

## Winter Annual Weed Control in Roundup Ready Corn.

Project Code: 03-11A-W55 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA  
 Trial Status: Final Updated: 10-31-02

**Objective:**

Determine performance of various strategies for control of winter annual weeds in a Roundup Ready corn system.

Weed Code	Common Name	Scientific Name
1. LAMAM	henbit	Lamium amplexicaule L.
2. STEME	chickweed, common	Stellaria media (L.) Vill.
3. ALLVI	garlic, wild	Allium vineale L.
4. AMBTR	ragweed, giant	Ambrosia trifida L.
5. AMBEL	ragweed, common	Ambrosia artemisiifolia L.
6. SETFA	foxtail, giant	Setaria faberi Herrm.
7. XANST	cocklebur, common	Xanthium strumarium L.

Crop 1: ZEAMX corn, field Variety: DKC 60-17 RR  
 Planting Method: Seeded Planting Date: 5-24-03  
 Rate: 28000 S/A Depth: 1.5 IN  
 Row Spacing: 30 IN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
 Tillage Type: No-Till Study Design: Randomized complete block  
 Previous Crop, Year: GLXMA, 2002

Field Prep./Maintenance: N 150 LB/A, P205 50 LB/A, K20 200 LB/A

Soil Name: Weir % OM: 1.5 pH: 6.0 CEC: 12  
 Texture: Silt loam Fert. Level: P1: 81 LB/A, K: 247 LB/A

**APPLICATION DESCRIPTION**

	A	B	C
Application Date:	11-20-02	4-26-03	5-24-03
Time of Day:	11:00	9:00	15:00
Application Method:	Spray	Spray	Spray
Application Timing:	FALL	14DBP	PRE
Applic. Placement:	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	46 F	50 F	66 F
% Relative Humidity:	66	70	52
Wind Velocity, Unit:	3 MPH	3 MPH	0 MPH
Soil Moisture:	NORMAL	ABONOR	NORMAL

**CROP STAGE AT EACH APPLICATION**

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

**WEED STAGE AT EACH APPLICATION**

	A	B	C
Weed 1 Code:	LAMAM		
Stage(leaves):	10+		
Height(inches):	0-1		
Density:	Low		
Weed 2 Code:	STEME		
Stage(leaves):	10+		
Height(inches):	0-1		
Density:	Low		
Weed 3 Code:	ALLVI	ALLVI	
Stage(leaves):	3-4	3-4	
Height(inches):	4-8	6-8	
Density:	Low	Low	

<b>Weed 4 Code:</b>	AMBTR	AMBTR
<b>Stage(leaves):</b>	2-6	5-6
<b>Height(inches):</b>	1-4	4-10
<b>Density:</b>	Medium	Medium
<b>Weed 5 Code:</b>	AMBEL	AMBEL
<b>Stage(leaves):</b>	2-3	5-6
<b>Height(inches):</b>	1-2	4-10
<b>Density:</b>	Low	Medium
<b>Weed 6 Code:</b>	SETFA	SETFA
<b>Stage(leaves):</b>	1-2	5-6
<b>Height(inches):</b>	0-1	2-6
<b>Density:</b>	Low	Medium
<b>Weed 7 Code:</b>		XANST
<b>Stage(leaves):</b>		5-6
<b>Height(inches):</b>		2-4
<b>Density:</b>		Medium

## APPLICATION EQUIPMENT

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

## NOTES:

Harvested Oct-28-03, (2) 30 inch rows by 22 ft.

Winter Annual Weed Control in Roundup Ready Corn.

Project Code: 03-11A-W55 Location: Belleville Research Center

Weed Code	LAMAM	LAMAM	LAMAM	LAMAM	STEME	STEME	STEME	STEME	ALLVI	ALLVI	ALLVI	ALLVI	
Crop Code	ZEAMX												
Rating Data Type	Yield	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	
Rating Unit	bu/A	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
Rating Date	10-28-03	12-12-02	4-1-03	4-26-03	5-10-03	12-12-02	4-1-03	4-26-03	5-10-03	12-12-02	4-1-03	4-26-03	5-10-03
Trt-Eval Interval		22 DA-A	132 DA-A	0 DA-B	14 DA-B	22 DA-A	132 DA-A	0 DA-B	14 DA-B	22 DA-A	132 DA-A	0 DA-B	14 DA-B

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	Yield	Control Percent	Control Percent	Control Percent	Control Percent	Control Percent	Control Percent	Control Percent	Control Percent
1	NONTREATED									0	0	0	0	0	0	0	0	0
2	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	FALL	A	139	0	100	100	100	0	100	100	100
	AMS	100	DRY	2.0	% W/W	2	%W/W	FALL	A									
2	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C									
	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C									
3	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	FALL	A	173	0	100	100	100	0	100	100	100
	PRINCEP	90	WG	1.0	LB A/A	17.8	OZ/A	FALL	A									
	AMS	100	DRY	2.0	% W/W	2	%W/W	FALL	A									
3	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C									
	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C									
4	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	FALL	A	171	0	100	100	100	0	100	100	100
	AMS	100	DRY	2.0	% W/W	2	%W/W	FALL	A									
4	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	14DBP	B									
	AMS	100	DRY	2.0	% W/W	2	%W/W	14DBP	B									
5	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	FALL	A	188	0	100	100	100	0	100	100	100
	PRINCEP	90	WG	1.0	LB A/A	17.8	OZ/A	FALL	A									
	AMS	100	DRY	2.0	% W/W	2	%W/W	FALL	A									
5	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	14DBP	B									
	AMS	100	DRY	2.0	% W/W	2	%W/W	14DBP	B									
6	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C	178								
	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C									
7	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C	189								
	PRINCEP	90	WG	2.0	LB A/A	35.6	OZ/A	PRE	C									
	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C									
8	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C	185								
	AATREX	90	WG	2.0	LB A/A	35.6	OZ/A	PRE	C									
	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C									
9	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C	190								
	BICEP II MAGNUM	5.5	L	2.89	LB A/A	2.1	QT/A	PRE	C									
	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C									
10	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	FALL	A	186	0	100	100	100	0	100	100	100
	CANOPY XL	56.3	WG			4.5	OZ/A	FALL	A									
	->CLASSIC	25	WG	0.0264	LB A/A			FALL	A									
	->AUTHORITY	75	WG	0.132	LB A/A			FALL	A									
	AMS	100	DRY	2.0	% W/W	2	%W/W	FALL	A									

Weed Code		LAMAM	LAMAM	LAMAM	LAMAM	STEME	STEME	STEME	STEME	ALLVI	ALLVI	ALLVI	ALLVI
Crop Code		ZEAMX											
Rating Data Type	Yield	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control
Rating Unit	bu/A	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date	10-28-03	12-12-02	4-1-03	4-26-03	5-10-03	12-12-02	4-1-03	4-26-03	5-10-03	12-12-02	4-1-03	4-26-03	5-10-03
Trt-Eval Interval		22 DA-A	132 DA-A	0 DA-B	14 DA-B	22 DA-A	132 DA-A	0 DA-B	14 DA-B	22 DA-A	132 DA-A	0 DA-B	14 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code				
LSD (P=.05)		36.3		0.0		0.0		0.0		0.0		0.0	
Replicate F		0.938		0.000		0.000		0.000		0.000		0.000	
Replicate Prob(F)		0.4118		1.0000		1.0000		1.0000		1.0000		1.0000	
Treatment F		23.007		0.000		0.000		0.000		0.000		0.000	
Treatment Prob(F)		0.0001		1.0000		1.0000		1.0000		1.0000		1.0000	

Weed Code	AMBTR	AMBTR	AMBTR	AMBTR	AMBTR	AMBEL	AMBEL	AMBEL	AMBEL	AMBEL	XANST	XANST	XANST
Crop Code	Control	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	Percent
Rating Unit	4-26-03	5-10-03	6-6-03	6-21-03	7-31-03	4-26-03	5-10-03	6-6-03	6-21-03	7-31-03	6-6-03	6-21-03	7-31-03
Rating Date	0 DA-B	14 DA-B	13 DA-C	28 DA-C	68 DA-C	0 DA-B	14 DA-B	13 DA-C	28 DA-C	68 DA-C	13 DA-C	28 DA-C	68 DA-C
Trt-Eval Interval													

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code													
1	NONTREATED									57	57	0	0	0	63	62	0	0	0	0		
2	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	FALL	A	0	0	90	90	90	0	0	100	0	98	97	0	98
2	AMS	100	DRY	2.0	% W/W	2	%W/W	FALL	A													
2	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C													
2	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C													
3	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	FALL	A	58	58	100	87	90	87	87	100	30	98	97	0	95
3	PRINCEP	90	WG	1.0	LB A/A	17.8	OZ/A	FALL	A													
3	AMS	100	DRY	2.0	% W/W	2	%W/W	FALL	A													
3	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C													
3	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C													
4	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	FALL	A	0	100	0	90	98	0	100	0	90	98	0	77	98
4	AMS	100	DRY	2.0	% W/W	2	%W/W	FALL	A													
4	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	14DBP	B													
4	AMS	100	DRY	2.0	% W/W	2	%W/W	14DBP	B													
5	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	FALL	A	78	100	63	93	98	90	100	90	97	98	30	75	98
5	PRINCEP	90	WG	1.0	LB A/A	17.8	OZ/A	FALL	A													
5	AMS	100	DRY	2.0	% W/W	2	%W/W	FALL	A													
5	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	14DBP	B													
5	AMS	100	DRY	2.0	% W/W	2	%W/W	14DBP	B													
6	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C			94	30	93			100	30	98	95	25	98
6	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C													
7	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C			90	99	95			100	100	98	98	93	98
7	PRINCEP	90	WG	2.0	LB A/A	35.6	OZ/A	PRE	C													
7	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C													
8	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C			92	100	93			100	100	98	100	96	98
8	AATREX	90	WG	2.0	LB A/A	35.6	OZ/A	PRE	C													
8	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C													
9	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C			100	97	91			100	97	98	100	90	95
9	BICEP II MAGNUM	5.5	L	2.89	LB A/A	2.1	QT/A	PRE	C													
9	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C													
10	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	FALL	A	90	88	83	100	98	97	97	97	100	98	87	78	98
10	CANOPY XL	56.3	WG			4.5	OZ/A	FALL	A													
10	->CLASSIC	25	WG	0.0264	LB A/A			FALL	A													
10	->AUTHORITY	75	WG	0.132	LB A/A			FALL	A													
10	AMS	100	DRY	2.0	% W/W	2	%W/W	FALL	A													
LSD (P=.05)										39.9	40.4	29.6	28.6	5.3	39.5	38.3	3.1	41.1	0.0	28.4	24.1	3.6

Weed Code	AMBTR	AMBTR	AMBTR	AMBTR	AMBTR	AMBEL	AMBEL	AMBEL	AMBEL	AMBEL	XANST	XANST	XANST
Crop Code													
Rating Data Type	Control	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	Percent
Rating Date	4-26-03	5-10-03	6-6-03	6-21-03	7-31-03	4-26-03	5-10-03	6-6-03	6-21-03	7-31-03	6-6-03	6-21-03	7-31-03
Trt-Eval Interval	0 DA-B	14 DA-B	13 DA-C	28 DA-C	68 DA-C	0 DA-B	14 DA-B	13 DA-C	28 DA-C	68 DA-C	13 DA-C	28 DA-C	68 DA-C

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code																			
	Replicate F			0.495		0.375		1.398		1.064		2.387		1.565		1.585		1.000		0.529		0.000		1.366		0.900		0.474
	Replicate Prob(F)			0.6235		0.6968		0.2727		0.3658		0.1203		0.2563		0.2523		0.3874		0.5982		1.0000		0.2804		0.4239		0.6302
	Treatment F			9.295		8.888		15.324		12.846		285.235		12.802		10.340		1556.000		9.994		0.000		19.911		26.597		632.845
	Treatment Prob(F)			0.0016		0.0019		0.0001		0.0001		0.0001		0.0004		0.0011		0.0001		0.0001		1.0000		0.0001		0.0001		0.0001

Weed Code	SETFA	SETFA	SETFA	AMATA	AMATA	ZEAMX	ZEAMX	ZEAMX
Crop Code								
Rating Data Type	Control	Control	Control	Control	Control	Injury	Injury	Injury
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date	6-6-03	6-21-03	7-31-03	6-21-03	7-31-03	6-6-03	6-21-03	7-31-03
Trt-Eval Interval	13 DA-C	28 DA-C	68 DA-C	28 DA-C	68 DA-C	13 DA-C	28 DA-C	68 DA-C

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
2	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	FALL	A	97	0	90	0	88	0	0	0
2	AMS	100	DRY	2.0	% W/W	2	%W/W	FALL	A								
2	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C								
2	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C								
3	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	FALL	A	100	0	92	0	90	0	0	0
3	PRINCEP	90	WG	1.0	LB A/A	17.8	OZ/A	FALL	A								
3	AMS	100	DRY	2.0	% W/W	2	%W/W	FALL	A								
3	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C								
3	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C								
4	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	FALL	A	0	100	98	97	98	0	0	0
4	AMS	100	DRY	2.0	% W/W	2	%W/W	FALL	A								
4	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	14DBP	B								
4	AMS	100	DRY	2.0	% W/W	2	%W/W	14DBP	B								
5	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	FALL	A	93	97	98	93	98	0	0	0
5	PRINCEP	90	WG	1.0	LB A/A	17.8	OZ/A	FALL	A								
5	AMS	100	DRY	2.0	% W/W	2	%W/W	FALL	A								
5	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	14DBP	B								
5	AMS	100	DRY	2.0	% W/W	2	%W/W	14DBP	B								
6	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C	100	30	94	0	98	0	0	0
6	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C								
7	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C	100	96	93	87	98	0	0	0
7	PRINCEP	90	WG	2.0	LB A/A	35.6	OZ/A	PRE	C								
7	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C								
8	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C	100	93	90	93	98	0	0	0
8	AATREX	90	WG	2.0	LB A/A	35.6	OZ/A	PRE	C								
8	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C								
9	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	PRE	C	100	93	90	100	98	0	0	0
9	BICEP II MAGNUM	5.5	L	2.89	LB A/A	2.1	QT/A	PRE	C								
9	AMS	100	DRY	2.0	% W/W	2	%W/W	PRE	C								
10	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	FALL	A	100	100	98	97	98	0	12	0
10	CANOPY XL	56.3	WG			4.5	OZ/A	FALL	A								
10	->CLASSIC	25	WG	0.0264	LB A/A			FALL	A								
10	->AUTHORITY	75	WG	0.132	LB A/A			FALL	A								
10	AMS	100	DRY	2.0	% W/W	2	%W/W	FALL	A								
LSD (P=.05)										4.7	27.9	3.9	6.3	1.6	0.0	5.6	0.0

Weed Code	SETFA	SETFA	SETFA	AMATA	AMATA			
Crop Code						ZEAMX	ZEAMX	ZEAMX
Rating Data Type	Control	Control	Control	Control	Control	Injury	Injury	Injury
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date	6-6-03	6-21-03	7-31-03	6-21-03	7-31-03	6-6-03	6-21-03	7-31-03
Trt-Eval Interval	13 DA-C	28 DA-C	68 DA-C	28 DA-C	68 DA-C	13 DA-C	28 DA-C	68 DA-C

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code
Replicate F				0.000		1.435		0.026	
Replicate Prob(F)				1.0000		0.2641		0.9742	
Treatment F				704.050		24.841		522.730	
Treatment Prob(F)				0.0001		0.0001		0.0001	
								1.552	
								0.2389	
								0.3874	
								3369.427	
								1.0000	
								0.3874	
								1.0000	
								0.0000	
								3.769	
								0.0080	
								1.0000	



Winter Annual Weed Control in Roundup Ready Corn.

Project Code: 03-11A-W55      Location: Belleville Research Center

Trial Comments

1. Protocol: SIU (RFK).
2. Ratings: WC 21 DA "A", April 1, at application "B", all plots 14 DA "B" and "C".
3. DA-A, and DA-B = days after FALL, and 14DBP applications, respectively.  
0 DA-B was at the 14DBP application and 157 DA-A. DA-C = days after PRE application.  
Ratings on 7-31-03 at 68 DA-C were also 28 days after the last blanket POST application.
4. On 4-26-03 and 5-10-03, weed control in nontreated plots was due to competition among weeds.
5. Blanket POST application(s) of Roundup WeatherMax 0.75 lbae/A + AMS 2.0% applied 7.5 ft wide to all plots except the nontreated.  
Treatments 4, 5, and 10 required 2 blanket POST applications.  
Treatments 2, 3, 6, 7, 8 and 9 required 1 blanket POST application.