Control of Downy Brome in Winter Wheat.

00-OS-PINCKY

OBJECTIVE: Evaluate weed control in winter wheat with standard and experimental herbicides.

SUMMARY: Minimal injury from the herbicides occurred with the fall applications compared to the spring applications of the herbicide with injury up to 23%. Incomplete control of downy brome occurred with MKH 6561 and Maverick with control ranging from 73 to 50% in the fall and 49% in the spring. When MKH 6561 and Maverick were tank mixed with Harmony Extra and Sencor there were no reductions in downy brome control were observed. Control of downy brome was more important in the fall than in the spring as yield reductions occurred as duration of downy brome competition increased.

No soybean injury resulted from wheat herbicide applications. In addition, there were no differences in soybean yield. Therefore, wheat herbicide carryover to double crop soybeans was not an issue in this study.

HERBICIDES	**WEEDS**	**CROP**
HARMONY EXTRA 75 WG MAVERICK 75 WG MKH 6561 70 WG SENCOR 75 WG	DOWNY BROME	WHEAT, WINTER

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PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Control of Downy Brome in Winter Wheat.

Project Code: 00-OS-PINCKY Location: PINCKEYVILLE IL

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

Weed Code	Common Name	Scientific Name
1. BROTE	BROME, DOWNY	BROMUS TECTORUM L.

Crop 1:	TRZAW WHEAT, WINTER		Variety:	QUANTUM 7207
Planting Method:	SEEDED		Planting Date:	SEE NOTE
Rate:	90 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:	RCB
Previous Crop, Year:	GLXMA, 1999			

APPLICATION DESCRIPTION

	A	B
Application Date:	Nov-11-99	Mar-14-00
Time of Day:	7:30	9:00
Application Method:	SPRAY	SPRAY
Application Timing:	FALL	SPRING
Applic. Placement:	BROSOI	BROSOI
Air Temp., Unit:	50 F	60 F
% Relative Humidity:	50	
Wind Velocity, Unit:	2-3 MPH	4-5 MPH
Dew Presence (Y/N):	Y	Y
Soil Moisture:	DRY	MOIST
% Cloud Cover:	100	20

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	TRZAW FKS3	TRZAW FKS5
Height, Unit:	3-4 IN	4-6 IN

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code:	BROSE	BROSE
Stage(leaves):	2-3	3-4
Height(inches):	1-3	2-4
Density:	MEDIUM	HIGH

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	CO_2 SPRAY	CO_2 SPRAY
Operating Pressure:	40 PSI	40 PSI
Nozzle Type:	FLAT FAN	FLAT FAN
Nozzle Size:	8004	8004
Boom Length, Unit:	7.5 FT	7.5 FT
Spray Volume, Unit:	20 GPA	20 GPA

NOTES:

PLANTING DATE WAS ABOUT 10-10-99.

Wheat was harvested Jun-28-00, 4.375 ft by 10ft.
Soybean was harvested Oct-27-00, (2) 30 inch rows by 10 ft.

TABLE. CONTROL OF DOWNY BROME IN WINTER WHEAT. PROJECT CODE:00-OS-PINCKY

								BROTE										
								TRZAW INJURY			CONTROL			SEED	TRZAW, JUNE 28, 2000			GLXMA
								DAT		APRIL	DAT		APRIL	HEADS		TEST		TEST
TREATMENT	FORM.	RATE	UNIT	PROD	RATE	APPL TIME	APPL CODE	14	28	11	14	28	11	MAY 30	MOISTURE	WEIGHT	YIELD	WEIGHT	YIELD
								%	%	%	%	%	%	NO./0.25 M^2	%	LB/BU	BU/A	LB/BU	BU/A
1 MKH 6561	70 WG	0.04	LB A/A	0.914	OZ/A	FALL	A	0	1	0	41	73	35	73	13.2	50.5	39.4	50.5	10
1 ACTIVATOR 90	100 LIQ	0.5	% V/V	0.5	%V/V	FALL	A												
2 MAVERICK	75 WG	0.03125	LB A/A	0.67	OZ/A	FALL	A	1	0	0	31	50	46	57	12.9	50.5	38.1	49.8	10
2 ACTIVATOR 90	100 LIQ	0.5	% V/V	0.5	%V/V	FALL	A												
3 HARMONY EXTRA	75 WG	0.0235	LB A/A	0.5	OZ/A	FALL	A	0	0	0	14	8	15	97	12.9	48.8	25.7	49.8	7
3 ACTIVATOR 90	100 LIQ	0.5	% V/V	0.5	%V/V	FALL	A												
4 MKH 6561	70 WG	0.04	LB A/A	0.914	OZ/A	FALL	A	1	1	0	41	70	64	60	13.5	50.5	39.4	49.3	10
4 HARMONY EXTRA	75 WG	0.0235	LB A/A	0.5	OZ/A	FALL	A												
4 ACTIVATOR 90	100 LIQ	0.5	% V/V	0.5	%V/V	FALL	A												
5 MAVERICK	75 WG	0.03125	LB A/A	0.67	OZ/A	FALL	A	1	0	0	33	65	65	15	13.2	50.3	41.0	50.3	11
5 HARMONY EXTRA	75 WG	0.0235	LB A/A	0.5	OZ/A	FALL	A												
5 ACTIVATOR 90	100 LIQ	0.5	% V/V	0.5	%V/V	FALL	A												
6 MKH 6561	70 WG	0.04	LB A/A	0.914	OZ/A	FALL	A	1	1	0	45	66	43	62	13.4	51.1	42.8	50.5	10
6 SENCOR	75 WG	0.094	LB A/A	2.0	OZ/A	FALL	A												
6 ACTIVATOR 90	100 LIQ	0.5	% V/V	0.5	%V/V	FALL	A												
7 MAVERICK	75 WG	0.03125	LB A/A	0.67	OZ/A	FALL	A	3	1	0	33	53	48	55	13.2	50.5	37.8	50.0	11
7 SENCOR	75 WG	0.094	LB A/A	2.0	OZ/A	FALL	A												
7 ACTIVATOR 90	100 LIQ	0.5	% V/V	0.5	%V/V	FALL	A												
8 MKH 6561	70 WG	0.04	LB A/A	0.914	OZ/A	SPRING	B	20	5	5	45	49	49	131	12.5	49.3	23.8	50.0	10
8 ACTIVATOR 90	100 LIQ	0.5	% V/V	0.5	%V/V	SPRING	B												
9 MAVERICK	75 WG	0.03125	LB A/A	0.67	OZ/A	SPRING	B	23	9	9	55	49	49	93	12.9	48.8	24.9	50.5	12
9 ACTIVATOR 90	100 LIQ	0.5	% V/V	0.5	%V/V	SPRING	B												
10 HARMONY EXTRA	75 WG	0.0235	LB A/A	0.5	OZ/A	SPRING	B	0	4	4	0	16	16	103	13.0	48.3	23.8	49.5	7
10 ACTIVATOR 90	100 LIQ	0.5	% V/V	0.5	%V/V	SPRING	B												
11 MKH 6561	70 WG	0.04	LB A/A	0.914	OZ/A	SPRING	B	15	9	9	48	64	64	50	13.0	50.8	32.3	50.3	13
11 HARMONY EXTRA	75 WG	0.0235	LB A/A	0.5	OZ/A	SPRING	B												
11 ACTIVATOR 90	100 LIQ	0.5	% V/V	0.5	%V/V	SPRING	B												
12 MAVERICK	75 WG	0.03125	LB A/A	0.67	OZ/A	SPRING	B	20	9	9	55	49	49	59	12.9	49.3	30.3	50.0	12
12 HARMONY EXTRA	75 WG	0.0235	LB A/A	0.5	OZ/A	SPRING	B												
12 ACTIVATOR 90	100 LIQ	0.5	% V/V	0.5	%V/V	SPRING	B												

(CONTINUED)

TABLE. CONTROL OF DOWNY BROME IN WINTER WHEAT. PROJECT CODE:00-OS-PINCKY (CONTINUED)

								BROTE										
								TRZAW INJURY			CONTROL			SEED	TRZAW, JUNE 28, 2000			GLXMA
						APPL	APPL	DAT		APRIL	DAT		APRIL	HEADS		TEST		TEST
TREATMENT	FORM.	RATE	UNIT	PROD RATE		TIME	CODE	14	28	11	14	28	11	MAY 30	MOISTURE	WEIGHT	YIELD	WEIGHT	YIELD
								%	%	%	%	%	%	NO./0.25 M^2	%	LB/BU	BU/A	LB/BU	BU/A
13 MKH 6561	70 WG	0.04	LB A/A	0.914	OZ/A	SPRING	B	23	3	3	58	65	65	66	13.2	45	31.9	50.5	12
13 SENCOR	75 WG	0.094	LB A/A	2.0	OZ/A	SPRING	B												
13 ACTIVATOR 90	100 LIQ	0.5	% V/V	0.5	%V/V	SPRING	B												
14 MAVERICK	75 WG	0.03125	LB A/A	0.67	OZ/A	SPRING	B	10	10	10	60	46	46	68	13.0	50.4	32.0	50.0	12
14 SENCOR	75 WG	0.094	LB A/A	2.0	OZ/A	SPRING	B												
14 ACTIVATOR 90	100 LIQ	0.5	% V/V	0.5	%V/V	SPRING	B												
15 HANDWEED								0	0	0	99	99	99	0	13.0	50.8	25.4	49.8	10
16 NONTREATED								0	0	0	0	0	0	201	12.5	48.3	21.0	49.3	8
LSD								8	7	7	19	25	24	77	0.5	4	10	1.0	4.3
P								0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.3	0.01	0.2	0.2

1. PROTOCOL: BAYER/SIU/AH.
2. FALL APPLICATION TIMING IS 2-3 LEAF CHEAT, BUT AFTER 3 LEAF WHEAT.
3. SPRING APPLICATION TIMING IS SHORTLY AFTER "GREEN-UP" OF CHEAT AND WHEAT.
4. RATING DATES:
   14 DAYS AFTER FALL AND SPRING APPLICATION ON NOV-25-99 AND MAR-28-00, RESPECTIVELY.
   28 DAYS AFTER FALL AND SPRING APPLICATION ON MAR-28-00 AND APR-11-00, RESPECTIVELY.