

Replace Adjuvant Study in Corn.

Project Code: 05-ARC-5      Location: Agronomy 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:**

Evaluate the effect of Replace adjuvant with postemergence corn herbicides.

Weed Code	Common Name	Scientific Name
1.	AMBEL ragweed, common	Ambrosia artemisiifolia L.
2.	PANDI panicum, fall	Panicum dichotomiflorum Michx.
3.	AMATA waterhemp, common	Amaranthus rudis Sauer

<b>Crop 1:</b>	ZEAMX corn, field	<b>Variety:</b>	33P70
<b>Planting Method:</b>	Seeded	<b>Planting Date:</b>	5-10-05
<b>Rate:</b>	28000 S/A	<b>Depth:</b>	1.5 IN
<b>Row Spacing:</b>	30 IN		

<b>Plot Width, Unit:</b>	10 FT	<b>Plot Length, Unit:</b>	30 FT	<b>Reps:</b>	3
<b>Tillage Type:</b>	Reduced-Till	<b>Study Design:</b>	Randomized complete block		
<b>Previous Crop, Year:</b>	ZEAMX, 2004				

**Field Prep./Maintenance:** N 168 LB/A, P205 46 LB/A, K20 120 LB/A

<b>Soil Name:</b>	Stoy	<b>% OM:</b>	1.8	<b>pH:</b>	6.5	<b>CEC:</b>	8.2
<b>Texture:</b>	Silt loam	<b>Fert. Level:</b>	P1: 61 LB/A, K: 282 LB/A				

**APPLICATION DESCRIPTION****A**

**Application Date:** 06-14-05  
**Time of Day:** 18:00  
**Application Method:** Spray  
**Application Timing:** POST  
**Applic. Placement:** BROFOL  
**Air Temp., Unit:** 87 F  
**% Relative Humidity:** 35  
**Wind Velocity, Unit:** 5 MPH  
**Soil Moisture:** NORMAL

**CROP STAGE AT EACH APPLICATION****A**

**Crop 1 Code, Stage:** ZEAMX V6  
**Height, Unit:** 12-18 IN

**WEED STAGE AT EACH APPLICATION****A**

**Weed 1 Code:** AMBEL  
**Stage (leaves):** 10-12  
**Height (inches):** 5-12  
**Density:** High

**Weed 2 Code:** PANDI  
**Stage (leaves):** 3-6  
**Height (inches):** 5-12  
**Density:** Medium

**Weed 3 Code:** AMATA  
**Stage (leaves):** 4-8  
**Height (inches):** 5-10  
**Density:** Low

**APPLICATION EQUIPMENT****A**

**Appl. Equipment:** CO2 sprayer  
**Operating Pressure:** 40 PSI  
**Nozzle Type:** Flat fan  
**Nozzle Size:** 8002  
**Boom Length, Unit:** 7.5 FT  
**Spray Volume, Unit:** 15 GPA

**NOTES:**

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Weed Code		Crop Code		Rating Data Type		Rating Unit		Rating Date		Trt-Eval Interval		ZEAMX	ZEAMX	AMBEL	AMBEL	PANDI	PANDI	AMATA	AMATA	
												Injury	Injury	Control	Control	Control	Control	Control	Control	
												Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
												06-28-05	07-12-05	06-28-05	07-12-05	06-28-05	07-12-05	06-28-05	07-12-05	
												14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A	
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	LIBERTY	1.67	EC	0.417	lb ai/a	32	fl oz/a	POST	A			97	98	98	96	91	83	97	97	
2	AMS	100	DRY		3 lb ai/a	3	lb/a	POST	A											
3	LIBERTY	1.67	EC	0.417	lb ai/a	32	fl oz/a	POST	A			97	98	98	97	85	66	97	94	
3	REPLACE	100	LIQ	0.25	% v/v	1	qt/100 gal	POST	A											
4	LIGHTNING	70	WG	0.056	lb ai/a	1.28	oz/a	POST	A			68	99	64	67	89	93	8	5	
4	NIS	100	LIQ	0.25	% v/v	0.25	% v/v	POST	A											
4	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	POST	A											
5	LIGHTNING	70	WG	0.056	lb ai/a	1.28	oz/a	POST	A			73	98	63	54	92	88	3	3	
5	NIS	100	LIQ	0.25	% v/v	0.25	% v/v	POST	A											
5	REPLACE	100	LIQ	0.25	% v/v	1	qt/100 gal	POST	A											
6	CALLISTO	4	SC	0.094	lb ai/a	3.0	fl oz/a	POST	A			0	0	65	39	59	17	97	96	
6	COC	100	LIQ	1.0	% v/v	1	% v/v	POST	A											
6	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	POST	A											
7	CALLISTO	4	SC	0.094	lb ai/a	3.0	fl oz/a	POST	A			0	0	69	69	41	11	95	95	
7	COC	100	LIQ	1.0	% v/v	1	% v/v	POST	A											
7	REPLACE	100	LIQ	0.25	% v/v	1	qt/100 gal	POST	A											
8	BASIS GOLD	90	WG	0.79	lb ai/a	14	oz/a	POST	A			2	0	67	39	89	89	63	59	
8	COC	100	LIQ	1.0	% v/v	1	% v/v	POST	A											
8	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	POST	A											
9	BASIS GOLD	90	WG	0.79	lb ai/a	14	oz/a	POST	A			0	0	68	46	87	88	81	78	
9	COC	100	LIQ	1.0	% v/v	1	% v/v	POST	A											
9	REPLACE	100	LIQ	0.25	% v/v	1	qt/100 gal	POST	A											
10	STEADFAST	75	WG	0.035	lb ai/a	0.75	oz/a	POST	A			10	0	13	11	93	93	97	95	
10	COC	100	LIQ	1.0	% v/v	1	% v/v	POST	A											
10	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	POST	A											
11	STEADFAST	75	WG	0.035	lb ai/a	0.75	oz/a	POST	A			2	0	18	11	96	94	34	58	
11	COC	100	LIQ	1.0	% v/v	1	% v/v	POST	A											
11	REPLACE	100	LIQ	0.25	% v/v	1	qt/100 gal	POST	A											
12	DISTINCT	70	WG	0.175	lb ai/a	4	oz/a	POST	A			0	0	91	96	22	40	97	96	
12	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	POST	A											
12	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	POST	A											
13	DISTINCT	70	WG	0.175	lb ai/a	4	oz/a	POST	A			2	0	91	93	55	31	94	93	
13	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	POST	A											
13	REPLACE	100	LIQ	0.25	% v/v	1	qt/100 gal	POST	A											
14	EQUIP	32	WG	0.03	lb ai/a	1.5	oz/a	POST	A			0	0	85	89	91	91	12	8	
14	DESTINY MSO	100	LIQ	1.0	% v/v	1	% v/v	POST	A											
14	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	POST	A											
15	EQUIP	32	WG	0.03	lb ai/a	1.5	oz/a	POST	A			0	0	85	88	85	86	10	8	
15	DESTINY MSO	100	LIQ	1.0	% v/v	1	% v/v	POST	A											
15	REPLACE	100	LIQ	0.25	% v/v	1	qt/100 gal	POST	A											
16	MARKSMAN	3.2	L	1.4	lb ai/a	3.5	pt/a	POST	A			0	0	98	98	10	4	96	96	
16	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	POST	A											
16	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	POST	A											
17	MARKSMAN	3.2	L	1.4	lb ai/a	3.5	pt/a	POST	A			0	0	98	97	7	3	98	98	
17	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	POST	A											
17	REPLACE	100	LIQ	0.25	% v/v	1	qt/100 gal	POST	A											
18	NORTHSTAR	47.4	WG	0.148	lb ai/a	5	oz/a	POST	A			3	0	87	94	20	28	89	89	
18	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	POST	A											
18	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	POST	A											
19	NORTHSTAR	47.4	WG	0.148	lb ai/a	5	oz/a	POST	A			7	0	84	92	46	42	73	95	
19	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	POST	A											
19	REPLACE	100	LIQ	0.25	% v/v	1	qt/100 gal	POST	A											
LSD (P=.05)											5.2	0.9	12.9	11.5	18.9	10.1	20.3	16.7		

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Crop Code								
Rating Data Type	Injury	Injury	Control	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date	06-28-05	07-12-05	06-28-05	07-12-05	06-28-05	07-12-05	06-28-05	07-12-05
Trt-Eval Interval	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code
Replicate F				1.562		2.075		0.512	0.989
Replicate Prob(F)				0.2245		0.1412		0.6037	0.3825
Treatment F				377.350		19350.047		44.229	72.091
Treatment Prob(F)				0.0001		0.0001		0.0001	0.0001

Trial Comments

1. Protocol: Growmark.
2. Ratings: CI/WC 14 and 28 DAT.
3. DA-A = Days after POST application.