

Control of Problematic Weeds in Wheat.

Trial ID: 09-YRC-Wheat Location: Young Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu
 City State Zip Country: Murphysboro IL 62966 USA
 Trial Status: FINAL Initiation Date: 10-22-08

Objectives: Evaluate herbicide treatments for control of volunteer Roundup-Ready corn, marestail, and other problematic weed species in no-till wheat production.

Crop 1: TRZAW Winter wheat Variety: P25R47
 Planting Method: Seeded Planting Date: 10-29-08
 Rate, Unit: 1.3 mil. S/A Depth, Unit: 1 IN
 Row Spacing, Unit: 7.5 IN
 Soil Moisture: ABOVE NORMAL

Pest 1 Type: W Code: ZEAMX Zea mays L. corn, volunteer
 Pest Description: Roundup Ready corn
 Pest 2 Type: W Code: ALLVI Allium vineale L. garlic, wild
 Pest 3 Type: W Code: LAMAM Lamium amplexicaule L. henbit
 Pest 4 Type: W Code: STEME Stellaria media (L.) Vill. chickweed, common
 Pest 5 Type: W Code: GGGAN
 Pest Description: winter annual grasses

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 30 FT Tillage Type: NO-TILL
 Replications: 3 Study Design: Randomized Complete Block

Prior Crops, Year
 1. GLXMA 2008

Field Prep./Maintenance: N 29 LB/A, P205 29 LB/A, K20 29 LB/A on 10-27-08 and N 90 LB/A as 28% UAN on 3-22-09.

% OM: 2.1 Texture: VERY FINE SANDY LOAM
 pH: 5 Soil Name: ALVIN
 CEC: 9 Fert. Level: P1 133 LB/A, K 209 LB/A

	Application Description				
	A		B		C
Application Date:	10-22-08	11-25-08	03-26-09		
Time of Day:	16:30	15:30	13:30		
Application Method:	Spray	Spray	Spray		
Application Timing:	7DBP	1-3"W	SPRING		
Application Placement:	BROFOL	BROFOL	BROFOL		
Applied By:	BGY	NRJ	TGM		
Air Temperature, Unit:	64 F	42 F	61 F		
% Relative Humidity:	31	47	48		
Wind Velocity, Unit:	6 MPH	1 MPH	2 MPH		
Wind Direction:	E	NW	NE		
Dew Presence (Y/N):	N	N	N		
Soil Temperature, Unit:	58 F	42 F	52 F		
Soil Moisture:	NORMAL	ABONOR	ABONOR		
% Cloud Cover:	5	0	5		
	10-22-08	11-25-08	03-26-09		
Crop stage at application:	NA	LVS 2	LVS 3-6	TILLER	
Height Min, Max (inch):		2	4	6	9

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	Pest Stage At Each Application					
Application Date:	10-22-08	11-25-08	03-26-09			
Weed Code:	ZEAMX	ZEAMX	ZEAMX			
Stage Majority (leaves):	1	NA	NA			
Stage Min, Max:	1 2					
Height Majority:	3	IN				
Height Min, Max:	3 4					
Density, Unit:	0.5 FT2					
Weed Code:	ALLVI	ALLVI	ALLVI			
Stage Majority (leaves):	2	2	1			
Stage Min, Max:	1 2	1 2	1 2			
Height Majority:	6	IN 10	IN 4	IN		
Height Min, Max:	3	10 4	12 2	6		
Density, Unit:	4	FT2 4	FT2 2	FT2		
Weed Code:	LAMAM	LAMAM	LAMAM			
Stage Majority (leaves):	4	10	NA			
Stage Min, Max:	COTY 8	2 16				
Height Majority:	1	IN 2	IN			
Height Min, Max:	0.5 2	1 4				
Density, Unit:	8	FT2 8	FT2			
Weed Code:	STEME	STEME	STEME			
Stage Majority (leaves):	6	8	NA			
Stage Min, Max:	COTY 20	COTY 22				
Height Majority:	3	IN 3	IN			
Height Min, Max:	0.5 6	0.75 6				
Density, Unit:	6	FT2 6	FT2			
Weed Code:	GGGAN	GGGAN	GGGAN			
Stage Majority (leaves):	2	2	1			
Stage Min, Max:	1 3	1 3	1 2			
Height Majority:	2.5	IN 2.5	IN 2	IN		
Height Min, Max:	1 3	1 4	2 4			
Density, Unit:	0.25	FT2 0.25	FT2 0.25	FT2		

Application Equipment

Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer
Operating Pressure:	30 PSI	30 PSI	30 PSI
Nozzle Type:	Flat fan	Flat fan	Flat fan
Nozzle Size:	XR 8002	XR 8002	XR 8002
Boom Length, Unit:	6.67 FT	6.67 FT	6.67 FT
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA

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										ALLVI	ALLVI	ALLVI	ALLVI	ALLVI
Pest Code										11-12-08	11-25-08	12-16-08	03-09-09	04-16-09
Crop Code										Control	Control	Control	Control	Control
Rating Date										Percent	Percent	Percent	Percent	Percent
Rating Data Type										14 DAP			At Spring	
Rating Unit										21 DA-A	0 DA-B	21 DA-B	Greenup	21 DA-C
Rating Timing														
Trt-Eval Interval														
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1	NONTREATED									0 b	0 d	0 d	0 c	0 c
2	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A	48 a	48 c	73 c	72 b	70 b
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A					
3	FINESSE	75	WG			0.5	oz/a	7DBP	A	70 a	67 ab	87 a	85 a	87 a
3	GLEAN XP	75	WG	0.0195	lb ai/a			7DBP	A					
3	ALLY XP	60	WG	0.0039	lb ai/a			7DBP	A					
3	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A					
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A					
4	FINESSE	75	WG			0.5	oz/a	7DBP	A	88 a	73 a	83 ab	85 a	85 a
4	GLEAN XP	75	WG	0.0195	lb ai/a			7DBP	A					
4	ALLY XP	60	WG	0.0039	lb ai/a			7DBP	A					
4	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A					
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A					
4	HARMONY EXTRA SG	50	SG	0.0234	lb ai/a	0.75	oz/a	SPRING	C					
4	ACTIVATOR 90	100	SL	0.25	% v/v	0.25	% v/v	SPRING	C					
5	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A		57 bc	77 c	78 ab	82 a
5	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A					
5	OLYMPUS FLEX	11.25	SG	0.0246	lb ai/a	3.5	oz/a	1-3"W	B					
5	ACTIVATOR 90	100	SL	0.25	% v/v	0.25	% v/v	1-3"W	B					
5	28% UAN	100	SL	2	qt/a	2	qt/a	1-3"W	B					
6	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A		63 abc	78 bc	78 ab	80 a
6	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A					
6	HUSKIE	2.06	EC	0.217	lb ai/a	13.5	fl oz/a	1-3"W	B					
6	ACTIVATOR 90	100	SL	0.25	% v/v	0.25	% v/v	1-3"W	B					
6	28% UAN	100	SL	2	qt/a	2	qt/a	1-3"W	B					
7	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A		57 bc	77 c	78 ab	80 a
7	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A					
7	HUSKIE	2.06	EC	0.217	lb ai/a	13.5	fl oz/a	1-3"W	B					
7	2,4-D LV 4	3.8	EC	0.237	lb ae/a	0.5	pt/a	1-3"W	B					
7	ACTIVATOR 90	100	SL	0.25	% v/v	0.25	% v/v	1-3"W	B					
7	28% UAN	100	SL	2	qt/a	2	qt/a	1-3"W	B					
8	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A		67 ab	78 bc	82 a	82 a
8	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A					
8	OLYMPUS FLEX	11.25	SG	0.0246	lb ai/a	3.5	oz/a	1-3"W	B					
8	HUSKIE	2.06	EC	0.217	lb ai/a	13.5	fl oz/a	1-3"W	B					
8	ACTIVATOR 90	100	SL	0.25	% v/v	0.25	% v/v	1-3"W	B					
8	28% UAN	100	SL	2	qt/a	2	qt/a	1-3"W	B					
LSD (P=.05)										42.0	16.2	6.0	7.5	7.8
Replicate F										2.011	6.782	8.595	7.569	2.956
Replicate Prob(F)										0.2146	0.0087	0.0037	0.0059	0.0850
Treatment F										9.859	18.688	203.747	133.390	125.267
Treatment Prob(F)										0.0098	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

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Crop Code					
Rating Date	11-12-08	11-25-08	12-16-08	03-09-09	04-16-09
Rating Data Type	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent
Rating Timing	14 DAP			At Spring	
Trt-Eval Interval	21 DA-A	0 DA-B	21 DA-B	Greenup	21 DA-C

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1	NONTREATED									0 c	0 c	0 c	0 c	0 b
2	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A	63 b	93 ab	93 b	86 b	96 a
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A					
3	FINESSE	75	WG			0.5	oz/a	7DBP	A	96 a	96 a	99 a	99 a	99 a
3	GLEAN XP	75	WG	0.0195	lb ai/a			7DBP	A					
3	ALLY XP	60	WG	0.0039	lb ai/a			7DBP	A					
3	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A					
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A					
4	FINESSE	75	WG			0.5	oz/a	7DBP	A	94 a	98 a	98 a	99 a	99 a
4	GLEAN XP	75	WG	0.0195	lb ai/a			7DBP	A					
4	ALLY XP	60	WG	0.0039	lb ai/a			7DBP	A					
4	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A					
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A					
4	HARMONY EXTRA SG	50	SG	0.0234	lb ai/a	0.75	oz/a	SPRING	C					
4	ACTIVATOR 90	100	SL	0.25	% v/v	0.25	% v/v	SPRING	C					
5	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A		96 a	96 ab	99 a	99 a
5	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A					
5	OLYMPUS FLEX	11.25	SG	0.0246	lb ai/a	3.5	oz/a	1-3"W	B					
5	ACTIVATOR 90	100	SL	0.25	% v/v	0.25	% v/v	1-3"W	B					
5	28% UAN	100	SL	2	qt/a	2	qt/a	1-3"W	B					
6	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A		98 a	96 ab	99 a	99 a
6	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A					
6	HUSKIE	2.06	EC	0.217	lb ai/a	13.5	fl oz/a	1-3"W	B					
6	ACTIVATOR 90	100	SL	0.25	% v/v	0.25	% v/v	1-3"W	B					
6	28% UAN	100	SL	2	qt/a	2	qt/a	1-3"W	B					
7	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A		88 b	99 a	99 a	99 a
7	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A					
7	HUSKIE	2.06	EC	0.217	lb ai/a	13.5	fl oz/a	1-3"W	B					
7	2,4-D LV 4	3.8	EC	0.237	lb ae/a	0.5	pt/a	1-3"W	B					
7	ACTIVATOR 90	100	SL	0.25	% v/v	0.25	% v/v	1-3"W	B					
7	28% UAN	100	SL	2	qt/a	2	qt/a	1-3"W	B					
8	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A		88 b	98 a	99 a	99 a
8	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A					
8	OLYMPUS FLEX	11.25	SG	0.0246	lb ai/a	3.5	oz/a	1-3"W	B					
8	HUSKIE	2.06	EC	0.217	lb ai/a	13.5	fl oz/a	1-3"W	B					
8	ACTIVATOR 90	100	SL	0.25	% v/v	0.25	% v/v	1-3"W	B					
8	28% UAN	100	SL	2	qt/a	2	qt/a	1-3"W	B					
LSD (P=.05)										26.8	7.5	3.3	9.2	3.2
Replicate F										1.616	0.897	1.608	1.000	1.000
Replicate Prob(F)										0.2745	0.4299	0.2352	0.3927	0.3927
Treatment F										33.750	181.190	1027.668	130.754	1080.572
Treatment Prob(F)										0.0004	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

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Location: Young Res. Center

									STEME	STEME	STEME	STEME	STEME	GGGAN	GGGAN
Pest Code									11-12-08	11-25-08	12-16-08	03-09-09	04-16-09	03-09-09	04-16-09
Crop Code									Control	Control	Control	Control	Control	Control	Control
Rating Date									Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Data Type									14 DAP			At Spring		At Spring	
Rating Unit									21 DA-A	0 DA-B	21 DA-B	21 DA-C	21 DA-C	21 DA-C	21 DA-C
Rating Timing															
Trt-Eval Interval															
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code						
1	NONTREATED									0 b	0 b	0 b	0 b	0 c	0 d
2	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A	98 a	99 a	99 a	94 a	99 a	95 b
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A						90 bc
3	FINESSE	75	WG			0.5	oz/a	7DBP	A	98 a	99 a	99 a	98 a	99 a	93 abc
3	GLEAN XP	75	WG	0.0195	lb ai/a			7DBP	A						
3	ALLY XP	60	WG	0.0039	lb ai/a			7DBP	A						
3	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A						
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A						
4	FINESSE	75	WG			0.5	oz/a	7DBP	A	94 a	99 a	98 a	95 a	99 a	98 ab
4	GLEAN XP	75	WG	0.0195	lb ai/a			7DBP	A						
4	ALLY XP	60	WG	0.0039	lb ai/a			7DBP	A						
4	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A						
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A						
4	HARMONY EXTRA SG	50	SG	0.0234	lb ai/a	0.75	oz/a	SPRING	C						
4	ACTIVATOR 90	100	SL	0.25	% v/v	0.25	% v/v	SPRING	C						
5	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A		99 a	99 a	96 a	99 a	99 a
5	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A						
5	OLYMPUS FLEX	11.25	SG	0.0246	lb ai/a	3.5	oz/a	1-3"W	B						
5	ACTIVATOR 90	100	SL	0.25	% v/v	0.25	% v/v	1-3"W	B						
5	28% UAN	100	SL	2	qt/a	2	qt/a	1-3"W	B						
6	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A		98 a	99 a	95 a	99 a	98 ab
6	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A						88 c
6	HUSKIE	2.06	EC	0.217	lb ai/a	13.5	fl oz/a	1-3"W	B						
6	ACTIVATOR 90	100	SL	0.25	% v/v	0.25	% v/v	1-3"W	B						
6	28% UAN	100	SL	2	qt/a	2	qt/a	1-3"W	B						
7	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A		99 a	99 a	95 a	99 a	98 ab
7	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A						
7	HUSKIE	2.06	EC	0.217	lb ai/a	13.5	fl oz/a	1-3"W	B						
7	2,4-D LV 4	3.8	EC	0.237	lb ae/a	0.5	pt/a	1-3"W	B						
7	ACTIVATOR 90	100	SL	0.25	% v/v	0.25	% v/v	1-3"W	B						
7	28% UAN	100	SL	2	qt/a	2	qt/a	1-3"W	B						
8	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7DBP	A		99 a	99 a	98 a	99 a	99 a
8	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7DBP	A						
8	OLYMPUS FLEX	11.25	SG	0.0246	lb ai/a	3.5	oz/a	1-3"W	B						
8	HUSKIE	2.06	EC	0.217	lb ai/a	13.5	fl oz/a	1-3"W	B						
8	ACTIVATOR 90	100	SL	0.25	% v/v	0.25	% v/v	1-3"W	B						
8	28% UAN	100	SL	2	qt/a	2	qt/a	1-3"W	B						
LSD (P=.05)										9.5	1.4	1.4	8.1	0.0	3.4
Replicate F										0.369	1.000	1.000	0.424	0.000	0.211
Replicate Prob(F)										0.7058	0.3927	0.3927	0.6624	1.0000	0.8120
Treatment F										310.329	5492.849	5492.849	160.030	0.000	965.545
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	1.0000	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Trial Comments

1. Protocol: DuPont, Bayer.
2. Ratings: CI/WC at 14 DAP; CI/WCat 0 + 21 da"B"+"C"; WC in-late-season or at maturity.
3. Targets are wild garlic, downy brome, little barley, maretail, volunteer RR corn, and other winter annual BL species.
4. 1-3"W = 1 to 3 inch weeds.
5. DAP = Days after planting. GGGAN = Winter annual grasses including BROTE (downy brome) and HORPU (little barley).
Wheat injury was discoloration and stand reduction, stunt was height reduction and related to stand reduction.
6. Volunteer corn was damaged by cold nights before the planned 14 DAP rating.
7. Not harvested.