

# Purdue University

## Glyphosate and Resolve applications on winter wheat

Trial ID: 07S-SEP-NTW-64  
Location: SEPAC

Study Dir.: Vince Davis  
Investigator: Dr. William G. Johnson

### GENERAL TRIAL INFORMATION

<b>Study Director:</b> Vince Davis	<b>Title:</b> Research Associate
<b>Affiliation:</b> Purdue University	
<b>Postal Code:</b> 47907	
<b>Investigator:</b> Dr. William G. Johnson	<b>Title:</b> Associate Professor
<b>Affiliation:</b> Purdue University	
<b>Postal Code:</b> 47907	

### TRIAL LOCATION

**City:** Butlerville  
**State/Prov.:** IN  
**Postal Code:** 47223  
**Country:** USA  
**Directions:** Field U.

### COOPERATOR/LANDOWNER

<b>Cooperator:</b> Southeast Purdue Ag Center	<b>Country:</b> USA
<b>Org:</b> Purdue University	<b>Phone No:</b> 812-458-6977
<b>Address 1:</b> 4425 E Co Rd 350 N	<b>Fax No:</b> 812-458-6979
<b>Address 2:</b> PO Box 216	
<b>City:</b> Butlerville	
<b>State/Prov:</b> IN	
<b>Postal Code:</b> 47223	

**Conducted Under GLP (Y/N):** N                      **Conducted Under GEP (Y/N):** N

**Objective:** The objective of this study was to evaluate winter wheat crop response to reduced levels of Resolve and glyphosate applications.

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	TRZAW	Winter wheat	Triticum aestivum (winter)

**Crop 1:** TRZAW WHEAT, WINTER                      **Variety:** Pioneer 25R54  
**Planting Date:** Oct/11/2006                      **Planting Method:** DRILLED  
**Rate:** 1.6 MillionS/A                      **Depth:** 1 IN  
**Row Spacing:** 7.5 INCH

### SITE AND DESIGN

**Plot Width, Unit:** 10 FT                      **Plot Length, Unit:** 30 FT                      **Reps:** 4  
**Site Type:** FIELD  
**Tillage Type:** NO-TILL                      **Study Design:** RANDOMIZED COMPLETE BLOCK

### SOIL DESCRIPTION

% OM: 1.4	Texture: SILT LOAM
pH: 6.0	Soil Name: Avonburg
CEC: 5.0	Fert. Level: GOOD

### ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit
Phosphorus	15	PPM
Potassium	95	PPM
Calcium	735	PPM
Magnesium	134	PPM

**Closest Weather Station:** On research station                      **Distance:** 0.5                      **Unit:** MI

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## APPLICATION DESCRIPTION

	A
Application Date:	Apr/10/2007
Time of Day:	12:20PM
Application Method:	Spray
Application Timing:	A: POSPOS
Applic. Placement:	BROFOL
Air Temp., Unit:	51 F
% Relative Humidity:	30
Wind Velocity, Unit:	1 MPH
Dew Presence (Y/N):	N
Water Hardness:	Very Hard
Soil Temp., Unit:	45 F
Soil Moisture:	Moist
% Cloud Cover:	0

## CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	TRZAW 3-4 lf
Stage Scale:	ErlyJoint
Height, Unit:	8 INCH

## WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	TRZAW

## APPLICATION EQUIPMENT

	A
Appl. Equipment:	Backpack
Operating Pressure:	17 PSI
Nozzle Type:	XR11002
Nozzle Spacing, Unit:	15 IN
Nozzles/Row:	6
Boom Length, Unit:	7.5 FT
Boom Height, Unit:	15 IN
Ground Speed, Unit:	3 MPH
Carrier:	TPAC H2O
Spray Volume, Unit:	15 GPA
Propellant:	CO2

Trt No	Treatment Application Comment
1	Rep 1: Wet spot = poor wheat stand
1	Rep 4: Most uniform

### Trial Comments

4-17-07: Differences in wheat injury could not be detected (7DAT). Pictures were taken, All wheat had leaves discolored and looked necrotic on leaf tips due to frost. Growing points are healthy.

5-8-07: Wheat heights ranged from 19 to 24 inches in untreated and treatments 2-4. Wheat in treatment 1 (1 oz/A Resolve) had wheat height reduced 50%.

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							TRZAW	TRZAW	TRZAW	TRZAW		
							PHYGEN	PHYGEN	PHYGEN	PHYGEN		
							%	%	%	%		
							Apr/17/2007	Apr/24/2007	Apr/30/2007	May/08/2007		
									18-24"	24"		
									3-4 till	4 till		
									2-3nodes	3-5nodes		
							1					
							VMD	VM	VMD	VAM/GN		
							7 DA-A	14 DA-A	20 DA-A	28 DA-A		
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Plot	1	2	3	4
1	Resolve NIS	0.0156	lb ai/a	1	oz/a	POSPOS A	A	101	0.0	.	.	.
								107	0.0	30.0	40.0	55.0
								204	0.0	15.0	40.0	50.0
								208	0.0	20.0	35.0	50.0
								Mean =	0.0	21.7	38.3	51.7
2	Resolve NIS	0.00156	lb ai/a	0.1	oz/a	POSPOS A	A	102	0.0	20.0	20.0	25.0
								106	0.0	8.0	7.0	2.0
								203	0.0	0.0	0.0	4.0
								205	0.0	10.0	20.0	5.0
								Mean =	0.0	9.5	11.8	9.0
3	Roundup WeatherMAX AMS	0.077	lb ae/a	2.2	fl oz/a	POSPOS A	A	103	0.0	0.0	10.0	5.0
								105	0.0	15.0	5.0	2.0
								202	0.0	10.0	13.0	8.0
								206	0.0	10.0	20.0	2.0
								Mean =	0.0	8.8	12.0	4.3
4	Roundup WeatherMAX Harmony Extra AMS NIS	0.077	lb ae/a	2.2	fl oz/a	POSPOS A	A	104	0.0	13.0	5.0	5.0
								108	0.0	2.0	5.0	2.0
								201	0.0	20.0	15.0	25.0
								207	0.0	10.0	15.0	2.0
								Mean =	0.0	11.3	10.0	8.5

Footnote 1: Differences in wheat injury could not be detected; pictures were taken; all wheat had leaves discolored and looked necrotic on leaf tips due to frost; growing points look healthy

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Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	1	2	3	4
1	Resolve NIS	0.0156	lb ai/a	1 oz/a	oz/a	POSPOS A	A	0.0 a	21.7 a	38.3 a	51.7 a
		0.25	% v/v	0.25 % v/v	% v/v	POSPOS A	A				
2	Resolve NIS	0.00156	lb ai/a	0.1 oz/a	oz/a	POSPOS A	A	0.0 a	9.5 a	11.8 b	9.0 b
		0.25	% v/v	0.25 % v/v	% v/v	POSPOS A	A				
3	Roundup WeatherMAX AMS	0.077	lb ae/a	2.2 fl oz/a	fl oz/a	POSPOS A	A	0.0 a	8.8 a	12.0 b	4.3 b
		2.5	lb ai/a	2.5 lb/a	lb/a	POSPOS A	A				
4	Roundup WeatherMAX Harmony Extra AMS NIS	0.077	lb ae/a	2.2 fl oz/a	fl oz/a	POSPOS A	A	0.0 a	11.3 a	10.0 b	8.5 b
		0.0234	lb ai/a	0.5 oz/a	oz/a	POSPOS A	A				
		2.5	lb ai/a	2.5 lb/a	lb/a	POSPOS A	A				
		0.25	% v/v	0.25 % v/v	% v/v	POSPOS A	A				
LSD (P=.05)								0.00	13.99	11.38	13.83
Standard Deviation								0.00	8.58	6.98	8.48
CV								0.0	67.06	38.73	46.23
Bartlett's X2								0.0	0.196	2.77	6.521
P(Bartlett's X2)								.	0.978	0.429	0.089
Replicate F								0.000	0.075	0.969	0.836
Replicate Prob(F)								1.0000	0.9717	0.4533	0.5110
Treatment F								0.000	1.963	15.122	27.658
Treatment Prob(F)								1.0000	0.1982	0.0012	0.0001

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Footnote 1: Differences in wheat injury could not be detected; pictures were taken; all wheat had leaves discolored and looked necrotic on leaf tips due to frost; growing points look healthy