Purdue Weed Science

One Pass vs. Two Pass Programs for Conventional Till Corn

Trial ID: 16S-TPAC-CORN-16 Location: TPAC Trial Year: 2016
Protocol ID: 16S-TPAC-CORN-16 Investigator: Dr. Bill Johnson
Project ID: MKD H 2016 US C51 Study Director: Joe Ikley
Sponsor Contact: BASF - Gery Welker

General Trial Information

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

Conducted Under GLP: No
Conducted Under GEP: No

Contacts

Study Director: Joe Ikley **Title:** Research Associate
Organization: Purdue University
Address: 915 West State Street **Phone No.:** 765-494-0891
City+State/Prov: West Lafayette **Mobile No.:** 410-596-9091
Postal Code: 47907 **E-mail:** jikley@purdue.edu

Investigator: Dr. Bill Johnson **Title:** Professor
Organization: Purdue University
Address: 915 West State Street **Phone No.:** 765-494-4656
City+State/Prov: West Lafayette **Mobile No.:** 765-404-9801
Postal Code: 47907 **E-mail:** wgj@purdue.edu

Cooperator/Landowner

Cooperator: Jay Young **Role:** Superintendent
Organization: Purdue University
Address 1: 8343 US 231 S
City: Lafayette **Phone No.:** 765-538-3422
State/Prov: IN **Fax No.:** 765-538-3423
Postal Code: 47909
Country: USA United States **E-mail:** jayyoung@purdue.edu

Crop Description

Crop 1: ZEAMX Zea mays Corn
Variety: DKC 62-08

Planting Date: Apr-26-2016
Planting Rate, Unit: 32000 S/A **Planting Method:** PLANTD planted
Depth, Unit: 1.75 IN **Planting Equipment:** FPP Finger Pickup Planter
Row Spacing, Unit: 30 IN **Emergence Date:** May-10-2016
Harvested Width, Unit: 5 FT
Soil Temperature, Unit: 74 F **Harvested Length, Unit:** 25 FT
Soil Moisture: SLIDRY slightly dry
% Standard Moisture: 15.5

Pest Description

Pest 1 Type: W **Code:** AMBTR Ambrosia trifida
Common Name: Giant ragweed

Pest 2 Type: W **Code:** CHEAL Chenopodium album
Common Name: common lambsquarters

Pest 3 Type: W **Code:** SETFA Setaria faberi
Common Name: Giant foxtail

Site and Design

Treated Plot Width: 10 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT **Experimental Unit:** 1 PLOT plot
Treated Plot Area: 300 FT2 **Treatments:** 16 **Tillage Type:** CONTIL conventional-till
Replications: 4 **Study Design:** RACOBL Randomized Complete Block (RCB)

Field Prep./Maintenance:
171 lbs of N applied as UAN on 4/19/16

Soil Description

Description Name: TPAC -Field 4A
% OM: 3.1 **Texture:** SIL silt loam
pH: 6 **Soil Name:** Toronto-Millbrook
CEC: 11.1

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Application Description

	A	B	C
Application Date:	Apr-26-2016	May-23-2016	Jun-3-2016
Appl. Start Time:	1:00 PM	2:00 PM	11:30 AM
Appl. Stop Time:	1:30 PM	2:30 PM	12:00 PM
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	E POST	L POST
Application Placement:	BROADC	BROADC	BROADC
Applied By:	MZ	PD	JI
Air Temperature, Unit:	76 F	75 F	75 F
% Relative Humidity:	50	25	45
Wind Velocity, Unit:	5 MPH	3 MPH	2 MPH
Wind Direction:	NNW	ESE	WNW
Dew Presence (Y/N):	N no	N no	N no
Soil Temperature, Unit:	74 F	75 F	75 F
Soil Moisture:	SLIDRY	DRY	DRY
% Cloud Cover:	100	0	80

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:		32	35
Stage Minimum, Percent:		31	34
Stage Maximum, Percent:		32	35
Height, Unit:		3.5 IN	9 IN
Height Minimum, Maximum:		2 5	7 11

Pest Stage At Each Application

	A	B	C
Pest 1 Code, Type, Scale:	AMBTR W	AMBTR W	AMBTR W
Stage Majority, Percent:		33G	34G
Stage Minimum, Percent:		32G	32G
Stage Maximum, Percent:		35G	36G
Height, Unit:		5 IN	5 IN
Height Minimum, Maximum:		4 6	2 8
Density, Unit:		120 YD2	120 YD2
Pest 2 Code, Type, Scale:	CHEAL W	CHEAL W	CHEAL W
Stage Majority, Percent:		31G	
Stage Minimum, Percent:		31G	
Stage Maximum, Percent:		32G	
Height, Unit:		0.75 IN	
Height Minimum, Maximum:		0.5 1	
Density, Unit:		30 YD2	
Pest 3 Code, Type, Scale:	SETFA W	SETFA W	SETFA W
Stage Majority, Percent:		13	
Stage Minimum, Percent:		12	
Stage Maximum, Percent:		14	
Height, Unit:		1.25 IN	
Height Minimum, Maximum:		0.5 2	
Density, Unit:		75 YD2	

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Application Equipment

	A	B	C
Appl. Equipment:	CO2 BACKPACK	CO2 BACKPACK	CO2 BACKPACK
Equipment Type:	BACSPR	BACSPR	BACSPR
Operation Pressure, Unit:	18 PSI	18 PSI	18 PSI
Nozzle Type:	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size:	XR 11002	XR 11002	XR 11002
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:	17 IN	17 IN	17 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH
Carrier:	MEIGS	MEIGS	MEIGS
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

Trial Comments

Reps: 4 Plots: 10 by 30 feet
Spray vol: 15 GAL/AC Mix Size: 1.8 liters (1.5642 liters calculated mix size)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code	Amt Product to Measure	Rep 1	2	3	4
1	Untreated Check								101	403	508	802
2	VERDICT	5.57	LB/GAL	EC	18	fl oz/a	A	16.87 ml/mx	102	406	602	703
3	VERDICT	5.57	LB/GAL	EC	10	fl oz/a	A	9.375 ml/mx	103	301	608	801
	STATUS	61.1	%	WG	5	oz/a	C	4.493 g/mx				
	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	22	fl oz/a	C	20.62 ml/mx				
	PRIME OIL - COC	98.47	%	L	1	% v/v	C	18.0 ml/mx				
	N-PAK - AMS	3.4	LBA/GAL	L	2.5	% v/v	C	45.0 ml/mx				
4	ZIDUA SC	4.17	LB/GAL	SC	3.3	fl oz/a	A	3.094 ml/mx	104	407	607	808
	SHARPEN	2.85	LB/GAL	CS	1	fl oz/a	A	0.9375 ml/mx				
	ARMEZON	2.8	LB/GAL	L	0.75	fl oz/a	C	0.7031 ml/mx				
	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	22	fl oz/a	C	20.62 ml/mx				
	PRIME OIL - COC	98.47	%	L	1	% v/v	C	18.0 ml/mx				
	N-PAK - AMS	3.4	LBA/GAL	L	2.5	% v/v	C	45.0 ml/mx				
5	VERDICT	5.57	LB/GAL	EC	10	fl oz/a	A	9.375 ml/mx	105	401	605	804
	ARMEZON PRO	5.26	LB/GAL	EC	16	fl oz/a	B	15.0 ml/mx				
	AATREX	4	LB/GAL	L	16	fl oz/a	B	15.0 ml/mx				
	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	22	fl oz/a	B	20.62 ml/mx				
	PRIME OIL - COC	98.47	%	L	1	% v/v	B	18.0 ml/mx				
	N-PAK - AMS	3.4	LBA/GAL	L	2.5	% v/v	B	45.0 ml/mx				
6	ARMEZON PRO	5.26	LB/GAL	EC	16	fl oz/a	B	15.0 ml/mx	106	305	507	803
	AATREX	4	LB/GAL	L	16	fl oz/a	B	15.0 ml/mx				
	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	22	fl oz/a	B	20.62 ml/mx				
	PRIME OIL - COC	98.47	%	L	1	% v/v	B	18.0 ml/mx				
	N-PAK - AMS	3.4	LBA/GAL	L	2.5	% v/v	B	45.0 ml/mx				
7	ARMEZON PRO	5.26	LB/GAL	EC	20	fl oz/a	A	18.75 ml/mx	107	405	603	706
	SHARPEN	2.85	LB/GAL	CS	3	fl oz/a	A	2.812 ml/mx				
8	VERDICT	5.57	LB/GAL	EC	12	fl oz/a	A	11.25 ml/mx	108	302	506	708
	ZIDUA SC	4.17	LB/GAL	SC	2.5	fl oz/a	A	2.344 ml/mx				

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Reps: 4 Plots: 10 by 30 feet
Spray vol: 15 GAL/AC Mix Size: 1.8 liters (1.5642 liters calculated mix size)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code	Amt Product to Measure	Rep 1	2	3	4
9	CAPRENO	3.45	LB/GAL	SC	3	fl oz/a	B	2.812 ml/mx	201	402	504	704
	AATREX	4	LB/GAL	L	16	fl oz/a	B	15.0 ml/mx				
	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	22	fl oz/a	B	20.62 ml/mx				
	PRIME OIL - COC	98.47	%	L	1	% v/v	B	18.0 ml/mx				
	N-PAK - AMS	3.4	LBA/GAL	L	2.5	% v/v	B	45.0 ml/mx				
10	ACURON	3.44	LB/GAL	ZC	80	fl oz/a	A	75.0 ml/mx	202	307	503	806
11	RESICORE	3.29	LB/GAL	SE	72	fl oz/a	A	67.5 ml/mx	203	306	502	705
12	CORVUS	2.63	LB/GAL	SC	5.6	fl oz/a	A	5.25 ml/mx	204	308	604	707
13	DIFLEXX DUO	1.62	LB/GAL	SC	32	fl oz/a	B	30.0 ml/mx	205	303	601	807
	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	22	fl oz/a	B	20.62 ml/mx				
	PRIME OIL - COC	98.47	%	L	1	% v/v	B	18.0 ml/mx				
	N-PAK - AMS	3.4	LBA/GAL	L	2.5	% v/v	B	45.0 ml/mx				
14	SURESTART II	4.25	LB/GAL	L	32	fl oz/a	A	30.0 ml/mx	206	408	606	702
15	HALEX GT	4.389	LBAE/GAL	L	57.6	fl oz/a	B	54.0 ml/mx	207	404	501	805
	AATREX	4	LB/GAL	L	16	fl oz/a	B	15.0 ml/mx				
	ACTIVATOR 90 - NIS	90	%	L	0.25	% v/v	B	4.5 ml/mx				
	N-PAK - AMS	3.4	LBA/GAL	L	2.5	% v/v	B	45.0 ml/mx				
16	Untreated Check								208	304	505	701

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 Unit	Form Type	Lot Code
58.594	ml	VERDICT	5.57	LB/GAL	EC	
5.617	g	STATUS	61.1	%	WG	
154.687	ml	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	
134.985	ml	PRIME OIL - COC	98.47	%	L	
393.707	ml	N-PAK - AMS	3.4	LBA/GAL	L	
6.797	ml	ZIDUA SC	4.17	LB/GAL	SC	
4.687	ml	SHARPEN	2.85	LB/GAL	CS	
0.879	ml	ARMEZON	2.8	LB/GAL	L	
60.937	ml	ARMEZON PRO	5.26	LB/GAL	EC	
75.000	ml	AATREX	4	LB/GAL	L	
3.516	ml	CAPRENO	3.45	LB/GAL	SC	
93.750	ml	ACURON	3.44	LB/GAL	ZC	
84.375	ml	RESICORE	3.29	LB/GAL	SE	
6.562	ml	CORVUS	2.63	LB/GAL	SC	
37.500	ml	DIFLEXX DUO	1.62	LB/GAL	SC	
37.500	ml	SURESTART II	4.25	LB/GAL	L	
67.500	ml	HALEX GT	4.389	LBAE/GAL	L	
5.624	ml	ACTIVATOR 90 - NIS	90	%	L	

* 'Per area' calculations based on spray volume= 15 GAL/AC, mix size= 1.8 liters (mix size basis).
* Product amount calculations increased 25 % for overage adjustment.
* 'Per volume' calculations use spray volume= 15 GAL/AC, mix size= 1.8 liters.

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Pest Type			W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code			AMBTR	SETFA	AMBTR	SETFA	AMBTR	SETFA
Pest Name			Giant ragweed	Giant foxtail	Giant ragweed	Giant foxtail	Giant ragweed	Giant foxtail
Crop Code								
Crop Name								
Part Rated			PLOT P	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P
Rating Date			May-23-2016	May-23-2016	Jun-3-2016	Jun-3-2016	Jun-10-2016	Jun-10-2016
Rating Type			CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit			%	%	%	%	%	%
Number of Subsamples			1	1	1	1	1	1
Days After First/Last Applic.			27 27	27 27	38 11	38 11	45 7	45 7
Trt-Eval Interval			0 DA-B	0 DA-B	0 DA-C	0 DA-C	7 DA-C	7 DA-C
Days After Emergence			13 DE-1	13 DE-1	24 DE-1	24 DE-1	31 DE-1	31 DE-1
ARM Action Codes			P	P	P	P	P	P
Number of Decimals			0	0	0	0	0	0
Trt Treatment No. Name	Rate Rate Unit	Appl Code	Plot	1	2	3	4	5	6
1 Untreated Check			101	0	0	0	0	0	0
			403	0	0	0	0	0	0
			508	0	0	0	0	0	0
			802	0	0	0	0	0	0
			Mean =	0	0	0	0	0	0
2 VERDICT	18 fl oz/a	A	102	99	100	95	100	90	100
			406	95	100	70	100	65	100
			602	100	100	95	100	95	100
			703	100	100	99	100	95	100
			Mean =	99	100	90	100	86	100
3 VERDICT	10 fl oz/a	A	103	95	100	85	100	100	100
STATUS	5 oz/a	C	301	80	100	70	100	95	100
ROUNDUP POWERMAX	22 fl oz/a	C	608	85	100	65	100	95	100
PRIME OIL - COC	1 % v/v	C	801	97	100	90	100	100	100
N-PAK - AMS	2.5 % v/v	C							
			Mean =	89	100	78	100	98	100
4 ZIDUA SC	3.3 fl oz/a	A	104	90	100	90	100	100	100
SHARPEN	1 fl oz/a	A	407	50	100	20	100	95	100
ARMEZON	0.75 fl oz/a	C	607	65	100	20	100	95	100
ROUNDUP POWERMAX	22 fl oz/a	C	808	90	100	60	75	100	99
PRIME OIL - COC	1 % v/v	C							
N-PAK - AMS	2.5 % v/v	C							
			Mean =	74	100	48	94	98	100
5 VERDICT	10 fl oz/a	A	105	90	100	95	100	90	100
ARMEZON PRO	16 fl oz/a	B	401	70	100	95	100	90	100
AATREX	16 fl oz/a	B	605	85	100	95	100	95	100
ROUNDUP POWERMAX	22 fl oz/a	B	804	85	100	95	100	90	100
PRIME OIL - COC	1 % v/v	B							
N-PAK - AMS	2.5 % v/v	B							
			Mean =	83	100	95	100	91	100
6 ARMEZON PRO	16 fl oz/a	B	106	0	0	95	100	95	100
AATREX	16 fl oz/a	B	305	0	0	95	100	95	95
ROUNDUP POWERMAX	22 fl oz/a	B	507	0	0	95	85	95	80
PRIME OIL - COC	1 % v/v	B	803	0	0	100	100	95	95
N-PAK - AMS	2.5 % v/v	B							
			Mean =	0	0	96	96	95	93
7 ARMEZON PRO	20 fl oz/a	A	107	95	100	85	95	80	95
SHARPEN	3 fl oz/a	A	405	85	100	60	100	40	100
			603	95	100	85	100	80	100
			706	100	100	95	100	95	100
			Mean =	94	100	81	99	74	99
8 VERDICT	12 fl oz/a	A	108	95	100	90	100	85	100
ZIDUA SC	2.5 fl oz/a	A	302	85	100	85	100	75	100
			506	95	100	90	95	85	90
			708	85	100	75	100	60	95
			Mean =	90	100	85	99	76	96

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Pest Type			W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code			AMBTR	SETFA	AMBTR	SETFA	AMBTR	SETFA
Pest Name			Giant ragweed	Giant foxtail	Giant ragweed	Giant foxtail	Giant ragweed	Giant foxtail
Crop Code								
Crop Name								
Part Rated			PLOT P	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P
Rating Date			May-23-2016	May-23-2016	Jun-3-2016	Jun-3-2016	Jun-10-2016	Jun-10-2016
Rating Type			CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit			%	%	%	%	%	%
Number of Subsamples			1	1	1	1	1	1
Days After First/Last Applic.			27 27	27 27	38 11	38 11	45 7	45 7
Trt-Eval Interval			0 DA-B	0 DA-B	0 DA-C	0 DA-C	7 DA-C	7 DA-C
Days After Emergence			13 DE-1	13 DE-1	24 DE-1	24 DE-1	31 DE-1	31 DE-1
ARM Action Codes			P	P	P	P	P	P
Number of Decimals			0	0	0	0	0	0
Trt Treatment No. Name	Rate Rate Unit	Appl Code	Plot	1	2	3	4	5	6
9 CAPRENO	3 fl oz/a	B	201	0	0	95	100	90	95
AATREX	16 fl oz/a	B	402	0	0	100	100	95	100
ROUNDUP POWERMAX	22 fl oz/a	B	504	0	0	95	95	100	95
PRIME OIL - COC	1 % v/v	B	704	0	0	99	99	97	100
N-PAK - AMS	2.5 % v/v	B							
			Mean =	0	0	97	99	96	98
10 ACURON	80 fl oz/a	A	202	90	100	90	100	85	100
			307	75	100	75	100	70	95
			503	95	100	95	100	95	100
			806	95	100	99	100	97	100
			Mean =	89	100	90	100	87	99
11 RESICORE	72 fl oz/a	A	203	90	100	90	100	90	100
			306	80	100	80	95	60	95
			502	97	100	99	100	97	99
			705	99	100	95	100	95	100
			Mean =	92	100	91	99	86	99
12 CORVUS	5.6 fl oz/a	A	204	80	100	90	100	90	100
			308	75	100	70	95	60	95
			604	90	100	90	100	85	100
			707	80	100	70	95	60	100
			Mean =	81	100	80	98	74	99
13 DIFLEXX DUO	32 fl oz/a	B	205	0	0	95	100	97	99
ROUNDUP POWERMAX	22 fl oz/a	B	303	0	0	95	100	100	100
PRIME OIL - COC	1 % v/v	B	601	0	0	99	99	95	95
N-PAK - AMS	2.5 % v/v	B	807	0	0	95	95	95	90
			Mean =	0	0	96	99	97	96
14 SURESTART II	32 fl oz/a	A	206	70	100	60	100	40	100
			408	65	100	40	100	20	.
			606	90	100	75	95	50	100
			702	90	100	80	100	75	95
			Mean =	79	100	64	99	46	98
15 HALEX GT	57.6 fl oz/a	B	207	0	0	95	100	95	95
AATREX	16 fl oz/a	B	404	0	0	95	95	95	95
ACTIVATOR 90 - NIS	0.25 % v/v	B	501	0	0	99	95	95	85
N-PAK - AMS	2.5 % v/v	B	805	0	0	95	100	97	99
			Mean =	0	0	96	98	96	94
16 Untreated Check			208	0	0	0	0	0	0
			304	0	0	0	0	0	0
			505	0	0	0	0	0	0
			701	0	0	0	0	0	0
			Mean =	0	0	0	0	0	0

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Pest Type				W Weed			
Pest Code				AMBTR			
Pest Name				Giant ragweed			
Crop Code					ZEAMX	ZEAMX	ZEAMX
Crop Name					Corn	Corn	Corn
Part Rated				PLOT P	PLOT C	PLOT C	PLOT C
Rating Date				Jun-24-2016	Oct-8-2016	Oct-8-2016	Oct-8-2016
Rating Type				CONTRO	YIELD	MOICON	YIELD
Rating Unit				%	lb/plot	%	BU
Number of Subsamples				1	1	1	1
Days After First/Last Applic.				59 21	165 127	165 127	165 127
Trt-Eval Interval				21 DA-C	164 DA-A	164 DA-A	164 DA-A
Days After Emergence				45 DE-1	151 DE-1	151 DE-1	151 DE-1
ARM Action Codes				P			TY1
Number of Decimals				0	2	1	1
Trt No.	Treatment Name	Rate Rate Unit	Appl Code	Plot	7	8	9	10
1	Untreated Check			101	0	0.00	0.0	0.0
				403	0	0.00	0.0	0.0
				508	0	0.00	0.0	0.0
				802	0	0.00	0.0	0.0
				Mean =	0	0.00	0.0	0.0
2	VERDICT	18 fl oz/a	A	102	60	13.79	18.5	82.8
				406	35	4.81	9.8	31.9
				602	85	32.20	17.7	195.2
				703	95	26.92	18.3	161.9
				Mean =	69	19.43	16.1	118.0
3	VERDICT	10 fl oz/a	A	103	95	31.34	18.5	188.1
	STATUS	5 oz/a	C	301	95	29.51	16.9	180.6
	ROUNDUP POWERMAX	22 fl oz/a	C	608	95	31.34	17.1	191.2
	PRIME OIL - COC	1 % v/v	C	801	97	25.31	17.0	154.8
	N-PAK - AMS	2.5 % v/v	C					
				Mean =	96	29.37	17.4	178.7
4	ZIDUA SC	3.3 fl oz/a	A	104	90	32.79	18.8	196.2
	SHARPEN	1 fl oz/a	A	407	85	26.39	17.8	159.7
	ARMEZON	0.75 fl oz/a	C	607	85	30.05	18.6	180.2
	ROUNDUP POWERMAX	22 fl oz/a	C	808	85	29.61	17.8	179.2
	PRIME OIL - COC	1 % v/v	C					
	N-PAK - AMS	2.5 % v/v	C					
				Mean =	86	29.71	18.2	178.8
5	VERDICT	10 fl oz/a	A	105	85	28.16	18.8	168.5
	ARMEZON PRO	16 fl oz/a	B	401	70	27.19	18.9	162.4
	AATREX	16 fl oz/a	B	605	65	24.61	17.0	150.5
	ROUNDUP POWERMAX	22 fl oz/a	B	804	85	29.78	18.1	179.7
	PRIME OIL - COC	1 % v/v	B					
	N-PAK - AMS	2.5 % v/v	B					
				Mean =	76	27.44	18.2	165.3
6	ARMEZON PRO	16 fl oz/a	B	106	80	21.33	18.7	127.7
	AATREX	16 fl oz/a	B	305	70	17.56	17.9	106.2
	ROUNDUP POWERMAX	22 fl oz/a	B	507	80	31.82	18.2	191.7
	PRIME OIL - COC	1 % v/v	B	803	85	25.74	19.2	153.1
	N-PAK - AMS	2.5 % v/v	B					
				Mean =	79	24.11	18.5	144.7
7	ARMEZON PRO	20 fl oz/a	A	107	40	11.43	19.0	68.2
	SHARPEN	3 fl oz/a	A	405	15	0.00	0.0	0.0
				603	70	14.98	17.7	90.8
				706	85	24.66	16.6	151.5
				Mean =	53	12.77	13.3	77.6
8	VERDICT	12 fl oz/a	A	108	50	15.68	18.6	94.0
	ZIDUA SC	2.5 fl oz/a	A	302	40	17.18	17.4	104.5
				506	45	12.50	17.4	76.1
				708	35	10.51	18.3	63.2
				Mean =	43	13.97	17.9	84.4

Purdue Weed Science

One Pass vs. Two Pass Programs for Conventional Till Corn

Trial ID: 16S-TPAC-CORN-16 Location: TPAC Trial Year: 2016
Protocol ID: 16S-TPAC-CORN-16 Investigator: Dr. Bill Johnson
Project ID: MKD H 2016 US C51 Study Director: Joe Ikley
Sponsor Contact: BASF - Gery Welker

Pest Type					W Weed			
Pest Code					AMBTR			
Pest Name					Giant ragweed			
Crop Code						ZEAMX	ZEAMX	ZEAMX
Crop Name						Corn	Corn	Corn
Part Rated					PLOT P	PLOT C	PLOT C	PLOT C
Rating Date					Jun-24-2016	Oct-8-2016	Oct-8-2016	Oct-8-2016
Rating Type					CONTRO	YIELD	MOICON	YIELD
Rating Unit					%	lb/plot	%	BU
Number of Subsamples					1	1	1	1
Days After First/Last Applic.					59 21	165 127	165 127	165 127
Trt-Eval Interval					21 DA-C	164 DA-A	164 DA-A	164 DA-A
Days After Emergence					45 DE-1	151 DE-1	151 DE-1	151 DE-1
ARM Action Codes					P			TY1
Number of Decimals					0	2	1	1
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Plot	7	8	9	10
9	CAPRENO	3	fl oz/a	B	201	70	12.83	16.2	79.1
	AATREX	16	fl oz/a	B	402	80	28.16	20.3	165.4
	ROUNDUP POWERMAX	22	fl oz/a	B	504	95	29.67	17.9	179.3
	PRIME OIL - COC	1	% v/v	B	704	95	32.74	17.6	198.7
	N-PAK - AMS	2.5	% v/v	B					
					Mean =	85	25.85	18.0	155.7
10	ACURON	80	fl oz/a	A	202	80	20.52	18.8	122.8
					307	30	14.01	18.1	84.5
					503	95	35.21	17.7	213.4
					806	97	33.06	17.5	200.8
					Mean =	76	25.70	18.0	155.4
11	RESICORE	72	fl oz/a	A	203	85	27.30	19.4	162.1
					306	20	7.23	15.3	45.1
					502	95	38.60	17.8	233.8
					705	90	26.17	17.8	158.5
					Mean =	73	24.83	17.5	149.9
12	CORVUS	5.6	fl oz/a	A	204	80	24.99	19.5	148.2
					308	20	0.00	0.0	0.0
					604	60	15.30	17.6	92.9
					707	35	11.43	17.8	69.2
					Mean =	49	12.93	13.7	77.6
13	DIFLEXX DUO	32	fl oz/a	B	205	90	31.07	18.9	185.5
	ROUNDUP POWERMAX	22	fl oz/a	B	303	90	31.23	17.9	188.7
	PRIME OIL - COC	1	% v/v	B	601	85	32.68	17.5	198.7
	N-PAK - AMS	2.5	% v/v	B	807	90	33.44	20.2	196.6
					Mean =	89	32.10	18.6	192.4
14	SURESTART II	32	fl oz/a	A	206	20	4.75	11.1	31.1
					408	10	3.36	4.4	23.6
					606	25	4.22	4.4	29.7
					702	35	5.94	14.1	37.5
					Mean =	23	4.57	8.5	30.5
15	HALEX GT	57.6	fl oz/a	B	207	85	23.32	17.3	142.0
	AATREX	16	fl oz/a	B	404	90	26.01	17.7	157.5
	ACTIVATOR 90 - NIS	0.25	% v/v	B	501	90	33.87	18.3	203.8
	N-PAK - AMS	2.5	% v/v	B	805	95	36.02	19.1	214.5
					Mean =	90	29.80	18.1	179.5
16	Untreated Check				208	0	0.00	0.0	0.0
					304	0	0.00	0.0	0.0
					505	0	0.00	0.0	0.0
					701	0	0.00	0.0	0.0
					Mean =	0	0.00	0.0	0.0

Purdue Weed Science

One Pass vs. Two Pass Programs for Conventional Till Corn

Trial ID: 16S-TPAC-CORN-16 Location: TPAC Trial Year: 2016
Protocol ID: 16S-TPAC-CORN-16 Investigator: Dr. Bill Johnson
Project ID: MKD H 2016 US C51 Study Director: Joe Ikley
Sponsor Contact: BASF - Gery Welker

Pest Type
W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop
Pest Code
AMBTR, Ambrosia trifida, = US
SETFA, Setaria faberi, = US
Crop Code
ZEAMX, BCOR, Zea mays, = US
Part Rated
PLOT = plot
P = Pest is Part Rated
C = Crop is Part Rated
Rating Type
CONTRO = control / burndown or knockdown
YIELD = yield
MOICON = moisture content
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 = 6.222857*[8]*(100-[9])/84.5

Pest Type			W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code			AMBTR	SETFA	AMBTR	SETFA	AMBTR	SETFA
Pest Name			Giant ragweed	Giant foxtail	Giant ragweed	Giant foxtail	Giant ragweed	Giant foxtail
Crop Code								
Crop Name								
Part Rated			PLOT P	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P
Rating Date			May-23-2016	May-23-2016	Jun-3-2016	Jun-3-2016	Jun-10-2016	Jun-10-2016
Rating Type			CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit			%	%	%	%	%	%
Number of Subsamples			1	1	1	1	1	1
Days After First/Last Applic.			27 27	27 27	38 11	38 11	45 7	45 7
Trt-Eval Interval			0 DA-B	0 DA-B	0 DA-C	0 DA-C	7 DA-C	7 DA-C
Days After Emergence			13 DE-1	13 DE-1	24 DE-1	24 DE-1	31 DE-1	31 DE-1
ARM Action Codes			P	P	P	P	P	P
Number of Decimals			0	0	0	0	0	0
Trt No.	Treatment Name	Rate Rate Unit	Appl Code	1	2	3	4	5	6
1	Untreated Check			0 f	0 b	0 g	0 c	0 d	0 d
2	VERDICT	18 fl oz/a	A	99 a	100 a	90 a-d	100 a	86 ab	100 a
3	VERDICT	10 fl oz/a	A	89 a-d	100 a	78 de	100 a	98 a	100 a
	STATUS	5 oz/a	C						
	ROUNDUP POWERMAX	22 fl oz/a	C						
	PRIME OIL - COC	1 % v/v	C						
	N-PAK - AMS	2.5 % v/v	C						
4	ZIDUA SC	3.3 fl oz/a	A	74 e	100 a	48 f	94 b	98 a	100 a
	SHARPEN	1 fl oz/a	A						
	ARMEZON	0.75 fl oz/a	C						
	ROUNDUP POWERMAX	22 fl oz/a	C						
	PRIME OIL - COC	1 % v/v	C						
	N-PAK - AMS	2.5 % v/v	C						
5	VERDICT	10 fl oz/a	A	83 cde	100 a	95 abc	100 a	91 a	100 a
	ARMEZON PRO	16 fl oz/a	B						
	AATREX	16 fl oz/a	B						
	ROUNDUP POWERMAX	22 fl oz/a	B						
	PRIME OIL - COC	1 % v/v	B						
	N-PAK - AMS	2.5 % v/v	B						
6	ARMEZON PRO	16 fl oz/a	B	0 f	0 b	96 ab	96 ab	95 a	93 c
	AATREX	16 fl oz/a	B						
	ROUNDUP POWERMAX	22 fl oz/a	B						
	PRIME OIL - COC	1 % v/v	B						
	N-PAK - AMS	2.5 % v/v	B						
7	ARMEZON PRO	20 fl oz/a	A	94 ab	100 a	81 bcd	99 ab	74 b	99 a
	SHARPEN	3 fl oz/a	A						

Purdue Weed Science

One Pass vs. Two Pass Programs for Conventional Till Corn

Trial ID: 16S-TPAC-CORN-16 Location: TPAC Trial Year: 2016
Protocol ID: 16S-TPAC-CORN-16 Investigator: Dr. Bill Johnson
Project ID: MKD H 2016 US C51 Study Director: Joe Ikley
Sponsor Contact: BASF - Gery Welker

Pest Type			W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code			AMBTR	SETFA	AMBTR	SETFA	AMBTR	SETFA
Pest Name			Giant ragweed	Giant foxtail	Giant ragweed	Giant foxtail	Giant ragweed	Giant foxtail
Crop Code								
Crop Name								
Part Rated			PLOT P	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P
Rating Date			May-23-2016	May-23-2016	Jun-3-2016	Jun-3-2016	Jun-10-2016	Jun-10-2016
Rating Type			CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit			%	%	%	%	%	%
Number of Subsamples			1	1	1	1	1	1
Days After First/Last Applic.			27 27	27 27	38 11	38 11	45 7	45 7
Trt-Eval Interval			0 DA-B	0 DA-B	0 DA-C	0 DA-C	7 DA-C	7 DA-C
Days After Emergence			13 DE-1	13 DE-1	24 DE-1	24 DE-1	31 DE-1	31 DE-1
ARM Action Codes			P	P	P	P	P	P
Number of Decimals			0	0	0	0	0	0
Trt No.	Treatment Name	Rate Rate Unit	Appl Code	1	2	3	4	5	6
8	VERDICT	12 fl oz/a	A	90 a-d	100 a	85 a-d	99 ab	76 b	96 abc
	ZIDUA SC	2.5 fl oz/a	A						
9	CAPRENO	3 fl oz/a	B	0 f	0 b	97 a	99 ab	96 a	98 ab
	AATREX	16 fl oz/a	B						
	ROUNDUP POWERMAX	22 fl oz/a	B						
	PRIME OIL - COC	1 % v/v	B						
	N-PAK - AMS	2.5 % v/v	B						
10	ACURON	80 fl oz/a	A	89 bcd	100 a	90 a-d	100 a	87 ab	99 a
11	RESICORE	72 fl oz/a	A	92 abc	100 a	91 a-d	99 ab	86 ab	99 a
12	CORVUS	5.6 fl oz/a	A	81 de	100 a	80 cd	98 ab	74 b	99 a
13	DIFLEXX DUO	32 fl oz/a	B	0 f	0 b	96 ab	99 ab	97 a	96 abc
	ROUNDUP POWERMAX	22 fl oz/a	B						
	PRIME OIL - COC	1 % v/v	B						
	N-PAK - AMS	2.5 % v/v	B						
14	SURESTART II	32 fl oz/a	A	79 e	100 a	64 e	99 ab	46 c	98 ab
15	HALEX GT	57.6 fl oz/a	B	0 f	0 b	96 ab	98 ab	96 a	94 bc
	AATREX	16 fl oz/a	B						
	ACTIVATOR 90 - NIS	0.25 % v/v	B						
	N-PAK - AMS	2.5 % v/v	B						
16	Untreated Check			0 f	0 b	0 g	0 c	0 d	0 d
LSD P=.05				9.4	.	15.8	5.8	14.7	4.9
Standard Deviation				6.6	0.0	11.1	4.1	10.3	3.4
CV				12.15	0.0	15.0	4.75	13.82	4.1
Bartlett's X2				13.71	0.0	41.953	24.334	46.242	20.691
P(Bartlett's X2)				0.133	.	0.001*	0.004*	0.001*	0.023*
Skewness				-0.4105	-0.5289	-1.5128*	-2.2655*	-1.5098*	-2.2401*
Kurtosis				-1.7627*	-1.7768*	0.8571	3.3265*	0.8741	3.2163*
Replicate F				7.671	0.000	4.455	0.906	5.374	1.553
Replicate Prob(F)				0.0003	1.0000	0.0080	0.4456	0.0030	0.2143
Treatment F				176.643	0.000	32.815	271.086	38.524	375.887
Treatment Prob(F)				0.0001	1.0000	0.0001	0.0001	0.0001	0.0001

Purdue Weed Science

One Pass vs. Two Pass Programs for Conventional Till Corn

Trial ID: 16S-TPAC-CORN-16 Location: TPAC Trial Year: 2016
Protocol ID: 16S-TPAC-CORN-16 Investigator: Dr. Bill Johnson
Project ID: MKD H 2016 US C51 Study Director: Joe Ikley
Sponsor Contact: BASF - Gery Welker

Pest Type			W Weed				
Pest Code			AMBTR				
Pest Name			Giant ragweed				
Crop Code				ZEAMX	ZEAMX	ZEAMX
Crop Name				Corn	Corn	Corn
Part Rated			PLOT P	PLOT C	PLOT C	PLOT C
Rating Date			Jun-24-2016	Oct-8-2016	Oct-8-2016	Oct-8-2016
Rating Type			CONTRO	YIELD	MOICON	YIELD
Rating Unit			%	lb/plot	%	BU
Number of Subsamples			1	1	1	1
Days After First/Last Applic.			59 21	165 127	165 127	165 127
Trt-Eval Interval			21 DA-C	164 DA-A	164 DA-A	164 DA-A
Days After Emergence			45 DE-1	151 DE-1	151 DE-1	151 DE-1
ARM Action Codes			P			TY1
Number of Decimals			0	2	1	1
Trt No.	Treatment Name	Rate / Rate Unit	Appl Code	7	8	9	10
1	Untreated Check			0 g	0.00 e	0.0 e	0.0 e
2	VERDICT	18 fl oz/a	A	69 bcd	19.43 bc	16.1 abc	118.0 bc
3	VERDICT	10 fl oz/a	A	96 a	29.37 a	17.4 abc	178.7 a
	STATUS	5 oz/a	C				
	ROUNDUP POWERMAX	22 fl oz/a	C				
	PRIME OIL - COC	1 % v/v	C				
	N-PAK - AMS	2.5 % v/v	C				
4	ZIDUA SC	3.3 fl oz/a	A	86 ab	29.71 a	18.2 ab	178.8 a
	SHARPEN	1 fl oz/a	A				
	ARMEZON	0.75 fl oz/a	C				
	ROUNDUP POWERMAX	22 fl oz/a	C				
	PRIME OIL - COC	1 % v/v	C				
	N-PAK - AMS	2.5 % v/v	C				
5	VERDICT	10 fl oz/a	A	76 ab	27.44 ab	18.2 ab	165.3 ab
	ARMEZON PRO	16 fl oz/a	B				
	AATREX	16 fl oz/a	B				
	ROUNDUP POWERMAX	22 fl oz/a	B				
	PRIME OIL - COC	1 % v/v	B				
	N-PAK - AMS	2.5 % v/v	B				
6	ARMEZON PRO	16 fl oz/a	B	79 ab	24.11 ab	18.5 a	144.7 ab
	AATREX	16 fl oz/a	B				
	ROUNDUP POWERMAX	22 fl oz/a	B				
	PRIME OIL - COC	1 % v/v	B				
	N-PAK - AMS	2.5 % v/v	B				
7	ARMEZON PRO	20 fl oz/a	A	53 cde	12.77 cd	13.3 c	77.6 cd
	SHARPEN	3 fl oz/a	A				

Purdue Weed Science

One Pass vs. Two Pass Programs for Conventional Till Corn

Trial ID: 16S-TPAC-CORN-16 Location: TPAC Trial Year: 2016
Protocol ID: 16S-TPAC-CORN-16 Investigator: Dr. Bill Johnson
Project ID: MKD H 2016 US C51 Study Director: Joe Ikley
Sponsor Contact: BASF - Gery Welker

Pest Type			W Weed			
Pest Code			AMBTR			
Pest Name			Giant ragweed			
Crop Code				ZEAMX	ZEAMX	ZEAMX
Crop Name				Corn	Corn	Corn
Part Rated			PLOT P	PLOT C	PLOT C	PLOT C
Rating Date			Jun-24-2016	Oct-8-2016	Oct-8-2016	Oct-8-2016
Rating Type			CONTRO	YIELD	MOICON	YIELD
Rating Unit			%	lb/plot	%	BU
Number of Subsamples			1	1	1	1
Days After First/Last Applic.			59 21	165 127	165 127	165 127
Trt-Eval Interval			21 DA-C	164 DA-A	164 DA-A	164 DA-A
Days After Emergence			45 DE-1	151 DE-1	151 DE-1	151 DE-1
ARM Action Codes			P			TY1
Number of Decimals			0	2	1	1
Trt No.	Treatment Name	Rate Rate Unit	Appl Code	7	8	9	10
8	VERDICT	12 fl oz/a	A	43 ef	13.97 c	17.9 abc	84.4 c
	ZIDUA SC	2.5 fl oz/a	A				
9	CAPRENO	3 fl oz/a	B	85 ab	25.85 ab	18.0 abc	155.7 ab
	AATREX	16 fl oz/a	B				
	ROUNDUP POWERMAX	22 fl oz/a	B				
	PRIME OIL - COC	1 % v/v	B				
	N-PAK - AMS	2.5 % v/v	B				
10	ACURON	80 fl oz/a	A	76 ab	25.70 ab	18.0 abc	155.4 ab
11	RESICORE	72 fl oz/a	A	73 bc	24.83 ab	17.5 abc	149.9 ab
12	CORVUS	5.6 fl oz/a	A	49 de	12.93 cd	13.7 bc	77.6 cd
13	DIFLEXX DUO	32 fl oz/a	B	89 ab	32.10 a	18.6 a	192.4 a
	ROUNDUP POWERMAX	22 fl oz/a	B				
	PRIME OIL - COC	1 % v/v	B				
	N-PAK - AMS	2.5 % v/v	B				
14	SURESTART II	32 fl oz/a	A	23 f	4.57 de	8.5 d	30.5 de
15	HALEX GT	57.6 fl oz/a	B	90 ab	29.80 a	18.1 ab	179.5 a
	AATREX	16 fl oz/a	B				
	ACTIVATOR 90 - NIS	0.25 % v/v	B				
	N-PAK - AMS	2.5 % v/v	B				
16	Untreated Check			0 g	0.00 e	0.0 e	0.0 e
LSD P=.05				21.7	8.950	4.77	53.42
Standard Deviation				15.3	6.284	3.35	37.51
CV				24.82	32.17	23.08	31.78
Bartlett's X2				55.492	35.805	73.454	37.826
P(Bartlett's X2)				0.001*	0.001*	0.001*	0.001*
Skewness				-0.7126*	-0.4063	-1.5016*	-0.4086
Kurtosis				-1.0322	-1.2825*	0.5132	-1.2667*
Replicate F				6.914	5.821	4.216	6.000
Replicate Prob(F)				0.0006	0.0019	0.0104	0.0016
Treatment F				16.559	11.889	13.988	12.009
Treatment Prob(F)				0.0001	0.0001	0.0001	0.0001

Purdue Weed Science

One Pass vs. Two Pass Programs for Conventional Till Corn

Trial ID: 16S-TPAC-CORN-16 Location: TPAC Trial Year: 2016
Protocol ID: 16S-TPAC-CORN-16 Investigator: Dr. Bill Johnson
Project ID: MKD H 2016 US C51 Study Director: Joe Ikley
Sponsor Contact: BASF - Gery Welker

Pest Type
W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop
Pest Code
AMBTR, Ambrosia trifida, = US
SETFA, Setaria faberi, = US
Crop Code
ZEAMX, BCOR, Zea mays, = US
Part Rated
PLOT = plot
P = Pest is Part Rated
C = Crop is Part Rated
Rating Type
CONTRO = control / burndown or knockdown
YIELD = yield
MOICON = moisture content
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 = 6.222857*[8]*(100-[9])/84.5