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Evaluation of Non ATZ Herbicide Premixes for use in Corn

Trial ID: 11S-THP-NTC-62 Protocol ID: 11S-THP-NTC-03
 Location: Throckmorton Study Director: White/Marquardt
 Project ID: 2011-01-24-17 Investigator: Dr. Bill Johnson
 Sponsor Contact: Monsanto - John Willis

General Trial Information

Study Director: White/Marquardt **Title:** Research Associate
Investigator: Dr. Bill Johnson **Title:** Professor

Discipline: H herbicide
Trial Status: Established
Initiation Date: 4-9-2011

Trial Location

City: Lafayette
State/Prov.: IN
Postal Code: 47909
Country: USA

Personnel

Study Director: White/Marquardt **Title:** Research Associate

Affiliation: Purdue University
Address: 915 W State Street
Location: West Lafayette, IN, USA

Postal Code: 47907 **E-mail:** mdwhite@purdue.edu
Phone No.: 765-494-0891

Investigator: Dr. Bill Johnson **Title:** Professor

Affiliation: Purdue University
Address: 915 W State Street
Location: West Lafayette, IN, USA

Postal Code: 47907 **E-mail:** wji@purdue.edu
Phone No.: 765-494-4656 **Mobile No.:** 765-404-9801

Cooperator/Landowner

Cooperator: Throckmorton Purdue Ag Center **Role:** Purdue Ag Center

Organization: Purdue University
Address 1: 8343 US 231 S

City: Lafayette

Phone No.: 765-538-3422
Fax No.: 765-538-3423

State/Prov: IN
Postal Code: 47909 **E-mail:** jayyoung@purdue.edu
Country: USA United States

Crop Description

Crop 1: ZEAMD Zea mays indentata Dent corn
Variety: Pioneer 33W84 **Description:** HXX, LL, RR2
BBCH Scale: BCOR **Planting Date:** 5-11-2011
Planting Method: PLANTD planted **Rate, Unit:** 34000 S/A
Depth, Unit: 1.5 IN
Row Spacing, Unit: 30 IN

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:** RACOB1 Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

Soil Description

Description Name: TPAC - Field 5
% OM: 2.3 **Texture:** SIL silt loam
pH: 6.6 **Soil Name:** Longlois
CEC: 9.9

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Application Description

	A	B
Application Date:	5-5-2011	6-13-2011
Time of Day:	2 PM	
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	EAPOCR
Application Placement:	FOLIAR	FOLIAR
Applied By:	MW	MW
Air Temperature, Unit:	92 F	77 F
% Relative Humidity:	70.5	56
Wind Velocity, Unit:	3.8 MPH	3 MMPH
Wind Direction:	E	W
Dew Presence (Y/N):	N no	N no
Soil Temperature, Unit:	79 F	80 F
Soil Moisture:	DRY	DRY
% Cloud Cover:	35	10

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	ZEAMD BCOR	ZEAMD BCOR

Application Equipment

	A	B
Appl. Equipment:	CO2 FORD	CO2 FORD
Equipment Type:	SPTRMO	SPTRMO
Nozzle Type:	FLAT FAN	FLAT FAN
Nozzle Size:	XR 100 02	XR 100 02
Nozzle Spacing, Unit:	20 IN	20 IN
Nozzles/Row:	6	6
Boom Length, Unit:	10 FT	10 FT
Boom Height, Unit:	20 IN	20 IN
Ground Speed, Unit:	2.1 MPH	2.1 MPH
Carrier:	MEIGS	MEIGS
Spray Volume, Unit:	20 gal/ac	20 gal/ac
Mix Size, Unit:	2.5 liters	2.5 liters
Propellant:	CO2	CO2

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Pest Type		W Weed SETFA	W Weed ERICA	W Weed LACSE	W Weed AMBTR	W Weed SETFA	W Weed LACSE			
Pest Code		Setaria faberi	Conyza canadens>	Lactuca serrio>	Ambrosia trifri>	Setaria faberi	Lactuca serrio>			
Pest Scientific Name										
Pest Name		Giant foxtail	Canada horsewe>	Prickly lettuce	Giant ragweed	Giant foxtail	Prickly lettuce			
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX			
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR			
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays			
Crop Name	Corn	Corn	Corn	Corn	Corn	Corn	Corn			
Part Rated										
Rating Date	7-11-2011	7-11-2011	7-11-2011	7-11-2011	7-11-2011	8-2-2011	8-2-2011			
Rating Type	PHYSTU	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO			
Rating Unit	%	%	%	%	%	%	%			
Number of Subsamples	1	1	1	1	1	1	1			
Crop Stage Majority	V14	V14	V14	V14	V14	R2	R2			
Pest Stage Majority		30 IN	36 IN	30 IN	40 IN	20 IN	40 IN			
Pest Density, Unit		40 YD2	30 YD2	8 YD2	3 YD2	40 YD2	6 YD2			
Assessed By	RT/RH	RT/RH	RT/RH	RT/RH	RT/RH	MW	MW			
Days After First/Last Applic.	67 28	67 28	67 28	67 28	67 28	89 50	89 50			
Plant-Eval Interval	61 DP-1	61 DP-1	61 DP-1	61 DP-1	61 DP-1	83 DP-1	83 DP-1			
Trt Treatment	Rate	Unit	Appl Code	1	2	3	4	5	6	7
1 Untreated Check				0.0 c	0.0 c	0.0 c	0.0 b	0.0 b	0.0 c	0.0 b
2 Degree Xtra (4.04 CS)	2.53 lb ai/a		A	0.0 c	59.5 b	100.0 a	100.0 a	92.5 a	76.8 b	99.0 a
Balance Flexx (2 SC)	0.078 lb ai/a		A							
Atrazine	0.5 lb ai/a		A							
Roundup PowerMax 4.5 SL	0.773 lb ae/a		A							
Class Act NG	2.5 % v/v		A							
3 Corvus (2.63 SC)	0.092 lb ai/a		A	0.0 c	54.0 b	98.3 a	100.0 a	89.9 a	89.2 ab	99.0 a
Atrazine	0.5 lb ai/a		A							
Roundup PowerMax 4.5 SL	0.773 lb ae/a		A							
Class Act NG	2.5 % v/v		A							
4 Roundup PowerMax 4.5 SL	0.773 lb ae/a		A	0.0 c	90.8 a	100.0 a	100.0 a	98.8 a	96.5 a	99.0 a
Class Act NG	2.5 % v/v		A							
Roundup PowerMax 4.5 SL	0.773 lb ae/a		B							
Tripleflex (4.25 SC)	1.549 lb ai/a		B							
Class Act NG	2.5 % v/v		B							
5 Roundup PowerMax 4.5 SL	0.773 lb ae/a		A	0.0 c	79.3 a	94.5 ab	100.0 a	97.5 a	85.0 ab	99.0 a
Class Act NG	2.5 % v/v		A							
Roundup PowerMax 4.5 SL	0.773 lb ae/a		B							
Callisto (4.0 SC)	0.094 lb ai/a		B							
Class Act NG	2.5 % v/v		B							
6 Roundup PowerMax 4.5 SL	0.773 lb ae/a		A	6.3 b	92.5 a	98.3 a	100.0 a	100.0 a	93.0 a	99.0 a
Class Act NG	2.5 % v/v		A							
Roundup PowerMax 4.5 SL	0.773 lb ae/a		B							
Laudis (3.5 SL)	0.082 lb ai/a		B							
AMS - Liquid	8.34 lb ai/100 gal		B							
Destiny HC	0.5 % v/v		B							
7 Roundup PowerMax 4.5 SL	0.773 lb ae/a		A	0.0 c	94.3 a	97.5 a	100.0 a	100.0 a	96.3 a	99.0 a
Class Act NG	2.5 % v/v		A							
Roundup PowerMax 4.5 SL	0.773 lb ae/a		B							
Lumax (3.95 SC)	2.96 lb ai/a		B							
Class Act NG	2.5 % v/v		B							

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		W Weed SETFA	W Weed ERICA	W Weed LACSE	W Weed AMBTR	W Weed SETFA	W Weed LACSE				
Pest Code		Setaria faberi	Conyza canadensis	Lactuca serriola	Ambrosia trifida	Setaria faberi	Lactuca serriola				
Pest Scientific Name		Giant foxtail	Canada horseweed	Prickly lettuce	Giant ragweed	Giant foxtail	Prickly lettuce				
Pest Name											
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX				
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR				
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays				
Crop Name	Corn	Corn	Corn	Corn	Corn	Corn	Corn				
Part Rated											
Rating Date	7-11-2011	7-11-2011	7-11-2011	7-11-2011	7-11-2011	8-2-2011	8-2-2011				
Rating Type	PHYSTU	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO				
Rating Unit	%	%	%	%	%	%	%				
Number of Subsamples	1	1	1	1	1	1	1				
Crop Stage Majority	V14	V14	V14	V14	V14	R2	R2				
Pest Stage Majority		30 IN	36 IN	30 IN	40 IN	20 IN	40 IN				
Pest Density, Unit Assessed By	RT/RH	40 YD2 RT/RH	30 YD2 RT/RH	8 YD2 RT/RH	3 YD2 RT/RH	40 YD2 MW	6 YD2 MW				
Days After First/Last Applic.	67 28	67 28	67 28	67 28	67 28	89 50	89 50				
Plant-Eval Interval	61 DP-1	61 DP-1	61 DP-1	61 DP-1	61 DP-1	83 DP-1	83 DP-1				
Trt No.	Treatment Name	Rate	Unit	Appl Code	1	2	3	4	5	6	7
8	Halex GT (4.39 SC) Class Act NG	2.195 lb 2.5 %	ai/a v/v	B B	17.5 a	94.0 a	87.8 b	100.0 a	100.0 a	93.5 a	99.0 a
9	Roundup PowerMax 4.5 SL Class Act NG Roundup PowerMax 4.5 SL Warrant (3 CS) Callisto (4.0 SC) Class Act NG	0.773 lb 2.5 % 0.773 lb 1.125 lb 0.094 lb 2.5 %	ae/a v/v ae/a ai/a ai/a v/v	A A B B B B	0.0 c	94.8 a	94.0 ab	100.0 a	100.0 a	97.0 a	99.0 a
10	Roundup PowerMax 4.5 SL Class Act NG Roundup PowerMax 4.5 SL Tripleflex (4.25 SC) Callisto (4.0 SC) Class Act NG	0.773 lb 2.5 % 0.773 lb 0.93 lb 0.094 lb 2.5 %	ae/a v/v ae/a ai/a ai/a v/v	A A B B B B	0.0 c	91.3 a	100.0 a	100.0 a	100.0 a	94.8 a	99.0 a
11	Roundup PowerMax 4.5 SL Class Act NG Roundup PowerMax 4.5 SL Tripleflex (4.25 SC) Callisto (4.0 SC) Class Act NG	0.773 lb 2.5 % 0.773 lb 1.063 lb 0.094 lb 2.5 %	ae/a v/v ae/a ai/a ai/a v/v	A A B B B B	0.0 c	93.3 a	100.0 a	100.0 a	77.5 a	97.5 a	99.0 a
12	Roundup PowerMax 4.5 SL Class Act NG Roundup PowerMax 4.5 SL Tripleflex (4.25 SC) Callisto (4.0 SC) Class Act NG	0.773 lb 2.5 % 0.773 lb 1.594 lb 0.094 lb 2.5 %	ae/a v/v ae/a ai/a ai/a v/v	A A B B B B	0.0 c	96.5 a	98.3 a	100.0 a	100.0 a	97.5 a	99.0 a
13	Roundup PowerMax 4.5 SL Class Act NG Roundup PowerMax 4.5 SL Tripleflex (4.25 SC) Laudis (3.5 SL) AMS - Liquid Destiny HC	0.773 lb 2.5 % 0.773 lb 0.93 lb 0.055 lb 8.34 lb 0.5 %	ae/a v/v ae/a ai/a ai/a ai/100 gal v/v	A A B B B B B	0.0 c	96.3 a	100.0 a	100.0 a	100.0 a	97.0 a	99.0 a
14	Roundup PowerMax 4.5 SL Class Act NG Roundup PowerMax 4.5 SL Tripleflex (4.25 SC) Laudis (3.5 SL) AMS - Liquid Destiny HC	0.773 lb 2.5 % 0.773 lb 1.063 lb 0.055 lb 8.34 lb 0.5 %	ae/a v/v ae/a ai/a ai/a ai/100 gal v/v	A A B B B B B	0.0 c	96.5 a	100.0 a	100.0 a	100.0 a	98.0 a	99.0 a

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Pest Type		W Weed SETFA	W Weed ERICA	W Weed LACSE	W Weed AMBTR	W Weed SETFA	W Weed LACSE				
Pest Code		Setaria faberi	Conyza canadensis	Lactuca serriola	Ambrosia trifida	Setaria faberi	Lactuca serriola				
Pest Scientific Name		Setaria faberi	Conyza canadensis	Lactuca serriola	Ambrosia trifida	Setaria faberi	Lactuca serriola				
Pest Name		Giant foxtail	Canada horseweed	Prickly lettuce	Giant ragweed	Giant foxtail	Prickly lettuce				
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				
Part Rated											
Rating Date		7-11-2011	7-11-2011	7-11-2011	7-11-2011	7-11-2011	8-2-2011				
Rating Type		PHYSTU	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO				
Rating Unit		%	%	%	%	%	%				
Number of Subsamples		1	1	1	1	1	1				
Crop Stage Majority		V14	V14	V14	V14	R2	R2				
Pest Stage Majority		30 IN	36 IN	30 IN	40 IN	20 IN	40 IN				
Pest Density, Unit		40 YD2	30 YD2	8 YD2	3 YD2	40 YD2	6 YD2				
Assessed By		RT/RH	RT/RH	RT/RH	RT/RH	MW	MW				
Days After First/Last Applic.		67 28	67 28	67 28	67 28	89 50	89 50				
Plant-Eval Interval		61 DP-1	61 DP-1	61 DP-1	61 DP-1	83 DP-1	83 DP-1				
Trt No.	Treatment Name	Rate	Unit	Appl Code	1	2	3	4	5	6	7
15	Roundup PowerMax 4.5 SL	0.773	lb ae/a	A	0.0 c	92.0 a	98.8 a	100.0 a	98.8 a	95.5 a	99.0 a
	Class Act NG	2.5	% v/v	A							
	Roundup PowerMax 4.5 SL	0.773	lb ae/a	B							
	Tripleflex (4.25 SC)	1.594	lb ai/a	B							
	Laudis (3.5 SL)	0.055	lb ai/a	B							
	AMS - Liquid	8.34	lb ai/100 gal	B							
	Destiny HC	0.5	% v/v	B							
16	Roundup PowerMax 4.5 SL	0.773	lb ae/a	A	0.0 c	95.8 a	100.0 a	100.0 a	100.0 a	97.5 a	99.0 a
	Class Act NG	2.5	% v/v	A							
	Roundup PowerMax 4.5 SL	0.773	lb ae/a	B							
	Tripleflex (4.25 SC)	1.594	lb ai/a	B							
	Atrazine	0.5	lb ai/a	B							
	Class Act NG	2.5	% v/v	B							
17	Roundup PowerMax 4.5 SL	0.773	lb ae/a	A	0.0 c	96.0 a	100.0 a	100.0 a	99.5 a	97.5 a	99.0 a
	Class Act NG	2.5	% v/v	A							
	Roundup PowerMax 4.5 SL	0.773	lb ae/a	B							
	Tripleflex (4.25 SC)	1.063	lb ai/a	B							
	Impact (2.8 SC)	0.0164	lb ai/a	B							
	AMS - Liquid	17	lb ai/100 gal	B							
	LSD (P=.05)				3.40	16.19	5.66	0.00	17.19	11.19	0.00
	Standard Deviation				2.38	11.33	3.96	0.00	12.03	7.83	0.00
	CV				170.41	13.59	4.3	0.0	13.15	8.86	0.0
	Bartlett's X2				3.466	82.776	9.958	0.0	45.13	91.868	0.0
	P(Bartlett's X2)				0.063	0.001*	0.191	.	0.001*	0.001*	.
	Replicate F				1.276	1.726	0.871	0.000	1.536	0.901	0.000
	Replicate Prob(F)				0.2933	0.1742	0.4626	1.0000	0.2176	0.4479	1.0000
	Treatment F				13.768	19.402	146.607	0.000	16.291	35.850	0.000
	Treatment Prob(F)				0.0001	0.0001	0.0001	1.0000	0.0001	0.0001	1.0000

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Pest Type		W Weed	W Weed						
Pest Code		ERICA	AMBTR						
Pest Scientific Name		Conyza canadensis	Ambrosia trifida						
Pest Name		Canada horseweed	Giant ragweed						
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			
Part Rated				SEED -					
Rating Date		8-2-2011	8-2-2011	8-2-2011	10-3-2011	10-3-2011			
Rating Type		CONTRO	CONTRO	PHYSTU	MOICON	YIELD			
Rating Unit		%	%	%	%	bu/ac			
Number of Subsamples		1	1	1	1	1			
Crop Stage Majority		R2	R2	R2					
Pest Stage Majority		16 IN	40 IN						
Pest Density, Unit		5 YD2	3 YD2						
Assessed By		MW	MW	MW					
Days After First/Last Applic.		89 50	89 50	89 50	151 112	151 112			
Plant-Eval Interval		83 DP-1	83 DP-1	83 DP-1	145 DP-1	145 DP-1			
Trt No.	Treatment Name	Rate	Unit	Appl Code	8	9	10	11	12
1	Untreated Check				0.0 c	0.0 b	22.5 a	21.177 a	23.13 b
2	Degree Xtra (4.04 CS)	2.53 lb ai/a	A		99.0 a	95.8 a	0.0 c	20.623 a	88.50 ab
	Balance Flexx (2 SC)	0.078 lb ai/a	A						
	Atrazine	0.5 lb ai/a	A						
	Roundup PowerMax 4.5 SL	0.773 lb ae/a	A						
	Class Act NG	2.5 % v/v	A						
3	Corvus (2.63 SC)	0.092 lb ai/a	A		96.8 a	98.0 a	0.8 c	21.113 a	87.68 ab
	Atrazine	0.5 lb ai/a	A						
	Roundup PowerMax 4.5 SL	0.773 lb ae/a	A						
	Class Act NG	2.5 % v/v	A						
4	Roundup PowerMax 4.5 SL	0.773 lb ae/a	A		99.0 a	98.5 a	1.3 c	21.020 a	119.45 a
	Class Act NG	2.5 % v/v	A						
	Roundup PowerMax 4.5 SL	0.773 lb ae/a	B						
	Tripleflex (4.25 SC)	1.549 lb ai/a	B						
	Class Act NG	2.5 % v/v	B						
5	Roundup PowerMax 4.5 SL	0.773 lb ae/a	A		93.5 a	95.5 a	1.8 c	20.855 a	122.33 a
	Class Act NG	2.5 % v/v	A						
	Roundup PowerMax 4.5 SL	0.773 lb ae/a	B						
	Callisto (4.0 SC)	0.094 lb ai/a	B						
	Class Act NG	2.5 % v/v	B						
6	Roundup PowerMax 4.5 SL	0.773 lb ae/a	A		98.5 a	99.0 a	0.0 c	20.133 a	101.25 a
	Class Act NG	2.5 % v/v	A						
	Roundup PowerMax 4.5 SL	0.773 lb ae/a	B						
	Laudis (3.5 SL)	0.082 lb ai/a	B						
	AMS - Liquid	8.34 lb ai/100 gal	B						
	Destiny HC	0.5 % v/v	B						
7	Roundup PowerMax 4.5 SL	0.773 lb ae/a	A		95.5 a	99.0 a	0.0 c	21.603 a	96.45 a
	Class Act NG	2.5 % v/v	A						
	Roundup PowerMax 4.5 SL	0.773 lb ae/a	B						
	Lumax (3.95 SC)	2.96 lb ai/a	B						
	Class Act NG	2.5 % v/v	B						

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Pest Type	W Weed	W Weed	ZEAMX	ZEAMX	ZEAMX				
Pest Code	ERICA	AMBTR							
Pest Scientific Name	Conyza canadensis	Ambrosia trifida							
Pest Name	Canada horseweed	Giant ragweed							
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				
Part Rated			SEED -						
Rating Date	8-2-2011	8-2-2011	8-2-2011	10-3-2011	10-3-2011				
Rating Type	CONTRO	CONTRO	PHYSTU	MOICON	YIELD				
Rating Unit	%	%	%	%	bu/ac				
Number of Subsamples	1	1	1	1	1				
Crop Stage Majority	R2	R2	R2						
Pest Stage Majority	16 IN	40 IN							
Pest Density, Unit Assessed By	5 YD2 MW	3 YD2 MW	MW						
Days After First/Last Applic.	89 50	89 50	89 50	151 112	151 112				
Plant-Eval Interval	83 DP-1	83 DP-1	83 DP-1	145 DP-1	145 DP-1				
Trt No.	Treatment Name	Rate	Unit	Appl Code	8	9	10	11	12
8	Halex GT (4.39 SC) Class Act NG	2.195 2.5	lb ai/a % v/v	B B	87.0 b	97.0 a	6.3 b	20.558 a	99.58 a
9	Roundup PowerMax 4.5 SL Class Act NG Roundup PowerMax 4.5 SL Warrant (3 CS) Callisto (4.0 SC) Class Act NG	0.773 2.5 0.773 1.125 0.094 2.5	lb ae/a % v/v lb ae/a lb ai/a lb ai/a % v/v	A A B B B B	95.8 a	99.0 a	0.0 c	21.282 a	86.00 ab
10	Roundup PowerMax 4.5 SL Class Act NG Roundup PowerMax 4.5 SL Tripleflex (4.25 SC) Callisto (4.0 SC) Class Act NG	0.773 2.5 0.773 0.93 0.094 2.5	lb ae/a % v/v lb ae/a lb ai/a lb ai/a % v/v	A A B B B B	99.0 a	98.0 a	0.0 c	21.195 a	111.88 a
11	Roundup PowerMax 4.5 SL Class Act NG Roundup PowerMax 4.5 SL Tripleflex (4.25 SC) Callisto (4.0 SC) Class Act NG	0.773 2.5 0.773 1.063 0.094 2.5	lb ae/a % v/v lb ae/a lb ai/a lb ai/a % v/v	A A B B B B	99.0 a	98.0 a	0.0 c	20.645 a	109.25 a
12	Roundup PowerMax 4.5 SL Class Act NG Roundup PowerMax 4.5 SL Tripleflex (4.25 SC) Callisto (4.0 SC) Class Act NG	0.773 2.5 0.773 1.594 0.094 2.5	lb ae/a % v/v lb ae/a lb ai/a lb ai/a % v/v	A A B B B B	99.0 a	99.0 a	0.0 c	20.663 a	97.75 a
13	Roundup PowerMax 4.5 SL Class Act NG Roundup PowerMax 4.5 SL Tripleflex (4.25 SC) Laudis (3.5 SL) AMS - Liquid Destiny HC	0.773 2.5 0.773 0.93 0.055 8.34 0.5	lb ae/a % v/v lb ae/a lb ai/a lb ai/a lb ai/100 gal % v/v	A A B B B B B	99.0 a	99.0 a	0.0 c	20.240 a	129.15 a
14	Roundup PowerMax 4.5 SL Class Act NG Roundup PowerMax 4.5 SL Tripleflex (4.25 SC) Laudis (3.5 SL) AMS - Liquid Destiny HC	0.773 2.5 0.773 1.063 0.055 8.34 0.5	lb ae/a % v/v lb ae/a lb ai/a lb ai/a lb ai/100 gal % v/v	A A B B B B B	99.0 a	98.5 a	0.0 c	20.625 a	89.80 ab

Means followed by same letter do not significantly differ (P=0.05, Student-Newman-Keuls)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Pest Type	W Weed	W Weed			
Pest Code	ERICA	AMBTR			
Pest Scientific Name	Conyza canadensis	Ambrosia trifida			
Pest Name	Canada horseweed	Giant ragweed			
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
Part Rated				SEED -	
Rating Date	8-2-2011	8-2-2011	8-2-2011	10-3-2011	10-3-2011
Rating Type	CONTRO	CONTRO	PHYSTU	MOICON	YIELD
Rating Unit	%	%	%	%	bu/ac
Number of Subsamples	1	1	1	1	1
Crop Stage Majority	R2	R2	R2		
Pest Stage Majority	16 IN	40 IN			
Pest Density, Unit	5 YD2	3 YD2			
Assessed By	MW	MW	MW		
Days After First/Last Applic.	89 50	89 50	89 50	151 112	151 112
Plant-Eval Interval	83 DP-1	83 DP-1	83 DP-1	145 DP-1	145 DP-1
Trt Treatment	Rate	Appl			
No. Name	Rate Unit	Code	8	9	10
15 Roundup PowerMax 4.5 SL	0.773 lb ae/a	A	99.0 a	99.0 a	0.8 c
Class Act NG	2.5 % v/v	A			
Roundup PowerMax 4.5 SL	0.773 lb ae/a	B			19.898 a
Tripleflex (4.25 SC)	1.594 lb ai/a	B			
Laudis (3.5 SL)	0.055 lb ai/a	B			
AMS - Liquid	8.34 lb ai/100 gal	B			
Destiny HC	0.5 % v/v	B			
16 Roundup PowerMax 4.5 SL	0.773 lb ae/a	A	99.0 a	99.0 a	0.0 c
Class Act NG	2.5 % v/v	A			
Roundup PowerMax 4.5 SL	0.773 lb ae/a	B			20.750 a
Tripleflex (4.25 SC)	1.594 lb ai/a	B			
Atrazine	0.5 lb ai/a	B			
Class Act NG	2.5 % v/v	B			
17 Roundup PowerMax 4.5 SL	0.773 lb ae/a	A	99.0 a	99.0 a	0.0 c
Class Act NG	2.5 % v/v	A			20.653 a
Roundup PowerMax 4.5 SL	0.773 lb ae/a	B			
Tripleflex (4.25 SC)	1.063 lb ai/a	B			
Impact (2.8 SC)	0.0164 lb ai/a	B			
AMS - Liquid	17 lb ai/100 gal	B			86.78 ab
LSD (P=.05)	6.17	3.15	2.52	1.5367	46.002
Standard Deviation	4.32	2.20	1.76	1.0753	32.190
CV	4.71	2.38	90.03	5.18	32.53
Bartlett's X2	16.465	20.75	5.777	14.778	15.935
P(Bartlett's X2)	0.006*	0.004*	0.329	0.541	0.457
Replicate F	0.968	1.288	1.497	6.612	32.142
Replicate Prob(F)	0.4155	0.2894	0.2272	0.0008	0.0001
Treatment F	121.686	468.501	39.190	0.664	2.216
Treatment Prob(F)	0.0001	0.0001	0.0001	0.8131	0.0173

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.

Purdue University

Evaluation of Non ATZ Herbicide Premixes for use in Corn

Trial ID: 11S-THP-NTC-62

Protocol ID: 11S-THP-NTC-03

Location: Throckmorton
Project ID: 2011-01-24-17Study Director: White/Marquardt
Investigator: Dr. Bill Johnson

Sponsor Contact: Monsanto - John Willis

Pest Type

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

Pest Code

SETFA, Setaria faberi, = US

ERICA, Conyza canadensis, = US

LACSE, Lactuca serriola, = US

AMBTR, Ambrosia trifida, = US

Crop Code

ZEAMX, BCOR, Zea mays, = US

Part Rated

SEED = seed

Rating Type

PHYSTU = phytotoxicity - stunting

CONTRO = control / burndown or knockdown

MOICON = moisture content

YIELD = yield

Rating Unit

% = percent

bu/ac = bushels per acre

YD2 = per square yard

Plant-Eval Interval

61 DP-1 = 1 ZEAMD 5-11-2011

83 DP-1 = 1 ZEAMD 5-11-2011

145 DP-1 = 1 ZEAMD 5-11-2011