

Balance PRO vs Callisto Preemergence.

02-6C-W90

OBJECTIVE: Compare crop response and weed spectrum of Balance PRO and Callisto preemergence applications.

SUMMARY: This study compared preemergence applications of Balance PRO and Callisto alone and tank mixed with other herbicides. No corn injury was observed from any treatment. Callisto alone provided less than 20% control of giant foxtail at 28 days after treatment (DAT). Balance PRO alone at 1.5 oz/A controlled only 37% of giant foxtail at 28 DAT. However, increasing the Balance PRO rate to 2.25 or 3 oz/A increased giant foxtail control to at least 70%. Tank mixing Dual II Magnum with Callisto increased giant foxtail control 28 DAT to at least 87%. Tank mixing Aatrex with Balance PRO increased giant foxtail control to at least 95%. Neither Callisto nor Balance PRO controlled greater than 37% of common cocklebur at 28 DAT. Tank mixing Aatrex at 1.11 lb/A with Callisto or Balance PRO increased common cocklebur control to at least 73%. Balance PRO plus Aatrex at 1.67 lb/A controlled 92% of common cocklebur at 28 DAT. Balance PRO and Callisto alone controlled 50% or less of waterhemp at 28 DAT. Tank mixing Dual II Magnum with Callisto or Define or Aatrex with Balance PRO increased waterhemp control to at least 96%. Both Balance PRO and Callisto alone provided good control of velvetleaf. The highest rates of Balance PRO and Callisto controlled 77 and 57% of common ragweed at 28 DAT, respectively. Tank mixing Aatrex with either product increased common ragweed control to 99%.

HERBICIDES

AATREX 90 WG
BALANCE PRO 4 SC
CALLISTO 4 SC
DEFINE 60 WG
DUAL II MAGNUM 7.64 EC

WEEDS

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

CROP

corn, field

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Balance Pro vs Callisto Preemergence.

Project Code: 02-6C-W90 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:

Compare crop response and weed spectrum of Balance Pro and Callisto preemergence applications.

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. AMATA	waterhemp, common	Amaranthus rudis Sauer
5. ABUTH	velvetleaf	Abutilon theophrasti Medicus
6. AMBEL	ragweed, common	Ambrosia artemisiifolia L.

Crop 1:	ZEAMX	corn, field	Variety:	Pioneer 33P69LL
Planting Method:	Seeded		Planting Date:	5-29-02
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:	GLXMA, 2001						

Field Prep./Maintenance: N 150 LB/A, P205 50 LB/A, K20 150 LB/A

Soil Name:	Stoy	% OM:	1.6	pH:	6.6	CEC:	8	
Texture:	Silt loam	Fert. Level:	P1: 91 LB/A, K: 296 LB/A					

APPLICATION DESCRIPTION

A

Application Date: 5-30-02
 Time of Day: 9:00
 Application Method: Spray
 Application Timing: PRE
 Applic. Placement: BROSOI
 Air Temp., Unit: 68 F
 % Relative Humidity: 90
 Wind Velocity, Unit: 0-3 MPH
 Soil Moisture: NORMAL
 % Cloud Cover: 15

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: ZEAMX NA
 Height, Unit: NA NA

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: 8003
 Boom Length, Unit: 7.5 FT
 Spray Volume, Unit: 20 GPA

NOTES:

This study was not harvested.

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						SETFA	SETFA	SETFA	CYPES	XANST	XANST	XANST	AMATA	AMATA	ABUTH	ABUTH	AMBEL	AMBEL						
						ZEAMX	ZEAMX																	
						Injury	Injury	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control					
						Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent					
						6-13-02	6-27-02	6-13-02	6-27-02	7-25-02	6-13-02	6-13-02	6-27-02	7-25-02	6-13-02	6-27-02	6-13-02	6-27-02	6-13-02					
						14 DA-A	28 DA-A	14 DA-A	28 DA-A	56 DA-A	14 DA-A	14 DA-A	28 DA-A	56 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	Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code															
1	NONTREATED									0	0	0	0	0	0	0	0	0	0					
2	BALANCE PRO	4	SC	0.047	LB A/A	1.5	OZ/A	PRE	A	0	0	40	37	33	7	10	0	0	27	0	89	96	37	15
3	CALLISTO	4	SC	0.094	LB A/A	3	OZ/A	PRE	A	0	0	35	15	0	20	25	10	7	43	0	99	99	30	13
4	BALANCE PRO	4	SC	0.0703	LB A/A	2.25	OZ/A	PRE	A	0	0	72	82	73	0	47	37	0	65	10	94	99	70	86
5	CALLISTO	4	SC	0.141	LB A/A	4.5	OZ/A	PRE	A	0	0	22	0	0	50	38	25	32	68	23	99	99	57	53
6	BALANCE PRO	4	SC	0.094	LB A/A	3	OZ/A	PRE	A	0	0	65	70	78	0	52	20	0	72	50	94	80	75	77
7	CALLISTO	4	SC	0.188	LB A/A	6	OZ/A	PRE	A	0	0	33	0	0	53	57	0	33	72	40	94	99	73	57
8	BALANCE PRO	4	SC	0.0703	LB A/A	2.25	OZ/A	PRE	A	0	0	82	88	95	27	30	13	0	96	99	96	93	75	90
8	DEFINE	60	WG	0.45	LB A/A	12	OZ/A	PRE	A															
9	CALLISTO	4	SC	0.188	LB A/A	6	OZ/A	PRE	A	0	0	93	87	87	50	45	27	0	95	99	99	99	73	82
9	DUAL II MAGNUM	7.64	EC	1.27	LB A/A	1.33	PT/A	PRE	A															
10	BALANCE PRO	4	SC	0.0703	LB A/A	2.25	OZ/A	PRE	A	0	0	95	96	95	55	85	78	37	99	99	99	99	99	99
10	DEFINE	60	WG	0.6	LB A/A	16	OZ/A	PRE	A															
10	AATREX	90	WG	1.0	LB A/A	1.11	LB/A	PRE	A															
11	CALLISTO	4	SC	0.094	LB A/A	3	OZ/A	PRE	A	0	0	93	95	88	53	75	73	27	99	99	99	99	99	99
11	DUAL II MAGNUM	7.64	EC	1.27	LB A/A	1.33	PT/A	PRE	A															
11	AATREX	90	WG	1.0	LB A/A	1.11	LB/A	PRE	A															
12	BALANCE PRO	4	SC	0.094	LB A/A	3	OZ/A	PRE	A	0	0	98	95	91	47	91	92	73	99	96	99	99	99	99
12	AATREX	90	WG	1.5	LB A/A	1.67	LB/A	PRE	A															
LSD (P=.05)						0.0	0.0	15.1	14.5	5.9	22.3	14.0	18.4	20.0	12.1	24.1	10.8	11.6	8.9	19.4				
Replicate F						0.000	0.000	3.312	1.428	1.856	4.023	2.942	1.348	2.854	4.593	1.171	1.342	0.177	0.075	1.635				
Replicate Prob(F)						1.0000	1.0000	0.0553	0.2612	0.1799	0.0324	0.0737	0.2803	0.0791	0.0215	0.3287	0.2820	0.8389	0.9281	0.2188				
Treatment F						0.000	0.000	42.591	70.442	454.076	9.625	34.963	26.840	11.727	60.622	29.157	57.778	51.216	99.429	30.501				
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	0.0001				

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Trial Comments

1. Protocol: Aventis.
2. DA-A = days after PRE application.
3. On 6-27-02 at 28 DA-A, weeds were too thick to rate CYPES control.
4. On 7-25-02 at 56 DA-A, heavy canopy of XANST confounded weed control ratings for AMATA, ABUTH, and AMBEL.