

Star-of-Bethlehem Control in a Corn/Soybean Rotation.

Project Code: 03-Dahmer-N100 Location: Marion, IL
Investigator: Bryan Young

Investigator: Bryan Young, Associate Professor, Southern Illinois University

City State Zip Country: Marion IL 62959 USA
Trial Status: Final Updated: 8-4-04

Objective:

Determine the effectiveness of a corn/soybean rotation on control of star-of-Bethlehem.

Weed Code	Common Name	Scientific Name
1. OTGUM	star-of-Bethlehem	Ornithogalum umbellatum L.
2. LAMPU	deadnettle, purple	Lamium purpureum L.

Crop 1: ZEAMX corn, field
Planting Method: Seeded
Row Spacing: 30 IN

Crop 2: GLXMA soybean
Planting Method: Seeded
Row Spacing: 30 IN

Plot Width, Unit: 10 FT Plot Length, Unit: 30 FT Reps: 4
Tillage Type: No-Till Study Design: Randomized complete block

Field Prep./Maintenance: N ___ LB/A, P205 ___ LB/A, K2O ___ LB/A in 2002
N ___ LB/A, P205 ___ LB/A, K2O ___ LB/A in 2003

APPLICATION DESCRIPTION

	A	B
Application Date:	4-11-02	4-18-03
Time of Day:	16:30	9:00
Application Method:	Spray	Spray
Application Timing:	28EPP-1	28EPP-2
Applic. Placement:	BROFOL	BROFOL
Air Temp., Unit:	78 F	53 F
% Relative Humidity:	22	85
Wind Velocity, Unit:	3-5 MPH	1-2 MPH
Dew Presence (Y/N):	N	Y
Soil Temp., Unit:	60 F	57 F
Soil Moisture:	NORMAL	ABONOR
% Cloud Cover:	20	100

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMX NA	ZEAMX NA
Height, Unit:	NA NA	NA NA
Crop 2 Code, Stage:	GLXMA NA	GLXMA NA
Height, Unit:	NA NA	NA NA

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code:	OTGUM	OTGUM
Stage(leaves):	5-6	20+
Height(inches):	6-8	6-8
Density:	High	High
Weed 2 Code:	LAMPU	
Stage(leaves):	16-20	
Height(inches):	6-12	
Density:	High	

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	CO2 sprayer	CO2 sprayer
Operating Pressure:	40 PSI	40 PSI
Nozzle Type:	Flat fan	Flat fan
Nozzle Size:	8003	8003
Boom Length, Unit:	7.5 FT	7.5 FT
Spray Volume, Unit:	20 GPA	20 GPA

NOTES:

Not harvested.

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									LAMPU	OTGUM	OTGUM	OTGUM	OTGUM	OTGUM	OTGUM	OTGUM	OTGUM	OTGUM
Weed Code									Control	Control	Control	Control	Control	SMABUL	MEDBUL	LARBUL	TOTBUL	
Crop Code									Percent	Percent	Percent	Percent	Percent	mil/A	mil/A	mil/A	mil/A	
Rating Data Type									4-25-02	4-25-02	3-24-03	5-2-03	4-15-04	4-15-04	4-15-04	4-15-04	4-15-04	
Rating Unit									14 DA-A	14 DA-A	347 DA-A	14 DA-B	363 DA-B	363 DA-B	363 DA-B	363 DA-B	363 DA-B	
Rating Date																		
Trt-Eval Interval																		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code									
1	CORN IN 2002									0	0	0	0	0	3.33	10.87	10.87	25.08
1	NONTREATED																	
1	SOYBEAN IN 2003																	
1	NONTREATED																	
2	CORN IN 2002									38	39	15	43	5				
2	ROUNDUP ULTRA MAX	3.7	SL	0.375	LB AE/A	13	OZ/A	28EPP-1 A										
2	AMS	100	DRY	2.0	% W/W	2	% W/W	28EPP-1 A										
2	SOYBEAN IN 2003																	
2	ROUNDUP ULTRA MAX	3.7	SL	0.375	LB AE/A	13	OZ/A	28EPP-2 B										
2	AMS	100	DRY	2.0	% W/W	2	% W/W	28EPP-2 B										
3	CORN IN 2002									75	48	15	54	6	1.80	9.71	12.23	23.74
3	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	28EPP-1 A										
3	AMS	100	DRY	2.0	% W/W	2	% W/W	28EPP-1 A										
3	SOYBEAN IN 2003																	
3	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	28EPP-2 B										
3	AMS	100	DRY	2.0	% W/W	2	% W/W	28EPP-2 B										
4	CORN IN 2002									80	55	29	63	18				
4	ROUNDUP ULTRA MAX	3.7	SL	1.13	LB AE/A	39	OZ/A	28EPP-1 A										
4	AMS	100	DRY	2.0	% W/W	2	% W/W	28EPP-1 A										
4	SOYBEAN IN 2003																	
4	ROUNDUP ULTRA MAX	3.7	SL	1.13	LB AE/A	39	OZ/A	28EPP-2 B										
4	AMS	100	DRY	2.0	% W/W	2	% W/W	28EPP-2 B										
5	CORN IN 2002									90	50	16	51	26				
5	ROUNDUP ULTRA MAX	3.7	SL	1.5	LB AE/A	52	OZ/A	28EPP-1 A										
5	AMS	100	DRY	2.0	% W/W	2	% W/W	28EPP-1 A										
5	SOYBEAN IN 2003																	
5	ROUNDUP ULTRA MAX	3.7	SL	1.5	LB AE/A	52	OZ/A	28EPP-2 B										
5	AMS	100	DRY	2.0	% W/W	2	% W/W	28EPP-2 B										
6	CORN IN 2002									35	48	3	3	0				
6	SALVO	5	EC	0.5	LB AE/A	12.8	OZ/A	28EPP-1 A										
6	SOYBEAN IN 2003																	
6	SALVO	5	EC	0.5	LB AE/A	12.8	OZ/A	28EPP-2 B										
7	CORN IN 2002									43	54	3	0	0	3.94	15.39	9.44	28.77
7	SALVO	5	EC	1.0	LB AE/A	25.6	OZ/A	28EPP-1 A										
7	SOYBEAN IN 2003																	
7	SALVO	5	EC	1.0	LB AE/A	25.6	OZ/A	28EPP-2 B										
8	CORN IN 2002									48	54	1	8	0				
8	SALVO	5	EC	1.5	LB AE/A	38.4	OZ/A	28EPP-1 A										
8	SOYBEAN IN 2003																	
8	SALVO	5	EC	1.5	LB AE/A	38.4	OZ/A	28EPP-2 B										
9	CORN IN 2002									75	68	0	6	0				
9	SALVO	5	EC	2.0	LB AE/A	51	OZ/A	28EPP-1 A										
9	SOYBEAN IN 2003																	
9	SALVO	5	EC	2.0	LB AE/A	51	OZ/A	28EPP-2 B										

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									LAMPU	OTGUM	OTGUM	OTGUM	OTGUM	OTGUM	OTGUM	OTGUM	OTGUM
Weed Code									Control	Control	Control	Control	Control	SMABUL	MEDBUL	LARBUL	TOTBUL
Crop Code									Percent	Percent	Percent	Percent	Percent	mil/A	mil/A	mil/A	mil/A
Rating Data Type									4-25-02	4-25-02	3-24-03	5-2-03	4-15-04	4-15-04	4-15-04	4-15-04	4-15-04
Rating Unit									14 DA-A	14 DA-A	347 DA-A	14 DA-B	363 DA-B	363 DA-B	363 DA-B	363 DA-B	363 DA-B
Rating Date																	
Trt-Eval Interval																	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code								
10	CORN IN 2002									97	97	70	99	96			
10	GRAMOXONE MAX	3	SL	0.5	LB A/A	1.33	PT/A	28EPP-1	A								
10	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP-1	A								
10	SOYBEAN IN 2003																
10	GRAMOXONE MAX	3	SL	0.5	LB A/A	1.33	PT/A	28EPP-2	B								
10	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP-2	B								
11	CORN IN 2002									99	99	86	99	95	0.14	1.26	1.51
11	GRAMOXONE MAX	3	SL	0.75	LB A/A	2	PT/A	28EPP-1	A								
11	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP-1	A								
11	SOYBEAN IN 2003																
11	GRAMOXONE MAX	3	SL	0.75	LB A/A	2	PT/A	28EPP-2	B								
11	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP-2	B								
12	CORN IN 2002									99	99	89	99	96			
12	GRAMOXONE MAX	3	SL	1.0	LB A/A	2.67	PT/A	28EPP-1	A								
12	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP-1	A								
12	SOYBEAN IN 2003																
12	GRAMOXONE MAX	3	SL	1.0	LB A/A	2.67	PT/A	28EPP-2	B								
12	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP-2	B								
13	CORN IN 2002									95	70	0	6	0			
13	AATREX	90	WG	2.0	LB A/A	2.22	LB/A	28EPP-1	A								
13	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	28EPP-1	A								
13	SOYBEAN IN 2003																
13	NONTREATED																
14	CORN IN 2002									66	44	1	3	0			
14	BALANCE PRO	4	SC	0.117	LB A/A	3.74	OZ/A	28EPP-1	A								
14	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	28EPP-1	A								
14	SOYBEAN IN 2003																
14	NONTREATED																
15	CORN IN 2002									86	51	9	10	0			
15	CALLISTO	4	SC	0.188	LB A/A	6	OZ/A	28EPP-1	A								
15	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	28EPP-1	A								
15	28% UAN	100	LIQ	2.5	% V/V	2.5	% V/V	28EPP-1	A								
15	SOYBEAN IN 2003																
15	NONTREATED																
16	CORN IN 2002									21	31	5	4	0			
16	HORNET	68.5	WG	0.213	LB A/A	5	OZ/A	28EPP-1	A								
16	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	28EPP-1	A								
16	28% UAN	100	LIQ	2.5	% V/V	2.5	% V/V	28EPP-1	A								
16	SOYBEAN IN 2003																
16	NONTREATED																

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Weed Code	LAMPU	OTGUM	OTGUM	OTGUM	OTGUM	OTGUM	OTGUM	OTGUM	OTGUM
Crop Code									
Rating Data Type	Control	Control	Control	Control	Control	SMABUL	MEDBUL	LARBUL	TOTBUL
Rating Unit	Percent	Percent	Percent	Percent	Percent	mil/A	mil/A	mil/A	mil/A
Rating Date	4-25-02	4-25-02	3-24-03	5-2-03	4-15-04	4-15-04	4-15-04	4-15-04	4-15-04
Trt-Eval Interval	14 DA-A	14 DA-A	347 DA-A	14 DA-B	363 DA-B	363 DA-B	363 DA-B	363 DA-B	363 DA-B

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code										
17	CORN IN 2002									40	36	0	13	0					
17	BASIS	75	WG	0.047	LB A/A	1	OZ/A	28EPP-1	A										
17	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	28EPP-1	A										
17	28% UAN	100	LIQ	2.5	% V/V	2.5	% V/V	28EPP-1	A										
17	SOYBEAN IN 2003																		
17	NONTREATED																		
18	CORN IN 2002									95	75	0	15	0					
18	SENCOR	75	WG	0.25	LB A/A	5.33	OZ/A	28EPP-1	A										
18	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	28EPP-1	A										
18	SOYBEAN IN 2003																		
18	SENCOR	75	WG	0.25	LB A/A	5.33	OZ/A	28EPP-2	B										
18	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	28EPP-2	B										
19	CORN IN 2002									40	41	8	5	6					
19	HARMONY GT	75	WG	0.028	LB A/A	0.6	OZ/A	28EPP-1	A										
19	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP-1	A										
19	SOYBEAN IN 2003																		
19	HARMONY GT	75	WG	0.028	LB A/A	0.6	OZ/A	28EPP-2	B										
19	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP-2	B										
20	CORN IN 2002									55	39	25	39	3					
20	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	28EPP-1	A										
20	HARMONY GT	75	WG	0.028	LB A/A	0.6	OZ/A	28EPP-1	A										
20	AMS	100	DRY	2.0	% W/W	2	% W/W	28EPP-1	A										
20	SOYBEAN IN 2003																		
20	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	28EPP-2	B										
20	HARMONY GT	75	WG	0.028	LB A/A	0.6	OZ/A	28EPP-2	B										
20	AMS	100	DRY	2.0	% W/W	2	% W/W	28EPP-2	B										
21	CORN IN 2002									66	56	0	4	0					
21	SALVO	5	EC	1.0	LB AE/A	25.6	OZ/A	28EPP-1	A										
21	HARMONY GT	75	WG	0.028	LB A/A	0.6	OZ/A	28EPP-1	A										
21	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP-1	A										
21	SOYBEAN IN 2003																		
21	SALVO	5	EC	1.0	LB AE/A	25.6	OZ/A	28EPP-2	B										
21	HARMONY GT	75	WG	0.028	LB A/A	0.6	OZ/A	28EPP-2	B										
21	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP-2	B										
22	CORN IN 2002									99	99	83	99	94					
22	GRAMOXONE MAX	3	SL	0.75	LB A/A	2	PT/A	28EPP-1	A										
22	HARMONY GT	75	WG	0.028	LB A/A	0.6	OZ/A	28EPP-1	A										
22	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP-1	A										
22	SOYBEAN IN 2003																		
22	GRAMOXONE MAX	3	SL	0.75	LB A/A	2	PT/A	28EPP-2	B										
22	HARMONY GT	75	WG	0.028	LB A/A	0.6	OZ/A	28EPP-2	B										
22	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP-2	B										

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Weed Code Crop Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									LAMPU	OTGUM	OTGUM	OTGUM	OTGUM	OTGUM	OTGUM	OTGUM	OTGUM
									Control Percent 4-25-02 14 DA-A	Control Percent 4-25-02 14 DA-A	Control Percent 3-24-03 347 DA-A	Control Percent 5-2-03 14 DA-B	Control Percent 4-15-04 363 DA-B	SMABUL mil/A 4-15-04 363 DA-B	MEDBUL mil/A 4-15-04 363 DA-B	LARBUL mil/A 4-15-04 363 DA-B	TOTBUL mil/A 4-15-04 363 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code								
23	CORN IN 2002									51	59	5	33	0			
23	ROUNDUP ULTRA MAX	3.7	SL	0.375	LB AE/A	13	OZ/A	28EPP-1	A								
23	SALVO	5	EC	0.5	LB AE/A	12.8	OZ/A	28EPP-1	A								
23	AMS	100	DRY	2.0	% W/W	2	% W/W	28EPP-1	A								
23	SOYBEAN IN 2003																
23	ROUNDUP ULTRA MAX	3.7	SL	0.375	LB AE/A	13	OZ/A	28EPP-2	B								
23	SALVO	5	EC	0.5	LB AE/A	12.8	OZ/A	28EPP-2	B								
23	AMS	100	DRY	2.0	% W/W	2	% W/W	28EPP-2	B								
24	CORN IN 2002									99	99	78	99	94			
24	GRAMOXONE MAX	3	SL	0.75	LB A/A	2	PT/A	28EPP-1	A								
24	SALVO	5	EC	0.5	LB AE/A	12.8	OZ/A	28EPP-1	A								
24	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP-1	A								
24	SOYBEAN IN 2003																
24	GRAMOXONE MAX	3	SL	0.75	LB A/A	2	PT/A	28EPP-2	B								
24	SALVO	5	EC	0.5	LB AE/A	12.8	OZ/A	28EPP-2	B								
24	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP-2	B								
LSD (P=.05)									19.6	14.0	14.1	20.0	6.1	1.691	5.332	6.157	7.830
Replicate F									0.599	8.930	4.239	0.282	2.310	1.818	3.991	0.391	1.479
Replicate Prob(F)									0.6181	0.0001	0.0083	0.8384	0.0839	0.2141	0.0462	0.7627	0.2849
Treatment F									17.226	26.417	40.844	28.862	315.054	10.317	12.519	6.236	22.738
Treatment Prob(F)									0.0001	0.0001	0.0001	0.0001	0.0001	0.0029	0.0015	0.0141	0.0002

Trial Comments

1. Protocol: SIU (BGY).
2. Ratings: WC 14 and 28 DAT, control next spring, take bulb density counts in the fall.
3. At 28 DA-A on 5-9-02, star-of-Bethlehem was not rated due to advanced maturity and senescence in nontreated areas making herbicide evaluations unreliable.
4. At 28 DA-B on 5-16-03, star-of-Bethlehem was not rated due to advanced maturity and senescence in nontreated areas making herbicide evaluations unreliable.
5. DA-A and DA-B = days after 28EPP-1 and 28EPP-2 applications, respectively.
6. SMABUL = Small bulbs (0.5 cm and smaller). MEDBUL = Medium sized bulbs (0.5 to 1.0 cm). LARBUL = Large bulbs (greater than 1.0 cm). TOTBUL = Total bulbs (any size). mil/A = million/A.