AE F130360 Adjuvant Study.

01-ARC4-E140

OBJECTIVE: Evaluate various adjuvants with AE F130360.

SUMMARY: No corn injury was observed with any treatment. All treatments controlled at least 90% of giant foxtail at 28 DAT. Control of yellow nutsedge and waterhemp was poor from all AE F130360 treatments. All treatments controlled at least 85% of common cocklebur at 28 DAT except AE F130360 plus Activator-90. Adding AR 581-1P, SE 581-1P, or DE 500-TM to AE F130360 significantly reduced control of common ragweed and morningglory species compared to AE F130360 plus Activator-90 plus 28% UAN.

HERBICIDE / ADJUVANTS

AE F130360 35 WG
28% UAN 100 LIQ
ACTIVATOR 90 100 LIQ
AG 01017 100 LIQ
AG 01019 100 LIQ
AG 01023 100 LIQ
AR 200-TM
AR 581-1P 100 DRY
AR-A 100 LIQ
AR-B 100 DRY
CLASS ACT NG 100 LIQ
DE 500-TM
DE-A 100 DRY
DE-B 100 DRY
DESTINY MSO 100 LIQ
EX 105 100 LIQ
HI-PER-OIL 100 LIQ
NEWTONE 100 LIQ
PRIME OIL COC 100 LIQ
SE 581-1P 100 DRY

WEEDS

cocklebur, common
foxtail, giant
morningglory, species
nutsedge, yellow
ragweed, common
waterhemp, common

CROP

corn, field

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

AE F130360 Adjuvant Study.

Project Code: 01-ARC4-E140 Location: Agronomy Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
Trial Status: Final **Initiation Date:** 5-11-01

Objective:
Evaluate various adjuvants with AE F130360.

Weed	Code	Common Name	Scientific Name
1.	SETFA	foxtail, giant	Setaria faberi Herrm.
2.	CYPES	nutsedge, yellow	Cyperus esculentus L.
3.	AMBEL	ragweed, common	Ambrosia artemisiifolia L.
4.	XANST	cocklebur, common	Xanthium strumarium L.
5.	AMATA	waterhemp, common	Amaranthus rudis Sauer
6.	IPOSS	morningglory, species	Ipomoea sp.

Crop 1: ZEAMX corn, field **Variety:** P33G26
Planting Method: Seeded **Planting Date:** 5-15-01
Rate: 28000 S/A **Depth:** 1.5 IN
Row Spacing: 30 IN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 30 FT **Reps:** 3
Tillage Type: Reduced-Till **Study Design:** Randomized complete block
Previous Crop, Year: ZEAMX, 2000
Field Prep./Maintenance: N 150 LB/A, P2O5 0 LB/A, K2O 90 LB/A, N was applied 6-5-01.

Soil Name: Weir **% OM:** 1.5 **pH:** 6.5 **CEC:** 12
Texture: Silt loam **Fert. Level:** P1: 113 LB/A, K: 256 LB/A

APPLICATION DESCRIPTION

	A
Application Date:	6-8-01
Time of Day:	10:00
Application Method:	Spray
Application Timing:	4"W
Applic. Placement:	BROFOL
Air Temp., Unit:	80 F
Wind Velocity, Unit:	0-5 MPH
Dew Presence (Y/N):	N
Soil Temp., Unit:	80 F
Soil Moisture:	ABONOR
% Cloud Cover:	50

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMX V2-V3
Height, Unit:	6-8 IN

WEED STAGE AT EACH APPLICATION

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

Weed 4 Code:	XANST
Stage(leaves):	6-8
Height(inches):	3-5
Density:	Spotty
Weed 5 Code:	AMATA
Stage(leaves):	6-8
Height(inches):	4-7
Density:	Medium
Weed 6 Code:	IPOSS
Stage(leaves):	2-6
Height(inches):	1-5
Density:	Medium

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:	20 GPA

NOTES: NOT HARVESTED.

AE F130360 Adjuvant Study.

Project Code: 01-ARC4-E140 Location: Agronomy Research Center

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	ZEAMX Injury Percent 6-22-01 14 DA-A	ZEAMX Injury Percent 7-6-01 28 DA-A	SETFA Control Percent 6-22-01 14 DA-A	SETFA Control Percent 7-6-01 28 DA-A	CYPES Control Percent 6-22-01 14 DA-A	CYPES Control Percent 7-6-01 28 DA-A	AMBEL Control Percent 6-22-01 14 DA-A	AMBEL Control Percent 7-6-01 28 DA-A	XANST Control Percent 6-22-01 14 DA-A	XANST Control Percent 7-6-01 28 DA-A	AMATA Control Percent 6-22-01 14 DA-A	AMATA Control Percent 7-6-01 28 DA-A	IPOSS Control Percent 6-22-01 14 DA-A	IPOSS Control Percent 7-6-01 28 DA-A
1	NONTREATED									0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	AE F130360	35	WG	0.01367	LB A/A	0.625	OZ/A	4"W	A	0	0	96	95	53	43	85	85	96	96	68	52	85	63
2	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	4"W	A														
3	AE F130360	35	WG	0.01367	LB A/A	0.625	OZ/A	4"W	A	0	0	95	95	70	45	97	97	97	80	78	55	88	65
3	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	4"W	A														
3	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	4"W	A														
4	AE F130360	35	WG	0.01367	LB A/A	0.625	OZ/A	4"W	A	0	0	96	96	58	50	93	90	99	96	58	47	84	65
4	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	4"W	A														
4	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	4"W	A														
5	AE F130360	35	WG	0.01367	LB A/A	0.625	OZ/A	4"W	A	0	0	96	98	62	40	96	90	98	93	77	57	88	65
5	DESTINY MSO	100	LIQ	1.0	% V/V	1	%V/V	4"W	A														
5	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	4"W	A														
6	AE F130360	35	WG	0.01367	LB A/A	0.625	OZ/A	4"W	A	0	0	96	98	67	58	93	92	98	90	77	68	89	75
6	DESTINY MSO	100	LIQ	0.67	% V/V	0.67	%V/V	4"W	A														
6	ACTIVATOR 90	100	LIQ	0.33	% V/V	0.33	%V/V	4"W	A														
6	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	4"W	A														
7	AE F130360	35	WG	0.01367	LB A/A	0.625	OZ/A	4"W	A	0	0	96	96	68	63	94	93	98	95	70	48	88	75
7	NEWTONE	100	LIQ	1.0	% V/V	1	%V/V	4"W	A														
8	AE F130360	35	WG	0.01367	LB A/A	0.625	OZ/A	4"W	A	0	0	96	98	62	47	92	90	96	85	57	50	85	57
8	CLASS ACT NG	100	LIQ	2.5	% V/V	2.5	%V/V	4"W	A														
9	AE F130360	35	WG	0.01367	LB A/A	0.625	OZ/A	4"W	A	0	0	95	98	57	48	95	93	97	85	65	58	90	63
9	HI-PER-OIL	100	LIQ	0.5	% V/V	0.5	%V/V	4"W	A														
9	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	4"W	A														
10	AE F130360	35	WG	0.01367	LB A/A	0.625	OZ/A	4"W	A	0	0	95	96	58	45	99	88	96	88	60	55	82	55
10	AG 01023	100	LIQ	0.5	% V/V	0.5	%V/V	4"W	A														
10	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	4"W	A														
11	AE F130360	35	WG	0.01367	LB A/A	0.625	OZ/A	4"W	A	0	0	95	95	60	42	91	90	96	95	72	58	90	70
11	AG 01017	100	LIQ	0.5	% V/V	0.5	%V/V	4"W	A														
11	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	4"W	A														
12	NONTREATED									0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	AE F130360	35	WG	0.01367	LB A/A	0.625	OZ/A	4"W	A	0	0	95	95	53	47	88	80	95	95	57	50	80	60
13	AG 01019	100	LIQ	0.5	% V/V	0.5	%V/V	4"W	A														
13	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	4"W	A														
14	AE F130360	35	WG	0.01367	LB A/A	0.625	OZ/A	4"W	A	0	0	83	95	72	40	87	83	95	96	65	50	83	58
14	EX 105	100	LIQ	0.5	% V/V	0.5	%V/V	4"W	A														
14	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	4"W	A														
15	AE F130360	35	WG	0.01367	LB A/A	0.625	OZ/A	4"W	A	0	0	93	95	60	45	68	70	93	85	68	53	68	30
15	AR 581-1P	100	DRY	1.14	% W/W	9.5	LB/100 GAL	4"W	A														

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code												
Weed Code										ZEAMX	ZEAMX	SETFA	SETFA	CYPES	CYPES	AMBEL	AMBEL	XANST	XANST	AMATA	AMATA	IPOSS	IPOSS
Crop Code																							
Rating Data Type										Injury	Injury	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	Percent
Rating Date										6-22-01	7-6-01	6-22-01	7-6-01	6-22-01	7-6-01	6-22-01	7-6-01	6-22-01	7-6-01	6-22-01	7-6-01	6-22-01	7-6-01
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	14 DA-A	28 DA-A	14 DA-A	28 DA-A
16	AE F130360	35	WG	0.01367	LB A/A	0.625	OZ/A	4"W	A	0	0	90	95	48	33	82	60	87	78	74	43	78	43
16	SE 581-1P	100	DRY	1.33	LB A/A	1.33	LB/A	4"W	A														
17	AE F130360	35	WG	0.01367	LB A/A	0.625	OZ/A	4"W	A	0	0	95	90	58	30	95	93	97	90	77	40	88	68
17	AR 200-TM							4"W	A														
17	->AR-A	100	LIQ	0.25	% V/V	0.25	%V/V	4"W	A														
17	->AR-B	100	DRY	1.08	% W/W	9	LB/100 GAL	4"W	A														
18	AE F130360	35	WG	0.01367	LB A/A	0.625	OZ/A	4"W	A	0	0	92	93	55	37	70	53	95	93	67	40	70	33
18	DE 500-TM							4"W	A														
18	->DE-A	100	DRY	1.14	% W/W	9.5	LB/100 GAL	4"W	A														
18	->DE-B	100	DRY	0.9	LB A/A	0.9	LB/A	4"W	A														
LSD (P=.05)										0.0	0.0	8.9	3.6	13.6	11.1	7.3	16.0	4.2	16.0	21.3	20.9	6.7	16.5
Replicate F										0.000	0.000	1.026	4.042	0.048	1.449	0.031	2.280	1.804	3.049	8.097	2.614	1.270	1.050
Replicate Prob(F)										1.0000	1.0000	0.3698	0.0272	0.9528	0.2498	0.9693	0.1186	0.1810	0.0614	0.0014	0.0888	0.2947	0.3637
Treatment F										0.000	0.000	99.645	632.141	18.565	18.201	141.983	28.630	453.193	28.521	9.766	6.201	142.542	16.140
Treatment Prob(F)										1.0000	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

AE F130360 Adjuvant Study.

Project Code: 01-ARC4-E140 Location: Agronomy Research Center

Trial Comments

1. Protocol: SIU - BGY (trt 6); Miller Chemical (trt 14); Agriliance (trts 1-5 and 7-13); and Rosens (trts 15-18).
2. DA-A = Days after 4"W application.