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PRE herbicide comparison with Roundup

Trial ID: 09S-SEP-NTS-32 Protocol ID: 09S-SEP-NTS-32
 Location: SEPAC Study Director: Melissa Kruger/Paul Marquardt
 Project ID: Investigator: Dr. Bill Johnson
 Sponsor Contact: Eric Ott

General Trial Information

Study Director: Melissa Kruger/Paul Marquardt **Title:** Lab Tech VIII/Research Assoc.
Investigator: Dr. Bill Johnson **Title:** Professor

Discipline: H herbicide
Trial Status: F one-year/final
Initiation Date: 5/5/09 **Planned Completion Date:** 6/30/09

Trial Location

City: Butleville
State/Prov.: Indiana
Postal Code: 47223-0216
Country: USA United States
Map Reference: SEPAC Field U41-6

Objectives:

PRE Herbicide comparison with Roundup

Personnel

Study Director: Melissa Kruger/Paul Marquardt **Title:** Lab Tech VIII/Research Assoc.
Affiliation: Purdue University
Address: 915 W. State St.
Location: West Lafayette, IN USA
Postal Code: 47907 **E-mail:** mmkruger@purdue.edu/pmarquar@purdue.edu
Phone No.: 765-494-4621
Investigator: Dr. Bill Johnson **Title:** Professor
Affiliation: Purdue University
Address: 915 W. State Street
Location: West Lafayette, IN USA
Postal Code: 47907 **E-mail:** wj@purdue.edu

Cooperator/Landowner

Cooperator: Southeastern-Purdue Ag Center **Role:** Cooperator
Organization: Purdue University
Address 1: 4425 E Co. Rd. 350 N
City: Butleville **Phone No.:** 1-812-458-6977
State/Prov: IN **Fax No.:** 1-812-458-6979
Postal Code: 477223-021 **E-mail:** biehled@purdue.edu
Country: USA United States

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: AG3402 **Description:** Roundup Ready
BBCH Scale: BSOY **Planting Date:** 5/26/09
Planting Method: DIRDRI direct drilled **Rate, Unit:** 150000 S/A
Depth, Unit: 1 IN
Row Spacing, Unit: 30 IN
Soil Temperature, Unit: 78 F
Soil Moisture: MOIST slightly wet **Emergence Date:** 5/31/09

Pest Description

Pest 1 Type: W **Code:** ERICA Erigeron canadensis
Common Name: Canada horseweed

Pest 2 Type: W **Code:** TAROF Taraxacum officinale
Common Name: Common dandelion

Pest 3 Type: W **Code:** BROTE Bromus tectorum
Common Name: Downy brome

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Pest 4 Type: W **Code:** ALOCA Alopecurus carolinianus
Common Name: Carolina foxtail

Pest 5 Type: W **Code:** ERIAN Erigeron annuus
Common Name: Annual fleabane

Pest 6 Type: W **Code:** RANAB Ranunculus abortivus
Common Name: Smallflower buttercup

Pest 7 Type: W **Code:** PANDI Panicum dichotomiflorum
Common Name: Fall panicum

Pest 8 Type: W **Code:** DIGSA Digitaria sanguinalis
Common Name: Large crabgrass

Pest 9 Type: W **Code:** XANST Xanthium strumarium
Common Name: Common cocklebur

Pest10 Type: W **Code:** ECHCG Echinochloa crus-galli
Common Name: Common barnyardgrass

Site and Design

Plot Width, Unit: 10 FT **Site Type:** FIELD field
Plot Length, Unit: 30 FT **Experimental Unit:** 1 PLOT plot
Plot Area, Unit: 300 FT2 **Tillage Type:** NOTILL no-till
Replications: 4 **Study Design:** RACOB� Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

Soil Description

Description Name: SEPAC Field U41-6
% OM: 1.3 **Texture:** SIL silt loam
pH: 6.5 **Soil Name:** Avonburg
CEC: 5.7

Analyzed By:
A&L Great Lakes Laboratories, Inc. Report #: F07320-0472

Additional Measured Elements

Element	Quantity	Unit
P	13	ppm
K	68	ppm
Ca	600	ppm
Mg	155	ppm

Moisture and Weather Conditions

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

Application Description

	A	B
Application Date:	5/5/09	6/17/09
Time of Day:	9:05 AM	10:25 AM
Application Method:	SPRAY	SPRAY
Application Timing:	PREPLA	POSPOS
Application Placement:	BROFOL	BROFOL
Applied By:	PM	RH
Air Temperature, Unit:	60 F	74 F
% Relative Humidity:	66	85
Wind Velocity, Unit:	2 MPH	4 MPH
Wind Direction:	NE	S
Dew Presence (Y/N):	Y yes	N no
Soil Temperature, Unit:	60 F	74 F
Soil Moisture:	MOIST	MOIST
% Cloud Cover:	95	90

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:	BBCH	BBCH
Stage Majority, Percent:	N/A	V1
Height, Unit:		5 IN
Height Minimum, Maximum:		2 8

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale:	ERICA W	ERICA W
Stage Majority, Percent:	ROSETT	COTY
Stage Minimum, Percent:		COTY
Stage Maximum, Percent:		BOLT
Height, Unit:	3 IN	3 IN
Height Minimum, Maximum:	1 6	0 6
Density, Unit:	1 YD2	1 YD2
Pest 2 Code, Type, Scale:	TAROF W	TAROF W
Stage Majority, Percent:	FLOWER	
Height, Unit:	8 IN	
Height Minimum, Maximum:	4 12	
Density, Unit:	13 YD2	
Pest 3 Code, Type, Scale:	BROTE W	BROTE W
Stage Majority, Percent:	3-6 LF	
Height, Unit:	7 IN	
Height Minimum, Maximum:	4 10	
Density, Unit:	30 YD2	
Pest 4 Code, Type, Scale:	ALOCA W	ALOCA W
Stage Majority, Percent:	2-4 LF	
Stage Maximum, Percent:	FLOWER	
Height, Unit:	5 IN	
Height Minimum, Maximum:	2 8	
Density, Unit:	30 YD2	
Pest 5 Code, Type, Scale:	ERIAN W	ERIAN W

Stage Majority, Percent:	FLOWER	
Height, Unit:	9 IN	
Height Minimum, Maximum:	6 12	
Density, Unit:	5 YD2	
Pest 6 Code, Type, Scale:	RANAB W	RANAB W
Stage Majority, Percent:	FLOWER	
Height, Unit:	10 IN	
Height Minimum, Maximum:	8 12	
Density, Unit:	5 YD2	
Pest 7 Code, Type, Scale:	PANDI W	PANDI W
Height, Unit:		8 IN
Height Minimum, Maximum:		2 12
Density, Unit:		13 FT2
Pest 8 Code, Type, Scale:	DIGSA W	DIGSA W
Height, Unit:		2 IN
Height Minimum, Maximum:		0 4
Density, Unit:		30 FT2
Pest 9 Code, Type, Scale:	XANST W	XANST W
Height, Unit:		5 IN
Height Minimum, Maximum:		1 8
Density, Unit:		10
Pest10 Code, Type, Scale:	ECHCG W	ECHCG W
Height, Unit:		4 IN
Height Minimum, Maximum:		1 8
Density, Unit:		15 FT2

Application Equipment

	A	B
Appl. Equipment:	CO2 Backpack	CO2 Backpack
Equipment Type:	SPRBAC	SPRBAC
Operating Pressure, Unit:	17 PSI	17 PSI
Nozzle Type:	Flat Fan	Flat Fan
Nozzle Size:	XR11002	XR11002
Nozzle Spacing, Unit:	15 IN	15 IN
Nozzles/Row:	6	6
Boom Length, Unit:	7.5 FT	7.5 FT
Boom Height, Unit:	18 IN	18 IN
Ground Speed, Unit:	3 MPH	3 MPH
Carrier:	H2O	H2O
Water Hardness (ppm CaCO3):	150	150
Spray Volume, Unit:	15 GAL/AC	15 GAL/AC
Mix Size, Unit:	1.8 Liters	1.8 Liters
Propellant:	CO2	CO2
Tank Mix (Y/N):	N no	N no

Trt No Treatment Application Comment

4 5-5-09, MKI: V-10233 did not dissolve into solution completely; clumpy; shook for 10 min. Sprayed.

PRE herbicide comparison with Roundup

Trial ID: 09S-SEP-NTS-32 Protocol ID: 09S-SEP-NTS-32
 Location: SEPAC Study Director: Melissa Kruger/Paul Marquardt
 Project ID: Investigator: Dr. Bill Johnson
 Sponsor Contact: Eric Ott

Pest Type		W Weed	W Weed	W Weed	W Weed
Pest Code		ERICA	ERICA	ERICA	ERICA
Pest Scientific Name		Erigeron canad>	Conyza canad>	Conyza canad>	Conyza canad>
Pest Name		Canada horsewe>	Canada horsewe>	Canada horsewe>	Canada horsewe>
Crop Code	GLXMA	N/A	GLXMA	GLXMA	GLXMA
Crop Scientific Name	Glycine max		Glycine max	Glycine max	Glycine max
Crop Name	Soybean		Soybean	Soybean	Soybean
Part Rated	PLOT C	PLOT P	PLOT P	PLOT P	PLOT P
Rating Date	6/5/09	5/18/09	6/5/09	6/17/09	6/30/09
Rating Type	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Sample Size, Unit					
Number of Subsamples	1	1	1	1	1
Crop Stage Majority	VC		VC	V1	V3-V4
Crop Stage Minimum/Maximum	1-1.5"		1-1.5"	2-8"	
Pest Stage Majority		BOLT	COTY-BOL		
Pest Stage Minimum/Maximum		0-4"	0-4"	0-6"	
Pest Density, Unit		1 YD2	1 YD2	1 YD2	1 YD2
Footnote Number					
Assessed By	MK	MK JM	MK	JM/JD	MK
Rating Timing	28 DAT A	14 DAT A	28 DAT A	42 DAT A	
Days After First/Last Applic.	31 31	13 13	31 31	43 43	56 13
Trt-Eval Interval	31 DA-A	13 DA-A	31 DA-A	43 DA-A	56 DA-A
Plant-Eval Interval	10 DP-1	-8 DP-1	10 DP-1	22 DP-1	35 DP-1
Days After Emergence	5 DE-1	-13 DE	5 DE-1	17 DE-	30 DE-
Number of Decimals					
Trt No.	Treatment Name	Rate	Unit	Appl Code	
5					
1	Untreated	0.0	a		0.0 b
	Roundup PowerMAX	0.77	lb ae/a	A	
	2,4-D Ester	0.5	lb ae/a	A	
	COC	1	% v/v	A	
	Ammonium Sulfate	17	lb/100 gal	A	
2	Roundup PowerMAX	0.77	lb ae/a	A	0.0 a
	2,4-D Ester	0.5	lb ae/a	A	100.0 a
	COC	1	% v/v	A	100.0 a
	Ammonium Sulfate	17	lb/100 gal	A	100.0 a
	Roundup PowerMAX	0.77	lb ae/a	B	100.0 a
	Ammonium Sulfate	17	lb/100 gal	B	99.8 a
3	V-10233	0.143	lb ai/a	A	0.0 a
	Roundup PowerMAX	0.77	lb ae/a	A	100.0 a
	2,4-D Ester	0.5	lb ae/a	A	100.0 a
	COC	1	% v/v	A	100.0 a
	Ammonium Sulfate	17	lb/100 gal	A	100.0 a
	Roundup PowerMAX	0.77	lb ae/a	B	100.0 a
	Ammonium Sulfate	17	lb/100 gal	B	99.5 a

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					W Weed	W Weed	W Weed	W Weed	
					ERICA	ERICA	ERICA	ERICA	
					Erigeron canad>	Conyza canad>	Conyza canad>	Conyza canad>	
					Canada horsewe>	Canada horsewe>	Canada horsewe>	Canada horsewe>	
					N/A	GLXMA	GLXMA	GLXMA	
					Glycine max	Glycine max	Glycine max	Glycine max	
					Soybean	Soybean	Soybean	Soybean	
					PLOT C	PLOT P	PLOT P	PLOT P	
					6/5/09	5/18/09	6/5/09	6/17/09	
					PHYGEN	CONTRO	CONTRO	CONTRO	
					%	%	%	%	
					1	1	1	1	
					VC	VC	V1	V3-V4	
					1-1.5"	1-1.5"	2-8"		
					BOLT	COTY-BOL			
					0-4"	0-4"	0-6"		
					1 YD2	1 YD2	1 YD2	1 YD2	
					MK	MK JM	MK	JM/JD	
					28 DAT A	14 DAT A	28 DAT A	42 DAT A	
					31 31	13 13	31 31	43 43	
					31 DA-A	13 DA-A	31 DA-A	43 DA-A	
					10 DP-1	-8 DP-1	10 DP-1	22 DP-1	
					5 DE-1	-13 DE	5 DE-1	17 DE-	
					30 DE-				
Trt No.	Treatment Name	Rate	Unit	Appl Code	5	1	6	9	12
4	V-10233	0.178	lb ai/a	A	0.0 a	100.0 a	100.0 a	97.5 a	97.5 a
	Roundup PowerMAX	0.77	lb ae/a	A					
	2,4-D Ester	0.5	lb ae/a	A					
	COC	1	% v/v	A					
	Ammonium Sulfate	17	lb/100 gal	A					
	Roundup PowerMAX	0.77	lb ae/a	B					
	Ammonium Sulfate	17	lb/100 gal	B					
5	Prefix	1.11	lb ai/a	A	0.0 a	100.0 a	100.0 a	100.0 a	100.0 a
	Roundup PowerMAX	0.77	lb ae/a	A					
	2,4-D Ester	0.5	lb ae/a	A					
	COC	1	% v/v	A					
	Ammonium Sulfate	17	lb/100 gal	A					
	Roundup PowerMAX	0.77	lb ae/a	B					
	Ammonium Sulfate	17	lb/100 gal	B					
6	Gangster			A	0.0 a	100.0 a	100.0 a	100.0 a	100.0 a
	FirstRate	0.021	lb ai/a	A					
	Valor SX	0.064	lb ai/a	A					
	Roundup PowerMAX	0.77	lb ae/a	A					
	2,4-D Ester	0.5	lb ae/a	A					
	COC	1	% v/v	A					
	Ammonium Sulfate	17	lb/100 gal	A					
	Roundup PowerMAX	0.77	lb ae/a	B					
	Ammonium Sulfate	17	lb/100 gal	B					
7	Canopy EX			A	0.0 a	100.0 a	100.0 a	100.0 a	100.0 a
	Classic	0.0236	lb ai/a	A					
	Express	0.0069	lb ai/a	A					
	Roundup PowerMAX	0.77	lb ae/a	A					
	2,4-D Ester	0.5	lb ae/a	A					
	COC	1	% v/v	A					
	Ammonium Sulfate	17	lb/100 gal	A					
	Roundup PowerMAX	0.77	lb ae/a	B					
	Ammonium Sulfate	17	lb/100 gal	B					

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Pest Type		W Weed	W Weed	W Weed	W Weed			
Pest Code		ERICA	ERICA	ERICA	ERICA			
Pest Scientific Name		Erigeron canad>	Conyza canad>	Conyza canad>	Conyza canad>			
Pest Name		Canada horsewe>	Canada horsewe>	Canada horsewe>	Canada horsewe>			
Crop Code	GLXMA	N/A	GLXMA	GLXMA	GLXMA			
Crop Scientific Name	Glycine max		Glycine max	Glycine max	Glycine max			
Crop Name	Soybean		Soybean	Soybean	Soybean			
Part Rated	PLOT C	PLOT P	PLOT P	PLOT P	PLOT P			
Rating Date	6/5/09	5/18/09	6/5/09	6/17/09	6/30/09			
Rating Type	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO			
Rating Unit	%	%	%	%	%			
Sample Size, Unit								
Number of Subsamples	1	1	1	1	1			
Crop Stage Majority	VC		VC	V1	V3-V4			
Crop Stage Minimum/Maximum	1-1.5"		1-1.5"	2-8"				
Pest Stage Majority		BOLT	COTY-BOL					
Pest Stage Minimum/Maximum		0-4"	0-4"	0-6"				
Pest Density, Unit		1 YD2	1 YD2	1 YD2	1 YD2			
Footnote Number								
Assessed By	MK	MK JM	MK	JM/JD	MK			
Rating Timing	28 DAT A	14 DAT A	28 DAT A	42 DAT A				
Days After First/Last Applic.	31 31	13 13	31 31	43 43	56 13			
Trt-Eval Interval	31 DA-A	13 DA-A	31 DA-A	43 DA-A	56 DA-A			
Plant-Eval Interval	10 DP-1	-8 DP-1	10 DP-1	22 DP-1	35 DP-1			
Days After Emergence	5 DE-1	-13 DE	5 DE-1	17 DE-	30 DE-			
Number of Decimals								
Trt No.	Treatment Name	Rate	Appl Code	5	1	6	9	12
8	Envive		A	0.0 a	100.0 a	100.0 a	100.0 a	100.0 a
	Classic	0.275 oz ai/a	A					
	Harmony SG	0.0855 oz ai/a	A					
	Valor SX	0.86 oz ai/a	A					
	Roundup PowerMAX	0.77 lb ae/a	A					
	2,4-D Ester	0.5 lb ae/a	A					
	COC	1 % v/v	A					
	Ammonium Sulfate	17 lb/100 gal	A					
	Roundup PowerMAX	0.77 lb ae/a	B					
	Ammonium Sulfate	17 lb/100 gal	B					
9	Authority First	0.14 lb ai/a	A	0.0 a	100.0 a	100.0 a	100.0 a	100.0 a
	Roundup PowerMAX	0.77 lb ae/a	A					
	2,4-D Ester	0.5 lb ae/a	A					
	COC	1 % v/v	A					
	Ammonium Sulfate	17 lb/100 gal	A					
	Roundup PowerMAX	0.77 lb ae/a	B					
	Ammonium Sulfate	17 lb/100 gal	B					

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Pest Type		W Weed	W Weed	W Weed	W Weed			
Pest Code		ERICA	ERICA	ERICA	ERICA			
Pest Scientific Name		Erigeron canad>	Conyza canad>	Conyza canad>	Conyza canad>			
Pest Name		Canada horsewe>	Canada horsewe>	Canada horsewe>	Canada horsewe>			
Crop Code	GLXMA	N/A	GLXMA	GLXMA	GLXMA			
Crop Scientific Name	Glycine max		Glycine max	Glycine max	Glycine max			
Crop Name	Soybean		Soybean	Soybean	Soybean			
Part Rated	PLOT C	PLOT P	PLOT P	PLOT P	PLOT P			
Rating Date	6/5/09	5/18/09	6/5/09	6/17/09	6/30/09			
Rating Type	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO			
Rating Unit	%	%	%	%	%			
Sample Size, Unit								
Number of Subsamples	1	1	1	1	1			
Crop Stage Majority	VC		VC	V1	V3-V4			
Crop Stage Minimum/Maximum	1-1.5"		1-1.5"	2-8"				
Pest Stage Majority		BOLT	COTY-BOL					
Pest Stage Minimum/Maximum		0-4"	0-4"	0-6"				
Pest Density, Unit		1 YD2	1 YD2	1 YD2	1 YD2			
Footnote Number								
Assessed By	MK	MK JM	MK	JM/JD	MK			
Rating Timing	28 DAT A	14 DAT A	28 DAT A	42 DAT A				
Days After First/Last Applic.	31 31	13 13	31 31	43 43	56 13			
Trt-Eval Interval	31 DA-A	13 DA-A	31 DA-A	43 DA-A	56 DA-A			
Plant-Eval Interval	10 DP-1	-8 DP-1	10 DP-1	22 DP-1	35 DP-1			
Days After Emergence	5 DE-1	-13 DE	5 DE-1	17 DE-	30 DE-			
Number of Decimals								
Trt No.	Treatment Name	Rate	Appl Code	5	1	6	9	12
10	Pursuit Plus		A	0.0 a	100.0 a	100.0 a	100.0 a	100.0 a
	Prowl	0.84 lb ai/a	A					
	Pursuit	0.0625 lb ai/a	A					
	Roundup PowerMAX	0.77 lb ae/a	A					
	2,4-D Ester	0.5 lb ae/a	A					
	COC	1 % v/v	A					
	Ammonium Sulfate	17 lb/100 gal	A					
	Roundup PowerMAX	0.77 lb ae/a	B					
	Ammonium Sulfate	17 lb/100 gal	B					
LSD (P=.05)		0.00		0.00	0.00	0.00	2.29	2.34
Standard Deviation		0.00		0.00	0.00	0.00	1.58	1.62
CV		0.0		0.0	0.0	0.0	1.76	1.8
Bartlett's X2		0.0		0.0	0.0	0.0	0.0	13.62
P(Bartlett's X2)		0.001*
Replicate F		0.000		0.000	0.000	0.000	1.000	1.057
Replicate Prob(F)		1.0000		1.0000	1.0000	1.0000	0.4079	0.3837
Treatment F		0.000		0.000	0.000	0.000	1592.111	1522.328
Treatment Prob(F)		1.0000		1.0000	1.0000	1.0000	0.0001	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.

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	TAROF	BROTE	ALOCA	XANST	XANST
Pest Scientific Name	Taraxacum offi>	Bromus tectorum	Alopecurus car>	Xanthium strum>	Xanthium strum>
Pest Name	Common dandel>	Downy brome	Carolina foxta>	Common cockleb>	Common cockleb>
Crop Code	N/A	N/A	N/A	GLXMA	GLXMA
Crop Scientific Name				Glycine max	Glycine max
Crop Name				Soybean	Soybean
Part Rated	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P
Rating Date	5/18/09	5/18/09	5/18/09	6/5/09	6/17/09
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Sample Size, Unit					
Number of Subsamples	1	1	1	1	1
Crop Stage Majority				VC	V1
Crop Stage Minimum/Maximum				1-1.5"	2-8"
Pest Stage Majority	VEG	FLOWER	FLOWER	COTY-2NO	
Pest Stage Minimum/Maximum	6-10"	6-14"	6-12"	0-4"	1-8"
Pest Density, Unit	2 YD2	27 YD2	27 YD2	8.5 YD2	10 YD2
Footnote Number					
Assessed By	MK JM	MK JM	MK JM	MK	JM/JD
Rating Timing	14 DAT A	14 DAT A	14 DAT A	28 DAT A	42 DAT A
Days After First/Last Applic.	13 13	13 13	13 13	31 31	43 43
Trt-Eval Interval	13 DA-A	13 DA-A	13 DA-A	31 DA-A	43 DA-A
Plant-Eval Interval	-8 DP-1	-8 DP-1	-8 DP-1	10 DP-1	22 DP-1
Days After Emergence	-13 DE	-13 DE	-13 DE	5 DE-1	17 DE-
Number of Decimals					
Trt No.	Treatment	Rate	Appl		
	Name	Rate	Unit	Code	
2					
3					
4					
7					
8					
1	Untreated	0.0	b		0.0 c
	Roundup PowerMAX	0.77	lb ae/a	A	
	2,4-D Ester	0.5	lb ae/a	A	
	COC	1	% v/v	A	
	Ammonium Sulfate	17	lb/100 gal	A	
2	Roundup PowerMAX	0.77	lb ae/a	A	95.5 a
	2,4-D Ester	0.5	lb ae/a	A	
	COC	1	% v/v	A	
	Ammonium Sulfate	17	lb/100 gal	A	
	Roundup PowerMAX	0.77	lb ae/a	B	93.8 a
	Ammonium Sulfate	17	lb/100 gal	B	
3	V-10233	0.143	lb ai/a	A	99.5 a
	Roundup PowerMAX	0.77	lb ae/a	A	
	2,4-D Ester	0.5	lb ae/a	A	
	COC	1	% v/v	A	
	Ammonium Sulfate	17	lb/100 gal	A	
	Roundup PowerMAX	0.77	lb ae/a	B	100.0 a
	Ammonium Sulfate	17	lb/100 gal	B	
					26.3 b
					37.5 b

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					W Weed				
					TAROF	BROTE	ALOCA	XANST	XANST
					Taraxacum offi>	Bromus tectorum	Alopecurus car>	Xanthium strum>	Xanthium strum>
					Common dandeli>	Downy brome	Carolina foxta>	Common cockleb>	Common cockleb>
					N/A	N/A	N/A	GLXMA	GLXMA
								Glycine max	Glycine max
								Soybean	Soybean
					PLOT P				
					5/18/09	5/18/09	5/18/09	6/5/09	6/17/09
					CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
					%	%	%	%	%
Sample Size, Unit									
Number of Subsamples					1	1	1	1	1
Crop Stage Majority								VC	V1
Crop Stage Minimum/Maximum								1-1.5"	2-8"
Pest Stage Majority					VEG	FLOWER	FLOWER	COTY-2NO	
Pest Stage Minimum/Maximum					6-10"	6-14"	6-12"	0-4"	1-8"
Pest Density, Unit					2 YD2	27 YD2	27 YD2	8.5 YD2	10 YD2
Footnote Number									
Assessed By					MK JM	MK JM	MK JM	MK	JM/JD
Rating Timing					14 DAT A	14 DAT A	14 DAT A	28 DAT A	42 DAT A
Days After First/Last Applic.					13 13	13 13	13 13	31 31	43 43
Trt-Eval Interval					13 DA-A	13 DA-A	13 DA-A	31 DA-A	43 DA-A
Plant-Eval Interval					-8 DP-1	-8 DP-1	-8 DP-1	10 DP-1	22 DP-1
Days After Emergence					-13 DE	-13 DE	-13 DE	5 DE-1	17 DE-
Number of Decimals									
Trt No.	Treatment Name	Rate	Unit	Appl Code	2	3	4	7	8
4	V-10233	0.178	lb ai/a	A	99.5 a	98.5 a	99.8 a	63.8 a	62.5 ab
	Roundup PowerMAX	0.77	lb ae/a	A					
	2,4-D Ester	0.5	lb ae/a	A					
	COC	1	% v/v	A					
	Ammonium Sulfate	17	lb/100 gal	A					
	Roundup PowerMAX	0.77	lb ae/a	B					
	Ammonium Sulfate	17	lb/100 gal	B					
5	Prefix	1.11	lb ai/a	A	98.5 a	95.3 a	99.5 a	67.5 a	50.5 b
	Roundup PowerMAX	0.77	lb ae/a	A					
	2,4-D Ester	0.5	lb ae/a	A					
	COC	1	% v/v	A					
	Ammonium Sulfate	17	lb/100 gal	A					
	Roundup PowerMAX	0.77	lb ae/a	B					
	Ammonium Sulfate	17	lb/100 gal	B					
6	Gangster			A	98.8 a	99.8 a	100.0 a	92.0 a	91.3 a
	FirstRate	0.021	lb ai/a	A					
	Valor SX	0.064	lb ai/a	A					
	Roundup PowerMAX	0.77	lb ae/a	A					
	2,4-D Ester	0.5	lb ae/a	A					
	COC	1	% v/v	A					
	Ammonium Sulfate	17	lb/100 gal	A					
	Roundup PowerMAX	0.77	lb ae/a	B					
	Ammonium Sulfate	17	lb/100 gal	B					
7	Canopy EX			A	97.0 a	97.0 a	99.8 a	98.3 a	95.8 a
	Classic	0.0236	lb ai/a	A					
	Express	0.0069	lb ai/a	A					
	Roundup PowerMAX	0.77	lb ae/a	A					
	2,4-D Ester	0.5	lb ae/a	A					
	COC	1	% v/v	A					
	Ammonium Sulfate	17	lb/100 gal	A					
	Roundup PowerMAX	0.77	lb ae/a	B					
	Ammonium Sulfate	17	lb/100 gal	B					

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					W Weed				
					TAROF	BROTE	ALOCA	XANST	XANST
					Taraxacum offi>	Bromus tectorum	Alopecurus car>	Xanthium strum>	Xanthium strum>
					Common dandeli>	Downy brome	Carolina foxta>	Common cockleb>	Common cockleb>
					N/A	N/A	N/A	GLXMA	GLXMA
								Glycine max	Glycine max
								Soybean	Soybean
					PLOT P				
					5/18/09	5/18/09	5/18/09	6/5/09	6/17/09
					CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
					%	%	%	%	%
					1	1	1	1	1
								VC	V1
								1-1.5"	2-8"
					VEG	FLOWER	FLOWER	COTY-2NO	
					6-10"	6-14"	6-12"	0-4"	1-8"
					2 YD2	27 YD2	27 YD2	8.5 YD2	10 YD2
					MK JM	MK JM	MK JM	MK	JM/JD
					14 DAT A	14 DAT A	14 DAT A	28 DAT A	42 DAT A
					13 13	13 13	13 13	31 31	43 43
					13 DA-A	13 DA-A	13 DA-A	31 DA-A	43 DA-A
					-8 DP-1	-8 DP-1	-8 DP-1	10 DP-1	22 DP-1
					-13 DE	-13 DE	-13 DE	5 DE-1	17 DE-
Trt No.	Treatment Name	Rate	Unit	Appl Code	2	3	4	7	8
8	Enville			A	98.5 a	99.0 a	99.8 a	99.0 a	96.8 a
	Classic	0.275	oz ai/a	A					
	Harmony SG	0.0855	oz ai/a	A					
	Valor SX	0.86	oz ai/a	A					
	Roundup PowerMAX	0.77	lb ae/a	A					
	2,4-D Ester	0.5	lb ae/a	A					
	COC	1	% v/v	A					
	Ammonium Sulfate	17	lb/100 gal	A					
	Roundup PowerMAX	0.77	lb ae/a	B					
	Ammonium Sulfate	17	lb/100 gal	B					
9	Authority First	0.14	lb ai/a	A	97.0 a	91.8 a	99.8 a	95.0 a	94.0 a
	Roundup PowerMAX	0.77	lb ae/a	A					
	2,4-D Ester	0.5	lb ae/a	A					
	COC	1	% v/v	A					
	Ammonium Sulfate	17	lb/100 gal	A					
	Roundup PowerMAX	0.77	lb ae/a	B					
	Ammonium Sulfate	17	lb/100 gal	B					

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					W Weed				
					TAROF	BROTE	ALOCA	XANST	XANST
					Taraxacum offi>	Bromus tectorum	Alopecurus car>	Xanthium strum>	Xanthium strum>
					Common dandel>	Downy brome	Carolina foxta>	Common cockleb>	Common cockleb>
					N/A	N/A	N/A	GLXMA	GLXMA
								Glycine max	Glycine max
								Soybean	Soybean
					PLOT P				
					5/18/09	5/18/09	5/18/09	6/5/09	6/17/09
					CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
					%	%	%	%	%
					1	1	1	1	1
								VC	V1
								1-1.5"	2-8"
					VEG	FLOWER	FLOWER	COTY-2NO	
					6-10"	6-14"	6-12"	0-4"	1-8"
					2 YD2	27 YD2	27 YD2	8.5 YD2	10 YD2
					MK JM	MK JM	MK JM	MK	JM/JD
					14 DAT A	14 DAT A	14 DAT A	28 DAT A	42 DAT A
					13 13	13 13	13 13	31 31	43 43
					13 DA-A	13 DA-A	13 DA-A	31 DA-A	43 DA-A
					-8 DP-1	-8 DP-1	-8 DP-1	10 DP-1	22 DP-1
					-13 DE	-13 DE	-13 DE	5 DE-1	17 DE-
Trt No.	Treatment Name	Rate	Unit	Appl Code	2	3	4	7	8
10	Pursuit Plus			A	98.0 a	93.3 a	100.0 a	95.3 a	94.5 a
	Prowl	0.84	lb ai/a	A					
	Pursuit	0.0625	lb ai/a	A					
	Roundup PowerMAX	0.77	lb ae/a	A					
	2,4-D Ester	0.5	lb ae/a	A					
	COC	1	% v/v	A					
	Ammonium Sulfate	17	lb/100 gal	A					
	Roundup PowerMAX	0.77	lb ae/a	B					
	Ammonium Sulfate	17	lb/100 gal	B					
LSD (P=.05)					2.85	8.06	0.49	27.53	27.99
Standard Deviation					1.97	5.56	0.34	18.98	19.29
CV					2.23	6.41	0.38	26.67	28.05
Bartlett's X2					17.435	39.304	0.103	36.461	34.807
P(Bartlett's X2)					0.026*	0.001*	1.00	0.001*	0.001*
Replicate F					2.717	1.486	4.902	0.576	2.927
Replicate Prob(F)					0.0644	0.2405	0.0076	0.6355	0.0518
Treatment F					996.861	121.360	34986.371	12.654	11.238
Treatment Prob(F)					0.0001	0.0001	0.0001	0.0001	0.0001

Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	XANST	PANDI	PANDI	ECHSS
Pest Scientific Name	Xanthium strum>	Panicum dichot>	Panicum dichot>	Echinochloa sp.
Pest Name	Common cockleb>	Fall panicum	Fall panicum	Barnyardgrass
Crop Code		GLXMA	GLXMA	GLXMA
Crop Scientific Name		Glycine max	Glycine max	Glycine max
Crop Name		Soybean	Soybean	Soybean
Part Rated	PLOT P	PLOT P	PLOT P	PLOT P
Rating Date	6/30/09	6/17/09	6/30/09	6/30/09
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%
Sample Size, Unit				
Number of Subsamples	1	1	1	1
Crop Stage Majority	V3-V4	V1	V3-V4	V3-V4
Crop Stage Minimum/Maximum	8 14"	2-8"		
Pest Stage Majority				
Pest Stage Minimum/Maximum		2-12"		
Pest Density, Unit	27.5YD2	13 YD2	12.5YD2	27.5YD2
Footnote Number				
Assessed By	MK	JM/JD	MK	MK
Rating Timing	56 DAT A	42 DAT A		
Days After First/Last Applic.	56 13	43 43	56 13	56 13
Trt-Eval Interval	56 DA-A	43 DA-A	56 DA-A	56 DA-A
Plant-Eval Interval	35 DP-1	22 DP-1	35 DP-1	35 DP-1
Days After Emergence	30 DE-	17 DE-	30 DE-	30 DE-
Number of Decimals				
Trt No.	11	10	14	13
Treatment Name				
Rate				
Unit				
Appl Code				
1 Untreated	0.0 b	0.0 b	0.0 b	0.0 b
Roundup PowerMAX	0.77 lb ae/a			
2,4-D Ester	0.5 lb ae/a			
COC	1 % v/v			
Ammonium Sulfate	17 lb/100 gal			
2 Roundup PowerMAX	93.8 a	98.3 a	99.5 a	98.5 a
2,4-D Ester	0.77 lb ae/a			
COC	0.5 lb ae/a			
Ammonium Sulfate	1 % v/v			
Roundup PowerMAX	17 lb/100 gal			
Ammonium Sulfate	0.77 lb ae/a			
3 V-10233	92.0 a	97.3 a	99.8 a	99.0 a
Roundup PowerMAX	0.143 lb ai/a			
2,4-D Ester	0.77 lb ae/a			
COC	0.5 lb ae/a			
Ammonium Sulfate	1 % v/v			
Roundup PowerMAX	17 lb/100 gal			
Ammonium Sulfate	0.77 lb ae/a			
Roundup PowerMAX	0.77 lb ae/a			
Ammonium Sulfate	17 lb/100 gal			

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Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	XANST	PANDI	PANDI	ECHSS
Pest Scientific Name	Xanthium strum>	Panicum dichot>	Panicum dichot>	Echinochloa sp.
Pest Name	Common cockleb>	Fall panicum	Fall panicum	Barnyardgrass
Crop Code		GLXMA	GLXMA	GLXMA
Crop Scientific Name		Glycine max	Glycine max	Glycine max
Crop Name		Soybean	Soybean	Soybean
Part Rated	PLOT P	PLOT P	PLOT P	PLOT P
Rating Date	6/30/09	6/17/09	6/30/09	6/30/09
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%
Sample Size, Unit				
Number of Subsamples	1	1	1	1
Crop Stage Majority	V3-V4	V1	V3-V4	V3-V4
Crop Stage Minimum/Maximum	8 14"	2-8"		
Pest Stage Majority				
Pest Stage Minimum/Maximum		2-12"		
Pest Density, Unit	27.5YD2	13 YD2	12.5YD2	27.5YD2
Footnote Number				
Assessed By	MK	JM/JD	MK	MK
Rating Timing	56 DAT A	42 DAT A		
Days After First/Last Applic.	56 13	43 43	56 13	56 13
Trt-Eval Interval	56 DA-A	43 DA-A	56 DA-A	56 DA-A
Plant-Eval Interval	35 DP-1	22 DP-1	35 DP-1	35 DP-1
Days After Emergence	30 DE-	17 DE-	30 DE-	30 DE-
Number of Decimals				
Trt No.	Treatment	Rate	Appl Code	
		Rate	Unit	
11				
10				
14				
13				
10	Pursuit Plus		A	90.3 a
	Prowl	0.84 lb ai/a	A	99.3 a
	Pursuit	0.0625 lb ai/a	A	100.0 a
	Roundup PowerMAX	0.77 lb ae/a	A	99.8 a
	2,4-D Ester	0.5 lb ae/a	A	
	COC	1 % v/v	A	
	Ammonium Sulfate	17 lb/100 gal	A	
	Roundup PowerMAX	0.77 lb ae/a	B	
	Ammonium Sulfate	17 lb/100 gal	B	
LSD (P=.05)		6.24		6.25
Standard Deviation		4.30		4.31
CV		5.2		4.89
Bartlett's X2		5.978		41.172
P(Bartlett's X2)		0.65		0.001*
Replicate F		4.628		1.640
Replicate Prob(F)		0.0097		0.2035
Treatment F		183.253		12800.501
Treatment Prob(F)		0.0001		0.0001