

Weed Management in Clearfield Corn.

Project Code: 04-26C Location: Belleville Research Center
 Investigator: Bryan Young

Investigator: Bryan Young, Associate Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
 Trial Status: Final Updated: 9-1-04

Objective:

Evaluate Option, Equip, and Lightning and combinations with other broadleaf herbicides for postemergence weed control in corn.

Weed Code	Common Name	Scientific Name
1. SETFA	foxtail, giant	Setaria faberi Herrm.
2. CYPES	nutsedge, yellow	Cyperus esculentus L.
3. AMATA	waterhemp, common	Amaranthus rudis Sauer
4. XANST	cocklebur, common	Xanthium strumarium L.

Crop 1:	ZEAMX corn, field	Variety:	P33P71 CL
Planting Method:	Seeded	Planting Date:	5-7-04
Rate:	28000 S/A	Depth:	1.5 IN
Row Spacing:	30 IN		

Plot Width, Unit:	10 FT	Plot Length, Unit:	25 FT	Reps:	3
Tillage Type:	Reduced-Till	Study Design:	Randomized complete block		
Previous Crop, Year:	GLXMA, 2003				

Field Prep./Maintenance: N 150 LB/A, P205 50 LB/A, K20 100 LB/A

Soil Name:	Rushville	% OM:	1.6	pH:	6.9	CEC:	8
Texture:	Silt loam	Fert. Level:	P1: 89 LB/A, K: 467 LB/A				

APPLICATION DESCRIPTION

	A	B	C
Application Date:	5-10-04	5-24-04	6-1-04
Time of Day:	18:00	14:00	14:00
Application Method:	Spray	Spray	Spray
Application Timing:	PRE	1-3"W	12"CN
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	84 F	83 F	79 F
% Relative Humidity:	44	52	48
Wind Velocity, Unit:	0 MPH	5 MPH	10 MPH
Soil Moisture:	NORMAL	NORMAL	NORMAL

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMX NA	ZEAMX V3-V4	ZEAMX V4
Height, Unit:	NA NA	6-8 IN	10-12 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code:	SETFA	SETFA	SETFA
Stage(leaves):		3-4	
Height(inches):		1-4	
Density:		Medium	
Weed 2 Code:	CYPES	CYPES	CYPES
Stage(leaves):		4-10	
Height(inches):		2-6	
Density:		Medium	
Weed 3 Code:	AMATA	AMATA	AMATA
Stage(leaves):		2-4	
Height(inches):		0-1	
Density:		Low	
Weed 4 Code:	XANST	XANST	XANST
Stage(leaves):		2-6	2-4
Height(inches):		1-4	1-4
Density:		High	High

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer
Operating Pressure:	40 PSI	40 PSI	40 PSI
Nozzle Type:	Flat fan	Flat fan	Flat fan
Nozzle Size:	8003	8002	8002
Boom Length, Unit:	7.5 FT	7.5 FT	7.5 FT
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

NOTES:

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Weed Code								SETFA	SETFA	CYPES	CYPES	AMATA	AMATA	XANST	XANST					
Crop Code								Control	Control	Control	Control	Control	Control	Control	Control					
Rating Data Type								Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent					
Rating Unit								6-3-04	6-7-04	6-21-04	6-7-04	6-21-04	6-7-04	6-21-04	6-21-04					
Rating Date								10 DA-B	14 DA-B	28 DA-B	14 DA-B	28 DA-B	14 DA-B	28 DA-B	28 DA-B					
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					
2	OPTION	35	WG	0.0328	LB A/A	1.5	OZ/A	1-3"W	B	0	0	0	99	99	80	90	40	30	83	90
2	MSO CONCENTRATE	100	LIQ	1.5	PT/A	1.5	PT/A	1-3"W	B											
2	28% UAN	100	LIQ	1.5	QT/A	1.5	QT/A	1-3"W	B											
3	EQUIP	32	WG	0.03	LB A/A	1.5	OZ/A	1-3"W	B	0	0	0	99	99	90	88	0	0	88	90
3	MSO CONCENTRATE	100	LIQ	1.5	PT/A	1.5	PT/A	1-3"W	B											
3	28% UAN	100	LIQ	1.5	QT/A	1.5	QT/A	1-3"W	B											
4	OPTION	35	WG	0.0328	LB A/A	1.5	OZ/A	1-3"W	B	0	0	0	99	99	87	85	95	93	85	87
4	DISTINCT	70	WG	0.0875	LB A/A	2	OZ/A	1-3"W	B											
4	MSO CONCENTRATE	100	LIQ	1.5	PT/A	1.5	PT/A	1-3"W	B											
4	28% UAN	100	LIQ	1.5	QT/A	1.5	QT/A	1-3"W	B											
5	EQUIP	32	WG	0.03	LB A/A	1.5	OZ/A	1-3"W	B	0	0	0	99	98	85	87	92	90	88	93
5	DISTINCT	70	WG	0.0875	LB A/A	2	OZ/A	1-3"W	B											
5	MSO CONCENTRATE	100	LIQ	1.5	PT/A	1.5	PT/A	1-3"W	B											
5	28% UAN	100	LIQ	1.5	QT/A	1.5	QT/A	1-3"W	B											
6	OPTION	35	WG	0.0328	LB A/A	1.5	OZ/A	1-3"W	B	0	0	0	99	99	82	87	99	98	83	88
6	CALLISTO	4	SC	0.0625	LB A/A	2	FL OZ/A	1-3"W	B											
6	MSO CONCENTRATE	100	LIQ	1.5	PT/A	1.5	PT/A	1-3"W	B											
6	28% UAN	100	LIQ	1.5	QT/A	1.5	QT/A	1-3"W	B											
7	EQUIP	32	WG	0.03	LB A/A	1.5	OZ/A	1-3"W	B	0	0	0	99	99	90	90	99	98	92	97
7	CALLISTO	4	SC	0.0625	LB A/A	2	FL OZ/A	1-3"W	B											
7	MSO CONCENTRATE	100	LIQ	1.5	PT/A	1.5	PT/A	1-3"W	B											
7	28% UAN	100	LIQ	1.5	QT/A	1.5	QT/A	1-3"W	B											
8	OPTION	35	WG	0.0328	LB A/A	1.5	OZ/A	1-3"W	B	0	0	0	99	99	91	92	99	99	93	96
8	CALLISTO	4	SC	0.0625	LB A/A	2	FL OZ/A	1-3"W	B											
8	AATREX	90	WG	1.0	LB A/A	1.11	LB/A	1-3"W	B											
8	MSO CONCENTRATE	100	LIQ	1.5	PT/A	1.5	PT/A	1-3"W	B											
8	28% UAN	100	LIQ	1.5	QT/A	1.5	QT/A	1-3"W	B											
9	EQUIP	32	WG	0.03	LB A/A	1.5	OZ/A	1-3"W	B	0	0	0	99	99	88	91	99	99	98	98
9	CALLISTO	4	SC	0.0625	LB A/A	2	FL OZ/A	1-3"W	B											
9	AATREX	90	WG	1.0	LB A/A	1.11	LB/A	1-3"W	B											
9	MSO CONCENTRATE	100	LIQ	1.5	PT/A	1.5	PT/A	1-3"W	B											
9	28% UAN	100	LIQ	1.5	QT/A	1.5	QT/A	1-3"W	B											
10	OPTION	35	WG	0.0328	LB A/A	1.5	OZ/A	1-3"W	B	0	0	0	99	99	83	86	63	43	83	86
10	DEFINE	4	SC	0.375	LB A/A	12	FL OZ/A	1-3"W	B											
10	MSO CONCENTRATE	100	LIQ	1.5	PT/A	1.5	PT/A	1-3"W	B											
10	28% UAN	100	LIQ	1.5	QT/A	1.5	QT/A	1-3"W	B											
11	EQUIP	32	WG	0.03	LB A/A	1.5	OZ/A	1-3"W	B	0	0	0	99	99	83	83	0	13	92	97
11	DEFINE	4	SC	0.375	LB A/A	12	FL OZ/A	1-3"W	B											
11	MSO CONCENTRATE	100	LIQ	1.5	PT/A	1.5	PT/A	1-3"W	B											
11	28% UAN	100	LIQ	1.5	QT/A	1.5	QT/A	1-3"W	B											

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Weed Code				ZEAMX			SETFA		SETFA		CYPES		CYPES		AMATA		AMATA		XANST		XANST	
Crop Code				Injury	Injury	Injury	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	
Rating Data Type				Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
Rating Unit				6-3-04	6-7-04	6-21-04	6-7-04	6-21-04	6-7-04	6-21-04	6-7-04	6-21-04	6-7-04	6-21-04	6-7-04	6-21-04	6-7-04	6-21-04	6-7-04	6-21-04	6-21-04	
Rating Date				10 DA-B	14 DA-B	28 DA-B	14 DA-B	28 DA-B	14 DA-B	28 DA-B	14 DA-B	28 DA-B	14 DA-B	28 DA-B	14 DA-B	28 DA-B	14 DA-B	28 DA-B	14 DA-B	28 DA-B	28 DA-B	
Trt-Eval Interval																						
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code													
12	STEADFAST	75	WG	0.035	LB A/A	0.75	OZ/A	1-3"W	B	0	0	0	99	99	83	88	99	98	91	96		
12	CALLISTO	4	SC	0.047	LB A/A	1.5	FL OZ/A	1-3"W	B													
12	PRIME OIL COC	100	LIQ	1.0	QT/A	1	QT/A	1-3"W	B													
12	28% UAN	100	LIQ	1.5	QT/A	1.5	QT/A	1-3"W	B													
13	LIGHTNING	70	WG	0.056	LB A/A	1.28	OZ/A	1-3"W	B	0	0	0	99	99	80	83	0	7	85	88		
13	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	1-3"W	B													
13	AMS	100	DRY	2.5	LB A/A	2.5	LB/A	1-3"W	B													
14	LIGHTNING	70	WG	0.056	LB A/A	1.28	OZ/A	1-3"W	B	0	0	0	98	99	75	85	90	92	92	89		
14	DISTINCT	70	WG	0.0875	LB A/A	2.0	OZ/A	1-3"W	B													
14	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	1-3"W	B													
14	AMS	100	DRY	2.5	LB A/A	2.5	LB/A	1-3"W	B													
15	LIGHTNING	70	WG	0.056	LB A/A	1.28	OZ/A	1-3"W	B	0	0	0	95	98	88	90	77	77	85	93		
15	AATREX	90	WG	1.0	LB A/A	1.11	LB/A	1-3"W	B													
15	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	1-3"W	B													
15	AMS	100	DRY	2.5	LB A/A	2.5	LB/A	1-3"W	B													
16	LIGHTNING	70	WG	0.056	LB A/A	1.28	OZ/A	1-3"W	B	0	0	0	96	99	82	88	99	98	92	95		
16	DISTINCT	70	WG	0.0875	LB A/A	2.0	OZ/A	1-3"W	B													
16	AATREX	90	WG	1.0	LB A/A	1.11	LB/A	1-3"W	B													
16	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	1-3"W	B													
16	AMS	100	DRY	2.5	LB A/A	2.5	LB/A	1-3"W	B													
17	GUARDSMAN MAX	5	L	2.5	LB A/A	4	PT/A	PRE	A	0	0	0	99	99	73	78	99	99	88	95		
17	DISTINCT	70	WG	0.175	LB A/A	4	OZ/A	12"CN	C													
17	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	12"CN	C													
17	AMS	100	DRY	2.5	LB A/A	2.5	LB/A	12"CN	C													
18	GUARDSMAN MAX	5	L	2.5	LB A/A	4	PT/A	PRE	A	0	0	0	99	99	80	88	99	99	78	81		
18	BALANCE PRO	4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE	A													
19	AATREX	90	WG	1.0	LB A/A	1.11	LB/A	PRE	A	0	0	0	99	99	80	92	99	99	95	98		
19	PRINCEP	90	WG	1.0	LB A/A	1.11	LB/A	PRE	A													
19	LIGHTNING	70	WG	0.056	LB A/A	1.28	OZ/A	12"CN	C													
19	DISTINCT	70	WG	0.0875	LB A/A	2	OZ/A	12"CN	C													
19	AATREX	90	WG	1.0	LB A/A	1.11	LB/A	12"CN	C													
19	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	12"CN	C													
19	AMS	100	DRY	2.5	LB A/A	2.5	LB/A	12"CN	C													
20	AATREX	90	WG	1.0	LB A/A	1.11	LB/A	PRE	A	0	0	0	99	99	78	91	99	99	96	98		
20	PRINCEP	90	WG	1.0	LB A/A	1.11	LB/A	PRE	A													
20	CELEBRITY PLUS	70	WG	0.206	LB A/A	4.7	OZ/A	12"CN	C													
20	AATREX	90	WG	1.0	LB A/A	1.11	LB/A	12"CN	C													
20	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	12"CN	C													
20	AMS	100	DRY	2.5	LB A/A	2.5	LB/A	12"CN	C													
LSD (P=.05)										0.0	0.0	0.0	1.2	0.7	8.5	8.7	6.0	11.5	4.2	3.8		
Replicate F										0.000	0.000	0.000	1.500	2.170	0.821	0.802	0.710	0.995	2.581	1.260		
Replicate Prob(F)										1.0000	1.0000	1.0000	0.2364	0.1284	0.4480	0.4562	0.4981	0.3795	0.0893	0.2955		
Treatment F										0.000	0.000	0.000	2739.505	9078.757	41.966	42.531	368.026	93.900	199.318	253.031		
Treatment Prob(F)										1.0000	1.0000	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001		

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Trial Comments

1. Protocol: Bayer, BASF.
2. Ratings: CI 10 DA "B", CI and WC 14 and 28 DA "B".
3. When mixing 1-3"W application, treatments 2-11 require MSO Concentrate from UAP.
4. DA-B = Days after 1-3"W application.
For treatments 17-20, ratings on 6-3-04, at 10 DA-B, were 24 days after PRE application and 2 days after the 12"CN application.
For treatments 17-20, ratings at 14 DA-B were 6 DA-C (days after the 12"CN application).
For treatments 17-20, ratings at 28 DA-B were 20 DA-C (days after the 12"CN application).