Option Adjuvant Screen.

02-10C-ME90

OBJECTIVE: Evaluate crop response and weed control of Option applied with various adjuvants.

SUMMARY: No corn injury was observed from any treatment. Option applied without an adjuvant controlled 86 to 87% of giant foxtail. Giant foxtail control was at least 93% when Option was applied with an adjuvant with no significant differences between the adjuvants tested. All adjuvants increased control of yellow nutsedge compared to Option alone. Option alone controlled 40% of common cocklebur and 42% of common ragweed at 14 DAT (days after treatment). Option plus PL 140 plus AMS provided the greatest control of common cocklebur (57%) with no significant differences among other adjuvant treatments. All adjuvants increased common ragweed control 14 DAT compared to Option alone except PL 140 plus AMS, Base, and Destiny MSO plus AMS. The chemical manufacturer currently recommends that only MSO type adjuvant be applied with Option. However, Option plus MSO did not increase control of any species in this study compared to Option plus NIS or COC.

HERBICIDES/ADJUVANTS	WEEDS	CROP
OPTION 35 WG	cocklebur, common	corn, field
40204 100 DRY	foxtail, giant	
ACTIVATOR 90 100 LIQ	nutsedge, yellow	
AMS 100 DRY	ragweed, common	
BASE 100 LIQ		
DBO-30302 100 DRY		
DESTINY MSO 100 LIQ		
PL 138 100 LIQ		
PL 140 100 LIQ		
PL 148 100 LIQ		
PRIME OIL COC 100 LIQ		

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Option Adjuvant Screen.

Project Code: 02-10C-ME90 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:
Evaluate crop response and weed control of Option applied with various adjuvants.

Weed Code	Common Name	Scientific Name
1.	SETFA foxtail, giant	Setaria faberi Herrm.
2.	CYPES nutsedge, yellow	Cyperus esculentus L.
3.	XANST cocklebur, common	Xanthium strumarium L.
4.	AMBEL ragweed, common	Ambrosia artemisiifolia L.

Crop 1: ZEAMX corn, field **Variety:** Pioneer 33P69LL
Planting Method: Seeded **Planting Date:** 6-1-02
Rate: 28000 S/A **Depth:** 1.5 IN
Row Spacing: 30 IN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 31 FT **Reps:** 3
Tillage Type: Reduced-Till **Study Design:** Randomized complete block
Previous Crop, Year: GLXMA, 2001

Field Prep./Maintenance: N 150 LB/A, P2O5 50 LB/A, K2O 150 LB/A

Soil Name: Weir **% OM:** 2.0 **pH:** 6.1 **CEC:** 11
Texture: Silt loam **Fert. Level:** P1: 65 LB/A, K: 240 LB/A

APPLICATION DESCRIPTION

	A
Application Date:	6-20-02
Time of Day:	12:30
Application Method:	Spray
Application Timing:	4-6"W
Applic. Placement:	BROFOL
Air Temp., Unit:	88 F
% Relative Humidity:	50
Wind Velocity, Unit:	0-5 MPH
Soil Moisture:	NORMAL
% Cloud Cover:	55

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMX V5
Height, Unit:	12 IN

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code:	SETFA
Stage(leaves):	3-5
Height(inches):	3-5
Density:	Low
Weed 2 Code:	CYPES
Stage(leaves):	5-8
Height(inches):	6-12
Density:	High
Weed 3 Code:	XANST
Stage(leaves):	3-6
Height(inches):	6-10
Density:	Medium
Weed 4 Code:	AMBEL
Stage(leaves):	4-8
Height(inches):	4-8
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:

This study was not harvested.

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Project Code: 02-10C-ME90 Location: Belleville Research Center

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	ZEAMX Injury	ZEAMX Injury	SETFA Control	SETFA Control	CYPES Control	CYPES Control	XANST Control	XANST Control	AMBEL Control	AMBEL Control
Weed Code																			
Crop Code										ZEAMX	ZEAMX								
Rating Data Type										Injury	Injury	Control	Control	Control	Control	Control	Control	Control	Control
Rating Unit										Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date										7-4-02	7-18-02	7-4-02	7-18-02	7-4-02	7-18-02	7-4-02	7-18-02	7-4-02	7-18-02
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	14 DA-A	28 DA-A
1	NONTREATED									0	0	0	0	0	0	0	0	0	0
2	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"W	A	0	0	87	86	22	20	40	40	42	50
3	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"W	A	0	0	93	97	33	37	57	57	53	60
3	PL 138	100	LIQ	1.0	% V/V	1	%V/V	4-6"W	A										
3	AMS	100	DRY	2.0	LB/A	2	LB/A	4-6"W	A										
4	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"W	A	0	0	93	96	30	32	47	47	48	60
4	PL 140	100	LIQ	1.0	% V/V	1	%V/V	4-6"W	A										
4	AMS	100	DRY	2.0	LB/A	2	LB/A	4-6"W	A										
5	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"W	A	0	0	94	95	37	40	48	53	52	58
5	PL 148	100	LIQ	6.0	PT/A	6	PT/A	4-6"W	A										
6	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"W	A	0	0	94	94	38	37	53	58	53	71
6	PL 148	100	LIQ	5.0	PT/A	5	PT/A	4-6"W	A										
7	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"W	A	0	0	95	95	40	40	47	52	48	60
7	BASE	100	LIQ	1.0	% V/V	1	%V/V	4-6"W	A										
8	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"W	A	0	0	98	96	45	40	52	47	55	66
8	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	4-6"W	A										
8	AMS	100	DRY	2.0	LB/A	2	LB/A	4-6"W	A										
9	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"W	A	0	0	97	97	40	43	55	53	57	64
9	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	4-6"W	A										
9	AMS	100	DRY	2.0	LB/A	2	LB/A	4-6"W	A										
10	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"W	A	0	0	97	96	35	35	47	50	48	55
10	DESTINY MSO	100	LIQ	1.0	% V/V	1	%V/V	4-6"W	A										
10	AMS	100	DRY	2.0	LB/A	2	LB/A	4-6"W	A										
11	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"W	A	0	0	95	97	35	35	47	42	52	55
11	40204	100	DRY	2.25	LB/A	2.25	LB/A	4-6"W	A										
12	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"W	A	0	0	95	96	42	43	53	55	53	67
12	DBO-30302	100	DRY	2.25	LB/A	2.25	LB/A	4-6"W	A										
LSD (P=.05)										0.0	0.0	6.8	5.9	6.1	3.9	7.2	9.4	7.3	10.6

Weed Code																				
Crop Code									ZEAMX	ZEAMX	SETFA	SETFA	CYPES	CYPES	XANST	XANST	AMBEL	AMBEL		
Rating Data Type									Injury	Injury	Control	Control	Control	Control	Control	Control	Control	Control		
Rating Unit									Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent		
Rating Date									7-4-02	7-18-02	7-4-02	7-18-02	7-4-02	7-18-02	7-4-02	7-18-02	7-4-02	7-18-02		
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	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										0.000	0.000	3.101	1.143	0.054	5.917	1.505	1.713	1.614	0.237	
Replicate Prob(F)										1.0000	1.0000	0.0651	0.3372	0.9474	0.0088	0.2439	0.2035	0.2217	0.7910	
Treatment F										0.000	0.000	138.441	185.225	33.911	85.269	37.737	23.672	37.799	25.766	
Treatment Prob(F)										1.0000	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	

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Trial Comments

1. Protocol: Precision Labs (3-6); VanDiest (7); Agriliance (8-10); Rosen's (11-12).
2. DA-A = days after 4-6"W application.