Callisto Adjuvant Study.

02-10C-MW60

OBJECTIVE: Evaluate crop response and weed control from Callisto applied with various adjuvants.

SUMMARY: Other studies have reported that significant crop injury may occur when a methylated seed oil (MSO) adjuvant is used with Callisto. However, this research did not show that any injury was caused by any the adjuvant systems used with Callisto. Weed control was at least 95% for common waterhemp, common ragweed and common cocklebur with Callisto at 14 days after treatment (DAT) regardless of adjuvant system used. Similarly, there were no differences between treatments for control of common ragweed and common cocklebur at 28 DAT. Due to the high level of weed control observed in this study, slight differences in weed control could not be determined between the different adjuvant systems.

HERBICIDES/ADJUVANTS	WEEDS	CROP
CALLISTO 4 SC	cocklebur, common	corn, field
ACTIVATOR 90 100 LIQ	foxtail, giant	
AMS 100 DRY	ragweed, common	
DESTINY MSO 100 LIQ	waterhemp, common	
PL 335 100 DRY		
PL 402 100 LIQ		
PRIME OIL COC 100 LIQ		
PX20-600-B 100 DRY		

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Callisto Adjuvant Study.

Project Code: 02-10C-MW60 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 from Callisto applied with various adjuvants.

	Weed Code	Common Name	Scientific Name
1.	SETFA	foxtail, giant	Setaria faberi Herrm.
2.	AMATA	waterhemp, common	Amaranthus rudis Sauer
3.	AMBEL	ragweed, common	Ambrosia artemisiifolia L.
4.	XANST	cocklebur, common	Xanthium strumarium L.

Crop 1: ZEAMX corn, field **Variety:** Pioneer 33P69LL
Planting Method: Seeded **Planting Date:** 6-9-02
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:	13:00
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:	60

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:	AMATA
Stage(leaves):	2-4
Height(inches):	2-4
Density:	Low
Weed 3 Code:	AMBEL
Stage(leaves):	4-6
Height(inches):	4-6
Density:	Low
Weed 4 Code:	XANST
Stage(leaves):	3-5
Height(inches):	5-7
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:	15 GPA

NOTES:

This study was not harvested.

Callisto Adjuvant Study.

Project Code: 02-10C-MW60 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 7-4-02 14 DA-A	ZEAMX Injury 7-18-02 28 DA-A	SETFA Control 7-4-02 14 DA-A	SETFA Control 7-18-02 28 DA-A	AMATA Control 7-4-02 14 DA-A	AMBEL Control 7-4-02 14 DA-A	AMBEL Control 7-18-02 28 DA-A	XANST Control 7-4-02 14 DA-A	XANST Control 7-18-02 28 DA-A
	Weed Code																	
	Crop Code																	
	Rating Data Type									Injury	Injury	Control	Control	Control	Control	Control	Control	Control
	Rating Unit									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	7-4-02	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	14 DA-A	28 DA-A	14 DA-A	28 DA-A
1	NONTREATED									0	0	0	0	0	0	0	0	0
2	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"W	A	0	0	20	10	96	95	92	96	98
2	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	4-6"W	A									
2	AMS	100	DRY	2.0	LB/A	2	LB/A	4-6"W	A									
3	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"W	A	0	0	20	10	96	96	92	96	98
3	PL 402	100	LIQ	0.375	% V/V	0.375	%V/V	4-6"W	A									
3	AMS	100	DRY	2.0	LB/A	2	LB/A	4-6"W	A									
4	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"W	A	0	0	17	10	96	96	91	95	98
4	PX20-600-B	100	DRY	20.0	LB/100 GAL	20	LB/100 GAL	4-6"W	A									
5	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"W	A	0	0	20	10	95	96	92	96	98
5	PL 335	100	DRY	20.0	LB/100 GAL	20	LB/100 GAL	4-6"W	A									
6	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"W	A	0	0	20	10	96	95	92	96	98
6	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	4-6"W	A									
6	AMS	100	DRY	2.0	LB/A	2	LB/A	4-6"W	A									
7	CALLISTO	4	SC	0.047	LB A/A	1.5	OZ/A	4-6"W	A	0	0	27	10	97	97	93	96	98
7	DESTINY MSO	100	LIQ	1.0	% V/V	1	%V/V	4-6"W	A									
7	AMS	100	DRY	2.0	LB/A	2	LB/A	4-6"W	A									
8	NONTREATED									0	0	0	0	0	0	0	0	0
LSD (P=.05)										0.0	0.0	7.8	0.0	1.2	2.6	5.5	2.3	0.0
Replicate F										0.000	0.000	1.485	0.000	4.200	1.784	1.710	2.032	0.000
Replicate Prob(F)										1.0000	1.0000	0.2601	1.0000	0.0373	0.2040	0.2165	0.1679	1.0000
Treatment F										0.000	0.000	15.000	0.000	12443.800	2775.798	557.883	3555.323	0.000
Treatment Prob(F)										1.0000	1.0000	0.0001	1.0000	0.0001	0.0001	0.0001	0.0001	1.0000

Callisto Adjuvant Study.

Project Code: 02-10C-MW60 Location: Belleville Research Center

Trial Comments

1. Protocol: Precision Labs.
2. Blanket PRE application of Dual II Magnum at 0.635 lbai/A applied 10 ft wide to all plots including the nontreated on 6-4-02.
3. DA-A = days after 4-6"W application.
4. Not possible to rate AMATA at 28 DA-A due to competition from SETFA.