

Headline Application Technologies Study in Soybean.

Project Code: 05-BP-HeadApplic Location: Brookport, IL
Investigator: Bryan Young**Investigator:** Bryan Young, Associate Professor, Southern Illinois University**City State Zip Country:** Belleville IL 62221 USA
Trial Status: Final **Updated:** 11-01-05**Objective:**

Evaluate selected application components for management of Asian soybean rust with Headline and Folicur.

Crop 1: GLXMA soybean **Variety:** P94M70 RR
Planting Method: Seeded **Planting Date:** 5-23-05
Rate: 75 lb/A **Depth:** 1.0 IN
Row Spacing: 30 IN**Plot Width, Unit:** 10 FT **Plot Length, Unit:** 30 FT **Reps:** 4
Tillage Type: Reduced-Till **Study Design:** Randomized complete block
Previous Crop, Year: GLXMA, 2004**APPLICATION DESCRIPTION****A**
Application Date: 07-28-05
Time of Day: 12:45
Application Method: Spray
Application Timing: R3
Applic. Placement: BROFOL
Air Temp., Unit: 80 F
% Relative Humidity: 53
Wind Velocity, Unit: 2-3 MPH
Soil Moisture: NORMAL**CROP STAGE AT EACH APPLICATION****A**
Crop 1 Code, Stage: GLXMA R3
Height, Unit: 40 IN**APPLICATION EQUIPMENT****A**
Appl. Equipment: CO2 sprayer
Operating Pressure: 40 PSI
Nozzle Type: See trt list
Nozzle Size: See trt list
Boom Length, Unit: 7.5 FT
Spray Volume, Unit: 15 GPA**NOTES:**

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Weed Code
 Crop Code
 Rating Data Type
 Rating Unit
 Rating Date
 Trt-Eval Interval

GLXMA GLXMA GLXMA GLXMA GLXMA GLXMA GLXMA GLXMA
 Moisture Test wt. Yield Injury Injury Injury FROEYE FROEYE
 Percent lb/bu bu/A Percent Percent Percent % Incid Sever0-9
 10-13-05 10-13-05 10-13-05 08-04-05 08-11-05 08-25-05 09-09-05 09-09-05
 7 DA-A 14 DA-A 28 DA-A 43 DA-A 43 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	GLXMA Moisture Percent	GLXMA Test wt. lb/bu	GLXMA Yield bu/A	GLXMA Injury Percent	GLXMA Injury Percent	GLXMA Injury Percent	GLXMA FROEYE % Incid	GLXMA FROEYE Sever0-9
1	NONTREATED									11.0	51.9	51	0	0	0	100	2.8
2	XR 11002 NOZZLES									11.2	52.3	60	0	0	0	75	1.5
2	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A								
2	ACTIVATOR 90	100	LIQ	0.125	% v/v	0.125	% v/v	R3	A								
3	XR 11002 NOZZLES									11.2	52.3	59	0	0	0	100	1.5
3	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A								
3	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A								
4	TT 11002 NOZZLES									11.0	51.9	60	0	0	0	100	1.3
4	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A								
4	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A								
5	XR 11002 NOZZLES									11.0	52.1	60	0	2	1	75	1.3
5	HEADLINE	2.09	EC	0.0735	lb ai/a	4.5	fl oz/a	R3	A								
5	FOLICUR	3.6	F	0.084	lb ai/a	3	fl oz/a	R3	A								
5	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A								
6	TT 11002 NOZZLES									11.1	52.0	57	0	1	0	75	1.3
6	HEADLINE	2.09	EC	0.0735	lb ai/a	4.5	fl oz/a	R3	A								
6	FOLICUR	3.6	F	0.084	lb ai/a	3	fl oz/a	R3	A								
6	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A								
7	XR 11002 NOZZLES									11.0	52.2	61	0	0	0	100	1.5
7	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A								
7	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A								
7	AMS	100	DRY	1.0	% w/w	8.5	lb/100 gal	R3	A								
8	TT 11002 NOZZLES									10.9	51.7	62	0	0	0	100	1.8
8	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A								
8	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A								
8	AMS	100	DRY	1.0	% w/w	8.5	lb/100 gal	R3	A								
9	XR 11002 NOZZLES									11.1	52.5	58	0	1	1	100	1.5
9	HEADLINE	2.09	EC	0.0735	lb ai/a	4.5	fl oz/a	R3	A								
9	FOLICUR	3.6	F	0.084	lb ai/a	3	fl oz/a	R3	A								
9	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A								
9	AMS	100	DRY	1.0	% w/w	8.5	lb/100 gal	R3	A								
10	TT 11002 NOZZLES									11.0	51.9	59	0	2	1	100	2.5
10	HEADLINE	2.09	EC	0.0735	lb ai/a	4.5	fl oz/a	R3	A								
10	FOLICUR	3.6	F	0.084	lb ai/a	3	fl oz/a	R3	A								
10	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A								
10	AMS	100	DRY	1.0	% w/w	8.5	lb/100 gal	R3	A								
11	XR 11002 NOZZLES									11.1	52.2	58	0	0	0	100	1.8
11	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A								
11	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A								
11	ARRAY	100	DRY	1.08	% w/w	9	lb/100 gal	R3	A								
12	TT 11002 NOZZLES									11.1	52.3	60	0	0	0	100	1.8
12	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A								
12	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A								
12	ARRAY	100	DRY	1.08	% w/w	9	lb/100 gal	R3	A								
13	XR 11002 NOZZLES									10.8	51.8	59	0	1	1	100	2.0
13	HEADLINE	2.09	EC	0.0735	lb ai/a	4.5	fl oz/a	R3	A								
13	FOLICUR	3.6	F	0.084	lb ai/a	3	fl oz/a	R3	A								
13	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A								
13	ARRAY	100	DRY	1.08	% w/w	9	lb/100 gal	R3	A								
14	TT 11002 NOZZLES									11.2	52.7	61	0	1	1	100	1.5
14	HEADLINE	2.09	EC	0.0735	lb ai/a	4.5	fl oz/a	R3	A								
14	FOLICUR	3.6	F	0.084	lb ai/a	3	fl oz/a	R3	A								
14	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A								
14	ARRAY	100	DRY	1.08	% w/w	9	lb/100 gal	R3	A								
15	XR 11002 NOZZLES									11.0	52.4	61	0	0	0	100	1.8
15	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A								
15	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A								
15	INTERLOCK	100	LIQ	2.0	fl oz/a	2	fl oz/a	R3	A								

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	GLXMA Moisture Percent 10-13-05	GLXMA Test wt. lb/bu 10-13-05	GLXMA Yield bu/A 10-13-05	GLXMA Injury Percent 08-04-05 7 DA-A	GLXMA Injury Percent 08-11-05 14 DA-A	GLXMA Injury Percent 08-25-05 28 DA-A	GLXMA FROEYE % Incid 09-09-05 43 DA-A	GLXMA FROEYE Sever0-9 09-09-05 43 DA-A
16	TT 11002 NOZZLES									11.2	52.5	60	0	0	0	100	1.8
16	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A								
16	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A								
16	INTERLOCK	100	LIQ	2.0	fl oz/a	2	fl oz/a	R3	A								
17	XR 11002 NOZZLES									10.9	52.2	61	0	2	2	100	1.3
17	HEADLINE	2.09	EC	0.0735	lb ai/a	4.5	fl oz/a	R3	A								
17	FOLICUR	3.6	F	0.084	lb ai/a	3	fl oz/a	R3	A								
17	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A								
17	INTERLOCK	100	LIQ	2.0	fl oz/a	2	fl oz/a	R3	A								
18	TT 11002 NOZZLES									11.0	52.1	60	0	2	1	100	1.5
18	HEADLINE	2.09	EC	0.0735	lb ai/a	4.5	fl oz/a	R3	A								
18	FOLICUR	3.6	F	0.084	lb ai/a	3	fl oz/a	R3	A								
18	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A								
18	INTERLOCK	100	LIQ	2.0	fl oz/a	2	fl oz/a	R3	A								
LSD (P=.05)										0.40	0.67	6.0	0.0	0.7	0.6	28.7	0.93
Replicate F										1.694	2.352	7.632	0.000	1.219	0.881	1.238	3.634
Replicate Prob(F)										0.1799	0.0831	0.0003	1.0000	0.3124	0.4572	0.3054	0.0188
Treatment F										0.553	1.244	1.401	0.000	9.729	5.135	0.894	1.580
Treatment Prob(F)										0.9099	0.2670	0.1770	1.0000	0.0001	0.0001	0.5837	0.1051

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Weed Code		GLXMA	GLXMA
Crop Code		BROSPO	BROSPO
Rating Data Type		% Incid	Sever0-5
Rating Unit		09-09-05	09-09-05
Rating Date		43 DA-A	43 DA-A
Trt-Eval Interval			

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code		
1	NONTREATED									100	3.00
2	XR 11002 NOZZLES									100	2.50
2	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A		
2	ACTIVATOR 90	100	LIQ	0.125	% v/v	0.125	% v/v	R3	A		
3	XR 11002 NOZZLES									100	2.25
3	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A		
3	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A		
4	TT 11002 NOZZLES									100	2.50
4	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A		
4	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A		
5	XR 11002 NOZZLES									100	2.50
5	HEADLINE	2.09	EC	0.0735	lb ai/a	4.5	fl oz/a	R3	A		
5	FOLICUR	3.6	F	0.084	lb ai/a	3	fl oz/a	R3	A		
5	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A		
6	TT 11002 NOZZLES									100	2.25
6	HEADLINE	2.09	EC	0.0735	lb ai/a	4.5	fl oz/a	R3	A		
6	FOLICUR	3.6	F	0.084	lb ai/a	3	fl oz/a	R3	A		
6	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A		
7	XR 11002 NOZZLES									100	2.00
7	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A		
7	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A		
7	AMS	100	DRY	1.0	% w/w	8.5	lb/100 gal	R3	A		
8	TT 11002 NOZZLES									100	2.25
8	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A		
8	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A		
8	AMS	100	DRY	1.0	% w/w	8.5	lb/100 gal	R3	A		
9	XR 11002 NOZZLES									100	2.50
9	HEADLINE	2.09	EC	0.0735	lb ai/a	4.5	fl oz/a	R3	A		
9	FOLICUR	3.6	F	0.084	lb ai/a	3	fl oz/a	R3	A		
9	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A		
9	AMS	100	DRY	1.0	% w/w	8.5	lb/100 gal	R3	A		
10	TT 11002 NOZZLES									100	2.00
10	HEADLINE	2.09	EC	0.0735	lb ai/a	4.5	fl oz/a	R3	A		
10	FOLICUR	3.6	F	0.084	lb ai/a	3	fl oz/a	R3	A		
10	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A		
10	AMS	100	DRY	1.0	% w/w	8.5	lb/100 gal	R3	A		
11	XR 11002 NOZZLES									100	2.50
11	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A		
11	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A		
11	ARRAY	100	DRY	1.08	% w/w	9	lb/100 gal	R3	A		
12	TT 11002 NOZZLES									100	2.00
12	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A		
12	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A		
12	ARRAY	100	DRY	1.08	% w/w	9	lb/100 gal	R3	A		
13	XR 11002 NOZZLES									100	1.75
13	HEADLINE	2.09	EC	0.0735	lb ai/a	4.5	fl oz/a	R3	A		
13	FOLICUR	3.6	F	0.084	lb ai/a	3	fl oz/a	R3	A		
13	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A		
13	ARRAY	100	DRY	1.08	% w/w	9	lb/100 gal	R3	A		
14	TT 11002 NOZZLES									100	2.50
14	HEADLINE	2.09	EC	0.0735	lb ai/a	4.5	fl oz/a	R3	A		
14	FOLICUR	3.6	F	0.084	lb ai/a	3	fl oz/a	R3	A		
14	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A		
14	ARRAY	100	DRY	1.08	% w/w	9	lb/100 gal	R3	A		
15	XR 11002 NOZZLES									100	2.50
15	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A		
15	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A		
15	INTERLOCK	100	LIQ	2.0	fl oz/a	2	fl oz/a	R3	A		

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Weed Code											
Crop Code								GLXMA	GLXMA		
Rating Data Type								BROSPO	BROSPO		
Rating Unit								% Incid	Sever0-5		
Rating Date								09-09-05	09-09-05		
Trt-Eval Interval								43 DA-A	43 DA-A		

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code		
16	TT 11002 NOZZLES									100	2.25
16	HEADLINE	2.09	EC	0.1	lb ai/a	6	fl oz/a	R3	A		
16	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A		
16	INTERLOCK	100	LIQ	2.0	fl oz/a	2	fl oz/a	R3	A		
17	XR 11002 NOZZLES									100	2.50
17	HEADLINE	2.09	EC	0.0735	lb ai/a	4.5	fl oz/a	R3	A		
17	FOLICUR	3.6	F	0.084	lb ai/a	3	fl oz/a	R3	A		
17	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A		
17	INTERLOCK	100	LIQ	2.0	fl oz/a	2	fl oz/a	R3	A		
18	TT 11002 NOZZLES									100	2.25
18	HEADLINE	2.09	EC	0.0735	lb ai/a	4.5	fl oz/a	R3	A		
18	FOLICUR	3.6	F	0.084	lb ai/a	3	fl oz/a	R3	A		
18	ACTIVATOR 90	100	LIQ	0.25	% v/v	0.25	% v/v	R3	A		
18	INTERLOCK	100	LIQ	2.0	fl oz/a	2	fl oz/a	R3	A		
LSD (P=.05)										0.0	1.076
Replicate F										0.000	0.576
Replicate Prob(F)										1.0000	0.6332
Treatment F										0.000	0.559
Treatment Prob(F)										1.0000	0.9058

Trial Comments

1. Protocol: BASF.
2. Ratings: Disease incidence and severity at 21 DAT.
3. Application timing is R3 or earlier if needed as a preventative.
4. Yield.
5. Blanket preemergence application of Dual II + Firstate at 1.67 pt/A + 0.6 oz/A, followed by a postemergence application of Roundup Weathermax at 22 oz/A, plus handweeding as needed.
6. Plots were evaluated for disease incidence and severity at 21 and 28 DAT with little to no observable disease symptoms, probably due to hot and dry field conditions.
7. DA-A = Days after R3 application.
FROEYE = Frog eye leafspot. BROSPO = Septoria brown spot.
% Incid = Percent incidence. Sever0-5 and Sever0-9 = Severity, rating scales of 0-5 and 0-9, respectively.
8. Harvested 10-13-05, (2) 30 inch rows by 24 ft.