

Control of Little Barley in No-Till Wheat.

Project Code: 03-2B-E130 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
 Trial Status: Final Updated: 11-19-03

Objective:

Determine the effectiveness of various herbicides and application timings for control of little barley in no-till wheat production.

Weed Code	Common Name	Scientific Name
1. HORPU	barley, little	Hordeum pusillum Nutt.
2. ALLVI	garlic, wild	Allium vineale L.

Crop 1:	TRZAW wheat, winter	Variety:	See note
Planting Method:	Seeded	Planting Date:	10-15-02
Rate:	110 lb seed/A	Depth:	1.5 IN
Row Spacing:	7.5 IN		

Plot Width, Unit:	10 FT	Plot Length, Unit:	28 FT	Reps:	3
Tillage Type:	No-Till	Study Design:	Randomized complete block		
Previous Crop, Year:	GLXMA, 2002				

Field Prep./Maintenance: N 30 LB/A, P205 0 LB/A, K20 0 LB/A applied 10-15-02, and
 N 80 LB/A, P205 0 LB/A, K20 0 LB/A applied 1-27-03.

Soil Name:	Weir	% OM:	1.5	pH:	6.4	CEC:	9
Texture:	Silt loam	Fert. Level:	P1: 87 LB/A, K: 259 LB/A				

APPLICATION DESCRIPTION

	A	B	C
Application Date:	10-23-02	11-20-02	3-24-03
Time of Day:	15:00	9:00	17:00
Application Method:	Spray	Spray	Spray
Application Timing:	PRE	FALL	SPRING
Applic. Placement:	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	56 F	46 F	70 F
% Relative Humidity:	55	67	35
Wind Velocity, Unit:	0 MPH	0 MPH	5 MPH
Soil Moisture:	NORMAL	NORMAL	NORMAL

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	TRZAW NA	TRZAW F2	TRZAW F4
Height, Unit:	NA NA	2-3 IN	3-5 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code:	HORPU	HORPU	HORPU
Stage(leaves):	3-4	3-5	3-5
Height(inches):	2-3	3-4	3-5
Density:	Low	Low	Medium
Weed 2 Code:	ALLVI	ALLVI	ALLVI
Stage(leaves):	3-4	3-4	3-4
Height(inches):	4-8	5-8	5-8
Density:	Medium	Medium	Low

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:

Wheat varieties are Pioneer 25R78 and AgriPro 110 CL.
Harvested wheat Jul-01-03, (8) 7.5 inch rows by 25 ft and
double-crop soybean Nov-3-03, (2) 30 inch rows by 25 ft.

Control of Little Barley in No-Till Wheat.

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Weed Code	TRZAW	TRZAW	TRZAW	GLXMA	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW
Crop Code	Moisture	Test wt.	Yield	Yield	Injury	Injury	Injury	Injury	Injury	Injury
Rating Data Type	Percent	lb/bu	bu/A	bu/A	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit	7-1-03	7-1-03	7-1-03	11-3-03			3-24-03	4-7-03	4-21-03	5-19-03
Rating Date					14 DAT	28 DAT	0 DA-C	14 DA-C	28 DA-C	56 DA-C
Trt-Eval Interval										

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code								
1	NONTREATED									13.3	57.3	63	44	0	0	0	0
2	ROUNDUP W-MAX	4.5	SL	0.375	LB AE/A	10.7	OZ/A	PRE	A	13.0	57.4	86	41	0	0	0	0
3	GRAMOXONE MAX	3	SL	0.312	LB A/A	13.3	OZ/A	PRE	A	12.9	57.5	91	43	0	0	0	0
3	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	PRE	A								
4	OLYMPUS	70	WG	0.04	LB A/A	0.91	OZ/A	FALL	B	13.3	57.5	91	41	0	15		0
4	AXIOM	68	WG	0.425	LB A/A	10	OZ/A	FALL	B								
4	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	FALL	B								
5	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	FALL	B	13.3	58.0	81	46	0	0		0
5	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	FALL	B								
6	MAVERICK	75	WG	0.03125	LB A/A	0.67	OZ/A	FALL	B	12.8	57.9	98	44	0	0		0
6	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	FALL	B								
7	OLYMPUS	70	WG	0.04	LB A/A	0.91	OZ/A	FALL	B	13.3	58.5	70	42	0	0		0
7	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	FALL	B								
8	RAPTOR	1	AS	0.039	LB A/A	5	OZ/A	FALL	B	12.8	56.8	78	42	0	0		0
8	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	FALL	B								
8	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	FALL	B								
9	MAVERICK	75	WG	0.03125	LB A/A	0.67	OZ/A	FALL	B	13.1	58.7	89	42	0	0		0
9	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	FALL	B								
9	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	FALL	B								
10	OLYMPUS	70	WG	0.04	LB A/A	0.91	OZ/A	FALL	B	13.2	58.6	48	42	0	0		0
10	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	FALL	B								
10	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	FALL	B								
11	RAPTOR	1	AS	0.039	LB A/A	5	OZ/A	FALL	B	13.3	55.2	71	38	0	15		8
11	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	FALL	B								
11	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	FALL	B								
11	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	FALL	B								
12	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	SPRING	C	13.2	57.9	67	42			0	0
12	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	SPRING	C								
13	MAVERICK	75	WG	0.03125	LB A/A	0.67	OZ/A	SPRING	C	13.1	58.5	70	43			0	8
13	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	SPRING	C								
14	OLYMPUS	70	WG	0.04	LB A/A	0.91	OZ/A	SPRING	C	13.0	58.5	72	44			0	3
14	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	SPRING	C								

Weed Code
 Crop Code
 Rating Data Type
 Rating Unit
 Rating Date
 Trt-Eval Interval

TRZAW	TRZAW	TRZAW	GLXMA	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW
Moisture	Test wt.	Yield	Yield	Injury	Injury	Injury	Injury	Injury	Injury	Injury
Percent	lb/bu	bu/A	bu/A	Percent	Percent	Percent	Percent	Percent	Percent	Percent
7-1-03	7-1-03	7-1-03	11-3-03			3-24-03	4-7-03	4-21-03	5-19-03	
				14 DAT	28 DAT	0 DA-C	14 DA-C	28 DA-C	56 DA-C	

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code										
15	RAPTOR	1	AS	0.039	LB A/A	5	OZ/A	SPRING	C	13.0	56.9	38	44			0	8	8	
15	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	SPRING	C										
15	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	SPRING	C										
16	MAVERICK	75	WG	0.03125	LB A/A	0.67	OZ/A	SPRING	C	13.0	58.8	84	41			0	3	3	
16	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	SPRING	C										
16	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	SPRING	C										
17	OLYMPUS	70	WG	0.04	LB A/A	0.91	OZ/A	SPRING	C	12.9	58.2	67	43			0	7	7	
17	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	SPRING	C										
17	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	SPRING	C										
18	RAPTOR	1	AS	0.039	LB A/A	5	OZ/A	SPRING	C	15.7	51.5	46	42			33	37	37	
18	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	SPRING	C										
18	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	SPRING	C										
18	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	SPRING	C										
19	ROUNDUP W-MAX	4.5	SL	0.375	LB AE/A	10.7	OZ/A	PRE	A	12.7	58.0	91	39	0	0	0	0	0	0
19	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	SPRING	C										
19	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	SPRING	C										
20	ROUNDUP W-MAX	4.5	SL	0.375	LB AE/A	10.7	OZ/A	PRE	A	12.7	57.7	95	40	0	0	0	0	0	0
20	MAVERICK	75	WG	0.03125	LB A/A	0.67	OZ/A	SPRING	C										
20	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	SPRING	C										
21	ROUNDUP W-MAX	4.5	SL	0.375	LB AE/A	10.7	OZ/A	PRE	A	12.9	58.2	96	40	0	0	0	0	0	0
21	OLYMPUS	70	WG	0.04	LB A/A	0.91	OZ/A	SPRING	C										
21	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	SPRING	C										
22	ROUNDUP W-MAX	4.5	SL	0.375	LB AE/A	10.7	OZ/A	PRE	A	12.4	55.4	79	41	0	0	0	0	0	0
22	RAPTOR	1	AS	0.039	LB A/A	5	OZ/A	SPRING	C										
22	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	SPRING	C										
22	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	SPRING	C										
23	GRAMOXONE MAX	3	SL	0.312	LB A/A	13.3	OZ/A	PRE	A	12.9	57.3	93	41	0	0	0	0	0	0
23	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	PRE	A										
23	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	SPRING	C										
23	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	SPRING	C										
24	GRAMOXONE MAX	3	SL	0.312	LB A/A	13.3	OZ/A	PRE	A	13.0	57.5	94	44	0	0	0	0	0	0
24	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	PRE	A										
24	MAVERICK	75	WG	0.03125	LB A/A	0.67	OZ/A	SPRING	C										
24	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	SPRING	C										
25	GRAMOXONE MAX	3	SL	0.312	LB A/A	13.3	OZ/A	PRE	A	13.1	56.9	100	44	0	0	0	0	0	0
25	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	PRE	A										
25	OLYMPUS	70	WG	0.04	LB A/A	0.91	OZ/A	SPRING	C										
25	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	%V/V	SPRING	C										

Weed Code																			
Crop Code																			
Rating Data Type																			
Rating Unit																			
Rating Date																			
Trt-Eval Interval																			

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	Moisture Percent	Test wt. lb/bu	Yield bu/A	Yield bu/A	Injury Percent	Injury Percent	Injury Percent	Injury Percent	Injury Percent	Injury Percent
26	GRAMOXONE MAX	3	SL	0.312	LB A/A	13.3	OZ/A	PRE	A	13.0	55.8	78	45	0	0	0	0	0	0
26	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	PRE	A										
26	RAPTOR	1	AS	0.039	LB A/A	5	OZ/A	SPRING	C										
26	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	SPRING	C										
26	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	SPRING	C										
LSD (P=.05)										1.01	1.25	20.3	5.2	0.0	0.0	0.0	6.0	7.8	7.8
Replicate F										3.487	2.685	7.839	0.697	0.000	0.000	0.000	1.000	0.896	0.896
Replicate Prob(F)										0.0382	0.0780	0.0011	0.5026	1.0000	1.0000	1.0000	0.3798	0.4145	0.4145
Treatment F										2.668	12.098	5.474	1.203	0.000	0.000	0.000	16.000	7.475	7.475
Treatment Prob(F)										0.0016	0.0001	0.0001	0.2828	1.0000	1.0000	1.0000	0.0001	0.0001	0.0001

Weed Code	HORPU	HORPU	HORPU	HORPU	HORPU	HORPU	ALLVI	ALLVI	ALLVI	ALLVI	ALLVI	ALLVI
Crop Code												
Rating Data Type	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date			3-24-03	4-7-03	4-21-03	5-19-03			3-24-03	4-7-03	4-21-03	5-19-03
Trt-Eval Interval	14 DAT	28 DAT	0 DA-C	14 DA-C	28 DA-C	56 DA-C	14 DAT	28 DAT	0 DA-C	14 DA-C	28 DA-C	56 DA-C

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code												
16	MAVERICK	75	WG	0.03125	LB A/A	0.67	OZ/A	SPRING	C			0	90	90			0	98	98		
16	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	SPRING	C												
16	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	% V/V	SPRING	C												
17	OLYMPUS	70	WG	0.04	LB A/A	0.91	OZ/A	SPRING	C			0	50	50			0	98	98		
17	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	SPRING	C												
17	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	% V/V	SPRING	C												
18	RAPTOR	1	AS	0.039	LB A/A	5	OZ/A	SPRING	C			0	0	0			0	98	98		
18	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	SPRING	C												
18	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	SPRING	C												
18	28% UAN	100	LIQ	2.5	% V/V	2.5	% V/V	SPRING	C												
19	ROUNDUP W-MAX	4.5	SL	0.375	LB AE/A	10.7	OZ/A	PRE	A	80	100	98	98	98	98	75	75	50	50	98	98
19	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	SPRING	C												
19	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	% V/V	SPRING	C												
20	ROUNDUP W-MAX	4.5	SL	0.375	LB AE/A	10.7	OZ/A	PRE	A	80	100	98	98	98	98	75	75	50	50	98	98
20	MAVERICK	75	WG	0.03125	LB A/A	0.67	OZ/A	SPRING	C												
20	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	% V/V	SPRING	C												
21	ROUNDUP W-MAX	4.5	SL	0.375	LB AE/A	10.7	OZ/A	PRE	A	80	100	98	98	98	98	75	75	50	33	98	98
21	OLYMPUS	70	WG	0.04	LB A/A	0.91	OZ/A	SPRING	C												
21	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	% V/V	SPRING	C												
22	ROUNDUP W-MAX	4.5	SL	0.375	LB AE/A	10.7	OZ/A	PRE	A	80	100	98	98	98	98	75	75	33	33	98	98
22	RAPTOR	1	AS	0.039	LB A/A	5	OZ/A	SPRING	C												
22	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	SPRING	C												
22	28% UAN	100	LIQ	2.5	% V/V	2.5	% V/V	SPRING	C												
23	GRAMOXONE MAX	3	SL	0.312	LB A/A	13.3	OZ/A	PRE	A	90	100	95	95	98	98	90	90	50	50	98	98
23	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	PRE	A												
23	HARMONY EXTRA	75	WG	0.0235	LB A/A	0.5	OZ/A	SPRING	C												
23	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	% V/V	SPRING	C												
24	GRAMOXONE MAX	3	SL	0.312	LB A/A	13.3	OZ/A	PRE	A	90	100	98	98	98	98	90	90	50	50	98	98
24	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	PRE	A												
24	MAVERICK	75	WG	0.03125	LB A/A	0.67	OZ/A	SPRING	C												
24	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	% V/V	SPRING	C												
25	GRAMOXONE MAX	3	SL	0.312	LB A/A	13.3	OZ/A	PRE	A	90	100	98	98	98	98	90	90	33	33	98	98
25	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	PRE	A												
25	OLYMPUS	70	WG	0.04	LB A/A	0.91	OZ/A	SPRING	C												
25	ACTIVATOR 90	100	LIQ	0.5	% V/V	0.5	% V/V	SPRING	C												

Weed Code		HORPU	HORPU	HORPU	HORPU	HORPU	HORPU	ALLVI	ALLVI	ALLVI	ALLVI	ALLVI	ALLVI
Crop Code													
Rating Data Type		Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control
Rating Unit		Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date				3-24-03	4-7-03	4-21-03	5-19-03			3-24-03	4-7-03	4-21-03	5-19-03
Trt-Eval Interval		14 DAT	28 DAT	0 DA-C	14 DA-C	28 DA-C	56 DA-C	14 DAT	28 DAT	0 DA-C	14 DA-C	28 DA-C	56 DA-C

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code												
26	GRAMOXONE MAX	3	SL	0.312	LB A/A	13.3	OZ/A	PRE	A	90	100	98	98	98	98	90	90	33	33	98	98
26	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	PRE	A												
26	RAPTOR	1	AS	0.039	LB A/A	5	OZ/A	SPRING	C												
26	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	SPRING	C												
26	28% UAN	100	LIQ	2.5	% V/V	2.5	%V/V	SPRING	C												
LSD (P=.05)										0.0	0.0	2.4	1.9	10.4	10.4	0.0	0.0	25.7	23.5	0.0	0.0
Replicate F										0.000	0.000	1.000	1.000	0.611	0.611	0.000	0.000	1.000	1.842	0.000	0.000
Replicate Prob(F)										1.0000	1.0000	0.3855	0.3798	0.5468	0.5468	1.0000	1.0000	0.3855	0.1760	1.0000	1.0000
Treatment F										0.000	0.000	1344.213	5724.200	153.028	153.028	0.000	0.000	3.200	7.579	0.000	0.000
Treatment Prob(F)										1.0000	1.0000	0.0001	0.0001	0.0001	0.0001	1.0000	1.0000	0.0129	0.0001	1.0000	1.0000

Control of Little Barley in No-Till Wheat.

Project Code: 03-2B-E130 Location: Belleville Research Center

Trial Comments

1. Protocol: SIU.
2. CI 14 and 28 days after POST treatments; WC 14 and 28 DAT; rate all plots 28 and 56 days after SPRING application.
3. FALL application is after 2L wheat; SPRING application is after new spring growth occurs.
4. DAT = days after treatment. DA-C = days after SPRING application. 0 DA-C = prior to SPRING application.
14 days after PRE and FALL applications was on 11-6-02 and 12-4-02, respectively.
28 days after PRE and FALL applications was on 11-20-02 and 12-18-02, respectively.
5. At 28 days after FALL application on 12-18-02, crop injury was stunting and necrosis/purpling.