

Control of Downy Brome in Winter Wheat.

02-OS-Brome

OBJECTIVE: Evaluate conventional and experimental herbicides for downy brome control in winter wheat.

SUMMARY: This study was designed to evaluate downy brome control from fall and spring applications of Olympus, Maverick, Harmony Extra, and various tank mixtures with these products. Wheat injury was 0 to 1% from all fall herbicide applications except Raptor from which 90% injury was observed on April 26. Wheat injury was expected from Raptor since this wheat variety is not imidazolinone tolerant. Spring herbicide applications caused 0 to 5% wheat injury with the greatest injury from Olympus plus Harmony Extra (5%). A preemergence application of Roundup UltraMax controlled 99% of downy brome at 14 and 28 days after treatment (DAT) and control was 78% from this treatment on April 26. Fall applications of Olympus and Maverick controlled 64 to 68% of downy brome at 28 DAT and only 8 to 27% of downy brome on April 26. Downy brome control from fall applied Raptor was 45% on April 26. Tank mixing Sencor or Harmony GT with fall applications of Maverick reduced downy brome control on April 26. Downy brome control on April 26 (28 days after spring herbicide treatments) was 70 and 50% from spring applications of Olympus and Maverick, respectively. None of the herbicide treatments evaluated controlled greater than 78% of downy brome on April 26.

HERBICIDES

HARMONY EXTRA 75 WG
HARMONY GT 75 WG
MAVERICK 75 WG
OLYMPUS 70 WG
RAPTOR 1 AS
ROUNDUP ULTRA MAX 3.7 SL
SENCOR 75 WG

WEEDS

brome, downy

CROP

wheat, winter

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Control of Downy Brome in Winter Wheat.

Project Code: 02-OS-Brome Location: White Co.

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
 Trial Status: Final Updated: 11-6-02

Objective:

Evaluate conventional and experimental herbicides for downy brome control in winter wheat.

Weed Code Common Name Scientific Name
 1. BROTE brome, downy Bromus tectorum L.

Crop 1: TRZAW wheat, winter Variety: Roane
 Planting Method: Seeded Planting Date: 11-1-01
 Rate: 150 lb/A Depth: 1.0 IN
 Row Spacing: 7.5 IN

Plot Width, Unit: 10 FT Plot Length, Unit: 30 FT Reps: 4
 Tillage Type: No-Till Study Design: Randomized complete block
 Previous Crop, Year: GLXMA, 2001

APPLICATION DESCRIPTION

	A	B	C
Application Date:	11-8-01	12-1-01	3-29-02
Time of Day:	9:00	12:00	10:00
Application Method:	Spray	Spray	Spray
Application Timing:	PRE	FALL	SPRING
Applic. Placement:	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	51 F	45 F	55 F
Wind Velocity, Unit:	5 MPH	1-2 MPH	3-5 MPH
Dew Presence (Y/N):	N	N	N
Soil Moisture:	NORMAL	ABONOR	ABONOR
% Cloud Cover:	25	0	90

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	TRZAW NA	TRZAW F2-F3	TRZAW F4-F5
Height, Unit:	NA NA	2-3 IN	6-8 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code:	BROTE	BROTE	BROTE
Stage(leaves):	2-3	3-4	4-6
Height(inches):	2-3	3-4	4-8
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:	8002	8002	8002
Boom Length, Unit:	7.5 FT	7.5 FT	7.5 FT
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

NOTES:

This study was not harvested.

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									BROTE BROTE BROTE						
									TRZAW	TRZAW	TRZAW	BROTE	BROTE	BROTE	
									Injury	Injury	Injury	Control	Control	Control	
									Percent	Percent	Percent	Percent	Percent	Percent	
									4-26-02			4-26-02			
									14 DAT	28 DAT		14 DAT	28 DAT		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code						
1	ROUNDUP ULTRA MAX	3.7	SL	0.375	LB AE/A	13	OZ/A	PRE	A	0	0	0	99	99	78
2	OLYMPUS	70	WG	0.04	LB A/A	0.914	OZ/A	FALL	B	0	0	0	30	68	8
2	ACTIVATOR 90	100	LIQ	0.50	% V/V	0.5	%V/V	FALL	B						
3	MAVERICK	75	WG	0.03125	LB A/A	0.67	OZ/A	FALL	B	0	0	0	25	64	27
3	ACTIVATOR 90	100	LIQ	0.50	% V/V	0.5	%V/V	FALL	B						
4	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	FALL	B	0	0	0	3	8	0
4	ACTIVATOR 90	100	LIQ	0.50	% V/V	0.5	%V/V	FALL	B						
5	OLYMPUS	70	WG	0.04	LB A/A	0.914	OZ/A	FALL	B	0	0	0	20	50	0
5	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	FALL	B						
5	ACTIVATOR 90	100	LIQ	0.50	% V/V	0.5	%V/V	FALL	B						
6	MAVERICK	75	WG	0.03125	LB A/A	0.67	OZ/A	FALL	B	1	0	0	35	63	30
6	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	FALL	B						
6	ACTIVATOR 90	100	LIQ	0.50	% V/V	0.5	%V/V	FALL	B						
7	OLYMPUS	70	WG	0.04	LB A/A	0.914	OZ/A	FALL	B	0	0	0	27	55	5
7	SENCOR	75	WG	0.094	LB A/A	2.0	OZ/A	FALL	B						
7	ACTIVATOR 90	100	LIQ	0.50	% V/V	0.5	%V/V	FALL	B						
8	MAVERICK	75	WG	0.03125	LB A/A	0.67	OZ/A	FALL	B	1	0	0	26	51	3
8	SENCOR	75	WG	0.094	LB A/A	2.0	OZ/A	FALL	B						
8	ACTIVATOR 90	100	LIQ	0.50	% V/V	0.5	%V/V	FALL	B						
9	OLYMPUS	70	WG	0.04	LB A/A	0.914	OZ/A	SPRING	C	3	3	3	50	70	70
9	ACTIVATOR 90	100	LIQ	0.50	% V/V	0.5	%V/V	SPRING	C						
10	MAVERICK	75	WG	0.03125	LB A/A	0.67	OZ/A	SPRING	C	3	2	2	50	50	50
10	ACTIVATOR 90	100	LIQ	0.50	% V/V	0.5	%V/V	SPRING	C						
11	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	SPRING	C	0	0	0	0	0	0
11	ACTIVATOR 90	100	LIQ	0.50	% V/V	0.5	%V/V	SPRING	C						
12	OLYMPUS	70	WG	0.04	LB A/A	0.914	OZ/A	SPRING	C	4	5	5	50	53	53
12	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	SPRING	C						
12	ACTIVATOR 90	100	LIQ	0.50	% V/V	0.5	%V/V	SPRING	C						
13	MAVERICK	75	WG	0.03125	LB A/A	0.67	OZ/A	SPRING	C	3	3	3	43	47	47
13	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	SPRING	C						
13	ACTIVATOR 90	100	LIQ	0.50	% V/V	0.5	%V/V	SPRING	C						

Weed Code										BROTE	BROTE	BROTE
Crop Code										TRZAW	TRZAW	TRZAW
Rating Data Type										Injury	Injury	Injury
Rating Unit										Percent	Percent	Percent
Rating Date										4-26-02	4-26-02	4-26-02
Trt-Eval Interval										14 DAT	28 DAT	14 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	14 DAT	28 DAT	14 DAT	28 DAT	14 DAT	
14	OLYMPUS	70	WG	0.04	LB A/A	0.914	OZ/A	SPRING	C	3	1	1	58	67	67
14	SENCOR	75	WG	0.094	LB A/A	2.0	OZ/A	SPRING	C						
14	ACTIVATOR 90	100	LIQ	0.50	% V/V	0.5	%V/V	SPRING	C						
15	MAVERICK	75	WG	0.03125	LB A/A	0.67	OZ/A	SPRING	C	3	3	3	41	43	43
15	SENCOR	75	WG	0.094	LB A/A	2.0	OZ/A	SPRING	C						
15	ACTIVATOR 90	100	LIQ	0.50	% V/V	0.5	%V/V	SPRING	C						
16	HANDWEED									0	0	0	99	97	100
17	NONTREATED									0	0	0	0	0	0
18	OLYMPUS	70	WG	0.0263	LB A/A	0.6	OZ/A	FALL	B	0	0	1	15	51	71
18	ACTIVATOR 90	100	LIQ	0.50	% V/V	0.5	%V/V	FALL	B						
18	OLYMPUS	70	WG	0.0263	LB A/A	0.6	OZ/A	SPRING	C						
18	ACTIVATOR 90	100	LIQ	0.50	% V/V	0.5	%V/V	SPRING	C						
19	OLYMPUS	70	WG	0.04	LB A/A	0.914	OZ/A	FALL	B	0	0	0	25	48	0
19	HARMONY GT	75	WG	0.02344	LB A/A	0.5	OZ/A	FALL	B						
19	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	FALL	B						
20	MAVERICK	75	WG	0.03125	LB A/A	0.67	OZ/A	FALL	B	0	0	0	30	53	10
20	HARMONY GT	75	WG	0.02344	LB A/A	0.5	OZ/A	FALL	B						
20	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	FALL	B						
21	RAPTOR	1	AS	0.039	LB A/A	5	OZ/A	FALL	B	0	0	90	23	51	45
21	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	FALL	B						
21	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	FALL	B						
LSD (P=.05)										2.8	2.7	4.0	14.5	18.5	16.8
Replicate F										6.430	5.034	3.034	0.906	2.165	0.601
Replicate Prob(F)										0.0008	0.0037	0.0375	0.4437	0.1026	0.6175
Treatment F										2.019	2.278	194.132	27.073	14.924	28.911
Treatment Prob(F)										0.0201	0.0082	0.0001	0.0001	0.0001	0.0001

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Trial Comments

1. Protocol: Bayer, DuPont, Monsanto, SIU, BASF.
2. FALL application timing is 2-3 leaf downy brome, but after 3 leaf wheat.
3. SPRING application timing is shortly after "green-up" of downy brome and wheat.
4. DAT = days after treatment;
 14 and 28 days after FALL applications were on 12-15-01 and 12-29-01, respectively.
 14 and 28 days after SPRING applications were on 4-12-02 and 4-26-02, respectively.
 Ratings on 4-26-02 were 169, 146, and 28 days after PRE, FALL, and SPRING applications, respectively.
5. For treatment 18, ratings at 14 DAT and 28 DAT are 14 and 28 days after FALL application and prior to SPRING application, see 4-26-02 ratings for control and injury 28 days after the SPRING application.