

Permit Postemergence Combinations.

Project Code: 07-6A-M50 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: 1-23-08

Objective:

Evaluate the weed spectrum controlled by combining Permit with various tank-mix partners in corn.

Weed Code	Common Name	Scientific Name
1. XANST	cocklebur, common	Xanthium strumarium L.
2. ABUTH	velvetleaf	Abutilon theophrasti Medicus
3. IPOHE	morningglory, ivyleaf	Ipomoea hederacea (L.) Jacq.
4. PHBPU	morningglory, tall	Ipomoea purpurea (L.) Roth

Crop 1: ZEAMX corn, field Variety: 33K44
 Planting Method: Seeded Planting Date: 5-21-07
 Rate: 28000 S/A Depth: 1.5 IN
 Row Spacing: 30 IN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 4
 Tillage Type: Reduced-Till Study Design: Randomized complete block
 Previous Crop, Year: GLXMA, 2006
 Field Prep./Maintenance: N 150 LB/A, P205 0 LB/A, K20 0 LB/A

Soil Name: Stoy % OM: 2 pH: 6.3 CEC: 7
 Texture: Silt loam Fert. Level: P1: 100 LB/A, K: 464 LB/A

APPLICATION DESCRIPTION

A

Application Date: 6-9-07
 Time of Day: 9:00
 Application Method: Spray
 Application Timing: 3"W
 Applic. Placement: BROFOL
 Air Temp., Unit: 70 F
 % Relative Humidity: 66
 Wind Velocity, Unit: 1-3 MPH
 Dew Presence (Y/N): N
 Soil Moisture: NORMAL
 % Cloud Cover: 20

CROP STAGE AT EACH APPLICATION

A

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

WEED STAGE AT EACH APPLICATION

A

Weed 1 Code: XANST
 Stage(leaves): 2-4
 Height(inches): 1-4
 Density: High

Weed 2 Code: ABUTH
 Stage(leaves): 1-3
 Height(inches): 1-3
 Density: High

Weed 3 Code: IPOSS
 Stage(leaves): 1-3
 Height(inches): 1-3
 Density: Medium

APPLICATION EQUIPMENT

A

Appl. Equipment: CO2 sprayer
 Operating Pressure: 40 PSI
 Nozzle Type: Flat fan
 Nozzle Size: XR 8002
 Boom Length, Unit: 7.5 FT
 Spray Volume, Unit: 15 GPA

NOTES:

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Weed Code													XANST	XANST	XANST										
Crop Code													ZEAMX	ZEAMX	ZEAMX										
Rating Data Type													Moisture	Yield	Injury										
Rating Unit													Percent	bu/A	Percent										
Rating Date													10-2-07	10-2-07	6-16-07										
Trt-Eval Interval													7 DA-A	14 DA-A	28 DA-A										
													Control	Control	Control										
													Percent	Percent	Percent										
													6-23-07	7-7-07	8-4-07										
													14 DA-A	28 DA-A	56 DA-A										
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code																
1	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3"W	A	15.3	bc	117	a	0	b	0	a	0	a	96	a	98	a	97	a
1	AATREX	4	L	1.0	lb ai/a	2	pt/a	3"W	A																
1	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	3"W	A																
1	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	3"W	A																
2	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3"W	A	14.7	c	92	ab	0	b	0	a	0	a	94	a	97	b	96	ab
2	IMPACT	2.8	SC	0.00547	lb ai/a	0.25	fl oz/a	3"W	A																
2	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	3"W	A																
2	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	3"W	A																
3	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3"W	A	14.8	c	107	a	0	b	0	a	0	a	88	b	97	b	94	b
3	CALLISTO	4	SC	0.0312	lb ai/a	1.0	fl oz/a	3"W	A																
3	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	3"W	A																
3	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	3"W	A																
4	YUKON	67.5	WG	0.169	lb ai/a	4.0	oz/a	3"W	A	15.4	b	114	a	3	a	0	a	0	a	90	b	98	a	96	ab
4	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	3"W	A																
4	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	3"W	A																
5	CALLISTO	4	SC	0.094	lb ai/a	3.0	fl oz/a	3"W	A	15.0	bc	109	a	0	b	0	a	0	a	95	a	97	b	96	a
5	AATREX	4	L	0.33	lb ai/a	0.66	pt/a	3"W	A																
5	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	3"W	A																
5	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	3"W	A																
6	NONTREATED									17.3	a	75	b	0	b	0	a	0	a	0	c	0	c	0	c
LSD (P=.05)										0.60		31.4		0.4		0.0		0.0		3.4		0.4		1.9	
Replicate F										6.479		2.878		1.000		0.000		0.000		0.581		1.429		0.320	
Replicate Prob(F)										0.0050		0.0709		0.4199		1.0000		1.0000		0.6367		0.2737		0.8108	
Treatment F										23.454		2.343		75.000		0.000		0.000		1109.323		81323.578		4041.834	
Treatment Prob(F)										0.0001		0.0923		0.0001		1.0000		1.0000		0.0001		0.0001		0.0001	

Means followed by same letter do not significantly differ (P=.05, LSD)

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Weed Code	ABUTH	ABUTH	ABUTH	IPOSS	IPOSS	IPOSS
Crop Code						
Rating Data Type	Control	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date	6-23-07	7-7-07	8-4-07	6-23-07	7-7-07	8-4-07
Trt-Eval Interval	14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code						
1	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3"W	A	99 a	98 a	98 ab	99 a	96 a	96 a
1	AATREX	4	L	1.0	lb ai/a	2	pt/a	3"W	A						
1	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	3"W	A						
1	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	3"W	A						
2	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3"W	A	98 a	96 a	97 ab	79 c	73 c	70 c
2	IMPACT	2.8	SC	0.00547	lb ai/a	0.25	fl oz/a	3"W	A						
2	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	3"W	A						
2	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	3"W	A						
3	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3"W	A	99 a	98 a	98 ab	94 b	92 b	92 b
3	CALLISTO	4	SC	0.0312	lb ai/a	1.0	fl oz/a	3"W	A						
3	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	3"W	A						
3	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	3"W	A						
4	YUKON	67.5	WG	0.169	lb ai/a	4.0	oz/a	3"W	A	98 a	97 a	97 b	93 b	96 a	95 ab
4	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	3"W	A						
4	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	3"W	A						
5	CALLISTO	4	SC	0.094	lb ai/a	3.0	fl oz/a	3"W	A	99 a	98 a	98 a	99 a	96 a	96 a
5	AATREX	4	L	0.33	lb ai/a	0.66	pt/a	3"W	A						
5	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	3"W	A						
5	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	3"W	A						
6	NONTREATED									0 b	0 b	0 c	0 d	0 d	0 d
LSD (P=.05)										1.6	2.6	1.3	2.4	2.4	2.8
Replicate F										1.429	1.269	1.304	3.511	0.733	0.233
Replicate Prob(F)										0.2737	0.3208	0.3096	0.0416	0.5481	0.8721
Treatment F										5511.229	2124.761	8251.001	2296.172	2292.547	1634.901
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Trial Comments

1. Protocol: Gowan (Yuk-07-15).
2. Ratings: CI 7, 14 + 28 DAT (note symptoms and take photos if possible).
WC 14, 28 + 56 DAT.
3. Yield.
4. POST timing is 3 inch weeds but corn height of 8 inch or less.
5. Blanket PRE application of Dual II Magnum (0.6 pt/A) to all plots 10 ft wide was applied 5-23-07.
6. DA-A = Days after 3"W application.
7. IPOSS was IPOHE (ivyleaf morningglory) and PHBPU (tall morningglory).
8. Crop injury was stunting.
9. Harvested 10-2-07, (2) 30 inch rows by 22 ft.