

## Phoenix Adjuvant Study.

02-ARC3-W110

**OBJECTIVE:** Evaluate adjuvant performance with Phoenix herbicide.

**SUMMARY:** Soybean injury 14 DAT (days after treatment) was 6% from Phoenix plus Select and 28% UAN. Adding AG 02025 to Phoenix plus Select increased injury to 10%. No injury was observed from any treatment by 28 DAT. Giant foxtail control 14 DAT was 91% from Phoenix plus Select and 28% UAN. Giant foxtail control was increased with the addition of all adjuvants except Class Act NG. Similar results were observed for giant foxtail control at 28 DAT. Phoenix plus Select and 28% UAN controlled 92% of common ragweed at 14 DAT. Common ragweed control was significantly increased when Prime Oil, AG 01023, Rivet, or Newtone was added to Phoenix and Select plus 28% UAN. By 28 DAT, common ragweed control was increased by all adjuvants except Destiny MSO, Class Act NG, and AG 01034 at 0.375% v/v. Common cocklebur control 14 DAT was increased by all adjuvants except Destiny MSO, HI-PER-OIL, and Class Act NG. Phoenix plus Select and 28% UAN controlled only 32% of morningglory species at 14 DAT. Morningglory species control was significantly increased with the addition of Prime Oil, HI-PER-OIL, AG 01023 at 0.5% v/v, AG 01034 at 0.25% v/v, Newtone, or AG 02025.

### HERBICIDES/ADJUVANTS

PHOENIX 1.95 EC  
 SELECT 2 EC  
 28% UAN 100 LIQ  
 AG 01017 100 LIQ  
 AG 01023 100 LIQ  
 AG 01034 100 LIQ  
 AG 02025 100 LIQ  
 AG 1023 100 LIQ  
 AG 1034 100 LIQ  
 CLASS ACT NG 100 LIQ  
 DESTINY MSO 100 LIQ  
 HI-PER-OIL 100 LIQ  
 NEWTONE 100 LIQ  
 PRIME OIL COC 100 LIQ  
 RIVET 100 LIQ

### WEEDS

cocklebur, common  
 foxtail, giant  
 morningglory, ivyleaf  
 morningglory, pitted  
 morningglory, species  
 ragweed, common

### CROP

soybean

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

## Phoenix Adjuvant Study.

Project Code: 02-ARC3-W110      Location: Agronomy Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country:              Carbondale              IL 62901 USA  
 Trial Status: Final                      Updated:                      10-30-02

**Objective:**

Evaluate adjuvant performance with Phoenix herbicide.

Weed Code	Common Name	Scientific Name
1. SETFA	foxtail, giant	Setaria faberi Herrm.
2. AMBEL	ragweed, common	Ambrosia artemisiifolia L.
3. XANST	cocklebur, common	Xanthium strumarium L.
4. IPOSS	morningglory, species	Ipomoea sp.
5. IPOLA	morningglory, pitted	Ipomoea lacunosa L.
6. IPOHE	morningglory, ivyleaf	Ipomoea hederacea (L.) Jacq.

Crop 1:                      GLXMA soybean                      Variety:                      Pioneer 9492 RR  
 Planting Method: Seeded                      Planting Date: 6-13-02  
 Rate:                      75 lb/A                      Depth:                      1.0 IN  
 Row Spacing:                      30 IN

Plot Width, Unit: 10 FT                      Plot Length, Unit: 30 FT                      Reps: 3  
 Tillage Type:                      Reduced-Till                      Study Design: Randomized complete block  
 Previous Crop, Year: ZEAMX, 2001

Field Prep./Maintenance: N 0 LB/A, P205 0 LB/A, K20 0 LB/A

Soil Name: Weir                      % OM: 1.6                      pH: 5.9                      CEC: 9  
 Texture: Silt loam                      Fert. Level: P1: 118 LB/A, K: 439 LB/A

**APPLICATION DESCRIPTION**

**A**

Application Date: 6-30-02  
 Time of Day: 10:00  
 Application Method: Spray  
 Application Timing: 4-6"W  
 Applic. Placement: BROFOL  
 Air Temp., Unit: 83 F  
 % Relative Humidity: 58  
 Wind Velocity, Unit: 5-6 MPH  
 Dew Presence (Y/N): N  
 Soil Temp., Unit: 82 F  
 Soil Moisture: NORMAL  
 % Cloud Cover: 40

**CROP STAGE AT EACH APPLICATION**

**A**

Crop 1 Code, Stage: GLXMA V4  
 Height, Unit: 7-9 IN

**WEED STAGE AT EACH APPLICATION**

**A**

Weed 1 Code: SETFA  
 Stage(leaves): 3-5  
 Height(inches): 4-9  
 Density: High

Weed 2 Code: AMBEL  
 Stage(leaves): 6-8  
 Height(inches): 5-7  
 Density: High

Weed 3 Code: XANST  
 Stage(leaves): 5-6  
 Height(inches): 8-10  
 Density: Medium

Weed 4 Code: IPOSS  
Stage(leaves): 5-8  
Height(inches): 6-7  
Density: Medium

APPLICATION EQUIPMENT

A

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

NOTES:

This study was not harvested.

Phoenix Adjuvant Study.

Project Code: 02-ARC3-W110 Location: Agronomy Research Center

Weed Code				GLXMA		SETFA		AMBEL		XANST		IPOSS							
Crop Code				Injury	Injury	Control	Control	Control	Control	Control	Control	Control	Control						
Rating Data Type				Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent						
Rating Unit				7-14-02	7-28-02	7-14-02	7-28-02	7-14-02	7-28-02	7-14-02	7-28-02	7-14-02	7-28-02						
Rating Date				14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A						
Trt-Eval Interval				14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A						
Trt 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			
2	PHOENIX	1.95	EC	0.15	LB A/A	9.8	OZ/A	4-6"	W A	6	0	91	77	92	83	80	50	32	18
2	SELECT	2	EC	0.094	LB A/A	6	OZ/A	4-6"	W A										
2	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A										
3	PHOENIX	1.95	EC	0.15	LB A/A	9.8	OZ/A	4-6"	W A	6	0	94	90	91	80	88	70	35	13
3	SELECT	2	EC	0.094	LB A/A	6	OZ/A	4-6"	W A										
3	DESTINY MSO	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A										
3	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A										
4	PHOENIX	1.95	EC	0.15	LB A/A	9.8	OZ/A	4-6"	W A	7	0	93	85	97	98	94	91	50	33
4	SELECT	2	EC	0.094	LB A/A	6	OZ/A	4-6"	W A										
4	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A										
4	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A										
5	PHOENIX	1.95	EC	0.15	LB A/A	9.8	OZ/A	4-6"	W A	6	0	94	87	95	91	89	80	45	17
5	SELECT	2	EC	0.094	LB A/A	6	OZ/A	4-6"	W A										
5	HI-PER-OIL	100	LIQ	0.5	% V/V	0.5	%V/V	4-6"	W A										
5	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A										
6	PHOENIX	1.95	EC	0.15	LB A/A	9.8	OZ/A	4-6"	W A	7	0	94	85	94	93	94	89	38	30
6	SELECT	2	EC	0.094	LB A/A	6	OZ/A	4-6"	W A										
6	AG 01017	100	LIQ	0.5	% V/V	0.5	%V/V	4-6"	W A										
6	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A										
7	PHOENIX	1.95	EC	0.15	LB A/A	9.8	OZ/A	4-6"	W A	8	0	96	88	97	92	95	94	52	30
7	SELECT	2	EC	0.094	LB A/A	6	OZ/A	4-6"	W A										
7	AG 01023	100	LIQ	0.5	% V/V	0.5	%V/V	4-6"	W A										
7	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A										
8	PHOENIX	1.95	EC	0.15	LB A/A	9.8	OZ/A	4-6"	W A	7	0	94	88	96	94	90	91	33	32
8	SELECT	2	EC	0.094	LB A/A	6	OZ/A	4-6"	W A										
8	RIVET	100	LIQ	0.5	% V/V	0.5	%V/V	4-6"	W A										
8	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A										
9	PHOENIX	1.95	EC	0.15	LB A/A	9.8	OZ/A	4-6"	W A	9	0	95	88	93	90	94	83	50	30
9	SELECT	2	EC	0.094	LB A/A	6	OZ/A	4-6"	W A										
9	AG 01034	100	LIQ	0.25	% V/V	0.25	%V/V	4-6"	W A										
9	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"	W A										
10	PHOENIX	1.95	EC	0.15	LB A/A	9.8	OZ/A	4-6"	W A	7	0	92	77	89	83	83	65	27	17
10	SELECT	2	EC	0.094	LB A/A	6	OZ/A	4-6"	W A										
10	CLASS ACT NG	100	LIQ	2.5	% V/V	2.5	%V/V	4-6"	W A										

Weed Code	GLXMA	GLXMA	SETFA	SETFA	AMBEL	AMBEL	XANST	XANST	IPOSS	IPOSS
Crop Code	Injury	Injury	Control	Control	Control	Control	Control	Control	Control	Control
Rating Data Type	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit	7-14-02	7-28-02	7-14-02	7-28-02	7-14-02	7-28-02	7-14-02	7-28-02	7-14-02	7-28-02
Rating Date	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A
Trt-Eval Interval										

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code										
11	PHOENIX	1.95	EC	0.15	LB A/A	9.8	OZ/A	4-6"W	A	7	0	95	85	96	96	99	99	50	33
11	SELECT	2	EC	0.094	LB A/A	6	OZ/A	4-6"W	A										
11	NEWTONE	100	LIQ	1.0	% V/V	1	%V/V	4-6"W	A										
12	PHOENIX	1.95	EC	0.15	LB A/A	9.8	OZ/A	4-6"W	A	8	0	95	83	96	93	99	99	37	17
12	SELECT	2	EC	0.094	LB A/A	6	OZ/A	4-6"W	A										
12	AG 1023	100	LIQ	1.0	% V/V	1	%V/V	4-6"W	A										
12	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"W	A										
13	PHOENIX	1.95	EC	0.15	LB A/A	9.8	OZ/A	4-6"W	A	6	0	94	85	92	86	92	70	40	10
13	SELECT	2	EC	0.094	LB A/A	6	OZ/A	4-6"W	A										
13	AG 1034	100	LIQ	0.375	% V/V	0.375	%V/V	4-6"W	A										
13	28% UAN	100	LIQ	1.0	% V/V	1	%V/V	4-6"W	A										
14	PHOENIX	1.95	EC	0.15	LB A/A	9.8	OZ/A	4-6"W	A	10	0	95	85	94	94	99	99	57	32
14	SELECT	2	EC	0.094	LB A/A	6	OZ/A	4-6"W	A										
14	AG 02025	100	LIQ	1.5	% V/V	1.5	%V/V	4-6"W	A										
LSD (P=.05)										2.0	0.0	1.9	5.8	4.0	5.3	10.0	24.4	11.6	16.3
Replicate F										5.474	0.000	3.569	4.568	1.032	1.287	4.015	0.850	1.961	1.642
Replicate Prob(F)										0.0104	1.0000	0.0427	0.0200	0.3703	0.2931	0.0302	0.4391	0.1609	0.2131
Treatment F										10.346	0.000	1453.177	134.100	342.760	182.430	54.275	10.145	12.933	3.530
Treatment Prob(F)										0.0001	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0030

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Trial Comments

1. Protocol: Agriliance.
2. Mixing comments: Destiny did not stay in solution well with Phoenix.
3. IPOSS = morninglory species which included pitted and ivyleaf morninglory.
4. DA-A = days after 4-6"W application.