

Evaluation of the Spray Adjuvant Agristay with Various Soybean Herbicides.

00-ARC3-M60

OBJECTIVE: Evaluate performance of Agristay applied with several soybean herbicide programs.

SUMMARY: Soybean injury 7 days after treatment (DAT) ranged from 28 to 29% from Blazer treatments and 17 to 20% from Pursuit plus Pinnacle treatments. Tank mixing AG0009 with Pursuit plus Pinnacle instead of Sun-it II reduced soybean injury at 7 and 14 DAT. By 28 DAT, soybean injury was 5% or less from all herbicide treatments.

Roundup Original plus Activator 90 controlled at least 85% of all weed species present in this trial at 28 DAT. Tank mixing Agristay with Roundup Original instead of Activator 90 did not increase or decrease weed control. Blazer plus Poast Plus plus Prime Oil controlled 80% of giant foxtail at 28 DAT. Giant foxtail control was reduced to 72% when Ag Dynamics 1 was tank mixed with Blazer plus Poast Plus instead of Prime Oil. Control of common ragweed, common cocklebur, morningglory species, redroot pigweed, and common lambsquarters was similar from all Blazer plus Poast Plus treatments regardless of adjuvant. Common ragweed control was 55% from Pursuit plus Pinnacle plus Sun-it II at 28 DAT. Tank mixing AG0009 or Ag Dynamics 1 with Pursuit plus Pinnacle instead of Sun-it II increased control of common ragweed by 5 to 7%. Control of all other weeds in this study was similar with Pursuit plus Pinnacle regardless of the adjuvant used.

HERBICIDES/ADJUVANTS

BLAZER 2 EC
PINNACLE 25 WG
POAST PLUS 1 EC
PURSUIT 70 WG
ROUNDUP ORIGINAL 3 SL
SELECT 2 EC
28% UAN 100 LIQ
ACTIVATOR 90 100 LIQ
AG DYNAMICS 1 100 LIQ
AG0009 100 LIQ
AGRISTAY 100 LIQ
AMS 100 DRY
PRIME OIL COC 100 LIQ
SUN-IT II 100 LIQ

WEEDS

COCKLEBUR, COMMON
FOXTAIL, GIANT
LAMBSQUARTERS, COMMON
MORNINGGLORY, SPECIES
NUTSEDGE, YELLOW
PIGWEED, REDROOT
RAGWEED, COMMON

CROP

SOYBEAN

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Evaluation of the Spray Adjuvant Agristay with Various Soybean Herbicides.

Project Code: 00-ARC3-M60 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. XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM
5. IPOSS	MORNINGGLORY, SPECIES	IPOMOEA SP.
6. AMARE	PIGWEED, REDROOT	AMARANTHUS RETROFLEXUS L.
7. CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

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: 6"W
 Applic. Placement: BROFOL
 Air Temp., Unit: 85 F
 % Relative Humidity: 72
 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: XANST
 Stage(leaves): 4-6
 Height(inches): 6-8

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

Weed 6 Code: AMARE
 Stage(leaves): 3-6
 Height(inches): 3-7

APPLICATION EQUIPMENT

A
 Appl. Equipment: CO₂ 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 THE SPRAY ADJUVANT AGRISTAY WITH VARIOUS SOYBEAN HERBICIDES. PROJECT CODE:00-ARC3-M60

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	GLXMA INJURY			CONTROL, DAYS AFTER 6"W														
							DA 6"W			SETFA		CYPES		AMBEL		XANST		IPOSS		AMARE		CHEAL		
							7	14	28	14	28	14	28	14	28	14	28	14	28	14	28	14	28	
			%	%	%	%	%	%	%	%	%	%	%	%	%	%	%							
1 ROUNDUP ORIGINA	3 SL	0.75	LB AE/A	2.0	PT/A	6"W	A	0	0	0	99	98	63	60	93	96	98	99	77	85	92	88	92	99
1 ACTIVATOR 90	100 LIQ	0.5	% V/V	0.5	%V/V	6"W	A																	
1 AMS	100 DRY	2.0	% W/W	2.0	%W/W	6"W	A																	
2 ROUNDUP ORIGINA	3 SL	0.75	LB AE/A	2.0	PT/A	6"W	A	0	0	0	99	98	67	60	95	96	98	99	77	87	95	96	95	99
2 AGRISTAY	100 LIQ	1.0	% V/V	1.0	%V/V	6"W	A																	
2 AMS	100 DRY	2.0	% W/W	2.0	%W/W	6"W	A																	
3 PURSUIT	70 WG	0.063	LB A/A	1.44	OZ/A	6"W	A	17	13	4	78	87	50	30	62	60	90	90	47	53	68	87	85	83
3 PINNACLE	25 WG	0.002	LB A/A	0.128	OZ/A	6"W	A																	
3 SELECT	2 EC	0.094	LB A/A	6.0	OZ/A	6"W	A																	
3 AG0009	100 LIQ	1.0	% V/V	1.0	%V/V	6"W	A																	
3 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	6"W	A																	
4 BLAZER	2 EC	0.375	LB A/A	1.5	PT/A	6"W	A	28	19	3	95	80	33	13	97	88	90	68	96	90	63	13	50	20
4 POAST PLUS	1 EC	0.188	LB A/A	1.5	PT/A	6"W	A																	
4 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	%V/V	6"W	A																	
5 BLAZER	2 EC	0.375	LB A/A	1.5	PT/A	6"W	A	29	19	5	92	77	23	20	94	88	85	67	88	77	30	17	23	17
5 POAST PLUS	1 EC	0.188	LB A/A	1.5	PT/A	6"W	A																	
5 AGRISTAY	100 LIQ	1.0	% V/V	1.0	%V/V	6"W	A																	
6 BLAZER	2 EC	0.375	LB A/A	1.5	PT/A	6"W	A	29	19	5	91	72	40	20	95	89	90	77	91	85	33	13	27	17
6 POAST PLUS	1 EC	0.188	LB A/A	1.5	PT/A	6"W	A																	
6 AG DYNAMICS 1	100 LIQ	1.0	% V/V	1.0	%V/V	6"W	A																	
7 PURSUIT	70 WG	0.063	LB A/A	1.44	OZ/A	6"W	A	20	20	5	77	93	60		60	55	88	90	40	52	85	90	86	92
7 PINNACLE	25 WG	0.002	LB A/A	0.128	OZ/A	6"W	A																	
7 SELECT	2 EC	0.094	LB A/A	6.0	OZ/A	6"W	A																	
7 SUN-IT II	100 LIQ	1.0	% V/V	1.0	%V/V	6"W	A																	
7 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	6"W	A																	
8 PURSUIT	70 WG	0.063	LB A/A	1.44	OZ/A	6"W	A	18	17	4	77	91	43		63	57	90	90	45	57	87	88	96	95
8 PINNACLE	25 WG	0.002	LB A/A	0.128	OZ/A	6"W	A																	
8 SELECT	2 EC	0.094	LB A/A	6.0	OZ/A	6"W	A																	
8 AGRISTAY	100 LIQ	1.0	% V/V	1.0	%V/V	6"W	A																	
8 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	6"W	A																	
9 PURSUIT	70 WG	0.063	LB A/A	1.44	OZ/A	6"W	A	19	17	5	80	89	58		65	62	88	90	57	65	80	87	98	92
9 PINNACLE	25 WG	0.002	LB A/A	0.128	OZ/A	6"W	A																	
9 SELECT	2 EC	0.094	LB A/A	6.0	OZ/A	6"W	A																	
9 AG DYNAMICS 1	100 LIQ	1.0	% V/V	1.0	%V/V	6"W	A																	
9 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	6"W	A																	
10 NONTREATED								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LSD								3	3	2	5	6	16	18	5	4	9	12	8	15	30	8	25	13
P								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	0.01	0.01	0.01

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