

Interaction of Soybean Fungicides with Raptor and Flexstar.

Project Code: 06-BP-RapFlex-Int Location: Brookport, IL  
Investigator: Bryan Young**Investigator:** Bryan Young, Associate Professor, Southern Illinois University**City State Zip Country:** Brookport IL 62910 USA  
**Trial Status:** Final **Updated:** 11-22-06**Objective:**

Determine any interaction of Raptor and Flexstar with soybean fungicides that may be possible tank-mixtures in non-GMO soybean.

**Crop 1:** GLXMA soybean **Variety:** FS4646 RR  
**Planting Method:** Seeded **Planting Date:** 6-16-06  
**Rate:** 60 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:** ZEAMX, 2005**APPLICATION DESCRIPTION****Application Date:** 7-24-06  
**Time of Day:** 9:00  
**Application Method:** Spray  
**Application Timing:** V5-V6  
**Applic. Placement:** BROFOL  
**Air Temp., Unit:** 82 F  
**% Relative Humidity:** 52  
**Wind Velocity, Unit:** 1-2 MPH  
**Dew Presence (Y/N):** N  
**% Cloud Cover:** 5**CROP STAGE AT EACH APPLICATION****Crop 1 Code, Stage:** GLXMA V5-V6  
**Height, Unit:** 8-10 IN**APPLICATION EQUIPMENT****Appl. Equipment:** CO2 sprayer  
**Operating Pressure:** 30-40 PSI  
**Nozzle Type:** Flat fan  
**Nozzle Size:** 8002  
**Boom Length, Unit:** 7.5 FT  
**Spray Volume, Unit:** 15 GPA**NOTES:**

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Weed Code	SIU	SIU	SIU	SIU	SIU	SIU	SIU	SIU
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
Rating Data Type	Moisture	Test wt.	Yield	Injury	Injury	Injury	Injury	FROEYE
Rating Unit	Percent	lb/bu	bu/A	Percent	Percent	Percent	Percent	Sever0-9
Rating Date	11-4-06	11-4-06	11-4-06	7-31-06	8-7-06	8-14-06	8-21-06	8-14-06
Trt-Eval Interval				7 DA-A	14 DA-A	21 DA-A	28 DA-A	21 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	SIU Moisture Percent	SIU Test wt. lb/bu	SIU Yield bu/A	SIU Injury Percent	SIU Injury Percent	SIU Injury Percent	SIU Injury Percent	SIU FROEYE Sever0-9
1	NONTREATED									13.4	52.8	42	0	0	0	0	0.10
2	RAPTOR	1 AS		0.0312	lb ai/a	4	fl oz/a	V5-V6	A	13.2	53.2	40	2	1	0	0	0.10
2	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A								
2	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A								
3	FLEXSTAR	1.88 EC		0.294	lb ai/a	20	fl oz/a	V5-V6	A	13.2	52.9	38	11	4	1	0	0.08
3	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A								
3	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A								
4	QUADRIS	2.08 F		0.0975	lb ai/a	6	fl oz/a	V5-V6	A	13.2	53.1	42	0	0	0	0	0.05
4	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A								
5	HEADLINE	2.09 EC		0.098	lb ai/a	6	fl oz/a	V5-V6	A	13.2	52.9	46	0	0	0	0	0.05
5	ACTIVATOR 90	100 LIQ		0.125	% v/v	0.125	% v/v	V5-V6	A								
6	FOLICUR	3.6 F		0.112	lb ai/a	4	fl oz/a	V5-V6	A	13.1	52.7	42	0	0	0	0	0.20
6	ACTIVATOR 90	100 LIQ		0.125	% v/v	0.125	% v/v	V5-V6	A								
7	BRAVO WEATHER STIK	6 L		0.94	lb ai/a	20	fl oz/a	V5-V6	A	13.1	52.8	43	0	0	0	0	0.05
8	RAPTOR	1 AS		0.0312	lb ai/a	4	fl oz/a	V5-V6	A	13.1	53.0	38	3	1	0	0	0.10
8	QUADRIS	2.08 F		0.0975	lb ai/a	6	fl oz/a	V5-V6	A								
8	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A								
8	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A								
9	RAPTOR	1 AS		0.0312	lb ai/a	4	fl oz/a	V5-V6	A	13.3	52.7	39	2	1	0	0	0.00
9	HEADLINE	2.09 EC		0.098	lb ai/a	6	fl oz/a	V5-V6	A								
9	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A								
9	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A								
10	RAPTOR	1 AS		0.0312	lb ai/a	4	fl oz/a	V5-V6	A	13.3	53.0	42	2	0	0	0	0.10
10	FOLICUR	3.6 F		0.112	lb ai/a	4	fl oz/a	V5-V6	A								
10	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A								
10	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A								
11	RAPTOR	1 AS		0.0312	lb ai/a	4	fl oz/a	V5-V6	A	13.3	53.0	37	4	1	0	0	0.08
11	BRAVO WEATHER STIK	6 L		0.94	lb ai/a	20	fl oz/a	V5-V6	A								
11	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A								
11	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A								
12	FLEXSTAR	1.88 EC		0.294	lb ai/a	20	fl oz/a	V5-V6	A	13.2	53.2	38	11	5	2	0	0.08
12	QUADRIS	2.08 F		0.0975	lb ai/a	6	fl oz/a	V5-V6	A								
12	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A								
12	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A								
13	FLEXSTAR	1.88 EC		0.294	lb ai/a	20	fl oz/a	V5-V6	A	13.3	52.9	41	9	5	2	1	0.03
13	HEADLINE	2.09 EC		0.098	lb ai/a	6	fl oz/a	V5-V6	A								
13	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A								
13	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A								
14	FLEXSTAR	1.88 EC		0.294	lb ai/a	20	fl oz/a	V5-V6	A	13.1	53.2	42	11	6	3	2	0.08
14	FOLICUR	3.6 F		0.112	lb ai/a	4	fl oz/a	V5-V6	A								
14	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A								
14	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A								
15	FLEXSTAR	1.88 EC		0.294	lb ai/a	20	fl oz/a	V5-V6	A	13.0	53.1	40	15	7	3	1	0.05
15	BRAVO WEATHER STIK	6 L		0.94	lb ai/a	20	fl oz/a	V5-V6	A								
15	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A								
15	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A								
LSD (P=.05)										0.53	0.62	6.7	1.3	1.0	0.8	0.5	0.096
Replicate F										0.274	3.434	5.505	0.356	1.714	0.078	1.672	0.734
Replicate Prob(F)										0.8435	0.0253	0.0028	0.7848	0.1786	0.9715	0.1876	0.5378
Treatment F										0.299	0.661	1.074	133.862	58.429	18.251	13.925	1.838
Treatment Prob(F)										0.9913	0.7977	0.4064	0.0001	0.0001	0.0001	0.0001	0.0645

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	SIU GLXMA BROSPO Sever0-5 8-14-06 21 DA-A	SIU GLXMA SDS Sever0-9 8-14-06 21 DA-A	SIU GLXMA DOWMIL Sever0-5 8-14-06 21 DA-A	U of I GLXMA Injury Percent 7-28-06 9 DAT	U of I GLXMA Injury Percent 8-23-06 35 DAT	U of I GLXMA Yield bu/A 10-23-06
1	NONTREATED									0.00	0.00	1.75	0	0	63
2	RAPTOR	1 AS		0.0312	lb ai/a	4	fl oz/a	V5-V6	A	0.25	0.00	2.50	4	0	56
2	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A						
2	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A						
3	FLEXSTAR	1.88 EC		0.294	lb ai/a	20	fl oz/a	V5-V6	A	0.25	0.00	2.00	5	0	59
3	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A						
3	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A						
4	QUADRIS	2.08 F		0.0975	lb ai/a	6	fl oz/a	V5-V6	A	0.00	0.00	1.75	0	0	67
4	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A						
5	HEADLINE	2.09 EC		0.098	lb ai/a	6	fl oz/a	V5-V6	A	0.00	0.00	2.00	0	0	63
5	ACTIVATOR 90	100 LIQ		0.125	% v/v	0.125	% v/v	V5-V6	A						
6	FOLICUR	3.6 F		0.112	lb ai/a	4	fl oz/a	V5-V6	A	0.00	0.00	2.25	1	0	63
6	ACTIVATOR 90	100 LIQ		0.125	% v/v	0.125	% v/v	V5-V6	A						
7	BRAVO WEATHER STIK	6 L		0.94	lb ai/a	20	fl oz/a	V5-V6	A	0.00	0.00	1.75	0	0	61
8	RAPTOR	1 AS		0.0312	lb ai/a	4	fl oz/a	V5-V6	A	0.00	0.00	1.75	5	0	60
8	QUADRIS	2.08 F		0.0975	lb ai/a	6	fl oz/a	V5-V6	A						
8	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A						
8	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A						
9	RAPTOR	1 AS		0.0312	lb ai/a	4	fl oz/a	V5-V6	A	0.00	0.00	2.00	3	0	60
9	HEADLINE	2.09 EC		0.098	lb ai/a	6	fl oz/a	V5-V6	A						
9	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A						
9	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A						
10	RAPTOR	1 AS		0.0312	lb ai/a	4	fl oz/a	V5-V6	A	0.25	0.00	1.75	6	0	62
10	FOLICUR	3.6 F		0.112	lb ai/a	4	fl oz/a	V5-V6	A						
10	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A						
10	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A						
11	RAPTOR	1 AS		0.0312	lb ai/a	4	fl oz/a	V5-V6	A	0.25	0.00	1.50	8	0	55
11	BRAVO WEATHER STIK	6 L		0.94	lb ai/a	20	fl oz/a	V5-V6	A						
11	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A						
11	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A						
12	FLEXSTAR	1.88 EC		0.294	lb ai/a	20	fl oz/a	V5-V6	A	0.00	0.00	2.25	8	0	61
12	QUADRIS	2.08 F		0.0975	lb ai/a	6	fl oz/a	V5-V6	A						
12	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A						
12	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A						
13	FLEXSTAR	1.88 EC		0.294	lb ai/a	20	fl oz/a	V5-V6	A	0.00	0.00	1.75	7	0	64
13	HEADLINE	2.09 EC		0.098	lb ai/a	6	fl oz/a	V5-V6	A						
13	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A						
13	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A						
14	FLEXSTAR	1.88 EC		0.294	lb ai/a	20	fl oz/a	V5-V6	A	0.00	0.00	2.00	7	0	60
14	FOLICUR	3.6 F		0.112	lb ai/a	4	fl oz/a	V5-V6	A						
14	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A						
14	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A						
15	FLEXSTAR	1.88 EC		0.294	lb ai/a	20	fl oz/a	V5-V6	A	0.25	0.00	1.75	8	0	59
15	BRAVO WEATHER STIK	6 L		0.94	lb ai/a	20	fl oz/a	V5-V6	A						
15	PRIME OIL COC	100 LIQ		1.0	% v/v	1	% v/v	V5-V6	A						
15	28% UAN	100 LIQ		2.5	% v/v	2.5	% v/v	V5-V6	A						
LSD (P=.05)										0.384	0.000	0.974	1.9	0.0	4.0
Replicate F										3.308	0.000	0.897	2.729	0.000	15.819
Replicate Prob(F)										0.0291	1.0000	0.4505	0.0559	1.0000	0.0001
Treatment F										0.824	0.000	0.590	21.646	0.000	4.826
Treatment Prob(F)										0.6399	1.0000	0.8577	0.0001	1.0000	0.0001

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Trial Comments

1. Protocol: ISA.
2. Ratings: Crop response 7, 14, and 28 DAT; disease control at 21 DAT.
3. Yield - (seed quality?).
4. Blanket application and weed-free.  
Blanket POST application of Sequence (3 pt/A) + Firstrate (0.3 oz/A) + AMS (8.5 lb/100 gal) applied to V2-V3 soybean on 7-11-06.
5. DA-A = Days after V5-V6 application.
6. FROEYE = Frog eye leafspot. BROSPPO = Septoria brown spot. SDS = Soybean sudden death syndrome.  
DOWMIL = downy mildew.  
Sever0-5 and Sever0-9 = Severity, rating scales of 0-5 and 0-9, respectively.  
Study was conducted at multiple locations. SIU = Southern Illinois University. U of I = University of Illinois.
7. Harvested 11-4-06, (2) 30 inch rows by 25 ft.