

Purdue University Weed Science

Comparison of Corn Herbicide Programs

Trial ID: 14S-SEP-NTC-11 Location: SEPAC Trial Year: 2014
 Protocol ID: 14S-SEP-NTC-11 Investigator: Dr. Bill Johnson
 Project ID: 2014-01-24- Study Director: Joe Ikley
 Sponsor Contact: Monsanto - Dan Childs

General Trial Information

Study Director: Joe Ikley **Title:** Research Associate
Investigator: Dr. Bill Johnson **Title:** Professor

Discipline: H herbicide
Initiation Date: 5/8/2014

Trial Location

City: Butlerville **Country:** USA United States
State/Prov.: Indiana
Postal Code: 47223

Contacts

Study Director: Joe Ikley **Title:** Research Associate
Organization: Purdue University
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Investigator: Dr. Bill Johnson **Title:** Professor
Organization: Purdue University
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City+State/Prov: West Lafayette **Mobile No.:** 765-404-9801
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Crop Description

Crop 1: ZEAMX Zea mays Corn
Variety: Pioneer P1184AM1
Description: RR/LL

Planting Rate, Unit: 32000 S/A
Depth, Unit: 1.5 IN
Row Spacing, Unit: 30 IN

Soil Temperature, Unit: 80 F
Soil Moisture: WET wet

Planting Date: 5/27/2014
Planting Method: DIRDRI direct drilled
Planting Equipment: FPP Finger Pickup Planter
Emergence Date: 6/2/2014
Harvested Width, Unit: 5 FT
Harvested Length, Unit: 25 FT

Pest Description

Pest 1 Type: W **Code:** SETFA *Setaria faberi*
Common Name: Giant foxtail

Pest 2 Type: W **Code:** ERICA *Conyza canadensis*
Common Name: Canada horseweed

Pest 3 Type: W **Code:** DIGSA *Digitaria sanguinalis*
Common Name: large crabgrass

Pest 4 Type: W **Code:** XANST *Xanthium strumarium*
Common Name: Heart-leaf cocklebur

Pest 5 Type: W **Code:** IPOSS *Ipomoea* sp.
Common Name: Morning glory

Pest 6 Type: W **Code:** AMBEL *Ambrosia artemisiifolia*
Common Name: Common ragweed

Pest 7 Type: W **Code:** AMARE *Amaranthus retroflexus*
Common Name: Redroot pigweed

Site and Design

Treated Plot Width: 10 FT
Treated Plot Length: 30 FT
Treated Plot Area: 300 FT² **Treatments:** 15
Replications: 4

Study Design: RACOB� Randomized Complete Block (RCB)

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Soil Description

Description Name: SEPAC-U41
% Sand: 20 **% OM:** 1.3 **Texture:** SIL silt loam
% Silt: 65 **pH:** 6.5 **Soil Name:** Avonburg
% Clay: 15 **CEC:** 5.7 **Fert. Level:** F fair
Soil Drainage: P poor

Application Description

	A	B	C
Application Date:	5/8/2014	6/18/2014	6/18/2014
Appl. Start Time:	7:30	12:00	12:00
Appl. Stop Time:	8:30 AM	12:30 PM	12:30 PM
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	7 DPP	M POST	M POST
Application Placement:	BROADC	BROADC	BROADC
Applied By:	Spaunhorst	Campbell	Campbell
Air Temperature, Unit:	67 F	90 F	90 F
% Relative Humidity:	70	30	30
Wind Velocity, Unit:	3 MPH	3 MPH	3 MPH
Wind Direction:	S	SW	SW
Dew Presence (Y/N):	N no	N no	N no
Soil Temperature, Unit:	64 F	76 F	76 F
Soil Moisture:	DRY	SLIWET	SLIWET
% Cloud Cover:	30	30	30

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR
Stage Scale Used:		BBCH	BBCH
Stage Majority, Percent:		33	33
Stage Minimum, Percent:		33	33
Stage Maximum, Percent:		34	34
Height, Unit:		11.5 IN	11.5 IN
Height Minimum, Maximum:		10 13	10 13

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Pest Stage At Each Application			
	A	B	C
Pest 1 Code, Type, Scale:	SETFA W	SETFA W	SETFA W
Stage Majority, Percent:	12		
Stage Minimum, Percent:	11		
Stage Maximum, Percent:	14		
Height, Unit:	1.25 IN	6 IN	
Height Minimum, Maximum:	0.5 2	1 10	
Density, Unit:	300 YD2	180 YD2	
Pest 2 Code, Type, Scale:	ERICA W	ERICA W	ERICA W
Stage Majority, Percent:	14		
Stage Minimum, Percent:	13		
Stage Maximum, Percent:	16		
Height, Unit:	1.25 IN		
Height Minimum, Maximum:	0.5 2		
Density, Unit:	3 YD2		
Pest 3 Code, Type, Scale:	DIGSA W	DIGSA W	DIGSA W
Height, Unit:		2.5 IN	
Height Minimum, Maximum:		1 4	
Density, Unit:		270 YD2	
Pest 4 Code, Type, Scale:	XANST W	XANST W	XANST W
Height, Unit:		5 IN	
Height Minimum, Maximum:		2 8	
Density, Unit:		30 YD2	
Pest 5 Code, Type, Scale:	IPOSS W	IPOSS W	IPOSS W
Height, Unit:		3 IN	
Height Minimum, Maximum:		1 5	
Density, Unit:		27 YD2	
Pest 6 Code, Type, Scale:	AMBEL W	AMBEL W	AMBEL W
Height, Unit:		5 IN	
Height Minimum, Maximum:		3 7	
Density, Unit:		36 YD2	
Pest 7 Code, Type, Scale:	AMARE W	AMARE W	AMARE W
Height, Unit:		5 IN	
Height Minimum, Maximum:		2 7	
Density, Unit:		90 YD2	

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Application Equipment			
	A	B	C
Appl. Equipment:	CO2 Backpack	CO2 Backpack	CO2 Backpack
Equipment Type:	SPRBAC	SPRBAC	SPRBAC
Operation Pressure, Unit:	18 PSI	18 PSI	18 PSI
Nozzle Type:	Flat Fan	Flat Fan	Flat Fan
Nozzle Size:	XR11002	XR11002	XR11002
Nozzle Spacing, Unit:	15 IN	15 IN	15 IN
Nozzles/Row:	8	8	8
Boom Length, Unit:	10 FT	10 FT	10 FT
Boom Height, Unit:	18 IN	18 IN	18 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH
Carrier:	H2O	H2O	H2O
Water Hardness (ppm CaCO3):	150	150	150
Spray Volume, Unit:	15 GAL/AC	15 GAL/AC	15 GAL/AC
Mix Size, Unit:	1.8 Liters	1.8 Liters	1.8 Liters
Propellant:	CO2	CO2	CO2
Tank Mix (Y/N):	N no	N no	N no

Trial Comments

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Reps: 4 Plots: 10 by 30 feet
 Spray vol: 15 gal/ac Mix size: 1.8 liters (min 1.5642)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code	Appl Description	Amt Product to Measure	Rep 1	2	3	4
1	HARNESS XTRA	6 LB/GAL	L		1.8 qt/a	qt/a	A	7 DPP	54.0 ml/mx	101	401	706	905
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL		1 qt/a	qt/a	A	7 DPP	30.0 ml/mx				
	2,4-D LV4	4 LBAE/GAL	L		1 pt/a	pt/a	A	7 DPP	15.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		2.5 % v/v	% v/v	A	7 DPP	45.0 ml/mx				
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL		1.125 lb ae/a	lb ae/a	C	4" WEEDS	30.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		5 % v/v	% v/v	C	4" WEEDS	89.99 ml/mx				
2	DEGREE XTRA	4.04 LB/GAL	CS		3 qt/a	qt/a	A	7 DPP	90.0 ml/mx	102	506	702	1004
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL		1 qt/a	qt/a	A	7 DPP	30.0 ml/mx				
	2,4-D LV4	4 LBAE/GAL	L		1 pt/a	pt/a	A	7 DPP	15.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		2.5 % v/v	% v/v	A	7 DPP	45.0 ml/mx				
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL		1.125 lb ae/a	lb ae/a	C	4" WEEDS	30.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		5 % v/v	% v/v	C	4" WEEDS	89.99 ml/mx				
3	TRIPLEFLEX	4.25 LB/GAL	L		1 qt/a	qt/a	A	7 DPP	30.0 ml/mx	103	306	704	1001
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL		1 qt/a	qt/a	A	7 DPP	30.0 ml/mx				
	2,4-D LV4	4 LBAE/GAL	L		1 pt/a	pt/a	A	7 DPP	15.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		2.5 % v/v	% v/v	A	7 DPP	45.0 ml/mx				
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL		1.125 lb ae/a	lb ae/a	C	4" WEEDS	30.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		5 % v/v	% v/v	C	4" WEEDS	89.99 ml/mx				
4	TRIPLEFLEX	4.25 LB/GAL	L		1 qt/a	qt/a	A	7 DPP	30.0 ml/mx	104	402	701	906
	AATREX	4 LB/GAL	L		0.75 lb ai/a	lb ai/a	A	7 DPP	22.5 ml/mx				
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL		1 qt/a	qt/a	A	7 DPP	30.0 ml/mx				
	2,4-D LV4	4 LBAE/GAL	L		1 pt/a	pt/a	A	7 DPP	15.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		2.5 % v/v	% v/v	A	7 DPP	45.0 ml/mx				
5	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL		1.125 lb ae/a	lb ae/a	B	4" WEEDS	30.0 ml/mx	105	405	705	904
	DEGREE XTRA	4.04 LB/GAL	CS		2.5 qt/a	qt/a	B	4" WEEDS	75.0 ml/mx				
	IMPACT	2.8 LB/GAL	L		0.0234 qt/a	qt/a	B	4" WEEDS	0.702 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		5 % v/v	% v/v	B	4" WEEDS	89.99 ml/mx				
6	VERDICT	5.57 LB/GAL	EC		15 fl oz/a	fl oz/a	A	7 DPP	14.06 ml/mx	106	505	603	901
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL		1 qt/a	qt/a	A	7 DPP	30.0 ml/mx				
	2,4-D LV4	4 LBAE/GAL	L		1 pt/a	pt/a	A	7 DPP	15.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		2.5 % v/v	% v/v	A	7 DPP	45.0 ml/mx				
7	VERDICT	5.57 LB/GAL	EC		15 fl oz/a	fl oz/a	A	7 DPP	14.06 ml/mx	201	304	602	804
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL		1 qt/a	qt/a	A	7 DPP	30.0 ml/mx				
	2,4-D LV4	4 LBAE/GAL	L		1 pt/a	pt/a	A	7 DPP	15.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		2.5 % v/v	% v/v	A	7 DPP	45.0 ml/mx				
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL		1.125 lb ae/a	lb ae/a	C	4" WEEDS	30.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		5 % v/v	% v/v	C	4" WEEDS	89.99 ml/mx				
8	CORVUS	2.63 LB/GAL	SC		0.175 qt/a	qt/a	A	7 DPP	5.25 ml/mx	202	504	703	1002
	AATREX	4 LB/GAL	L		0.75 qt/a	qt/a	A	7 DPP	22.5 ml/mx				
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL		1 qt/a	qt/a	A	7 DPP	30.0 ml/mx				
	2,4-D LV4	4 LBAE/GAL	L		1 pt/a	pt/a	A	7 DPP	15.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		2.5 % v/v	% v/v	A	7 DPP	45.0 ml/mx				
9	CORVUS	2.63 LB/GAL	SC		0.175 qt/a	qt/a	A	7 DPP	5.25 ml/mx	203	403	601	1005
	AATREX	4 LB/GAL	L		0.75 qt/a	qt/a	A	7 DPP	22.5 ml/mx				
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL		1 qt/a	qt/a	A	7 DPP	30.0 ml/mx				
	2,4-D LV4	4 LBAE/GAL	L		1 pt/a	pt/a	A	7 DPP	15.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		2.5 % v/v	% v/v	A	7 DPP	45.0 ml/mx				
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL		1.125 lb ae/a	lb ae/a	C	4" WEEDS	30.0 ml/mx				
N-PAK - AMS	3.4 LBA/GAL	SL		5 % v/v	% v/v	C	4" WEEDS	89.99 ml/mx					
10	LUMAX EZ	3.674 LB/GAL	L		2.7 qt/a	qt/a	A	7 DPP	81.0 ml/mx	204	503	802	902
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL		1 qt/a	qt/a	A	7 DPP	30.0 ml/mx				
	2,4-D LV4	4 LBAE/GAL	L		1 pt/a	pt/a	A	7 DPP	15.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		2.5 % v/v	% v/v	A	7 DPP	45.0 ml/mx				

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Reps: 4

Plots: 10 by 30 feet

Spray vol: 15 gal/ac

Mix size: 1.8 liters (min 1.5642)

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Appl Code	Appl Description	Amt Product to Measure	Rep 1	2	3	4
11	LUMAX EZ	3.674 LB/GAL	L	2.7 qt/a	qt/a	A	7 DPP	81.0 ml/mx	205	406	605	805
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL	1 qt/a	qt/a	A	7 DPP	30.0 ml/mx				
	2,4-D LV4	4 LBAE/GAL	L	1 pt/a	pt/a	A	7 DPP	15.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL	2.5 % v/v	% v/v	A	7 DPP	45.0 ml/mx				
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL	1.125 lb ae/a	lb ae/a	C	4" WEEDS	30.0 ml/mx				
N-PAK - AMS	3.4 LBA/GAL	SL	5 % v/v	% v/v	C	4" WEEDS	89.99 ml/mx					
12	HALEX GT	4.389 LBAE/GAL	L	1.8 qt/a	qt/a	B	4" WEEDS	54.0 ml/mx	206	502	803	806
	ACTIVATOR 90 - NIS	90 %	L	0.25 % v/v	% v/v	B	4" WEEDS	4.5 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL	5 % v/v	% v/v	B	4" WEEDS	89.99 ml/mx				
13	BICEP II MAGNUM	5.5 LB/GAL	L	1.5 qt/a	qt/a	A	7 DPP	45.0 ml/mx	301	501	606	1003
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL	1 qt/a	qt/a	A	7 DPP	30.0 ml/mx				
	2,4-D LV4	4 LBAE/GAL	L	1 pt/a	pt/a	A	7 DPP	15.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL	2.5 % v/v	% v/v	A	7 DPP	45.0 ml/mx				
	HALEX GT	4.389 LBAE/GAL	L	1.8 qt/a	qt/a	C	4" WEEDS	54.0 ml/mx				
	ACTIVATOR 90 - NIS	90 %	L	0.25 % v/v	% v/v	C	4" WEEDS	4.5 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL	5 % v/v	% v/v	C	4" WEEDS	89.99 ml/mx				
14	REALM Q @ 4 OZ/A								302	305	604	1006
	RESOLVE	25 %	DF	1.2 oz/a	oz/a	A	7 DPP	1.078 g/mx				
	MESOTRIONE	50 %	WG	2.5 oz/a	oz/a	A	7 DPP	2.247 g/mx				
	ISOXADIFEN-ETHYL	50 %	WG	0.3 oz/a	oz/a	A	7 DPP	0.2696 g/mx				
	CINCH ATZ	5.5 LB/GAL	L	2.6 qt/a	qt/a	A	7 DPP	78.0 ml/mx				
	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL	1 qt/a	qt/a	A	7 DPP	30.0 ml/mx				
	2,4-D LV4	4 LBAE/GAL	L	1 pt/a	pt/a	A	7 DPP	15.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL	2.5 % v/v	% v/v	A	7 DPP	45.0 ml/mx				
	ABUNDIT EXTRA	3 LBAE/GAL	SL	1.125 lb ae/a	lb ae/a	C	4" WEEDS	45.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL	5 % v/v	% v/v	C	4" WEEDS	89.99 ml/mx				
	15	ROUNDUP POWERMAX	4.5 LBAE/GAL	SL	1.125 lb ae/a	lb ae/a	B	4" WEEDS				
N-PAK - AMS		3.4 LBA/GAL	SL	5 % v/v	% v/v	B	4" WEEDS	89.99 ml/mx				

Sort Order: Replicate 1

Product quantities required for listed treatments and applications of trials included in this table:

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
54.000	ml	HARNESS XTRA	6	L	
599.973	ml	ROUNDUP POWERMAX	4.5	SL	
179.980	ml	2,4-D LV4	4	L	
1,529.834	ml	N-PAK - AMS	3.4	SL	
164.999	ml	DEGREE XTRA	4.04	CS	
60.000	ml	TRIPLEFLEX	4.25	L	
67.497	ml	AATREX	4	L	
0.702	ml	IMPACT	2.8	L	
28.125	ml	VERDICT	5.57	EC	
10.500	ml	CORVUS	2.63	SC	
161.999	ml	LUMAX EZ	3.674	L	
108.000	ml	HALEX GT	4.389	L	
8.999	ml	ACTIVATOR 90 - NIS	90	L	
45.000	ml	BICEP II MAGNUM	5.5	L	
1.078	g	RESOLVE	25	DF	
2.247	g	MESOTRIONE	50	WG	
0.270	g	ISOXADIFEN-ETHYL	50	WG	
78.000	ml	CINCH ATZ	5.5	L	
44.995	ml	ABUNDIT EXTRA	3	SL	

* 'Per area' calculations based on spray volume= 15 gal/ac, mix size= 1.8 liters (mix size basis).

* 'Per volume' calculations use spray volume= 15 gal/ac, mix size= 1.8 liters.

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				W Weed ECHCG Common barnyar>	W Weed XANST Heart-leaf coc>	W Weed ECHCG Common barnyar>	W Weed XANST Heart-leaf coc>	
Pest Type	Pest Code	Pest Name	Crop Code	ZEAMX Corn	PLOT P	PLOT P	PLOT P	PLOT P
Crop Name	Part Rated	Rating Date	Rating Type	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	Number of Subsamples	Days After First/Last Applic.	Trt-Eval Interval	16 DE-1	16 DE-1	16 DE-1	38 DE-1	38 DE-1
ARM Action Codes	Number of Decimals			P	P	P	P	P
				0	0	0	0	0
Trt Treatment	Rate	Appl		1	2	3	4	5
No. Name	Rate Unit	Code Plot						
1 HARNESS XTRA	1.8 qt/a	A 101		0	30	30	80	95
ROUNDUP POWERMAX	1 qt/a	A 401		0	10	40	70	95
2,4-D LV4	1 pt/a	A 706		0	40	10	95	95
N-PAK - AMS	2.5 % v/v	A 905		0	15	10	95	90
ROUNDUP POWERMAX	1.125 lb ae/a	C						
N-PAK - AMS	5 % v/v	C						
		Mean =		0	24	23	85	94
2 DEGREE XTRA	3 qt/a	A 102		0	40	20	80	90
ROUNDUP POWERMAX	1 qt/a	A 506		3	42*	5*	70	75
2,4-D LV4	1 pt/a	A 702		3	60	10	80	85
N-PAK - AMS	2.5 % v/v	A 1004		0	50	10	80	90
ROUNDUP POWERMAX	1.125 lb ae/a	C						
N-PAK - AMS	5 % v/v	C						
		Mean =		2	48	11	78	85
3 TRIPLEFLEX	1 qt/a	A 103		0	20	0	85	85
ROUNDUP POWERMAX	1 qt/a	A 306		0	50	0*	85	90
2,4-D LV4	1 pt/a	A 704		0	10	0	90	80
N-PAK - AMS	2.5 % v/v	A 1001		0	20	20	70	85
ROUNDUP POWERMAX	1.125 lb ae/a	C						
N-PAK - AMS	5 % v/v	C						
		Mean =		0	25	5	83	85
4 TRIPLEFLEX	1 qt/a	A 104		0	60	80	10	10
AATREX	0.75 lb ai/a	A 402		0	10	10	0	0
ROUNDUP POWERMAX	1 qt/a	A 701		0	20	20	0	100
2,4-D LV4	1 pt/a	A 906		10	90	70	30	70
N-PAK - AMS	2.5 % v/v	A						
		Mean =		3	45	45	10	45
5 ROUNDUP POWERMAX	1.125 lb ae/a	B 105		0	0	0	95	100
DEGREE XTRA	2.5 qt/a	B 405		0	0	0	100	100
IMPACT	0.0234 qt/a	B 705		0	0	0	100	100
N-PAK - AMS	5 % v/v	B 904		0	0	0	100	100
		Mean =		0	0	0	99	100
6 VERDICT	15 fl oz/a	A 106		0	30	50	0	0
ROUNDUP POWERMAX	1 qt/a	A 505		0	20	80	10	100
2,4-D LV4	1 pt/a	A 603		0	20	70	0	100
N-PAK - AMS	2.5 % v/v	A 901		0	50	40	0	0
		Mean =		0	30	60	3	50
7 VERDICT	15 fl oz/a	A 201		5	35	85	70	90
ROUNDUP POWERMAX	1 qt/a	A 304		0	10	10	90	90
2,4-D LV4	1 pt/a	A 602		0	25	80	65	90
N-PAK - AMS	2.5 % v/v	A 804		0	30	65	90	90
ROUNDUP POWERMAX	1.125 lb ae/a	C						
N-PAK - AMS	5 % v/v	C						
		Mean =		1	25	60	79	90

Purdue University Weed Science

Pest Type			W Weed	W Weed	W Weed	W Weed		
Pest Code			ECHCG	XANST	ECHCG	XANST		
Pest Name			Common barnyar>	Heart-leaf coc>	Common barnyar>	Heart-leaf coc>		
Crop Code	ZEAMX							
Crop Name	Corn							
Part Rated	PLOT C		PLOT P		PLOT P			
Rating Date	6/18/2014		6/18/2014		7/10/2014			
Rating Type	PHYGEN		CONTRO		CONTRO			
Rating Unit	%		%		%			
Number of Subsamples	1		1		1			
Days After First/Last Applic.	41 41		41 41		63 22			
Trt-Eval Interval	0 DA-B		0 DA-B		22 DA-C			
Days After Emergence	16 DE-1		16 DE-1		38 DE-1			
ARM Action Codes	P		P		P			
Number of Decimals	0		0		0			
Trt Treatment	Rate	Appl						
No. Name	Unit	Code	Plot	1	2	3	4	5
8 CORVUS	0.175 qt/a	A	202	0	60	30	0	0
AATREX	0.75 qt/a	A	504	0	30	0	0	0
ROUNDUP POWERMAX	1 qt/a	A	703	0	60	20	0	0
2,4-D LV4	1 pt/a	A	1002	0	10	10	0	0
N-PAK - AMS	2.5 % v/v	A						
Mean =				0	40	15	0	0
9 CORVUS	0.175 qt/a	A	203	0	70	25	90	90
AATREX	0.75 qt/a	A	403	0	40	20	75	90
ROUNDUP POWERMAX	1 qt/a	A	601	0	80	80	50	80
2,4-D LV4	1 pt/a	A	1005	0	70	50	90	95
N-PAK - AMS	2.5 % v/v	A						
ROUNDUP POWERMAX	1.125 lb ae/a	C						
N-PAK - AMS	5 % v/v	C						
Mean =				0	65	44	76	89
10 LUMAX EZ	2.7 qt/a	A	204	0	30	20	10	10
ROUNDUP POWERMAX	1 qt/a	A	503	0	40	0	0	0
2,4-D LV4	1 pt/a	A	802	0	50	30	0	0
N-PAK - AMS	2.5 % v/v	A	902	0	50	20	0	0
Mean =				0	43	18	3	3
11 LUMAX EZ	2.7 qt/a	A	205	0	70	65	85	95
ROUNDUP POWERMAX	1 qt/a	A	406	5	90	90	90	80
2,4-D LV4	1 pt/a	A	605	0	70	30	75	90
N-PAK - AMS	2.5 % v/v	A	805	0	50	10	80	95
ROUNDUP POWERMAX	1.125 lb ae/a	C						
N-PAK - AMS	5 % v/v	C						
Mean =				1	70	49	83	90
12 HALEX GT	1.8 qt/a	B	206	0	0	0	100	100
ACTIVATOR 90 - NIS	0.25 % v/v	B	502	0	0	0	100	95
N-PAK - AMS	5 % v/v	B	803	0	0	0	100	95
			806	0	0	0	100	100
Mean =				0	0	0	100	98
13 BICEP II MAGNUM	1.5 qt/a	A	301	0	20	70	100	85
ROUNDUP POWERMAX	1 qt/a	A	501	0	15	20	100	100
2,4-D LV4	1 pt/a	A	606	0	24*	90	100	100
N-PAK - AMS	2.5 % v/v	A	1003	0	30	10	100*	95*
HALEX GT	1.8 qt/a	C						
ACTIVATOR 90 - NIS	0.25 % v/v	C						
N-PAK - AMS	5 % v/v	C						
Mean =				0	22	48	100	95
14 REALM Q @ 4 OZ/A			302	0	70	70	70	70
RESOLVE	1.2 oz/a	A	305	0	70	80	80	90
MESOTRIONE	2.5 oz/a	A	604	0	85	30	70	80
ISOXADIFEN-ETHYL	0.3 oz/a	A	1006	0	100	95	80	90
CINCH ATZ	2.6 qt/a	A						
ROUNDUP POWERMAX	1 qt/a	A						
2,4-D LV4	1 pt/a	A						
N-PAK - AMS	2.5 % v/v	A						
ABUNDIT EXTRA	1.125 lb ae/a	C						
N-PAK - AMS	5 % v/v	C						
Mean =				0	81	69	75	83

Purdue University Weed Science

Pest Type									
Pest Code									
Pest Name									
Crop Code	ZEAMX								
Crop Name	Corn								
Part Rated	PLOT C	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P
Rating Date	6/18/2014	6/18/2014	6/18/2014	6/18/2014	7/10/2014	7/10/2014	7/10/2014	7/10/2014	7/10/2014
Rating Type	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%	%	%	%	%
Number of Subsamples	1	1	1	1	1	1	1	1	1
Days After First/Last Applic.	41 41	41 41	41 41	41 41	63 22	63 22	63 22	63 22	63 22
Trt-Eval Interval	0 DA-B	0 DA-B	0 DA-B	0 DA-B	22 DA-C	22 DA-C	22 DA-C	22 DA-C	22 DA-C
Days After Emergence	16 DE-1	16 DE-1	16 DE-1	16 DE-1	38 DE-1	38 DE-1	38 DE-1	38 DE-1	38 DE-1
ARM Action Codes	P	P	P	P	P	P	P	P	P
Number of Decimals	0	0	0	0	0	0	0	0	0
Trt Treatment									
No. Name	Rate	Unit	Code	Plot	1	2	3	4	5
15 ROUNDUP POWERMAX	1.125 lb ae/a	B	303	0	0	0	0	90	90
N-PAK - AMS	5 % v/v	B	404	0	0	0	0	100	90
			801	0	0	0	0	100	80
			903	0	0	0	0	100	100
			Mean =	0	0	0	0	98	90

Purdue University Weed Science

Pest Type						
Pest Code						
Pest Name						
Crop Code					ZEAMX	ZEAMX
Crop Name					Corn	Corn
Part Rated					YIELD C	YIELD C
Rating Date					11/20/2014	11/20/2014
Rating Type					YIELD	YIELD
Rating Unit					lb/plot	BU
Number of Subsamples					1	1
Days After First/Last Applic.					196 155	196 155
Trt-Eval Interval						
Days After Emergence					171 DE-1	171 DE-1
ARM Action Codes						TY1
Number of Decimals					2	1
Trt	Treatment	Rate	Appl			
No.	Name	Rate	Unit	Code	Plot	
					6	7
1	HARNESX XTRA	1.8 qt/a	A	101	18.36	110.1
	ROUNDUP POWERMAX	1 qt/a	A	401	25.09	150.4
	2,4-D LV4	1 pt/a	A	706	22.45	134.6
	N-PAK - AMS	2.5 % v/v	A	905	28.54	171.1
	ROUNDUP POWERMAX	1.125 lb ae/a	C			
	N-PAK - AMS	5 % v/v	C			
				Mean =	23.61	141.5
2	DEGREE XTRA	3 qt/a	A	102	32.10	192.4
	ROUNDUP POWERMAX	1 qt/a	A	506	33.42*	200.4*
	2,4-D LV4	1 pt/a	A	702	35.17	210.8
	N-PAK - AMS	2.5 % v/v	A	1004	31.07	186.3
	ROUNDUP POWERMAX	1.125 lb ae/a	C			
	N-PAK - AMS	5 % v/v	C			
				Mean =	32.94	197.5
3	TRIPLEFLEX	1 qt/a	A	103	30.37	182.1
	ROUNDUP POWERMAX	1 qt/a	A	306	27.57	165.3
	2,4-D LV4	1 pt/a	A	704	32.42	194.3
	N-PAK - AMS	2.5 % v/v	A	1001	29.23*	175.2*
	ROUNDUP POWERMAX	1.125 lb ae/a	C			
	N-PAK - AMS	5 % v/v	C			
				Mean =	29.90	179.2
4	TRIPLEFLEX	1 qt/a	A	104	26.93	161.4
	AATREX	0.75 lb ai/a	A	402	12.70	76.2
	ROUNDUP POWERMAX	1 qt/a	A	701	19.33	115.9
	2,4-D LV4	1 pt/a	A	906	13.78	82.6
	N-PAK - AMS	2.5 % v/v	A			
				Mean =	18.19	109.0
5	ROUNDUP POWERMAX	1.125 lb ae/a	B	105	25.07*	150.3*
	DEGREE XTRA	2.5 qt/a	B	405	21.86	131.1
	IMPACT	0.0234 qt/a	B	705	24.93	149.5
	N-PAK - AMS	5 % v/v	B	904	27.14	162.7
				Mean =	24.75	148.4
6	VERDICT	15 fl oz/a	A	106	12.06	72.3
	ROUNDUP POWERMAX	1 qt/a	A	505	22.94	137.5
	2,4-D LV4	1 pt/a	A	603	14.27	85.5
	N-PAK - AMS	2.5 % v/v	A	901	15.53*	93.1*
				Mean =	16.20	97.1
7	VERDICT	15 fl oz/a	A	201	29.30*	175.7*
	ROUNDUP POWERMAX	1 qt/a	A	304	26.39	158.2
	2,4-D LV4	1 pt/a	A	602	29.46	176.6
	N-PAK - AMS	2.5 % v/v	A	804	30.80	184.7
	ROUNDUP POWERMAX	1.125 lb ae/a	C			
	N-PAK - AMS	5 % v/v	C			
				Mean =	28.99	173.8

Purdue University Weed Science

Pest Type					
Pest Code					
Pest Name					
Crop Code		ZEAMX		ZEAMX	
Crop Name		Corn		Corn	
Part Rated		YIELD C		YIELD C	
Rating Date		11/20/2014		11/20/2014	
Rating Type		YIELD		YIELD	
Rating Unit		lb/plot		BU	
Number of Subsamples		1		1	
Days After First/Last Applic.		196 155		196 155	
Trt-Eval Interval					
Days After Emergence		171 DE-1		171 DE-1	
ARM Action Codes				TY1	
Number of Decimals		2		1	
Trt	Treatment	Rate	Appl		
No. Name		Unit	Code Plot	6	7
8	CORVUS	0.175 qt/a	A 202	25.79	154.6
	AATREX	0.75 qt/a	A 504	11.95	71.6
	ROUNDUP POWERMAX	1 qt/a	A 703	25.36	152.0
	2,4-D LV4	1 pt/a	A 1002	20.14*	120.7*
	N-PAK - AMS	2.5 % v/v	A		
			Mean =	20.81	124.8
9	CORVUS	0.175 qt/a	A 203	32.64	195.6
	AATREX	0.75 qt/a	A 403	26.55	159.1
	ROUNDUP POWERMAX	1 qt/a	A 601	24.77	148.5
	2,4-D LV4	1 pt/a	A 1005	30.53	183.0
	N-PAK - AMS	2.5 % v/v	A		
	ROUNDUP POWERMAX	1.125 lb ae/a	C		
	N-PAK - AMS	5 % v/v	C		
			Mean =	28.62	171.6
10	LUMAX EZ	2.7 qt/a	A 204	27.95	167.5
	ROUNDUP POWERMAX	1 qt/a	A 503	25.42	152.4
	2,4-D LV4	1 pt/a	A 802	13.89	83.3
	N-PAK - AMS	2.5 % v/v	A 902	15.99	95.9
			Mean =	20.81	124.8
11	LUMAX EZ	2.7 qt/a	A 205	28.76	172.4
	ROUNDUP POWERMAX	1 qt/a	A 406	28.99*	173.8*
	2,4-D LV4	1 pt/a	A 605	28.60	171.4
	N-PAK - AMS	2.5 % v/v	A 805	27.68	165.9
	ROUNDUP POWERMAX	1.125 lb ae/a	C		
	N-PAK - AMS	5 % v/v	C		
			Mean =	28.50	170.9
12	HALEX GT	1.8 qt/a	B 206	11.90	71.3
	ACTIVATOR 90 - NIS	0.25 % v/v	B 502	25.20	151.1
	N-PAK - AMS	5 % v/v	B 803	20.57	123.3
			806	10.98	65.8
			Mean =	17.16	102.9
13	BICEP II MAGNUM	1.5 qt/a	A 301	19.55	117.2
	ROUNDUP POWERMAX	1 qt/a	A 501	32.04	192.1
	2,4-D LV4	1 pt/a	A 606	22.13	132.7
	N-PAK - AMS	2.5 % v/v	A 1003	23.68*	141.9*
	HALEX GT	1.8 qt/a	C		
	ACTIVATOR 90 - NIS	0.25 % v/v	C		
	N-PAK - AMS	5 % v/v	C		
			Mean =	24.35	146.0
14	REALM Q @ 4 OZ/A		302	24.02	144.0
	RESOLVE	1.2 oz/a	A 305	33.87	203.1
	MESOTRIONE	2.5 oz/a	A 604	30.75	184.3
	ISOXADIFEN-ETHYL	0.3 oz/a	A 1006	22.24	133.3
	CINCH ATZ	2.6 qt/a	A		
	ROUNDUP POWERMAX	1 qt/a	A		
	2,4-D LV4	1 pt/a	A		
	N-PAK - AMS	2.5 % v/v	A		
	ABUNDIT EXTRA	1.125 lb ae/a	C		
	N-PAK - AMS	5 % v/v	C		
			Mean =	27.72	166.2

Purdue University Weed Science

Pest Type					
Pest Code					
Pest Name					
Crop Code				ZEAMX	ZEAMX
Crop Name				Corn	Corn
Part Rated				YIELD C	YIELD C
Rating Date				11/20/2014	11/20/2014
Rating Type				YIELD	YIELD
Rating Unit				lb/plot	BU
Number of Subsamples				1	1
Days After First/Last Applic.				196 155	196 155
Trt-Eval Interval					
Days After Emergence				171 DE-1	171 DE-1
ARM Action Codes					TY1
Number of Decimals				2	1
Trt Treatment					
No. Name		Rate	Unit	Code	Plot
					6
					7
15 ROUNDUP POWERMAX	1.125	lb ae/a	B	303	21.81
N-PAK - AMS		5 % v/v	B	404	15.07
				801	15.83
				903	24.45
				Mean =	19.29
					130.7
					90.4
					94.9
					146.6
					115.6

Purdue University Weed Science

Comparison of Corn Herbicide Programs

Trial ID: 14S-SEP-NTC-11 Location: SEPAC Trial Year: 2014
Protocol ID: 14S-SEP-NTC-11 Investigator: Dr. Bill Johnson
Project ID: 2014-01-24- Study Director: Joe Ikley
Sponsor Contact: Monsanto - Dan Childs

Pest Type

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

Pest Code

ECHCG, Echinochloa crus-galli, = US

XANST, Xanthium strumarium, = US

Crop Code

ZEAMX, BCOR, Zea mays, = US

Part Rated

PLOT = plot

YIELD = yield

C = Crop is Part Rated

P = Pest is Part Rated

Rating Type

PHYGEN = phytotoxicity - general / injury

CONTRO = control / burndown or knockdown

YIELD = yield

Rating Unit

% = percent

lb/plot = pounds per plot

BU = bushel

ARM Action Codes

P = Rating scale of 0 to 100 (e.g. % control or injury)

TY1 = 5.994563*[6]

Purdue University Weed Science

Comparison of Corn Herbicide Programs

Trial ID: 14S-SEP-NTC-11 Location: SEPAC Trial Year: 2014
 Protocol ID: 14S-SEP-NTC-11 Investigator: Dr. Bill Johnson
 Project ID: 2014-01-24- Study Director: Joe Ikley
 Sponsor Contact: Monsanto - Dan Childs

Pest Type		W Weed	W Weed	W Weed	W Weed			
Pest Code		ECHCG	XANST	ECHCG	XANST			
Pest Name		Common barnyar>	Heart-leaf coc>	Common barnyar>	Heart-leaf coc>			
Crop Code	ZEAMX							
Crop Name	Corn							
Part Rated	PLOT C	PLOT P	PLOT P	PLOT P	PLOT P			
Rating Date	6/18/2014	6/18/2014	6/18/2014	7/10/2014	7/10/2014			
Rating Type	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO			
Rating Unit	%	%	%	%	%			
Number of Subsamples	1	1	1	1	1			
Days After First/Last Applic.	41 41	41 41	41 41	63 22	63 22			
Trt-Eval Interval	0 DA-B	0 DA-B	0 DA-B	22 DA-C	22 DA-C			
Days After Emergence	16 DE-1	16 DE-1	16 DE-1	38 DE-1	38 DE-1			
ARM Action Codes	P	P	P	P	P			
Number of Decimals	0	0	0	0	0			
Trt Treatment No. Name	Rate	Rate Unit	Appl Code	1	2	3	4	5
1 HARNESS XTRA	1.8 qt/a	A		0 a	24 cd	23 abc	85 ab	94 a
ROUNDUP POWERMAX	1 qt/a	A						
2,4-D LV4	1 pt/a	A						
N-PAK - AMS	2.5 % v/v	A						
ROUNDUP POWERMAX	1.125 lb ae/a	C						
N-PAK - AMS	5 % v/v	C						
2 DEGREE XTRA	3 qt/a	A		2 a	48 bc	11 bc	78 b	85 ab
ROUNDUP POWERMAX	1 qt/a	A						
2,4-D LV4	1 pt/a	A						
N-PAK - AMS	2.5 % v/v	A						
ROUNDUP POWERMAX	1.125 lb ae/a	C						
N-PAK - AMS	5 % v/v	C						
3 TRIPLEFLEX	1 qt/a	A		0 a	25 cd	5 bc	83 ab	85 ab
ROUNDUP POWERMAX	1 qt/a	A						
2,4-D LV4	1 pt/a	A						
N-PAK - AMS	2.5 % v/v	A						
ROUNDUP POWERMAX	1.125 lb ae/a	C						
N-PAK - AMS	5 % v/v	C						
4 TRIPLEFLEX	1 qt/a	A		3 a	45 bc	45 abc	10 c	45 b
AATREX	0.75 lb ai/a	A						
ROUNDUP POWERMAX	1 qt/a	A						
2,4-D LV4	1 pt/a	A						
N-PAK - AMS	2.5 % v/v	A						
5 ROUNDUP POWERMAX	1.125 lb ae/a	B		0 a	0 d	0 c	99 a	100 a
DEGREE XTRA	2.5 qt/a	B						
IMPACT	0.0234 qt/a	B						
N-PAK - AMS	5 % v/v	B						
6 VERDICT	15 fl oz/a	A		0 a	30 cd	60 ab	3 c	50 ab
ROUNDUP POWERMAX	1 qt/a	A						
2,4-D LV4	1 pt/a	A						
N-PAK - AMS	2.5 % v/v	A						
7 VERDICT	15 fl oz/a	A		1 a	25 cd	60 ab	79 b	90 ab
ROUNDUP POWERMAX	1 qt/a	A						
2,4-D LV4	1 pt/a	A						
N-PAK - AMS	2.5 % v/v	A						
ROUNDUP POWERMAX	1.125 lb ae/a	C						
N-PAK - AMS	5 % v/v	C						

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.
 Missing data estimates are included in columns: Yates=2,3,4,5,6,7

Purdue University Weed Science

Pest Type Pest Code Pest Name			W Weed ECHCG	W Weed XANST	W Weed ECHCG	W Weed XANST			
			Common barnyar>	Heart-leaf coc>	Common barnyar>	Heart-leaf coc>			
Crop Code	ZEAMX								
Crop Name	Corn								
Part Rated	PLOT C		PLOT P	PLOT P	PLOT P	PLOT P			
Rating Date	6/18/2014		6/18/2014	6/18/2014	7/10/2014	7/10/2014			
Rating Type	PHYGEN		CONTRO	CONTRO	CONTRO	CONTRO			
Rating Unit	%		%	%	%	%			
Number of Subsamples	1		1	1	1	1			
Days After First/Last Applic.	41 41		41 41	41 41	63 22	63 22			
Trt-Eval Interval	0 DA-B		0 DA-B	0 DA-B	22 DA-C	22 DA-C			
Days After Emergence	16 DE-1		16 DE-1	16 DE-1	38 DE-1	38 DE-1			
ARM Action Codes	P		P	P	P	P			
Number of Decimals	0		0	0	0	0			
Trt No.	Treatment Name	Rate	Unit	Appl Code	1	2	3	4	5
8	CORVUS	0.175	qt/a	A	0 a	40 bc	15 abc	0 c	0 c
	AATREX	0.75	qt/a	A					
	ROUNDUP POWERMAX	1	qt/a	A					
	2,4-D LV4	1	pt/a	A					
	N-PAK - AMS	2.5	% v/v	A					
9	CORVUS	0.175	qt/a	A	0 a	65 ab	44 abc	76 b	89 ab
	AATREX	0.75	qt/a	A					
	ROUNDUP POWERMAX	1	qt/a	A					
	2,4-D LV4	1	pt/a	A					
	N-PAK - AMS	2.5	% v/v	A					
	ROUNDUP POWERMAX	1.125	lb ae/a	C					
	N-PAK - AMS	5	% v/v	C					
10	LUMAX EZ	2.7	qt/a	A	0 a	43 bc	18 abc	3 c	3 c
	ROUNDUP POWERMAX	1	qt/a	A					
	2,4-D LV4	1	pt/a	A					
	N-PAK - AMS	2.5	% v/v	A					
11	LUMAX EZ	2.7	qt/a	A	1 a	70 ab	49 abc	83 ab	90 ab
	ROUNDUP POWERMAX	1	qt/a	A					
	2,4-D LV4	1	pt/a	A					
	N-PAK - AMS	2.5	% v/v	A					
	ROUNDUP POWERMAX	1.125	lb ae/a	C					
	N-PAK - AMS	5	% v/v	C					
12	HALEX GT	1.8	qt/a	B	0 a	0 d	0 c	100 a	98 a
	ACTIVATOR 90 - NIS	0.25	% v/v	B					
	N-PAK - AMS	5	% v/v	B					
13	BICEP II MAGNUM	1.5	qt/a	A	0 a	22 cd	48 abc	100 a	95 a
	ROUNDUP POWERMAX	1	qt/a	A					
	2,4-D LV4	1	pt/a	A					
	N-PAK - AMS	2.5	% v/v	A					
	HALEX GT	1.8	qt/a	C					
	ACTIVATOR 90 - NIS	0.25	% v/v	C					
	N-PAK - AMS	5	% v/v	C					
14	REALM Q @ 4 OZ/A				0 a	81 a	69 a	75 b	83 ab
	RESOLVE	1.2	oz/a	A					
	MESOTRIONE	2.5	oz/a	A					
	ISOXADIFEN-ETHYL	0.3	oz/a	A					
	CINCH ATZ	2.6	qt/a	A					
	ROUNDUP POWERMAX	1	qt/a	A					
	2,4-D LV4	1	pt/a	A					
	N-PAK - AMS	2.5	% v/v	A					
	ABUNDIT EXTRA	1.125	lb ae/a	C					
	N-PAK - AMS	5	% v/v	C					
15	ROUNDUP POWERMAX	1.125	lb ae/a	B	0 a	0 d	0 c	98 a	90 ab
	N-PAK - AMS	5	% v/v	B					
LSD (P=.05)			2.4	23.2	33.4	12.5	29.3		
Standard Deviation			1.7	16.2	23.4	8.7	20.5		
CV			389.37	46.98	78.81	13.54	28.06		
Bartlett's X2			3.729	11.476	13.636	19.294	65.851		
P(Bartlett's X2)			0.292	0.404	0.254	0.056	0.001*		
Skewness			4.4357*	0.4654	0.7425*	-0.8487*	-1.3835*		
Kurtosis			21.6615*	-0.8339	-0.9298	-0.9928	0.1268		

Purdue University Weed Science

Pest Type					
Pest Code					
Pest Name					
Crop Code			ZEAMX	ZEAMX	
Crop Name			Corn	Corn	
Part Rated			YIELD C	YIELD C	
Rating Date			11/20/2014	11/20/2014	
Rating Type			YIELD	YIELD	
Rating Unit			lb/plot	BU	
Number of Subsamples			1	1	
Days After First/Last Applic.			196 155	196 155	
Trt-Eval Interval					
Days After Emergence			171 DE-1	171 DE-1	
ARM Action Codes				TY1	
Number of Decimals			2	1	
Trt No.	Treatment Name	Rate	Unit	Appl Code	
					6 7
1	HARNESS XTRA	1.8 qt/a	A		23.61 abc 141.5 abc
	ROUNDUP POWERMAX	1 qt/a	A		
	2,4-D LV4	1 pt/a	A		
	N-PAK - AMS	2.5 % v/v	A		
	ROUNDUP POWERMAX	1.125 lb ae/a	C		
	N-PAK - AMS	5 % v/v	C		
2	DEGREE XTRA	3 qt/a	A		32.94 a 197.5 a
	ROUNDUP POWERMAX	1 qt/a	A		
	2,4-D LV4	1 pt/a	A		
	N-PAK - AMS	2.5 % v/v	A		
	ROUNDUP POWERMAX	1.125 lb ae/a	C		
	N-PAK - AMS	5 % v/v	C		
3	TRIPLEFLEX	1 qt/a	A		29.90 ab 179.2 ab
	ROUNDUP POWERMAX	1 qt/a	A		
	2,4-D LV4	1 pt/a	A		
	N-PAK - AMS	2.5 % v/v	A		
	ROUNDUP POWERMAX	1.125 lb ae/a	C		
	N-PAK - AMS	5 % v/v	C		
4	TRIPLEFLEX	1 qt/a	A		18.19 bc 109.0 bc
	AATREX	0.75 lb ai/a	A		
	ROUNDUP POWERMAX	1 qt/a	A		
	2,4-D LV4	1 pt/a	A		
	N-PAK - AMS	2.5 % v/v	A		
5	ROUNDUP POWERMAX	1.125 lb ae/a	B		24.75 abc 148.4 abc
	DEGREE XTRA	2.5 qt/a	B		
	IMPACT	0.0234 qt/a	B		
	N-PAK - AMS	5 % v/v	B		
6	VERDICT	15 fl oz/a	A		16.20 c 97.1 c
	ROUNDUP POWERMAX	1 qt/a	A		
	2,4-D LV4	1 pt/a	A		
	N-PAK - AMS	2.5 % v/v	A		
7	VERDICT	15 fl oz/a	A		28.99 abc 173.8 abc
	ROUNDUP POWERMAX	1 qt/a	A		
	2,4-D LV4	1 pt/a	A		
	N-PAK - AMS	2.5 % v/v	A		
	ROUNDUP POWERMAX	1.125 lb ae/a	C		
	N-PAK - AMS	5 % v/v	C		

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Pest Type					
Pest Code					
Pest Name					
Crop Code		ZEAMX		ZEAMX	
Crop Name		Corn		Corn	
Part Rated		YIELD C		YIELD C	
Rating Date		11/20/2014		11/20/2014	
Rating Type		YIELD		YIELD	
Rating Unit		lb/plot		BU	
Number of Subsamples		1		1	
Days After First/Last Applic.		196 155		196 155	
Trt-Eval Interval					
Days After Emergence		171 DE-1		171 DE-1	
ARM Action Codes				TY1	
Number of Decimals		2		1	
Trt Treatment					
No. Name	Rate	Rate Unit	Appl Code	6	7
8 CORVUS	0.175 qt/a	A		20.81 abc	124.8 abc
AATREX	0.75 qt/a	A			
ROUNDUP POWERMAX	1 qt/a	A			
2,4-D LV4	1 pt/a	A			
N-PAK - AMS	2.5 % v/v	A			
9 CORVUS	0.175 qt/a	A		28.62 abc	171.6 abc
AATREX	0.75 qt/a	A			
ROUNDUP POWERMAX	1 qt/a	A			
2,4-D LV4	1 pt/a	A			
N-PAK - AMS	2.5 % v/v	A			
ROUNDUP POWERMAX	1.125 lb ae/a	C			
N-PAK - AMS	5 % v/v	C			
10 LUMAX EZ	2.7 qt/a	A		20.81 abc	124.8 abc
ROUNDUP POWERMAX	1 qt/a	A			
2,4-D LV4	1 pt/a	A			
N-PAK - AMS	2.5 % v/v	A			
11 LUMAX EZ	2.7 qt/a	A		28.50 abc	170.9 abc
ROUNDUP POWERMAX	1 qt/a	A			
2,4-D LV4	1 pt/a	A			
N-PAK - AMS	2.5 % v/v	A			
ROUNDUP POWERMAX	1.125 lb ae/a	C			
N-PAK - AMS	5 % v/v	C			
12 HALEX GT	1.8 qt/a	B		17.16 bc	102.9 bc
ACTIVATOR 90 - NIS	0.25 % v/v	B			
N-PAK - AMS	5 % v/v	B			
13 BICEP II MAGNUM	1.5 qt/a	A		24.35 abc	146.0 abc
ROUNDUP POWERMAX	1 qt/a	A			
2,4-D LV4	1 pt/a	A			
N-PAK - AMS	2.5 % v/v	A			
HALEX GT	1.8 qt/a	C			
ACTIVATOR 90 - NIS	0.25 % v/v	C			
N-PAK - AMS	5 % v/v	C			
14 REALM Q @ 4 OZ/A				27.72 abc	166.2 abc
RESOLVE	1.2 oz/a	A			
MESOTRIONE	2.5 oz/a	A			
ISOXADIFEN-ETHYL	0.3 oz/a	A			
CINCH ATZ	2.6 qt/a	A			
ROUNDUP POWERMAX	1 qt/a	A			
2,4-D LV4	1 pt/a	A			
N-PAK - AMS	2.5 % v/v	A			
ABUNDIT EXTRA	1.125 lb ae/a	C			
N-PAK - AMS	5 % v/v	C			
15 ROUNDUP POWERMAX	1.125 lb ae/a	B		19.29 bc	115.6 bc
N-PAK - AMS	5 % v/v	B			
LSD (P=.05)				7.731	46.35
Standard Deviation				5.355	32.10
CV				22.2	22.2
Bartlett's X2				14.726	14.726
P(Bartlett's X2)				0.397	0.397
Skewness				-0.4498	-0.4498
Kurtosis				-0.8073	-0.8073

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Comparison of Corn Herbicide Programs

Trial ID: 14S-SEP-NTC-11 Location: SEPAC Trial Year: 2014
 Protocol ID: 14S-SEP-NTC-11 Investigator: Dr. Bill Johnson
 Project ID: 2014-01-24- Study Director: Joe Ikley
 Sponsor Contact: Monsanto - Dan Childs

Randomized Complete Block (RCB) AOV For ZEAMX Corn PLOT C 6/18/2014 PHYGEN % 1 41 41 0 DA-B 16 DE-1 P 0 (Data Column 1)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	59	156.733333			
Replicate	3	1.933333	0.644444	0.226	0.8775
Treatment	14	35.233333	2.516667	0.884	0.5806
Error	42	119.566667	2.846825		

Randomized Complete Block (RCB) AOV For W Weed ECHCG Common barnyardgrass PLOT P 6/18/2014 CONTRO % 1 41 41 0 DA-B 16 DE-1 P 0 (Data Column 2)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	57	46479.882917			
Replicate	3	764.520992	254.840331	0.969	0.4167
Treatment	14	35197.765499	2514.126107	9.562	0.0001
Error	40	10517.596427	262.939911		

Randomized Complete Block (RCB) AOV For W Weed XANST Heart-leaf cocklebur PLOT P 6/18/2014 CONTRO % 1 41 41 0 DA-B 16 DE-1 P 0 (Data Column 3)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	57	57130.746846			
Replicate	3	1326.925980	442.308660	0.809	0.4964
Treatment	14	33933.903053	2423.850218	4.433	0.0001
Error	40	21869.917813	546.747945		

Randomized Complete Block (RCB) AOV For W Weed ECHCG Common barnyardgrass PLOT P 7/10/2014 CONTRO % 1 63 22 22 DA-C 38 DE-1 P 0 (Data Column 4)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	58	88564.583333			
Replicate	3	271.250000	90.416667	1.182	0.3282
Treatment	14	85158.333333	6082.738095	79.551	0.0001
Error	41	3135.000000	76.463415		

Randomized Complete Block (RCB) AOV For W Weed XANST Heart-leaf cocklebur PLOT P 7/10/2014 CONTRO % 1 63 22 22 DA-C 38 DE-1 P 0 (Data Column 5)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	58	79531.175359			
Replicate	3	910.328798	303.442933	0.723	0.5439
Treatment	14	61418.505291	4387.036092	10.456	0.0001
Error	41	17202.341270	419.569299		

Randomized Complete Block (RCB) AOV For ZEAMX Corn YIELD C 11/20/2014 YIELD lb/plot 1 196 155 171 DE-1 2 (Data Column 6)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	51	2505.397017			
Replicate	3	11.971650	3.990550	0.139	0.9359
Treatment	14	1518.621033	108.472931	3.783	0.0008
Error	34	974.804333	28.670716		

Randomized Complete Block (RCB) AOV For ZEAMX Corn YIELD C 11/20/2014 YIELD BU 1 196 155 171 DE-1 TY1 1 (Data Column 7)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	51	90030.904534			
Replicate	3	430.198689	143.399563	0.139	0.9359
Treatment	14	54571.321177	3897.951513	3.783	0.0008
Error	34	35029.384669	1030.276020		

Pest Type

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

Pest Code

ECHCG, Echinochloa crus-galli, = US

XANST, Xanthium strumarium, = US

Crop Code

ZEAMX, BCOR, Zea mays, = US

Part Rated

PLOT = plot

YIELD = yield

C = Crop is Part Rated

P = Pest is Part Rated

Rating Type

PHYGEN = phytotoxicity - general / injury

CONTRO = control / burndown or knockdown

YIELD = yield

Rating Unit

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% = percent

lb/plot = pounds per plot

BU = bushel

ARM Action Codes

P = Rating scale of 0 to 100 (e.g. % control or injury)

TY1 = 5.994563*[6]