

## Option Plus Callisto Adjuvant Study.

02-10C-E110

**OBJECTIVE:** Evaluate adjuvant performance in Option plus Callisto tank mixtures.

**SUMMARY:** No corn injury was observed from any treatment. Giant foxtail control 14 DAT (days after treatment) was 80% from Option plus Callisto plus 28% UAN. All adjuvants increased giant foxtail control compared to Option plus Callisto plus 28% UAN. The least increase in giant foxtail control was observed with AG 01023 at 0.5% v/v and the greatest increase occurred with Rivet and Newton. Option plus Callisto plus 28% UAN controlled 92% of common cocklebur and 83% of common ragweed at 14 DAT. Common cocklebur control was increased slightly when Destiny MSO, HI-PER-OIL, AG 01023 (0.5% v/v), AG 01034 (0.025% v/v), or Class Act NG was added to Option plus Callisto. Common ragweed control was increased 5 to 7% when Destiny MSO, HI-PER-OIL, AG 01017, AG 01034 (0.025% v/v), or AG 01023 (1% v/v) was added to Option plus Callisto.

### HERBICIDES/ADJUVANTS

CALLISTO 4 SC  
 OPTION 35 WG  
 28% UAN 100 LIQ  
 AG 01017 100 LIQ  
 AG 01023 100 LIQ  
 AG 01034 100 LIQ  
 AG 02025 100 LIQ  
 CLASS ACT NG 100 LIQ  
 DESTINY MSO 100 LIQ  
 HI-PER-OIL 100 LIQ  
 NEWTONE 100 LIQ  
 PRIME OIL COC 100 LIQ  
 RIVET 100 LIQ

### WEEDS

cocklebur, common  
 foxtail, giant  
 nutsedge, yellow  
 ragweed, common

### CROP

corn, field

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

## Option Plus Callisto Adjuvant Study.

Project Code: 02-10C-E110 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 adjuvant performance in Option plus Callisto tank mixtures.

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, P205 50 LB/A, K20 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:	6-18-02
Time of Day:	15:30
Application Method:	Spray
Application Timing:	4-6"W
Applic. Placement:	BROFOL
Air Temp., Unit:	85 F
% Relative Humidity:	48
Wind Velocity, Unit:	5-10 MPH
Soil Moisture:	NORMAL
% Cloud Cover:	50

**CROP STAGE AT EACH APPLICATION**

A

Crop 1 Code, Stage:	ZEAMX V4
Height, Unit:	8-10 IN

**WEED STAGE AT EACH APPLICATION**

A

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

This study was not harvested.

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Weed Code	ZEAMX		SETFA	SETFA	CYPES	CYPES	XANST	XANST	AMBEL	AMBEL
Crop Code	Injury	Injury	Control	Control	Control	Control	Control	Control	Control	Control
Rating Data Type	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit	7-2-02	7-16-02	7-2-02	7-16-02	7-2-02	7-16-02	7-2-02	7-16-02	7-2-02	7-16-02
Rating Date	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-Eval Interval										

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	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"	W A	0	0	80	78	35	23	92	98
2	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"	W A								
2	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A								
3	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"	W A	0	0	91	90	43	43	96	93
3	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"	W A								
3	DESTINY MSO	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A								
3	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A								
4	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"	W A	0	0	91	83	42	23	93	98
4	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"	W A								
4	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A								
4	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A								
5	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"	W A	0	0	87	85	40	33	95	95
5	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"	W A								
5	HI-PER-OIL	100	LIQ	0.5	% V/V	0.5	%V/V	4-6"	W A								
5	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A								
6	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"	W A	0	0	91	78	45	28	94	98
6	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"	W A								
6	AG 01017	100	LIQ	0.5	% V/V	0.5	%V/V	4-6"	W A								
6	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A								
7	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"	W A	0	0	85	77	40	25	95	99
7	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"	W A								
7	AG 01023	100	LIQ	0.5	% V/V	0.5	%V/V	4-6"	W A								
7	28% UAN	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	92	83	40	27	94	98
8	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"	W A								
8	RIVET	100	LIQ	0.5	% V/V	0.5	%V/V	4-6"	W A								
8	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A								
9	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"	W A	0	0	90	85	40	18	95	99
9	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"	W A								
9	AG 01034	100	LIQ	0.25	% V/V	0.25	%V/V	4-6"	W A								
9	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A								
10	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"	W A	0	0	90	85	42	28	95	95
10	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"	W A								
10	CLASS ACT NG	100	LIQ	2.5	% V/V	2.5	%V/V	4-6"	W A								

Weed Code				SETFA	SETFA	CYPES	CYPES	XANST	XANST	AMBEL	AMBEL
Crop Code	ZEAMX	ZEAMX									
Rating Data Type	Injury	Injury	Control	Control	Control	Control	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date	7-2-02	7-16-02	7-2-02	7-16-02	7-2-02	7-16-02	7-2-02	7-16-02	7-2-02	7-16-02	7-2-02
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	14 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code										
11	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"W	A	0	0	92	92	38	28	94	98	85	99
11	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"W	A										
11	NEWTONE	100	LIQ	1.0	% V/V	1	%V/V	4-6"W	A										
12	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"W	A	0	0	89	90	40	23	94	97	88	99
12	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"W	A										
12	AG 01023	100	LIQ	1.0	% V/V	1	%V/V	4-6"W	A										
12	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"W	A										
13	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"W	A	0	0	90	83	42	23	94	99	86	99
13	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"W	A										
13	AG 01034	100	LIQ	0.375	% V/V	0.375	%V/V	4-6"W	A										
13	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"W	A										
14	OPTION	35	WG	0.0164	LB A/A	0.75	OZ/A	4-6"W	A	0	0	89	87	45	38	94	99	86	99
14	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"W	A										
14	AG 02025	100	LIQ	1.5	% V/V	1.5	%V/V	4-6"W	A										
LSD (P=.05)										0.0	0.0	3.0	10.0	6.0	17.4	2.6	5.8	4.5	2.0
Replicate F										0.000	0.000	3.545	1.636	7.875	0.340	2.346	2.565	2.309	2.036
Replicate Prob(F)										1.0000	1.0000	0.0435	0.2143	0.0021	0.7150	0.1157	0.0962	0.1201	0.1509
Treatment F										0.000	0.000	549.614	44.887	29.624	2.781	823.307	168.939	222.603	1400.750
Treatment Prob(F)										1.0000	1.0000	0.0001	0.0001	0.0001	0.0128	0.0001	0.0001	0.0001	0.0001

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Trial Comments

1. Protocol: Agriliance.
2. DA-A = days after 4-6"W application.