

Purdue University

Valor XLT with Kixor comparison

Trial ID: 09S-SEP-NTS-33 Protocol ID: 09S-SEP-NTS-33
 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. William G. Johnson **Title:** Associate Professor

Discipline: H herbicide
Trial Status: F one-year/final
Initiation Date: 6/17/09 **Planned Completion Date:** 7/28/09

Trial Location

City: Butleville
State/Prov.: IN
Postal Code: 47223-0216
Country: USA

Objectives:

The objective of the trial is compare the effectiveness of Valor XLT and Kixor on horseweed in a no-till soybean system.

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. William G. Johnson **Title:** Associate Professor
Affiliation: Purdue University
Address: 915 W. State St.
Location: West Lafayette, IN USA
Postal Code: 47907 **E-mail:** wgj@purdue.edu
Phone No.: 765-494-4656

Cooperator/Landowner

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

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: AG3402 **Description:** RR
BBCH Scale: BSOY **Planting Date:** 6/30/09
Planting Method: DIRDRI direct drilled **Rate, Unit:** 150000 S/A
Depth, Unit: 1 IN
Row Spacing, Unit: 30 IN
Soil Moisture: DRY dry **Soil Temperature, Unit:** 75 F
Emergence Date: 7/6/09

Pest Description

Pest 1 Type: W **Code:** ERICA Conyza canadensis
Common Name: Horseweed

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

Pest 3 Type: W **Code:** XANST Xanthium strumarium
Common Name: Common cocklebur

Purdue University

Pest 4 Type: W **Code:** IPOSS Ipomoea sp.
Common Name: Morning glory

Pest 5 Type: W **Code:** SOLCA Solanum carolinense
Common Name: Horsenettle

Pest 6 Type: W **Code:** BROTE Bromus tectorum
Common Name: Downy brome

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

Maintenance

No.	Date	Maintenance Treatment Name	Form Conc	Form Unit	Form Type	Description	Rate	Rate Unit	Tank Mix Code	Tank Mix
1.	6/9/09	Fusion	2.66	LB/GAL	L	With COC at 1 %v/v	6	OZ/A	Y	yes

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
Mg	155	ppm
Ca	600	ppm

Moisture and Weather Conditions

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

Application Description

	A
Application Date:	6/16/09
Time of Day:	10:00 AM
Application Method:	SPRAY
Application Timing:	PREPOS
Application Placement:	BROFOL
Applied By:	RH MK
Air Temperature, Unit:	74 F
% Relative Humidity:	85
Wind Velocity, Unit:	4 MPH
Wind Direction:	S
Dew Presence (Y/N):	N no
Soil Temperature, Unit:	74 F
Soil Moisture:	MOIST
% Cloud Cover:	90

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	GLXMA BSOY
Stage Scale Used:	BBCH
Stage Majority, Percent:	N/A

Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	ERICA W
Stage Majority, Percent:	BOLT
Stage Minimum, Percent:	COTY
Stage Maximum, Percent:	BOLT
Height, Unit:	6 IN
Height Minimum, Maximum:	0 36
Density, Unit:	10 YD2
Pest 2 Code, Type, Scale:	TAROF W
Stage Majority, Percent:	VEG
Stage Minimum, Percent:	COTY
Stage Maximum, Percent:	SEED
Height, Unit:	12 IN
Height Minimum, Maximum:	0 15
Density, Unit:	30 YD2
Pest 3 Code, Type, Scale:	XANST W
Stage Majority, Percent:	VEG
Stage Minimum, Percent:	COTY
Stage Maximum, Percent:	VEG
Height, Unit:	4 IN
Height Minimum, Maximum:	0 10
Density, Unit:	8 YD2
Pest 4 Code, Type, Scale:	IPOSS W
Stage Majority, Percent:	COTY
Height, Unit:	2 IN
Height Minimum, Maximum:	2 4
Density, Unit:	27 YD2
Pest 5 Code, Type, Scale:	SOLCA W
Stage Majority, Percent:	VEG
Height, Unit:	6 IN
Height Minimum, Maximum:	2 12
Density, Unit:	3 YD2
Pest 6 Code, Type, Scale:	BROTE W
Stage Majority, Percent:	SEED
Stage Minimum, Percent:	VEG
Stage Maximum, Percent:	SENESE
Height, Unit:	30 IN
Height Minimum, Maximum:	10 40
Density, Unit:	13 FT2

Application Equipment

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

Purdue University

Valor XLT with Kixor comparison

Trial ID: 09S-SEP-NTS-33 Protocol ID: 09S-SEP-NTS-33
 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	TAROF										
Pest Scientific Name			Conyza canadens	Conyza canadens	Conyza canadens	Taraxacum offi										
Pest Name			Horseweed	Horseweed	Horseweed	Common dandel										
Crop Code	GLXMA	GLXMA	N/A	GLXMA	GLXMA	N/A										
Crop Scientific Name	Glycine max	Glycine max		Glycine max	Glycine max											
Crop Name	Soybean	Soybean		Soybean	Soybean											
Part Rated	PLOT C	PLOT C	PLOT P	PLOT P	P	PLOT P										
Rating Date	7/14/09	7/28/09	6/30/09	7/14/09	7/28/09	6/30/09										
Rating Type	PHYGEN	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO										
Rating Unit	%	%	%	%	%	%										
Sample Size, Unit																
Number of Subsamples	1	1	1	1	1	1										
Crop Stage Majority	VC	V2	N/A	VC	V2	N/A										
Crop Stage Minimum/Maximum	2-4"	4-6"		2-4"	4-6"											
Pest Stage Majority			COTY-BOL	BOLT	BOLT	COTY-SEE										
Pest Stage Minimum/Maximum			0-24"	4-40"	6-48"	0-15"										
Pest Density, Unit			6 YD2	6 YD2	6 YD2	3 YD2										
Footnote Number																
Assessed By	MK CB	MK JD	MK	MK CB	MK JD	MK										
Rating Timing	14 DAP	28 DAP	0 DAP	14 DAP	28 DAP	0 DAP										
Days After First/Last Applic.	28 28	42 42	14 14	28 28	42 42	14 14										
Trt-Eval Interval	28 DA-A	42 DA-A	14 DA-A	28 DA-A	28 DA-A	14 DA-A										
Plant-Eval Interval	14 DP-1	28 DP-1	0 DP-1	14 DP-1	28 DP-1	0 DP-1										
Days After Emergence	8 DE-1	22 DE-	-6 DE-	8 DE-1	22 DE-	-6 DE-										
Number of Decimals																
Trt No.	Treatment Name	Rate	Unit	Appl Code	4	8	1	5	9	2						
1	Untreated	0.0	a		0.0	a	0.0	c	0.0	b	0.0	b				
2	Roundup PowerMAX COC Ammonium Sulfate	0.77 1 17	lb ae/a % v/v lb/100 gal	A A A	0.0	a	0.0	a	69.3	b	92.6	a	98.3	a	88.8	a
3	Valor XLT Valor SX Classic 2,4-D Ester Roundup PowerMAX COC Ammonium Sulfate			A A A A A A A	0.0	a	0.0	a	89.5	ab	97.8	a	97.3	a	96.0	a
4	Sharpen Roundup PowerMAX COC Ammonium Sulfate	0.0223 0.77 1 17	lb ai/a lb ae/a % v/v lb/100 gal	A A A A	0.0	a	0.0	a	100.0	a	94.3	a	95.0	a	95.0	a
5	Valor XLT Valor SX Classic Sharpen Roundup PowerMAX COC Ammonium Sulfate			A A A A A A A	0.0	a	0.0	a	100.0	a	100.0	a	100.0	a	90.5	a

Purdue University

Pest Type			W Weed	W Weed	W Weed	W Weed			
Pest Code			ERICA	ERICA	ERICA	TAROF			
Pest Scientific Name			Conyza canadens>	Conyza canadens>	Conyza canadens>	Taraxacum offi>			
Pest Name			Horseweed	Horseweed	Horseweed	Common dandel>			
Crop Code	GLXMA	GLXMA	N/A	GLXMA	GLXMA	N/A			
Crop Scientific Name	Glycine max	Glycine max		Glycine max	Glycine max				
Crop Name	Soybean	Soybean		Soybean	Soybean				
Part Rated	PLOT C	PLOT C	PLOT P	PLOT P	P	PLOT P			
Rating Date	7/14/09	7/28/09	6/30/09	7/14/09	7/28/09	6/30/09			
Rating Type	PHYGEN	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO			
Rating Unit	%	%	%	%	%	%			
Sample Size, Unit									
Number of Subsamples	1	1	1	1	1	1			
Crop Stage Majority	VC	V2	N/A	VC	V2	N/A			
Crop Stage Minimum/Maximum	2-4"	4-6"		2-4"	4-6"				
Pest Stage Majority			COTY-BOL	BOLT	BOLT	COTY-SEE			
Pest Stage Minimum/Maximum			0-24"	4-40"	6-48"	0-15"			
Pest Density, Unit			6 YD2	6 YD2	6 YD2	3 YD2			
Footnote Number									
Assessed By	MK CB	MK JD	MK	MK CB	MK JD	MK			
Rating Timing	14 DAP	28 DAP	0 DAP	14 DAP	28 DAP	0 DAP			
Days After First/Last Applic.	28 28	42 42	14 14	28 28	42 42	14 14			
Trt-Eval Interval	28 DA-A	42 DA-A	14 DA-A	28 DA-A	28 DA-A	14 DA-A			
Plant-Eval Interval	14 DP-1	28 DP-1	0 DP-1	14 DP-1	28 DP-1	0 DP-1			
Days After Emergence	8 DE-1	22 DE-	-6 DE-	8 DE-1	22 DE-	-6 DE-			
Number of Decimals									
Trt No.	Treatment Name	Rate	Appl Code	4	8	1	5	9	2
	6 Valor XLT		A	0.0 a	0.0 a	100.0 a	99.8 a	99.8 a	99.8 a
	Valor SX	0.056 lb ai/a	A						
	Classic	0.0194 lb ai/a	A						
	Sharpen	0.0223 lb ai/a	A						
	2,4-D Ester	0.5 lb ae/a	A						
	Roundup PowerMAX	0.77 lb ae/a	A						
	COC	1 % v/v	A						
	Ammonium Sulfate	17 lb/100 gal	A						
	7 Roundup PowerMAX	0.77 lb ae/a	A	0.0 a	0.0 a	90.0 ab	97.3 a	99.5 a	93.8 a
	2,4-D Ester	0.5 lb ae/a	A						
	COC	1 % v/v	A						
	Ammonium Sulfate	17 lb/100 gal	A						
	8 2,4-D Ester	0.5 lb ae/a	A	0.0 a	0.0 a	78.8 ab	97.5 a	98.3 a	79.8 a
	COC	1 % v/v	A						
	9 Untreated			0.0 a	0.0 a	0.0 c	0.0 b	0.0 b	0.0 b
	10 Untreated			0.0 a	0.0 a	0.0 c	0.0 b	0.0 b	0.0 b
	LSD (P=.05)			0.00	0.00	19.82	5.62	5.23	15.66
	Standard Deviation			0.00	0.00	13.66	3.86	3.60	10.79
	CV			0.0	0.0	21.76	5.69	5.23	16.77
	Bartlett's X2			0.0	0.0	2.466	19.645	25.301	26.674
	P(Bartlett's X2)			.	.	0.481	0.001*	0.001*	0.001*
	Replicate F			0.000	0.000	1.112	1.569	1.698	1.533
	Replicate Prob(F)			1.0000	1.0000	0.3613	0.2208	0.1920	0.2287
	Treatment F			0.000	0.000	42.252	589.988	697.438	68.683
	Treatment Prob(F)			1.0000	1.0000	0.0001	0.0001	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	TAROF	XANST	XANST	XANST				
Pest Scientific Name	Taraxacum offi>	Taraxacum offi>	Xanthium strum>	Xanthium strum>	Xanthium strum>				
Pest Name	Common dandel>	Common dandel>	Common cockleb>	Common cockleb>	Common cockleb>				
Crop Code	GLXMA	GLXMA	N/A	GLXMA	GLXMA				
Crop Scientific Name	Glycine max	Glycine max		Glycine max	Glycine max				
Crop Name	Soybean	Soybean		Soybean	Soybean				
Part Rated	PLOT P	P	PLOT P	PLOT P	P				
Rating Date	7/14/09	7/28/09	6/30/09	7/14/09	7/28/09				
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO				
Rating Unit	%	%	%	%	%				
Sample Size, Unit									
Number of Subsamples	1	1	1	1	1				
Crop Stage Majority	VC	V2	N/A	VC	V2				
Crop Stage Minimum/Maximum	2-4"	4-6"		2-4"	4-6"				
Pest Stage Majority	VEG	VEG	COTY-6NO	VEG	VEG				
Pest Stage Minimum/Maximum	2-24"	2-24"	0-10"	1-24"	1-30"				
Pest Density, Unit	3 YD2	3 YD2	14 YD2	25 YD2	25 YD2				
Footnote Number									
Assessed By	MK CB	MK JD	MK	MK CB	MK JD				
Rating Timing	14 DAP	28 DAP	0 DAP	14 DAP	28 DAP				
Days After First/Last Applic.	28 28	42 42	14 14	28 28	42 42				
Trt-Eval Interval	28 DA-A	28 DA-A	14 DA-A	28 DA-A	28 DA-A				
Plant-Eval Interval	14 DP-1	28 DP-1	0 DP-1	14 DP-1	28 DP-1				
Days After Emergence	8 DE-1	22 DE-	-6 DE-	8 DE-1	22 DE-				
Number of Decimals									
Trt No.	Treatment Name	Rate	Unit	Appl Code	6	10	3	7	11
1	Untreated				0.0 b	0.0 b	0.0 d	0.0 c	0.0 d
2	Roundup PowerMAX COC Ammonium Sulfate	0.77 1 17	lb ae/a % v/v lb/100 gal	A A A	88.3 a	98.0 a	89.5 c	61.3 b	42.5 c
3	Valor XLT Valor SX Classic 2,4-D Ester Roundup PowerMAX COC Ammonium Sulfate			A A A A A A A	98.5 a	98.3 a	99.3 ab	97.5 a	96.0 a
4	Sharpen Roundup PowerMAX COC Ammonium Sulfate	0.0223 0.77 1 17	lb ai/a lb ae/a % v/v lb/100 gal	A A A A	95.8 a	88.8 a	97.3 ab	90.5 a	77.5 ab
5	Valor XLT Valor SX Classic Sharpen Roundup PowerMAX COC Ammonium Sulfate			A A A A A A A	98.8 a	95.0 a	99.3 ab	98.5 a	99.0 a

