

Evaluation of Command Xtra in Soybean.

01-2A-M50

OBJECTIVE: Evaluate Command Xtra for crop response and weed control in soybean.

SUMMARY: Soybean injury was 0 to 6% at 14 days after planting (DAP). No injury was observed from any treatment by 28 DAP. Command Xtra at 2.2 pt provided good control of fall panicum, common waterhemp, velvetleaf, and Pennsylvania smartweed at 56 DAP and at the end of the season. The sequential treatment of Command Xtra followed by Roundup Ultra controlled 99% of all weed species in this trial.

HERBICIDES

BOUNDARY 7.8 EC
 COMMAND 3 ME
 COMMAND XTRA (CO-PACK)
 DOMAIN 60 WG
 PROWL 3.3 EC
 PURSUIT PLUS 2.9 EC
 ROUNDUP ULTRA MAX 3.7 SL
 SENCOR 75 WG
 SULFENTRAZONE 4 F

WEEDS

nutsedge, yellow
 panicum, fall
 ragweed, common
 smartweed, Pennsylvania
 velvetleaf
 waterhemp, common

CROP

soybean

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Evaluation of Command Xtra in Soybean.

Project Code: 01-2A-M50 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: 4-30-01

Objective:

Evaluate Command Xtra for crop response and weed control in soybean.

Weed Code	Common Name	Scientific Name
1. PANDI	panicum, fall	Panicum dichotomiflorum Michx.
2. AMBEL	ragweed, common	Ambrosia artemisiifolia L.
3. AMATA	waterhemp, common	Amaranthus rudis Sauer
4. ABUTH	velvetleaf	Abutilon theophrasti Medicus
5. POLPY	smartweed, Pennsylvania	Polygonum pennsylvanicum L.
6. CYPES	nutsedge, yellow	Cyperus esculentus L.

Crop 1:	GLXMA soybean	Variety:	B-T 371CR
Planting Method:	Seeded	Planting Date:	5-11-01
Rate:	75 lb/A	Depth:	1.0 IN
Row Spacing:	30 IN		

Plot Width, Unit:	10 FT	Plot Length, Unit:	28 FT	Reps:	3
Tillage Type:	Reduced-Till	Study Design:	Randomized complete block		
Previous Crop, Year:	ZEAMX, 2000				
Field Prep./Maintenance:	N 0 LB/A, P205 0 LB/A, K20 150 LB/A				

Soil Name:	Weir	% OM:	1.5	pH:	6.4	CEC:	10
Texture:	Silt loam	Fert. Level:	P1: 81 LB/A, K: 274 LB/A				

APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	5-11-01	6-18-01	6-18-01	7-2-01
Time of Day:	17:00	11:30	11:30	10:30
Application Method:	Spray	Spray	Spray	Spray
Application Timing:	PRE	4-8"W	4-6"W	2-4"RG
Applic. Placement:	BROSOI	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	80 F	92 F	92 F	65 F
% Relative Humidity:	44	42	42	64
Wind Velocity, Unit:	2-5 MPH	2-5 MPH	2-5 MPH	0-3 MPH
Soil Moisture:	BELNOR	BELNOR	BELNOR	BELNOR

CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	GLXMA NA	GLXMA V4	GLXMA V4	GLXMA V7
Height, Unit:	NA NA	6-8 IN	6-8 IN	11 IN

WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code:	PANDI	PANDI	PANDI	PANDI
Weed 2 Code:	AMBEL	AMBEL	AMBEL	AMBEL
Stage(leaves):		6-10	6-10+	4-6
Height(inches):		6-10	2-10	4-6
Density:		Medium	Low	Low
Weed 3 Code:	AMATA	AMATA	AMATA	AMATA
Stage(leaves):		2-10		4-10
Height(inches):		0-8		1-2
Density:		High		Low
Weed 4 Code:	ABUTH	ABUTH	ABUTH	ABUTH
Stage(leaves):		4-6		
Height(inches):		4-6		
Density:		Low		

Weed 5 Code:	POLPY	POLPY	POLPY	POLPY
Stage(leaves):		4-8	4-10+	
Height(inches):		4-8	2-12	
Density:		Medium	Low	

Weed 6 Code:	CYPES	CYPES	CYPES	CYPES
Stage(leaves):		6-10		4-6
Height(inches):		6-12		2-4
Density:		Low		Medium

APPLICATION EQUIPMENT

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

NOTES: NOT HARVESTED.

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Weed Code		GLXMA			PANDI	PANDI	PANDI	CYPES	CYPES	CYPES	AMBEL	AMBEL	AMBEL								
Crop Code		Injury	Injury	Injury	Control	Control	Control	Control	Control	Control	Control	Control	Control								
Rating Data Type		Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent								
Rating Unit		5-25-01	6-8-01	7-6-01	6-8-01	7-6-01	8-14-01	6-8-01	7-6-01	8-14-01	6-8-01	7-6-01	8-14-01								
Rating Date		14 DAP	28 DAP	56 DAP	28 DAP	56 DAP	EOS	28 DAP	56 DAP	EOS	28 DAP	56 DAP	EOS								
Tri-Eval Interval																					
Tri 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			
2	COMMAND XTRA (CO-PACK)					2.2	PT/A	PRE	A	0	0	0	98	97	95	99	85	81	94	85	33
	->COMMAND	3	ME	0.6	LB A/A	1.6	PT/A	PRE	A												
	->SULFENTRAZONE	4	F	0.3	LB A/A	0.6	PT/A	PRE	A												
3	COMMAND XTRA (CO-PACK)					1.1	PT/A	PRE	A	0	0	0	99	99	99	83	98	99	85	99	99
	->COMMAND	3	ME	0.3	LB A/A	0.8	PT/A	PRE	A												
	->SULFENTRAZONE	4	F	0.15	LB A/A	0.3	PT/A	PRE	A												
	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-6"W	C												
	AMS	100	DRY	2.0	% V/V	17	LB/100 GAL	4-6"W	C												
4	COMMAND XTRA (CO-PACK)					2.2	PT/A	PRE	A	0	0	0	99	98	98	98	85	83	98	92	81
	->COMMAND	3	ME	0.6	LB A/A	1.6	PT/A	PRE	A												
	->SULFENTRAZONE	4	F	0.3	LB A/A	0.6	PT/A	PRE	A												
	SENCOR	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A												
5	PURSUIT PLUS	2.9	EC	0.91	LB A/A	2.5	PT/A	PRE	A	0	0	0	96	90	87	57	65	63	33	0	0
6	DOMAIN	60	WG	0.6	LB A/A	16	OZ/A	PRE	A	2	0	0	98	98	92	23	10	10	95	62	27
7	BOUNDARY	7.8	EC	1.71	LB A/A	1.75	PT/A	PRE	A	6	0	0	99	92	91	98	80	80	92	47	20
8	PROWL	3.3	EC	1.24	LB A/A	3	PT/A	PRE	A	2	0	0	98	83	83	0	0	0	0	0	0
9	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-8"W	B		0	0	0	99	99	0	87	99	0	99	99
	AMS	100	DRY	2.0	% V/V	17	LB/100 GAL	4-8"W	B												
10	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-8"W	B		0	0	0	99	99	0	90	99	0	99	99
	AMS	100	DRY	2.0	% V/V	17	LB/100 GAL	4-8"W	B												
	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	2-4"RG	D												
	AMS	100	DRY	2.0	% V/V	17	LB/100 GAL	2-4"RG	D												
LSD (P=.05)				2.7	0.0	0.0		2.0	6.7	8.3	26.6	16.4	16.7	9.0	8.6	17.8					
Replicate F				0.695	0.000	0.000		1.574	1.069	1.242	0.133	1.788	3.083	1.561	0.890	1.159					
Replicate Prob(F)				0.5157	1.0000	1.0000		0.2344	0.3643	0.3125	0.8760	0.1957	0.0705	0.2371	0.4279	0.3361					
Treatment F				5.046	0.000	0.000		4750.235	184.515	116.798	25.817	52.172	54.915	234.821	226.008	53.492					
Treatment Prob(F)				0.0049	1.0000	1.0000		0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001					

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Weed Code	AMATA	AMATA	AMATA	ABUTH	ABUTH	ABUTH	POLPY	POLPY	POLPY
Rating Data Type	Control	Control	Control	Control	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date	6-8-01	7-6-01	8-14-01	6-8-01	7-6-01	8-14-01	6-8-01	7-6-01	8-14-01
Trt-Eval Interval	28 DAP	56 DAP	EOS	28 DAP	56 DAP	EOS	28 DAP	56 DAP	EOS

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	AMATA 28 DAP	AMATA 56 DAP	AMATA EOS	ABUTH 28 DAP	ABUTH 56 DAP	ABUTH EOS	POLPY 28 DAP	POLPY 56 DAP	POLPY EOS
1	NONTREATED									0	0	0	0	0	0	0	0	0
2	COMMAND XTRA (CO-PACK)					2.2	PT/A	PRE	A	99	99	99	99	94	93	99	98	98
2	->COMMAND	3	ME	0.6	LB A/A	1.6	PT/A	PRE	A									
2	->SULFENTRAZONE	4	F	0.3	LB A/A	0.6	PT/A	PRE	A									
3	COMMAND XTRA (CO-PACK)					1.1	PT/A	PRE	A	99	99	99	98	99	99	93	99	99
3	->COMMAND	3	ME	0.3	LB A/A	0.8	PT/A	PRE	A									
3	->SULFENTRAZONE	4	F	0.15	LB A/A	0.3	PT/A	PRE	A									
3	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-6"W	C									
3	AMS	100	DRY	2.0	% V/V	17	LB/100 GAL	4-6"W	C									
4	COMMAND XTRA (CO-PACK)					2.2	PT/A	PRE	A	99	99	97	99	99	99	99	99	97
4	->COMMAND	3	ME	0.6	LB A/A	1.6	PT/A	PRE	A									
4	->SULFENTRAZONE	4	F	0.3	LB A/A	0.6	PT/A	PRE	A									
4	SENCOR	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A									
5	PURSUIT PLUS	2.9	EC	0.91	LB A/A	2.5	PT/A	PRE	A	99	0	0	89	66	66	99	99	98
6	DOMAIN	60	WG	0.6	LB A/A	16	OZ/A	PRE	A	99	50	47	98	50	50	96	20	50
7	BOUNDARY	7.8	EC	1.71	LB A/A	1.75	PT/A	PRE	A	99	99	97	99	50	50	99	80	80
8	PROWL	3.3	EC	1.24	LB A/A	3	PT/A	PRE	A	96	63	63	47	83	83	37	0	0
9	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-8"W	B	0	99	96	0	99	99	0	97	99
9	AMS	100	DRY	2.0	% V/V	17	LB/100 GAL	4-8"W	B									
10	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-8"W	B	0	99	99	0	99	99	0	99	99
10	AMS	100	DRY	2.0	% V/V	17	LB/100 GAL	4-8"W	B									
10	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	2-4"RG	D									
10	AMS	100	DRY	2.0	% V/V	17	LB/100 GAL	2-4"RG	D									
LSD (P=.05)										2.8	38.0	36.6	9.1	39.0	38.9	10.5	19.7	24.6
Replicate F										1.000	2.114	2.313	2.643	3.718	3.892	1.087	0.899	1.823
Replicate Prob(F)										0.3874	0.1497	0.1277	0.0985	0.0445	0.0394	0.3583	0.4244	0.1901
Treatment F										2520.000	10.408	10.953	229.260	6.244	6.235	174.418	43.472	24.346
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0005	0.0005	0.0001	0.0001	0.0001

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Trial Comments

1. Protocol: FMC.
2. DAP = days after plantings. EOS = end of season.
28 DAP was prior to any postemergence applications.
56 DAP was 18, 18 and 4 days after 4-8"W, 4-6"W and 2-4"RG applications, respectively.
EOS was 94 DAP, and 57, 57 and 43 days after 4-8"W, 4-6"W and 2-4"RG applications, respectively.