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Glyphos X-tra Plus Efficacy in no-till corn

Trial ID: 09S-THP-NTC-39 Protocol ID: 09S-THP-NTC-39
 Location: Throckmorton Study Director: Paul Marquardt/Melissa Kruger
 Project ID: Investigator: Dr. Bill Johnson
 Sponsor Contact: Cheminova/Dow/Bayer

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: 4/16/09 **Planned Completion Date:** 7/17/09

Trial Location

City: Lafayette
State/Prov.: Indiana
Postal Code: 47909-9049
Country: USA

Objectives:

Glyphos X-tra Plus Efficacy in no-till corn

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: Throckmorton-Purdue Ag Center
Organization: Purdue University
Address 1: 8343 US 231 South
City: Lafayette
State/Prov: Indiana
Postal Code: 47909-9049 **E-mail:** jayyoung@purdue.edu
Country: USA United States

Crop Description

Crop 1: ZEAMX Zea mays Corn
Variety: DKC60-18
BBCH Scale: BCOR **Description:** Roundup Ready
Planting Method: DIRDRI direct drilled **Planting Date:** 5/22/09
Rate, Unit: 32000 S/A
Depth, Unit: 2 IN
Row Spacing, Unit: 30 IN
Soil Temperature, Unit: 68 F
Emergence Date: 5/26/09

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Pest Description

- Pest 1 Type:** W **Code:** THLAR *Thlaspi arvense*
Common Name: Field Pennycress
- Pest 2 Type:** W **Code:** TAROF *Taraxacum officinale*
Common Name: Common dandelion
- Pest 3 Type:** W **Code:** SETFA *Setaria faberi*
Common Name: Giant foxtail
- Pest 4 Type:** W **Code:** CHEAL *Chenopodium album*
Common Name: Common lambsquarters
- Pest 5 Type:** W **Code:** LAMPU *Lamium purpureum*
Common Name: Purple deadnettel
- Pest 6 Type:** W **Code:** STEME *Stellaria media*
Common Name: Common chickweed
- Pest 7 Type:** W **Code:** DIGSA *Digitaria sanguinalis*
Common Name: Large crabgrass
- Pest 8 Type:** W **Code:** ERICA *Conyza canadensis*
Common Name: Horseweed
- Pest 9 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

Soil Description

Description Name: TPAC Field 4B
% OM: 2.9 **Texture:** SIL silt loam
pH: 6.2 **Soil Name:** Toronto-Millbrook
CEC: 13.3 **Fert. Level:** G good

Additional Measured Elements

Element	Quantity	Unit
K	34	ppm
P	124	ppm
Ca	430	ppm
Mg	1600	ppm

Moisture and Weather Conditions

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

Application Description

	A	B	C	D
Application Date:	4/16/09	4/23/09	5/22/09	6/9/09
Time of Day:	11-:15	9:20-:55	6-6:15P	11:10A
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PREPLA	PREPRE	PREPOS	POSPOS
Application Placement:	BROSÔI	BROSÔI	BROSÔI	BROFOL
Applied By:	PM	PM	CB	RH
Air Temperature, Unit:	52 F	55 F	88 F	80 F
% Relative Humidity:	62	43.3	23.2	82
Wind Velocity, Unit:	3.5 MPH	7 MPH	1 MPH	1.5 MPH
Wind Direction:	SSE	SE	W	NW
Dew Presence (Y/N):		N no	N no	N no
Soil Temperature, Unit:	12 C	45 F	72 F	72 F
Soil Moisture:	MOIST	MOIST		MOIST
% Cloud Cover:	0	5	80	90

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Crop Stage At Each Application				
	A	B	C	D
Crop 1 Code, BBCH Scale:	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR
Stage Scale Used:				BBCH
Stage Majority, Percent:				V3 100
Height, Unit:				5 IN
Height Minimum, Maximum:				4 6

Pest Stage At Each Application				
	A	B	C	D
Pest 1 Code, Type, Scale:	THLAR W	THLAR W	THLAR W	THLAR W
Stage Majority, Percent:		60		71
Stage Minimum, Percent:		60		71
Stage Maximum, Percent:		60		71
Height, Unit:		4.5 IN		14 IN
Height Minimum, Maximum:		3 6		10 18
Density, Unit:		35 YD2		3.5 YD2
Pest 2 Code, Type, Scale:	TAROF W	TAROF W	TAROF W	TAROF W
Stage Majority, Percent:	65	65		65
Stage Minimum, Percent:	65	65		65
Stage Maximum, Percent:	65	65		65
Height, Unit:	4.5 IN	4.5 IN		10.5 YD
Height Minimum, Maximum:	3 6	3 6		6 15
Density, Unit:	1 YD2	1 YD2		1.5 YD2
Pest 3 Code, Type, Scale:	SETFA W	SETFA W	SETFA W	SETFA W
Stage Majority, Percent:				22
Stage Minimum, Percent:				22
Stage Maximum, Percent:				24
Height, Unit:				3.5 IN
Height Minimum, Maximum:				1 6
Density, Unit:				40 FT2
Pest 4 Code, Type, Scale:	CHEAL W	CHEAL W	CHEAL W	CHEAL W
Stage Minimum, Percent:				36
Stage Maximum, Percent:				39
Height, Unit:				4 IN
Height Minimum, Maximum:				3 5
Density, Unit:				3.5 YD2
Pest 5 Code, Type, Scale:	LAMPU W	LAMPU W	LAMPU W	LAMPU W
Stage Majority, Percent:	65	65		
Stage Minimum, Percent:	31	65		
Stage Maximum, Percent:	33	65		
Height, Unit:	1.5 IN	4 IN		
Height Minimum, Maximum:	1 2	3 5		
Density, Unit:	3 YD2	1 YD2		
Pest 6 Code, Type, Scale:	STEME W	STEME W	STEME W	STEME W
Height, Unit:	2.5 IN	0.5 IN		
Height Minimum, Maximum:	2 3	0 1		
Density, Unit:	30 YD2	20 YD2		
Pest 7 Code, Type, Scale:	DIGSA W	DIGSA W	DIGSA W	DIGSA W
Pest 8 Code, Type, Scale:	ERICA W	ERICA W	ERICA W	ERICA W
Stage Minimum, Percent:	11	11		
Stage Maximum, Percent:	19	19		
Height, Unit:	1.5 IN	1.5 IN		
Height Minimum, Maximum:	1 2	1 3		
Density, Unit:	5.5 YD2	5.5 YD2		
Pest 9 Code, Type, Scale:	BROTE W	BROTE W	BROTE W	BROTE W

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

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 Location: Throckmorton Study Director: Paul Marquardt/Melissa Kruger
 Project ID: Investigator: Dr. Bill Johnson
 Sponsor Contact: Cheminova/Dow/Bayer

Pest Type	W Weed				
Pest Code	THLAR	TAROF	STEME	LAMPU	THLAR
Pest Scientific Name	Thlaspi arvense	Taraxacum offi>	Stellaria media	Lamium purpure>	Thlaspi arvense
Pest Name	Field pennycr>	Common dandel>	Common chickwe>	Purple deadnet>	Field pennycr>
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays				
Crop Name	Corn	Corn	Corn	Corn	Corn
Crop Variety	DKC60-18	DKC60-18	DKC60-18	DKC60-18	DKC60-18
Part Rated	PLOT P				
Rating Date	5/4/09	5/4/09	5/4/09	5/4/09	5/26/09
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Crop Stage Majority					01
Crop Stage Minimum/Maximum					
Pest Stage Majority	65	65	65	65	65
Pest Stage Minimum/Maximum	2-12 IN	4-6 IN	1-4 IN	1-4 IN	2-18 IN
Pest Density, Unit	17.5YD2	1 YD2	1 YD2	1 YD2	17.5YD2
Assessed By	JM&PM	JM&PM	JM&PM	JM&PM	JM
Days After First/Last Applic.	18 11	18 11	18 11	18 11	40 4
Trt-Eval Interval	-18 DA-A	-18 DA-A	-18 DA-A	-18 DA-A	4 DA-A
Plant-Eval Interval	-18 DP-1	-18 DP-1	-18 DP-1	-18 DP-1	4 DP-1
Days After Emergence	-22 DE	-22 DE	-22 DE	-22 DE	0 DE-1
Trt Treatment	Rate	Rate	Rate	Rate	Rate
No. Name	Unit	Unit	Unit	Unit	Unit
Code					
1 UNTREATED					
2 Glyphos Xtra	0.75 lb ae/a C				
Metribuzin	0.125 lb ai/a C				
UAN 28%	3 % v/v C				
3 Glyphos Xtra	0.75 lb ae/a C				
Metribuzin	0.188 lb ai/a C				
UAN 28%	3 % v/v C				
4 Glyphos Xtra	0.75 lb ae/a C				
Metribuzin	0.25 lb ai/a C				
UAN 28%	3 % v/v C				
5 Glyphos Xtra	0.75 lb ae/a C				
Metribuzin	0.094 lb ai/a C				
UAN 28%	3 % v/v C				
Glyphos Xtra	0.75 lb ae/a D				
Metribuzin	0.094 lb ai/a D				
UAN 28%	3 % v/v D				
6 Glyphos Xtra	0.75 lb ae/a C				
Atrazine	1 lb ai/a C				
UAN 28%	3 % v/v C				
7 Surestart	1.6 lb ai/a A				
Durango DMA	0.75 lb ae/a A				
2,4-D Amine	0.5 lb ai/a A				
Ammonium Sulfate	2 % w/w A				
Durango DMA	0.75 lb ae/a D				
Ammonium Sulfate	2 % w/w D				
8 Surestart	1.6 lb ai/a A				
AAtrex Nine-O	1 lb ai/a A				
Durango DMA	0.75 lb ae/a A				
2,4-D Amine	0.5 lb ai/a A				
Ammonium Sulfate	2 % w/w A				
Durango DMA	0.75 lb ae/a D				
Ammonium Sulfate	2 % w/w D				
9 Surestart	0.93 lb ai/a D				
Durango DMA	0.75 lb ae/a D				
Ammonium Sulfate	2 % w/w D				
10 Corvus	0.112 lb ai/a B				
Atrazine	1.5 lb ai/a B				
COC	1 % v/v B				
	1	2	3	4	5
	0.0 b				
		0.0 b	0.0 b	0.0 b	0.0 b
		0.0 b	0.0 b	0.0 b	0.0 b
		0.0 b	0.0 b	0.0 b	0.0 b
		0.0 b	0.0 b	0.0 b	0.0 b
	99.8 a	96.3 a	99.8 a	98.8 a	100.0 a
	100.0 a	99.3 a	100.0 a	100.0 a	100.0 a
	100.0 a	93.8 a	91.8 a	100.0 a	100.0 a

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Pest Type	W Weed				
Pest Code	THLAR	TAROF	STEME	LAMPU	THLAR
Pest Scientific Name	Thlaspi arvense	Taraxacum offi>	Stellaria media	Lamium purpure>	Thlaspi arvense
Pest Name	Field pennycr>	Common dandel>	Common chickwe>	Purple deadnet>	Field pennycr>
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays				
Crop Name	Corn	Corn	Corn	Corn	Corn
Crop Variety	DKC60-18	DKC60-18	DKC60-18	DKC60-18	DKC60-18
Part Rated	PLOT P				
Rating Date	5/4/09	5/4/09	5/4/09	5/4/09	5/26/09
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Crop Stage Majority					01
Crop Stage Minimum/Maximum					
Pest Stage Majority	65	65	65	65	65
Pest Stage Minimum/Maximum	2-12 IN	4-6 IN	1-4 IN	1-4 IN	2-18 IN
Pest Density, Unit	17.5YD2	1 YD2	1 YD2	1 YD2	17.5YD2
Assessed By	JM&PM	JM&PM	JM&PM	JM&PM	JM
Days After First/Last Applic.	18 11	18 11	18 11	18 11	40 4
Trt-Eval Interval	-18 DA-A	-18 DA-A	-18 DA-A	-18 DA-A	4 DA-A
Plant-Eval Interval	-18 DP-1	-18 DP-1	-18 DP-1	-18 DP-1	4 DP-1
Days After Emergence	-22 DE	-22 DE	-22 DE	-22 DE	0 DE-1
Trt Treatment	Rate	Rate	Rate	Rate	Rate
No. Name	Unit	Unit	Unit	Unit	Unit
	1	2	3	4	5
11 Balance Flexx	0.094 lb ai/a B	99.8 a	93.0 a	93.5 a	100.0 a
Atrazine	1.5 lb ai/a B				
COC	1 % v/v B				
12 Corvus	0.112 lb ai/a B	100.0 a	98.5 a	98.8 a	100.0 a
Atrazine	1.5 lb ai/a B				
2,4-D Ester	0.5 lb ai/a B				
COC	1 % v/v B				
13 Balance Flexx	0.094 lb ai/a B	100.0 a	97.0 a	100.0 a	100.0 a
Atrazine	1.5 lb ai/a B				
2,4-D Ester	0.5 lb ai/a B				
COC	1 % v/v B				
14 UNTREATED		0.0 b	0.0 b	0.0 b	0.0 b
LSD (P=.05)		0.41	7.60	8.83	1.51
Standard Deviation		0.28	5.12	5.94	1.01
CV		0.37	11.51	13.23	2.19
Bartlett's X2		0.0	10.073	21.404	0.0
P(Bartlett's X2)		.	0.073	0.001*	.
Replicate F		0.545	0.943	0.432	0.472
Replicate Prob(F)		0.6575	0.4406	0.7327	0.7056
Treatment F		112021.496	381.849	289.372	10534.177
Treatment Prob(F)		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.

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Pest Type Pest Code Pest Scientific Name	W Weed TAROF Taraxacum offi>	W Weed STEME Stellaria media	W Weed LAMP Lamium purpure>			W Weed SETFA Setaria faberi			
Pest Name	Common dandel>	Common chickwe>	Purple deadnet>			Giant foxtail			
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX			
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR			
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays			
Crop Name	Corn	Corn	Corn	Corn	Corn	Corn			
Crop Variety	DKC60-18	DKC60-18	DKC60-18	DKC60-18	DKC60-18	DKC60-18			
Part Rated	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P			
Rating Date	5/26/09	5/26/09	5/26/09	6/1/09	6/9/09	6/9/09			
Rating Type	CONTRO	CONTRO	CONTRO	PHYGEN	PHYGEN	CONTRO			
Rating Unit	%	%	%	%	%	%			
Number of Subsamples	1	1	1	1	1	1			
Crop Stage Majority	01	01	01	12	V2-V3	V2-V3			
Crop Stage Minimum/Maximum				11 13					
Pest Stage Majority	65	65	65			3-6 leaf			
Pest Stage Minimum/Maximum	4-6 IN	1-4 IN	2-4 IN						
Pest Density, Unit	1 YD2	1 YD2	1 YD2			50 YD2			
Assessed By	JM	JM	JM	PM&JD	PM/JM	PM/JM			
Days After First/Last Applic.	40 4	40 4	40 4	46 10	54 18	54 18			
Trt-Eval Interval	4 DA-A	4 DA-A	4 DA-A	10 DA-A					
Plant-Eval Interval	4 DP-1	4 DP-1	4 DP-1	10 DP-1	18 DP-1	18 DP-1			
Days After Emergence	0 DE-1	0 DE-1	0 DE-1	6 DE-1	14 DE-	14 DE-			
Trt Treatment No. Name	Rate	Unit	Appl Code	6	7	8	9	10	11
1 UNTREATED				0.0 b	0.0 b	0.0 b	0.0 a	0.0 a	0.0 b
2 Glyphos Xtra	0.75 lb	ae/a C		0.0 b	0.0 b	0.0 b	10.0 a	0.0 a	63.8 a
Metribuzin	0.125 lb	ai/a C							
UAN 28%	3 %	v/v C							
3 Glyphos Xtra	0.75 lb	ae/a C		0.0 b	0.0 b	0.0 b	0.0 a	0.0 a	87.1 a
Metribuzin	0.188 lb	ai/a C							
UAN 28%	3 %	v/v C							
4 Glyphos Xtra	0.75 lb	ae/a C		0.0 b	0.0 b	0.0 b	0.0 a	0.0 a	88.0 a
Metribuzin	0.25 lb	ai/a C							
UAN 28%	3 %	v/v C							
5 Glyphos Xtra	0.75 lb	ae/a C		0.0 b	0.0 b	0.0 b	0.0 a	0.0 a	82.5 a
Metribuzin	0.094 lb	ai/a C							
UAN 28%	3 %	v/v C							
Glyphos Xtra	0.75 lb	ae/a D							
Metribuzin	0.094 lb	ai/a D							
UAN 28%	3 %	v/v D							
6 Glyphos Xtra	0.75 lb	ae/a C		0.0 b	0.0 b	0.0 b	0.0 a	0.0 a	91.3 a
Atrazine	1 lb	ai/a C							
UAN 28%	3 %	v/v C							
7 Surestart	1.6 lb	ai/a A		98.5 a	100.0 a	100.0 a	0.0 a	0.0 a	
Durango DMA	0.75 lb	ae/a A							
2,4-D Amine	0.5 lb	ai/a A							
Ammonium Sulfate	2 %	w/w A							
Durango DMA	0.75 lb	ae/a D							
Ammonium Sulfate	2 %	w/w D							
8 Surestart	1.6 lb	ai/a A		99.5 a	100.0 a	100.0 a	0.0 a	0.0 a	
AAtrax Nine-O	1 lb	ai/a A							
Durango DMA	0.75 lb	ae/a A							
2,4-D Amine	0.5 lb	ai/a A							
Ammonium Sulfate	2 %	w/w A							
Durango DMA	0.75 lb	ae/a D							
Ammonium Sulfate	2 %	w/w D							
9 Surestart	0.93 lb	ai/a D					0.0 a	0.0 a	
Durango DMA	0.75 lb	ae/a D							
Ammonium Sulfate	2 %	w/w D							
10 Corvus	0.112 lb	ai/a B		97.3 a	98.8 a	100.0 a	0.0 a	0.0 a	
Atrazine	1.5 lb	ai/a B							
COC	1 %	v/v B							

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Pest Type	W Weed	W Weed	W Weed			W Weed		
Pest Code	TAROF	STEME	LAMPU			SETFA		
Pest Scientific Name	Taraxacum offi>	Stellaria media	Lamium purpure>			Setaria faberi		
Pest Name	Common dandel>	Common chickwe>	Purple deadnet>			Giant foxtail		
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX		
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR		
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays		
Crop Name	Corn	Corn	Corn	Corn	Corn	Corn		
Crop Variety	DKC60-18	DKC60-18	DKC60-18	DKC60-18	DKC60-18	DKC60-18		
Part Rated	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P		
Rating Date	5/26/09	5/26/09	5/26/09	6/1/09	6/9/09	6/9/09		
Rating Type	CONTRO	CONTRO	CONTRO	PHYGEN	PHYGEN	CONTRO		
Rating Unit	%	%	%	%	%	%		
Number of Subsamples	1	1	1	1	1	1		
Crop Stage Majority	01	01	01	12	V2-V3	V2-V3		
Crop Stage Minimum/Maximum				11 13				
Pest Stage Majority	65	65	65			3-6 leaf		
Pest Stage Minimum/Maximum	4-6 IN	1-4 IN	2-4 IN					
Pest Density, Unit	1 YD2	1 YD2	1 YD2			50 YD2		
Assessed By	JM	JM	JM	PM&JD	PM/JM	PM/JM		
Days After First/Last Applic.	40 4	40 4	40 4	46 10	54 18	54 18		
Trt-Eval Interval	4 DA-A	4 DA-A	4 DA-A	10 DA-A				
Plant-Eval Interval	4 DP-1	4 DP-1	4 DP-1	10 DP-1	18 DP-1	18 DP-1		
Days After Emergence	0 DE-1	0 DE-1	0 DE-1	6 DE-1	14 DE-	14 DE-		
Trt Treatment	Rate	Appl						
No. Name	Rate Unit	Code	6	7	8	9	10	11
11 Balance Flexx	0.094 lb ai/a B	B	89.8 a	97.5 a	100.0 a	0.0 a	0.0 a	
Atrazine	1.5 lb ai/a B	B						
COC	1 % v/v B	B						
12 Corvus	0.112 lb ai/a B	B	99.5 a	96.3 a	100.0 a	0.0 a	0.0 a	
Atrazine	1.5 lb ai/a B	B						
2,4-D Ester	0.5 lb ai/a B	B						
COC	1 % v/v B	B						
13 Balance Flexx	0.094 lb ai/a B	B	99.0 a	100.0 a	100.0 a	0.0 a	0.0 a	
Atrazine	1.5 lb ai/a B	B						
2,4-D Ester	0.5 lb ai/a B	B						
COC	1 % v/v B	B						
14 UNTREATED			0.0 b	0.0 b	0.0 b	0.0 a	0.0 a	0.0 b
LSD (P=.05)	8.77		5.08	0.00	6.46	0.00	26.42	
Standard Deviation	5.90		3.42	0.00	4.46	0.00	17.71	
CV	13.15		7.5	0.0	624.5	0.0	30.04	
Bartlett's X2	35.581		3.049	0.0	0.0	0.0	22.719	
P(Bartlett's X2)	0.001*		0.218	.	.	.	0.001*	
Replicate F	0.475		1.479	0.000	0.718	0.000	0.745	
Replicate Prob(F)	0.7036		0.2537	1.0000	0.5496	1.0000	0.5399	
Treatment F	293.128		898.034	0.000	1.436	0.000	21.699	
Treatment Prob(F)	0.0001		0.0001	1.0000	0.2045	1.0000	0.0001	

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Pest Type Pest Code Pest Scientific Name	W Weed TAROF Taraxacum offi>	W Weed THLAR Thlaspi arvense	W Weed STEME Stellaria media	W Weed SETFA Setaria faberi	W Weed TAROF Taraxacum offi>	
Pest Name	Common dandel>	Field pennycr>	Common chickwe>	Giant foxtail	Common dandel>	
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR	
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	
Crop Name	Corn	Corn	Corn	Corn	Corn	
Crop Variety	DKC60-18	DKC60-18	DKC60-18	DKC60-18	DKC60-18	
Part Rated	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P	
Rating Date	6/9/09	6/9/09	6/9/09	6/12/09	6/12/09	
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	
Rating Unit	%	%	%	%	%	
Number of Subsamples	1	1	1	1	1	
Crop Stage Majority	V2-V3	V2-V3	V2-V3	V3	V3	
Crop Stage Minimum/Maximum						
Pest Stage Majority	FLOWER	SEED	FLOWER		FLOWER	
Pest Stage Minimum/Maximum						
Pest Density, Unit	1.5 YD2	15 YD2	15 YD2	30 FT2	1.5 YD2	
Assessed By	PM/JM	PM/JM	PM/JM	AR/MH	AR/MH	
Days After First/Last Applic.	54 18	54 18	54 18	57 3	57 3	
Trt-Eval Interval						
Plant-Eval Interval	18 DP-1	18 DP-1	18 DP-1	21 DP-1	21 DP-1	
Days After Emergence	14 DE-	14 DE-	14 DE-	17 DE-	17 DE-	
Trt Treatment No. Name	Rate	Rate	Rate	Rate	Rate	
Unit	Unit	Unit	Unit	Unit	Unit	
Code	Code	Code	Code	Code	Code	
	12	13	14	15	16	
1 UNTREATED	0.0 b	0.0 b	0.0 c	0.0 d	0.0 b	
2 Glyphos Xtra Metribuzin UAN 28%	0.75 lb ae/a C 0.125 lb ai/a C 3 % v/v C	65.0 a	99.5 a	99.3 b	73.6 bc	85.0 a
3 Glyphos Xtra Metribuzin UAN 28%	0.75 lb ae/a C 0.188 lb ai/a C 3 % v/v C	73.8 a	97.5 a	100.0 a	80.4 ab	81.3 a
4 Glyphos Xtra Metribuzin UAN 28%	0.75 lb ae/a C 0.25 lb ai/a C 3 % v/v C	80.0 a	99.5 a	100.0 a	62.5 c	86.0 a
5 Glyphos Xtra Metribuzin UAN 28% Glyphos Xtra Metribuzin UAN 28%	0.75 lb ae/a C 0.094 lb ai/a C 3 % v/v C 0.75 lb ae/a D 0.094 lb ai/a D 3 % v/v D	73.8 a	99.5 a	99.5 ab	94.5 a	93.8 a
6 Glyphos Xtra Atrazine UAN 28%	0.75 lb ae/a C 1 lb ai/a C 3 % v/v C	87.5 a	99.5 a	100.0 a	88.3 a	96.3 a
7 Surestart Durango DMA 2,4-D Amine Ammonium Sulfate Durango DMA Ammonium Sulfate	1.6 lb ai/a A 0.75 lb ae/a A 0.5 lb ai/a A 2 % w/w A 0.75 lb ae/a D 2 % w/w D					
8 Surestart AAtrex Nine-O Durango DMA 2,4-D Amine Ammonium Sulfate Durango DMA Ammonium Sulfate	1.6 lb ai/a A 1 lb ai/a A 0.75 lb ae/a A 0.5 lb ai/a A 2 % w/w A 0.75 lb ae/a D 2 % w/w D					
9 Surestart Durango DMA Ammonium Sulfate	0.93 lb ai/a D 0.75 lb ae/a D 2 % w/w D					
10 Corvus Atrazine COC	0.112 lb ai/a B 1.5 lb ai/a B 1 % v/v B					

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Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	TAROF	THLAR	STEME	SETFA	TAROF
Pest Scientific Name	Taraxacum offi>	Thlaspi arvense	Stellaria media	Setaria faberi	Taraxacum offi>
Pest Name	Common dandel>	Field pennycr>	Common chickwe>	Giant foxtail	Common dandel>
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays
Crop Name	Corn	Corn	Corn	Corn	Corn
Crop Variety	DKC60-18	DKC60-18	DKC60-18	DKC60-18	DKC60-18
Part Rated	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P
Rating Date	6/9/09	6/9/09	6/9/09	6/12/09	6/12/09
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Crop Stage Majority	V2-V3	V2-V3	V2-V3	V3	V3
Crop Stage Minimum/Maximum					
Pest Stage Majority	FLOWER	SEED	FLOWER		FLOWER
Pest Stage Minimum/Maximum					
Pest Density, Unit	1.5 YD2	15 YD2	15 YD2	30 FT2	1.5 YD2
Assessed By	PM/JM	PM/JM	PM/JM	AR/MH	AR/MH
Days After First/Last Applic.	54 18	54 18	54 18	57 3	57 3
Trt-Eval Interval					
Plant-Eval Interval	18 DP-1	18 DP-1	18 DP-1	21 DP-1	21 DP-1
Days After Emergence	14 DE-	14 DE-	14 DE-	17 DE-	17 DE-
Trt Treatment	Rate	Rate	Rate	Rate	Rate
No. Name	Unit	Unit	Unit	Unit	Unit
	Code	Code	Code	Code	Code
	12	13	14	15	16
11 Balance Flexx	0.094 lb ai/a B				
Atrazine	1.5 lb ai/a B				
COC	1 % v/v B				
12 Corvus	0.112 lb ai/a B				
Atrazine	1.5 lb ai/a B				
2,4-D Ester	0.5 lb ai/a B				
COC	1 % v/v B				
13 Balance Flexx	0.094 lb ai/a B				
Atrazine	1.5 lb ai/a B				
2,4-D Ester	0.5 lb ai/a B				
COC	1 % v/v B				
14 UNTREATED	0.0 b	0.0 b	0.0 c	0.0 d	0.0 b
LSD (P=.05)	37.38	2.80	0.43	12.00	23.59
Standard Deviation	25.16	1.87	0.29	8.01	15.88
CV	46.36	2.65	0.4	14.04	25.13
Bartlett's X2	3.088	22.698	0.0	11.876	9.993
P(Bartlett's X2)	0.543	0.001*	.	0.018*	0.041*
Replicate F	1.008	2.020	1.633	0.889	0.015
Replicate Prob(F)	0.4122	0.1493	0.2213	0.4677	0.9973
Treatment F	8.981	2663.347	116606.027	101.199	29.982
Treatment Prob(F)	0.0001	0.0001	0.0001	0.0001	0.0001

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Pest Type		W Weed	W Weed			
Pest Code		SETFA	TAROF			
Pest Scientific Name		Setaria faberi	Taraxacum offi>			
Pest Name		Giant foxtail	Common dandel>			
Crop Code	ZEAMX	ZEAMX	ZEAMX			
BBCH Scale	BCOR	BCOR	BCOR			
Crop Scientific Name	Zea mays	Zea mays	Zea mays			
Crop Name	Corn	Corn	Corn			
Crop Variety	DKC60-18	DKC60-18	DKC60-18			
Part Rated	PLOT P	PLOT P	PLOT P			
Rating Date	6/23/09	6/23/09	6/23/09			
Rating Type	PHYGEN	CONTRO	CONTRO			
Rating Unit	%	%	%			
Number of Subsamples	1	1	1			
Crop Stage Majority	V4	V4	V4			
Crop Stage Minimum/Maximum						
Pest Stage Majority		1-12"	FLOWER			
Pest Stage Minimum/Maximum						
Pest Density, Unit		40 FT2	1.5 YD2			
Assessed By	AR/MH	AR/MH	AR/MH			
Days After First/Last Applic.	68 14	68 14	68 14			
Trt-Eval Interval						
Plant-Eval Interval	32 DP-1	32 DP-1	32 DP-1			
Days After Emergence	28 DE-	28 DE-	28 DE-			
Trt No.	Treatment Name	Rate	Appl Code	17	18	19
1	UNTREATED			0.0 a	0.0 e	0.0 b
2	Glyphos Xtra Metribuzin UAN 28%	0.75 lb ae/a C 0.125 lb ai/a C 3 % v/v C		0.0 a	10.0 de	83.8 a
3	Glyphos Xtra Metribuzin UAN 28%	0.75 lb ae/a C 0.188 lb ai/a C 3 % v/v C		0.0 a	26.3 bc	78.8 a
4	Glyphos Xtra Metribuzin UAN 28%	0.75 lb ae/a C 0.25 lb ai/a C 3 % v/v C		0.0 a	16.3 cde	93.8 a
5	Glyphos Xtra Metribuzin UAN 28% Glyphos Xtra Metribuzin UAN 28%	0.75 lb ae/a C 0.094 lb ai/a C 3 % v/v C 0.75 lb ae/a D 0.094 lb ai/a D 3 % v/v D		0.0 a	89.3 a	98.8 a
6	Glyphos Xtra Atrazine UAN 28%	0.75 lb ae/a C 1 lb ai/a C 3 % v/v C		0.0 a	33.8 b	95.0 a
7	Surestart Durango DMA 2,4-D Amine Ammonium Sulfate Durango DMA Ammonium Sulfate	1.6 lb ai/a A 0.75 lb ae/a A 0.5 lb ai/a A 2 % w/w A 0.75 lb ae/a D 2 % w/w D		0.0 a	96.0 a	99.5 a
8	Surestart AAtrex Nine-O Durango DMA 2,4-D Amine Ammonium Sulfate Durango DMA Ammonium Sulfate	1.6 lb ai/a A 1 lb ai/a A 0.75 lb ae/a A 0.5 lb ai/a A 2 % w/w A 0.75 lb ae/a D 2 % w/w D		0.0 a	94.8 a	98.8 a
9	Surestart Durango DMA Ammonium Sulfate	0.93 lb ai/a D 0.75 lb ae/a D 2 % w/w D		0.0 a	97.8 a	81.3 a
10	Corvus Atrazine COC	0.112 lb ai/a B 1.5 lb ai/a B 1 % v/v B		0.0 a	0.0 e	96.3 a

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Pest Type		W Weed	W Weed
Pest Code		SETFA	TAROF
Pest Scientific Name		Setaria faberi	Taraxacum offi>
Pest Name		Giant foxtail	Common dandel>
Crop Code	ZEAMX	ZEAMX	ZEAMX
BBCH Scale	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays	Zea mays	Zea mays
Crop Name	Corn	Corn	Corn
Crop Variety	DKC60-18	DKC60-18	DKC60-18
Part Rated	PLOT P	PLOT P	PLOT P
Rating Date	6/23/09	6/23/09	6/23/09
Rating Type	PHYGEN	CONTRO	CONTRO
Rating Unit	%	%	%
Number of Subsamples	1	1	1
Crop Stage Majority	V4	V4	V4
Crop Stage Minimum/Maximum			
Pest Stage Majority		1-12"	FLOWER
Pest Stage Minimum/Maximum			
Pest Density, Unit		40 FT2	1.5 YD2
Assessed By	AR/MH	AR/MH	AR/MH
Days After First/Last Applic.	68 14	68 14	68 14
Trt-Eval Interval			
Plant-Eval Interval	32 DP-1	32 DP-1	32 DP-1
Days After Emergence	28 DE-	28 DE-	28 DE-
Trt Treatment	Rate	Rate	Rate
No. Name	Unit	Unit	Unit
	Code		
	17	18	19
11 Balance Flexx	0.094 lb ai/a B	0.0 a	90.0 a
Atrazine	1.5 lb ai/a B		
COC	1 % v/v B		
12 Corvus	0.112 lb ai/a B	0.0 a	88.8 a
Atrazine	1.5 lb ai/a B		
2,4-D Ester	0.5 lb ai/a B	2.5 e	
COC	1 % v/v B		
13 Balance Flexx	0.094 lb ai/a B	0.0 a	93.8 a
Atrazine	1.5 lb ai/a B		
2,4-D Ester	0.5 lb ai/a B	17.5 cd	
COC	1 % v/v B		
14 UNTREATED		0.0 a	0.0 b
LSD (P=.05)	0.00	10.89	21.17
Standard Deviation	0.00	7.62	14.81
CV	0.0	22.05	18.88
Bartlett's X2	0.0	35.355	49.214
P(Bartlett's X2)	.	0.001*	0.001*
Replicate F	0.000	2.278	0.781
Replicate Prob(F)	1.0000	0.0947	0.5118
Treatment F	0.000	113.810	20.908
Treatment Prob(F)	1.0000	0.0001	0.0001

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Glyphos X-tra Plus Efficacy in no-till corn

Trial ID: 09S-THP-NTC-39 Protocol ID: 09S-THP-NTC-39
 Location: Throckmorton Study Director: Paul Marquardt/Melissa Kruger
 Project ID: Investigator: Dr. Bill Johnson
 Sponsor Contact: Cheminova/Dow/Bayer

Pest Type

W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop

Pest Code

THLAR, Thlaspi arvense, = US
 TAROF, Taraxacum officinale, = US
 STEME, Stellaria media, = US
 LAMPU, Lamium purpureum, = US
 SETFA, Setaria faberi, = US

Crop Code

ZEAMX, BCOR, Zea mays, = US

Part Rated

PLOT = plot
 P = Pest is Part Rated

Rating Type

CONTRO = control / burndown or knockdown
 PHYGEN = phytotoxicity - general / injury

Rating Unit

% = percent

Crop Stage Majority

01 = Beginning of imbibition
 12 = 2 leaves unfolded

Crop Stage Minimum/Maximum

11 = First leaf unfolded
 13 = 3 leaves unfolded

Pest Stage Majority

65 = Full flowering: 50% of flowers open, first petals may be fallen

YD2 = per square yard

FT2 = per square foot

Plant-Eval Interval

-18 DP-1 = 1 5/22/09
 4 DP-1 = 1 5/22/09
 10 DP-1 = 1 5/22/09
 18 DP-1 = 1 5/22/09
 21 DP-1 = 1 5/22/09
 32 DP-1 = 1 5/22/09