Simulated Drift of Callisto to Soybean.

01-20A-W70

OBJECTIVE: Evaluate the influence of simulated drift of Callisto for potential visual soybean injury and impact on soybean yield.

SUMMARY: Soybean injury 14 days after treatment (DAT) ranged from 26% from Callisto at 1/100 of the field use rate to 89% from Callisto at the 1X use rate of 3 oz. By 28 DAT soybean injury was less than 10% from Callisto at rates up to 1/10X. By 56 DAT soybean injury, mostly in the form of height reduction, was 8 and 15% from Callisto at 1/3 and 1X.

Soybean yield was reduced 6 bu/A by Callisto at 1/10 and 1/4X. The 1X rate of Callisto reduced soybean yield by 11 bu/A.

HERBICIDES	WEEDS	CROP
CALLISTO 4 SC	crop tolerance only	soybean

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Simulated Drift of Callisto to Soybean.

Project Code: 01-20A-W70 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
Trial Status: Final **Initiation Date:** 4-24-01

Objective:
Evaluate the influence of simulated drift of Callisto for potential visual soybean injury and impact on soybean yield.

Weed	Code	Common Name	Scientific Name
1.	NA	crop tolerance only	

Crop 1: GLXMA soybean **Variety:** B-T 386C
Planting Method: Seeded **Planting Date:** 5-16-01
Rate: 75 lb/A **Depth:** 1.0 IN
Row Spacing: 30 IN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 28 FT **Reps:** 4
Tillage Type: Reduced-Till **Study Design:** Randomized complete block
Previous Crop, Year: GLXMA, 2000
Field Prep./Maintenance: N 0 LB/A, P2O5 50 LB/A, K2O 200 LB/A

Soil Name: Ebbert **% OM:** 1.5 **pH:** 6.4 **CEC:** 12
Texture: Silt loam **Fert. Level:** P1: 79 LB/A, K: 182 LB/A

APPLICATION DESCRIPTION

	A
Application Date:	6-11-01
Time of Day:	11:30
Application Method:	Spray
Application Timing:	V1
Applic. Placement:	BROFOL
Air Temp., Unit:	88 F
% Relative Humidity:	50
Wind Velocity, Unit:	0-3 MPH
Soil Moisture:	NORMAL
% Cloud Cover:	25

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GLXMA V1
Height, Unit:	3 IN

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code:	NA

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: HARVESTED 10-8-01, 2 ROWS X 25 FT.

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	GLXMA Yield bu/A 10-8-01	GLXMA Injury Percent 6-18-01 7 DA-A	GLXMA Injury Percent 6-25-01 14 DA-A	GLXMA Injury Percent 7-9-01 28 DA-A	GLXMA Injury Percent 8-6-01 56 DA-A	GLXMA HEIRED Percent 8-6-01 56 DA-A
1	NONTREATED									57	0	0	0	0	0
2	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	V1	A	59	0	0	0	0	0
2	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	V1	A						
3	CALLISTO	4	SC	.000094	LB A/A	0.003	OZ/A	V1	A	58	0	0	0	0	0
3	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	V1	A						
3	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	V1	A						
4	CALLISTO	4	SC	0.00073	LB A/A	0.0234	OZ/A	V1	A	58	5	15	0	0	0
4	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	V1	A						
4	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	V1	A						
5	CALLISTO	4	SC	0.00094	LB A/A	0.03	OZ/A	V1	A	56	18	26	0	0	0
5	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	V1	A						
5	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	V1	A						
6	CALLISTO	4	SC	0.0015	LB A/A	0.048	OZ/A	V1	A	57	20	34	3	0	0
6	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	V1	A						
6	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	V1	A						
7	CALLISTO	4	SC	0.00285	LB A/A	0.091	OZ/A	V1	A	56	20	38	1	0	0
7	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	V1	A						
7	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	V1	A						
8	CALLISTO	4	SC	0.0059	LB A/A	0.189	OZ/A	V1	A	57	34	44	3	0	0
8	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	V1	A						
8	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	V1	A						
9	CALLISTO	4	SC	0.0094	LB A/A	0.3	OZ/A	V1	A	51	44	49	9	0	0
9	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	V1	A						
9	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	V1	A						
10	CALLISTO	4	SC	0.0118	LB A/A	0.378	OZ/A	V1	A	53	44	50	14	0	0
10	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	V1	A						
10	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	V1	A						
11	CALLISTO	4	SC	0.0235	LB A/A	0.75	OZ/A	V1	A	51	56	66	25	1	1
11	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	V1	A						
11	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	V1	A						
12	CALLISTO	4	SC	0.031	LB A/A	1	OZ/A	V1	A	52	56	71	33	8	6
12	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	V1	A						
12	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	V1	A						
13	CALLISTO	4	SC	0.094	LB A/A	3	OZ/A	V1	A	46	74	89	70	15	11
13	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	V1	A						
13	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	V1	A						
LSD (P=.05)										5.9	5.8	5.0	4.2	1.7	1.4
Replicate F										8.002	0.689	4.556	4.459	1.316	1.401
Replicate Prob(F)										0.0003	0.5647	0.0083	0.0092	0.2843	0.2584
Treatment F										3.472	145.995	266.987	190.174	54.317	41.167
Treatment Prob(F)										0.0019	0.0001	0.0001	0.0001	0.0001	0.0001

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Trial Comments

1. Protocol: SIU-BGY and Syngenta.
2. Blanket PPI application of Treflan + Triscept + Authority at 0.5 + 0.87 + 0.25 lbai/A to all plots including the nontreated, applied 5-15-01.
3. DA-A = days after V1 application. HEIRED = height reduction.