

Evaluation of Agristay with Raptor and Cobra.

00-ARC3-E60

OBJECTIVE: Evaluate the spray adjuvant Agristay applied with Cobra and Raptor to decrease crop response while maintaining weed control compared to standard adjuvant systems.

SUMMARY: Raptor plus Prime Oil caused 20% soybean injury at 7 days after treatment (DAT). Soybean injury was reduced by 7 and 11% when Agristay or Ag Dynamics 1 was tank mixed with Raptor instead of Prime Oil. Soybean injury was 30% from Cobra plus Prime Oil at 7 DAT and was not significantly reduced by the substitution of Agristay or Ag Dynamic 1 for Prime Oil. By 28 DAT, soybean injury was 3% or less from all herbicide treatments.

Giant foxtail control was not affected by the adjuvant used with Raptor with the exception of Raptor plus Quad 7, which provided poor control of all weeds. Yellow nutsedge control was poor with all herbicide treatments. Common ragweed control with Cobra was 99% regardless of the adjuvant used. Raptor plus Prime Oil controlled 63% of common ragweed at 28 DAT. Similar common ragweed control was observed with Raptor plus Sun-it II or Agristay. However, common ragweed control was reduced to 55% when Ag Dynamics 1 was tank mixed with Raptor. Common cocklebur and morningglory species was not affected by the adjuvant used with Raptor or Cobra.

HERBICIDES/ADJUVANTS

COBRA 2 EC
 RAPTOR 1 AS
 28% UAN 100 LIQ
 AG DYNAMICS 1 100 LIQ
 AGRISTAY 100 LIQ
 PRIME OIL COC 100 LIQ
 QUAD 7 100 LIQ
 SUN-IT II 100 LIQ

WEEDS

COCKLEBUR, COMMON
 FOXTAIL, GIANT
 MORNINGGLORY, SPECIES
 NUTSEGE, YELLOW
 RAGWEED, COMMON

CROP

SOYBEAN

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PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Evaluation of Agristay with Raptor and Cobra.

Project Code: 00-ARC3-E60 Location: Agronomy Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: CARBONDALE IL 62901 USA

Weed Code	Common Name	Scientific Name
1. SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2. CYPES	NUTSEDGE, YELLOW	CYPERUS ESCULENTUS L.
3. AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
4. IPOSS	MORNINGGLORY, SPECIES	IPOMOEA SP.
5. XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1:	GLXMA SOYBEAN	Variety:	AG 4602 RR
Planting Method:	SEEDED	Planting Date:	May-16-00
Rate:	75 LB/A	Depth:	1.0 IN
Row Spacing:	30 IN		

Plot Width, Unit:	10 FT	Plot Length, Unit:	24 FT	Reps:	3
Tillage Type:	REDUCED-TILL	Study Design:	RCB		
Previous Crop, Year:	GLXMA, 1999				

Soil Name:	WEIR	% OM:	2.3	pH:	6.3	CEC:	8.7
Texture:	SILT LOAM	P ₁ :	71 LB/A,	K:	367 LB/A		

APPLICATION DESCRIPTION

A
 Application Date: Jun-14-00
 Time of Day: 19:00
 Application Method: SPRAY
 Application Timing: 4-6"W
 Applic. Placement: BROFOL
 Air Temp., Unit: 85 F
 Wind Velocity, Unit: 10 MPH
 Dew Presence (Y/N): N
 Soil Moisture: NORMAL

CROP STAGE AT EACH APPLICATION

A
 Crop 1 Code, Stage: GLXMA V3
 Height, Unit: 5-7 IN

WEED STAGE AT EACH APPLICATION

A
 Weed 1 Code: SETFA
 Stage(leaves): 4-5
 Height(inches): 4-8

Weed 2 Code: CYPES
 Stage(leaves): 4-6
 Height(inches): 6-8

Weed 3 Code: AMBEL
 Stage(leaves): 4-8
 Height(inches): 4-7

Weed 4 Code: IPOSS
 Stage(leaves): COTL-5
 Height(inches): 4-6

Weed 5 Code: XANST
 Stage(leaves): 4-6
 Height(inches): 6-8

APPLICATION EQUIPMENT

A
 Appl. Equipment: CO, SPRAY
 Operating Pressure: 40 PSI
 Nozzle Type: FLAT FAN
 Nozzle Size: 8002
 Boom Length, Unit: 7.33 FT
 Spray Volume, Unit: 15 GPA

NOTES:

Not harvested.

TABLE. EVALUATION OF AGRISTAY WITH RAPTOR AND COBRA. PROJECT CODE:00-ARC3-E60

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	GLXMA				CONTROL, DAYS AFTER 4-6"W															
							INJURY, DA 4-6"W				SETFA			CYPES			AMBEL			IPOSS			XANST			
							3	7	14	28	7	14	28	7	14	28	7	14	28	7	14	28	7	14	28	
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%							
1 RAPTOR	1 AS	0.039	LB A/A	5.0	OZ/A	4-6"W	A	17	20	13	3	53	83	89	17	55	27	42	63	63	40	43	47	43	80	90
1 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	%V/V	4-6"W	A																			
1 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	4-6"W	A																			
2 RAPTOR	1 AS	0.039	LB A/A	5.0	OZ/A	4-6"W	A	13	17	13	3	43	83	90	10	52	23	40	63	62	37	42	43	40	77	90
2 SUN-IT II	100 LIQ	1.0	% V/V	1.0	%V/V	4-6"W	A																			
2 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	4-6"W	A																			
3 RAPTOR	1 AS	0.039	LB A/A	5.0	OZ/A	4-6"W	A	12	13	10	0	50	77	92	10	58	30	40	62	67	40	42	55	50	78	90
3 AGRISTAY	100 LIQ	1.0	% V/V	1.0	%V/V	4-6"W	A																			
3 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	4-6"W	A																			
4 RAPTOR	1 AS	0.039	LB A/A	5.0	OZ/A	4-6"W	A	7	9	5	0	47	72	90	7	47	20	37	53	55	30	35	43	37	78	90
4 AG DYNAMICS 1	100 LIQ	1.0	% V/V	1.0	%V/V	4-6"W	A																			
4 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	4-6"W	A																			
5 COBRA	2 EC	0.094	LB A/A	6.0	OZ/A	4-6"W	A	20	30	16	0	43	0	7	23	0	0	99	99	99	78	42	17	99	99	99
5 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	%V/V	4-6"W	A																			
5 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	4-6"W	A																			
6 COBRA	2 EC	0.094	LB A/A	6.0	OZ/A	4-6"W	A	20	28	16	2	33	0	10	30	0	0	99	99	99	80	43	20	98	99	99
6 SUN-IT II	100 LIQ	1.0	% V/V	1.0	%V/V	4-6"W	A																			
6 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	4-6"W	A																			
7 COBRA	2 EC	0.094	LB A/A	6.0	OZ/A	4-6"W	A	17	28	16	0	47	0	10	30	0	0	99	97	99	77	37	13	99	99	99
7 AGRISTAY	100 LIQ	1.0	% V/V	1.0	%V/V	4-6"W	A																			
7 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	4-6"W	A																			
8 COBRA	2 EC	0.094	LB A/A	6.0	OZ/A	4-6"W	A	18	25	11	0	50	0	10	27	0	0	99	99	99	82	47	30	99	99	99
8 AG DYNAMICS 1	100 LIQ	1.0	% V/V	1.0	%V/V	4-6"W	A																			
8 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	4-6"W	A																			
9 RAPTOR	1 AS	0.039	LB A/A	5.0	OZ/A	4-6"W	A	6	3	0	0	7	10	3	10	0	0	10	17	17	27	13	13	27	27	20
9 QUAD 7	100 LIQ	1.0	% V/V	1.0	%V/V	4-6"W	A																			
10 NONTREATED								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LSD								3	5	3	3	22	6	8	13	5	5	9	5	8	16	10	16	6	7	0
P								0.01	0.01	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	1.0

1. PROTOCOL: AG DYNAMICS.
2. RATING DATES:
3 DA 4-6"W, 7 DA 4-6"W, 14 DA 4-6"W, AND 28 DA 4-6"W ON JUN-17-00, JUN-21-00, JUN-28-00, AND JUL-12-00, RESPECTIVELY.