

Influence of Application Timing for Star-of-Bethlehem Control.

Project Code: 04-Dahmer-E Location: Marion, IL

Investigator: Bryan Young

Investigator: Bryan Young, Associate Professor, Southern Illinois University

City State Zip Country: Marion IL 62959 USA
 Trial Status: Established Updated: 9-1-04

Objective:

Evaluate the influence of herbicide application timing for burndown control of star-of-Bethlehem.

Weed Code Common Name Scientific Name
 1. OTGUM star-of-Bethlehem *Ornithogalum umbellatum* L.

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

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3
 Tillage Type: No-Till Study Design: Randomized complete block
 Previous Crop, Year: _____, 2003

Field Prep./Maintenance: N ____ LB/A, P205 ____ LB/A, K2O ____ LB/A

APPLICATION DESCRIPTION

	A	B	C
Application Date:	3-2-04	3-21-04	4-14-04
Time of Day:	9:00	9:00	9:00
Application Method:	Spray	Spray	Spray
Application Timing:	MARCH1	MARCH21	APRIL11
Applic. Placement:	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	53 F	43 F	58 F
% Relative Humidity:	52	34	34
Wind Velocity, Unit:	2-5 MPH	2-5 MPH	0-3 MPH
Dew Presence (Y/N):	N	N	N
Soil Temp., Unit:	45 F	46 F	48 F
Soil Moisture:	ABONOR	ABONOR	ABONOR
% Cloud Cover:	5	0	0

CROP STAGE AT EACH APPLICATION

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

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code:	OTGUM	OTGUM	OTGUM
Stage(leaves):	2-4	2-6	2-6
Height(inches):	1-3	3-6	4-10
Density:	High	High	High

APPLICATION EQUIPMENT

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

NOTES:

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Crop Code	Control	Control	Control	Plants	Plants	Plants	SMABUL	MEDBUL	LARBUL	TOTBUL
Rating Data Type	Percent	Percent	Percent	mil/A	mil/A	mil/A	mil/A	mil/A	mil/A	mil/A
Rating Unit	21 DAT	42 DAT	5-4-04	21 DAT	42 DAT	5-4-04	5-4-04	5-4-04	5-4-04	5-4-04
Rating Date	0 DAP	0 DAP	0 DAP	0 DAP	0 DAP	0 DAP	0 DAP	0 DAP	0 DAP	0 DAP
Trt-Eval Interval	21 DAT	42 DAT	0 DAP	21 DAT	42 DAT	0 DAP	5-4-04	5-4-04	5-4-04	5-4-04

Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code										
1	NONTREATED								0	0	0	2.68	3.04	3.52	18.54	25.08	3.13	46.75
2	GRAMOXONE MAX	3	SL	0.75 LB AE/A	2	PT/A	MARCH1	A	47	30	12	3.68	3.66	3.88	12.07	12.26	0.41	24.75
2	ACTIVATOR 90	100	LIQ	0.25 % V/V	0.25	% V/V	MARCH1	A										
3	ROUNDUP W-MAX	4.5	SL	0.77 LB AE/A	22	FL OZ/A	MARCH1	A	8	0	0	3.50	3.44	3.90				
4	VALOR	51	WG	0.08 LB A/A	2.5	OZ/A	MARCH1	A	52	40	0	2.27	2.17	2.37	27.17	20.45	1.06	48.68
4	PRIME OIL COC	100	LIQ	1.0 % V/V	1	% V/V	MARCH1	A										
5	GRAMOXONE MAX	3	SL	0.75 LB AE/A	2	PT/A	MARCH1	A	62	47	27	1.83	1.27	1.52				
5	VALOR	51	WG	0.08 LB A/A	2.5	OZ/A	MARCH1	A										
5	PRIME OIL COC	100	LIQ	1.0 % V/V	1	% V/V	MARCH1	A										
6	ROUNDUP W-MAX	4.5	SL	0.77 LB AE/A	22	FL OZ/A	MARCH1	A	53	48	3	2.04	1.84	1.64				
6	VALOR	51	WG	0.08 LB A/A	2.5	OZ/A	MARCH1	A										
7	GRAMOXONE MAX	3	SL	0.75 LB AE/A	2	PT/A	MARCH21	B	73	40	40	2.94	2.02	2.02	17.49	10.00	0.10	27.59
7	ACTIVATOR 90	100	LIQ	0.25 % V/V	0.25	% V/V	MARCH21	B										
8	ROUNDUP W-MAX	4.5	SL	0.77 LB AE/A	22	FL OZ/A	MARCH21	B	10	3	3	2.74	2.61	2.61				
9	VALOR	51	WG	0.08 LB A/A	2.5	OZ/A	MARCH21	B	73	57	57	3.10	2.33	2.33	25.58	23.15	0.68	49.41
9	PRIME OIL COC	100	LIQ	1.0 % V/V	1	% V/V	MARCH21	B										
10	GRAMOXONE MAX	3	SL	0.75 LB AE/A	2	PT/A	MARCH21	B	83	67	67	2.62	1.89	1.89				
10	VALOR	51	WG	0.08 LB A/A	2.5	OZ/A	MARCH21	B										
10	PRIME OIL COC	100	LIQ	1.0 % V/V	1	% V/V	MARCH21	B										
11	ROUNDUP W-MAX	4.5	SL	0.77 LB AE/A	22	FL OZ/A	MARCH21	B	78	67	67	2.74	1.84	1.84				
11	VALOR	51	WG	0.08 LB A/A	2.5	OZ/A	MARCH21	B										
12	GRAMOXONE MAX	3	SL	0.75 LB AE/A	2	PT/A	APRIL11	C	99		99	2.81		2.81	19.35	18.25	0.41	38.02
12	ACTIVATOR 90	100	LIQ	0.25 % V/V	0.25	% V/V	APRIL11	C										
13	ROUNDUP W-MAX	4.5	SL	0.77 LB AE/A	22	FL OZ/A	APRIL11	C	3		3	3.05		3.05				
14	VALOR	51	WG	0.08 LB A/A	2.5	OZ/A	APRIL11	C	91		91	1.60		1.60	19.58	23.23	2.16	44.97
14	PRIME OIL COC	100	LIQ	1.0 % V/V	1	% V/V	APRIL11	C										
15	GRAMOXONE MAX	3	SL	0.75 LB AE/A	2	PT/A	APRIL11	C	99		99	1.99		2.25				
15	VALOR	51	WG	0.08 LB A/A	2.5	OZ/A	APRIL11	C										
15	PRIME OIL COC	100	LIQ	1.0 % V/V	1	% V/V	APRIL11	C										
16	ROUNDUP W-MAX	4.5	SL	0.77 LB AE/A	22	FL OZ/A	APRIL11	C	99		99	2.96		2.96				
16	VALOR	51	WG	0.08 LB A/A	2.5	OZ/A	APRIL11	C										
LSD (P=.05)									5.5	9.1	7.9	1.945	1.586	1.433	14.112	8.084	0.886	21.356
Replicate F									1.777	0.421	0.416	3.641	7.302	2.182	0.095	0.301	0.829	0.200
Replicate Prob(F)									0.1864	0.6620	0.6636	0.0384	0.0042	0.1304	0.9104	0.7458	0.4599	0.8215
Treatment F									344.546	65.658	220.061	0.743	1.896	2.477	1.227	4.872	14.795	2.168
Treatment Prob(F)									0.0001	0.0001	0.0001	0.7238	0.1072	0.0168	0.3580	0.0096	0.0001	0.1196

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Trial Comments

- 1. Protocol: ISPOB.
- 2. Ratings:
WC (overall, weeds present at application, and new emergence) all plots 21 DAT and at planting, bulb counts at planting, emergence, and density as (2) 0.0625 square meter quadrants (one forth of a quarter meter squared), remove bulbs from soil and evaluate mushiness, photos.
- 3. DAT = Days after treatment. DAP = Days after planting. 0 DAP = at planting. mil/A = million/A.
Ratings at 21 days after the MARCH1, MARCH21, and APRIL11 applications were on 3-22-04, 4-14-04, and 5-4-04, respectively.
Ratings at 42 days after the MARCH1 and MARCH21 applications were on 4-14-04 and 5-4-04, respectively.
Ratings on 5-4-04, at planting, were 63, 42, and 21 days after the MARCH1, MARCH21, and APRIL11 applications, respectively.
- 4. 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.