLANTING												
							AMBEL			CHEAL			AMATA			POLPY		XANST	
							14	28	56	14	28	56	14	28	56	28	56	28	56
% % %			% % %			% % %			% %		% %								
8 BALANCE PRO	4 SC	0.1172	LB A/A	3.75 OZ/A	PRE	D	99	99	96	99	99	99	99	99	94	99	98	99	99
8 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	PRE	D													
8 BICEP II MAGNUM	5.5 L	1.44	LB A/A	1.05 QT/A	PRE	D													
8 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	PRE	D													
8 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	PRE	D													
9 BALANCE PRO	4 SC	0.09375	LB A/A	3.0 OZ/A	PRE	D	99	99	95	99	99	99	99	99	93	99	99	99	99
9 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	PRE	D													
9 BICEP II MAGNUM	5.5 L	1.44	LB A/A	1.05 QT/A	PRE	D													
9 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	PRE	D													
9 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	PRE	D													
10 BALANCE PRO	4 SC	0.04688	LB A/A	1.5 OZ/A	PRE	D	99	99	96	99	99	99	99	99	93	99	99	99	98
10 AATREX	90 WG	1.0	LB A/A	1.11 LB/A	PRE	D													
10 BICEP II MAGNUM	5.5 L	1.44	LB A/A	1.05 QT/A	PRE	D													
10 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	PRE	D													
10 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	PRE	D													
11 BICEP II MAGNUM	5.5 L	2.89	LB A/A	2.1 QT/A	PRE	D	99	99	95	99	99	99	99	99	90	99	96	99	99
11 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	PRE	D													
11 AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	PRE	D													
12 NONTREATED							0	0	0	0	0	0	0	0	0	0	0	0	0
LSD							3	7	7	0.30	0	5	5	16	23	3	12	11	16
P							0.01	0.01	0.01	0.01	1.0	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

1. PROTOCOL: AVENTIS C2K.
2. RATING DATES:  
14 DAP, 28 DAP, AND 56 DAP ON MAY-26-00, JUN-9-00, AND JUL-7-00, RESPECTIVELY.