

Purdue Weed Science

Two Pass Corn Herbicide Programs

Trial ID: 17S-TPAC-CORN-13 Location: TPAC Trial Year: 2017
 Protocol ID: 17S-TPAC-CORN-13 Investigator: Dr. Bill Johnson
 Project ID: H17C52S Study Director: Dustin Johnson
 Sponsor Contact: G. Welker - BASF

General Trial Information

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

Discipline: H herbicide
Trial Status: E established
Initiation Date: Apr-25-2017

Trial Location

City: Lafayette **Country:** USA United States
State/Prov.: Indiana
Postal Code: 47909

Latitude of LL Corner °: 40.29175 N
Longitude of LL Corner °: 86.91068 W

Conducted Under GLP: No
Conducted Under GEP: No

Contacts

Study Director: Dustin Johnson **Title:** Research Associate
Organization: Purdue University
Address: 915 W. State Street
City+State/Prov: West Lafayette, IN
Postal Code: 47907 **E-mail:** john1357@purdue.edu
Country: USA United States

Investigator: Dr. Bill Johnson **Title:** Professor
Organization: Purdue University
Address: 915 W. State Street
City+State/Prov: West Lafayette, IN
Postal Code: 47907 **E-mail:** wgj@purdue.edu
Country: USA United States

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: DK62-08STXRIB
Description: RR/LL Stacked

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

Soil Temperature, Unit: 70 F
Soil Moisture: DRY dry

Planting Date: Apr-25-2017
Planting Method: PLANTD planted
Planting Equipment: PP Plot Planter
Emergence Date: May-15-2017
Harvested Width, Unit: 5 FT
Harvested Length, Unit: 25 FT
% Standard Moisture: 15.5

Pest Description

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

Pest 2 Type: W **Code:** ECHSS Echinochloa sp.
Common Name: Barnyardgrass

Pest 3 Type: W **Code:** CHEAL Chenopodium album
Common Name: common lambsquarters

Site and Design

Treated Plot Width: 10 FT
Treated Plot Length: 30 FT
Treated Plot Area: 300 FT² **Treatments:** 12
Replications: 4

Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: CONTIL conventional-till
Study Design: RACOB� Randomized Complete Block (RCB)

Purdue Weed Science

Two Pass Corn Herbicide Programs

Trial ID: 17S-TPAC-CORN-13	Location: TPAC	Trial Year: 2017
Protocol ID: 17S-TPAC-CORN-13	Investigator: Dr. Bill Johnson	
Project ID: H17C52S	Study Director: Dustin Johnson	
	Sponsor Contact: G. Welker - BASF	

Field Prep./Maintenance:
171 lbs of N as UAN on 4/18/17

Soil Description

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

Application Description

	A	B	C
Application Date:	Apr-25-2017	May-22-2017	May-31-2017
Appl. Start Time:	1:35 PM	12:10 PM	10:55 AM
Appl. Stop Time:	2:05 PM	12:30 PM	11:15 AM
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PREPLA	POSPOS	POSPOS
Application Placement:	BROADC	BROADC	BROADC
Applied By:	T. CAMPBELL	M. ZIMMER	J. IKLEY
Air Temperature, Unit:	76 F	64 F	71 F
% Relative Humidity:	47	50	47
Wind Velocity, Unit:	7 MPH	3 MPH	8 MPH
Wind Direction:	SSE	SW	WNW
Dew Presence (Y/N):	N no	N no	N no
Soil Temperature, Unit:	70 F	66 F	66 F
Soil Moisture:	DRY	VERWET	SLIWET
% Cloud Cover:	30	70	10

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR
Stage Scale Used:	BBCH	BBCH	BBCH
Stage Majority, Percent:		11	14
Stage Minimum, Percent:		12	13
Stage Maximum, Percent:		13	14

Purdue Weed Science

Two Pass Corn Herbicide Programs

Trial ID: 17S-TPAC-CORN-13
 Protocol ID: 17S-TPAC-CORN-13
 Project ID: H17C52S

Location: TPAC Trial Year: 2017
 Investigator: Dr. Bill Johnson
 Study Director: Dustin Johnson
 Sponsor Contact: G. Welker - BASF

Pest Stage At Each Application

	A	B	C
Pest 1 Code, Type, Scale:	AMBTR W	AMBTR W	AMBTR W
Stage Majority, Percent:	00	32	15
Stage Minimum, Percent:	00	33	10
Stage Maximum, Percent:	00	34	19
Height, Unit:		1.25 IN	4 IN
Height Minimum, Maximum:		0.5 2	0.5 10
Density, Unit:		100 YD2	13 FT2
Pest 2 Code, Type, Scale:	ECHSS W	ECHSS W	ECHSS W
Stage Majority, Percent:	00	11	
Stage Minimum, Percent:	00	11	
Stage Maximum, Percent:	00	12	
Height, Unit:		1.25 IN	
Height Minimum, Maximum:		0.5 2	
Density, Unit:		100 YD2	
Pest 3 Code, Type, Scale:	CHEAL W	CHEAL W	CHEAL W
Stage Majority, Percent:	00	31	
Stage Minimum, Percent:	00	31	
Stage Maximum, Percent:	00	32	
Height, Unit:		1.25 IN	
Height Minimum, Maximum:		0.5 2	
Density, Unit:		100 YD2	

Application Equipment

	A	B	C
Appl. Equipment:	CO2 BACKPACK	CO2 BACKPACK	CO2 BACKPACK
Equipment Type:	BACSPR	BACSPR	BACSPR
Operation Pressure, Unit:	29 PSI	18 PSI	18 PSI
Nozzle Type:	TTI	FLAFXR	FLAFXR
Nozzle Size:	TTI110015	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:	17 IN	17 IN	17 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH
Carrier:	WATER	WATER	WATER
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:	COMCO2	COMCO2	COMCO2

Purdue Weed Science

Trial ID: 17S-TPAC-CORN-13		Location: TPAC		Trial Year: 2017	
Protocol ID: 17S-TPAC-CORN-13		Investigator: Dr. Bill Johnson			
Project ID: H17C52S		Study Director: Dustin Johnson			
Sponsor Contact: G. Welker - BASF					

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	CHECK							101	306	601	706
2	VERDICT	5.57	LB/GAL	EC	10.0 fl oz/a	A	9.375 ml/mx	102	302	501	705
	ARMEZON PRO	5.35	LB/GAL	EC	16.0 fl oz/a	B	15.0 ml/mx				
	AATREX	4	LB/GAL	L	16.0 fl oz/a	B	15.0 ml/mx				
	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	32.0 fl oz/a	B	30.0 ml/mx				
	ACTIVATOR 90 NIS	100	%	SL	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				
3	VERDICT	5.57	LB/GAL	EC	10.0 fl oz/a	A	9.375 ml/mx	103	304	605	806
	STATUS	56	%	WG	5.0 oz wt/a	C	4.493 g/mx				
	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	32.0 fl oz/a	C	30.0 ml/mx				
	ACTIVATOR 90 NIS	100	%	SL	0.25 % v/v	C	4.5 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	406	604	801
	AATREX	4	LB/GAL	L	32.0 fl oz/a	A	30.0 ml/mx				
	ARMEZON PRO	5.35	LB/GAL	EC	14.0 fl oz/a	C	13.12 ml/mx				
	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	32.0 fl oz/a	C	30.0 ml/mx				
	AATREX	4	LB/GAL	L	16.0 fl oz/a	C	15.0 ml/mx				
	ACTIVATOR 90 NIS	100	%	SL	0.25 % v/v	C	4.5 ml/mx				
	N-PAK AMS	3.4	LBA/GAL	L	2.5 % v/v	C	45.0 ml/mx				
5	ARMEZON PRO	5.35	LB/GAL	EC	14.0 fl oz/a	A	13.12 ml/mx	105	301	503	704
	AATREX	4	LB/GAL	L	32.0 fl oz/a	A	30.0 ml/mx				
	STATUS	56	%	WG	5.0 oz wt/a	C	4.493 g/mx				
	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	32.0 fl oz/a	C	30.0 ml/mx				
	ACTIVATOR 90 NIS	100	%	SL	0.25 % v/v	C	4.5 ml/mx				
	N-PAK AMS	3.4	LBA/GAL	L	2.5 % v/v	C	45.0 ml/mx				
6	ARMEZON PRO	5.35	LB/GAL	EC	14.0 fl oz/a	A	13.12 ml/mx	106	401	504	703
	AATREX	4	LB/GAL	L	32.0 fl oz/a	A	30.0 ml/mx				
	ARMEZON PRO	5.35	LB/GAL	EC	14.0 fl oz/a	B	13.12 ml/mx				
	AATREX	4	LB/GAL	L	16.0 fl oz/a	B	15.0 ml/mx				
	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	32.0 fl oz/a	B	30.0 ml/mx				
	ACTIVATOR 90 NIS	100	%	SL	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					
7	SURESTART	4.25	LB/GAL	L	28.0 fl oz/a	A	26.25 ml/mx	201	404	502	803
	RESICORE	3.29	LB/GAL	L	40.0 fl oz/a	B	37.5 ml/mx				
	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	32.0 fl oz/a	B	30.0 ml/mx				
	ACTIVATOR 90 NIS	100	%	SL	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				
8	RESICORE	3.29	LB/GAL	L	40.0 fl oz/a	A	37.5 ml/mx	202	303	506	701
	RESICORE	3.29	LB/GAL	L	40.0 fl oz/a	B	37.5 ml/mx				
	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	32.0 fl oz/a	B	30.0 ml/mx				
	ACTIVATOR 90 NIS	100	%	SL	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				
9	ANTHEM ATZ	4.505	LB/GAL	SE	32.0 fl oz/a	A	30.0 ml/mx	203	403	602	805
	CALLISTO	4	LB/GAL	L	3.0 fl oz/a	B	2.812 ml/mx				
	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	32.0 fl oz/a	B	30.0 ml/mx				
	AATREX	4	LB/GAL	L	16.0 fl oz/a	B	15.0 ml/mx				
	ACTIVATOR 90 NIS	100	%	SL	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				
10	VERDICT	5.57	LB/GAL	EC	16.0 fl oz/a	A	15.0 ml/mx	204	405	603	802
	STATUS	56	%	WG	5.0 oz wt/a	C	4.493 g/mx				
	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	32.0 fl oz/a	C	30.0 ml/mx				
	ACTIVATOR 90 NIS	100	%	SL	0.25 % v/v	C	4.5 ml/mx				
	N-PAK AMS	3.4	LBA/GAL	L	2.5 % v/v	C	45.0 ml/mx				

Purdue Weed Science

Two Pass Corn Herbicide Programs

Trial ID: 17S-TPAC-CORN-13 Location: TPAC Trial Year: 2017
 Protocol ID: 17S-TPAC-CORN-13 Investigator: Dr. Bill Johnson
 Project ID: H17C52S Study Director: Dustin Johnson
 Sponsor Contact: G. Welker - BASF

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	Appl Code	Amt Product to Measure	Rep			
								1	2	3	4
11	VERDICT	5.57	LB/GAL	EC	10.0 fl oz/a	A	9.375 ml/mx	205	402	505	702
	STATUS	56	%	WG	5.0 oz wt/a	C	4.493 g/mx				
	ZIDUA SC	4.17	LB/GAL	SC	1.64 fl oz/a	C	1.537 ml/mx				
	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	32.0 fl oz/a	C	30.0 ml/mx				
	ACTIVATOR 90 NIS	100	%	SL	0.25 % v/v	C	4.5 ml/mx				
	N-PAK AMS	3.4	LBA/GAL	L	2.5 % v/v	C	45.0 ml/mx				
12	ACURON	3.44	LB/GAL	ZC	48.0 fl oz/a	A	45.0 ml/mx	206	305	606	804
	HALEX GT	4.389	LBAE/GAL	L	57.6 fl oz/a	B	54.0 ml/mx				
	AATREX	4	LB/GAL	L	16.0 fl oz/a	B	15.0 ml/mx				
	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	32.0 fl oz/a	B	30.0 ml/mx				
	ACTIVATOR 90 NIS	100	%	SL	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				

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
53.906	ml	VERDICT	5.57	LB/GAL	EC	
84.375	ml	ARMEZON PRO	5.35	LB/GAL	EC	
206.250	ml	AATREX	4	LB/GAL	L	
412.500	ml	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	
61.868	ml	ACTIVATOR 90 NIS	100	%	SL	
618.683	ml	N-PAK AMS	3.4	LBA/GAL	L	
22.467	g	STATUS	56	%	WG	
5.789	ml	ZIDUA SC	4.17	LB/GAL	SC	
32.812	ml	SURESTART	4.25	LB/GAL	L	
140.625	ml	RESICORE	3.29	LB/GAL	L	
37.500	ml	ANTHEM ATZ	4.505	LB/GAL	SE	
3.516	ml	CALLISTO	4	LB/GAL	L	
56.250	ml	ACURON	3.44	LB/GAL	ZC	
67.500	ml	HALEX GT	4.389	LBAE/GAL	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.

Trial Comments

Purdue Weed Science

Two Pass Corn Herbicide Programs						
Trial ID: 17S-TPAC-CORN-13		Location: TPAC Trial Year: 2017				
Protocol ID: 17S-TPAC-CORN-13		Investigator: Dr. Bill Johnson				
Project ID: H17C52S		Study Director: Dustin Johnson				
Sponsor Contact: G. Welker - BASF						
Pest Type	W Weed	W Weed	W Weed	W Weed		W Weed
Pest Code	AMBTR	ECHSS	CHEAL	DIGSA		AMBTR
Pest Name	Giant ragweed	Barnyardgrass	common lambsqu	large crabgrass		Giant ragweed
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
Crop Name	Corn	Corn	Corn	Corn	Corn	Corn
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -	PLOT -	PLOT -
Rating Date	Jun-7-2017	Jun-7-2017	Jun-7-2017	Jun-7-2017	Jun-7-2017	Jun-21-2017
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL	PHYGEN	CONTROL
Rating Unit	%	%	%	%	%	%
Number of Subsamples	1	1	1	1	1	1
Assessed By	M. ZIMMER	M. ZIMMER	M. ZIMMER	M. ZIMMER	M. ZIMMER	M. ZIMMER
Rating Timing	A1	A1	A1	A1	A1	A2
Days After First/Last Applic.	43 7	43 7	43 7	43 7	43 7	57 21
Days After Emergence	23 DE-1	23 DE-1	23 DE-1	23 DE-1	23 DE-1	37 DE-1
ARM Action Codes	P	P	P	P	P	P
Number of Decimals	0	0	0	0	0	0
Trt Treatment	Rate	Appl				
No. Name	Rate Unit	Code	1	2	3	4
1 CHECK			0 f	0 b	0 b	0 b
2 VERDICT	10.0 fl oz/a A		95 abc	100 a	100 a	100 a
ARMEZON PRO	16.0 fl oz/a B					0 a
AATREX	16.0 fl oz/a B					
ROUNDUP POWERMAX	32.0 fl oz/a B					
ACTIVATOR 90 NIS	0.25 % v/v B					
N-PAK AMS	2.5 % v/v B					90 a
3 VERDICT	10.0 fl oz/a A		87 de	100 a	100 a	100 a
STATUS	5.0 oz wt/a C					0 a
ROUNDUP POWERMAX	32.0 fl oz/a C					
ACTIVATOR 90 NIS	0.25 % v/v C					
N-PAK AMS	2.5 % v/v C					95 a
4 ZIDUA SC	3.3 fl oz/a A		94 a-d	100 a	100 a	100 a
AATREX	32.0 fl oz/a A					0 a
ARMEZON PRO	14.0 fl oz/a C					
ROUNDUP POWERMAX	32.0 fl oz/a C					
AATREX	16.0 fl oz/a C					
ACTIVATOR 90 NIS	0.25 % v/v C					
N-PAK AMS	2.5 % v/v C					95 a
5 ARMEZON PRO	14.0 fl oz/a A		88 de	100 a	100 a	100 a
AATREX	32.0 fl oz/a A					0 a
STATUS	5.0 oz wt/a C					
ROUNDUP POWERMAX	32.0 fl oz/a C					
ACTIVATOR 90 NIS	0.25 % v/v C					
N-PAK AMS	2.5 % v/v C					96 a
6 ARMEZON PRO	14.0 fl oz/a A		86 e	100 a	100 a	100 a
AATREX	32.0 fl oz/a A					0 a
ARMEZON PRO	14.0 fl oz/a B					
AATREX	16.0 fl oz/a B					
ROUNDUP POWERMAX	32.0 fl oz/a B					
ACTIVATOR 90 NIS	0.25 % v/v B					
N-PAK AMS	2.5 % v/v B					73 b
7 SURESTART	28.0 fl oz/a A		97 ab	100 a	100 a	100 a
RESICORE	40.0 fl oz/a B					0 a
ROUNDUP POWERMAX	32.0 fl oz/a B					
ACTIVATOR 90 NIS	0.25 % v/v B					
N-PAK AMS	2.5 % v/v B					91 a
8 RESICORE	40.0 fl oz/a A		99 a	100 a	100 a	100 a
RESICORE	40.0 fl oz/a B					0 a
ROUNDUP POWERMAX	32.0 fl oz/a B					
ACTIVATOR 90 NIS	0.25 % v/v B					
N-PAK AMS	2.5 % v/v B					94 a

Means followed by same letter or symbol 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=13,14,15
 Could not calculate LSD (% mean diff) for columns 2,3,4,5,7,8,9 because error mean square = 0.

Purdue Weed Science

Two Pass Corn Herbicide Programs						
Trial ID: 17S-TPAC-CORN-13		Location: TPAC Trial Year: 2017				
Protocol ID: 17S-TPAC-CORN-13		Investigator: Dr. Bill Johnson				
Project ID: H17C52S		Study Director: Dustin Johnson				
Sponsor Contact: G. Welker - BASF						
Pest Type	W Weed	W Weed	W Weed	W Weed		W Weed
Pest Code	AMBTR	ECHSS	CHEAL	DIGSA		AMBTR
Pest Name	Giant ragweed	Barnyardgrass	common lambsqu	large crabgrass		Giant ragweed
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
Crop Name	Corn	Corn	Corn	Corn	Corn	Corn
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -	PLOT -	PLOT -
Rating Date	Jun-7-2017	Jun-7-2017	Jun-7-2017	Jun-7-2017	Jun-7-2017	Jun-21-2017
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL	PHYGEN	CONTROL
Rating Unit	%	%	%	%	%	%
Number of Subsamples	1	1	1	1	1	1
Assessed By	M. ZIMMER	M. ZIMMER	M. ZIMMER	M. ZIMMER	M. ZIMMER	M. ZIMMER
Rating Timing	A1	A1	A1	A1	A1	A2
Days After First/Last Applic.	43 7	43 7	43 7	43 7	43 7	57 21
Days After Emergence	23 DE-1	23 DE-1	23 DE-1	23 DE-1	23 DE-1	37 DE-1
ARM Action Codes	P	P	P	P	P	P
Number of Decimals	0	0	0	0	0	0
Trt Treatment	Rate	Appl				
No. Name	Rate Unit	Code	1	2	3	4
9 ANTHEM ATZ	32.0 fl oz/a	A	89 cde	100 a	100 a	100 a
CALLISTO	3.0 fl oz/a	B				0 a
ROUNDUP POWERMAX	32.0 fl oz/a	B				
AATREX	16.0 fl oz/a	B				
ACTIVATOR 90 NIS	0.25 % v/v	B				
N-PAK AMS	2.5 % v/v	B				
10 VERDICT	16.0 fl oz/a	A	94 a-d	100 a	100 a	100 a
STATUS	5.0 oz wt/a	C				0 a
ROUNDUP POWERMAX	32.0 fl oz/a	C				
ACTIVATOR 90 NIS	0.25 % v/v	C				
N-PAK AMS	2.5 % v/v	C				
11 VERDICT	10.0 fl oz/a	A	90 b-e	100 a	100 a	100 a
STATUS	5.0 oz wt/a	C				0 a
ZIDUA SC	1.64 fl oz/a	C				
ROUNDUP POWERMAX	32.0 fl oz/a	C				
ACTIVATOR 90 NIS	0.25 % v/v	C				
N-PAK AMS	2.5 % v/v	C				
12 ACURON	48.0 fl oz/a	A	98 ab	100 a	100 a	100 a
HALEX GT	57.6 fl oz/a	B				0 a
AATREX	16.0 fl oz/a	B				
ROUNDUP POWERMAX	32.0 fl oz/a	B				
ACTIVATOR 90 NIS	0.25 % v/v	B				
N-PAK AMS	2.5 % v/v	B				
LSD P=.05			4.9	.	.	.
Standard Deviation			3.4	0.0	0.0	0.0
CV			4.06	0.0	0.0	0.0
Bartlett's X2			27.466	0.0	0.0	0.0
P(Bartlett's X2)			0.002*	.	.	.
Skewness			-2.9051*	-3.1133*	-3.1133*	-3.1133*
Kurtosis			7.2065*	8.0253*	8.0253*	8.0253*
Replicate F			1.538	0.000	0.000	0.000
Replicate Prob(F)			0.2229	1.0000	1.0000	1.0000
Treatment F			247.087	0.000	0.000	0.000
Treatment Prob(F)			0.0001	1.0000	1.0000	1.0000
						11.3
						7.8
						9.37
						40.399
						0.001*
						-2.5304*
						5.3356*
						2.074
						0.1225
						48.795
						0.0001

Means followed by same letter or symbol 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=13,14,15
 Could not calculate LSD (% mean diff) for columns: 2,3,4,5,7,8,9 because error mean square = 0.

Purdue Weed Science

Two Pass Corn Herbicide Programs	
Trial ID: 17S-TPAC-CORN-13	Location: TPAC Trial Year: 2017
Protocol ID: 17S-TPAC-CORN-13	Investigator: Dr. Bill Johnson
Project ID: H17C52S	Study Director: Dustin Johnson
Sponsor Contact: G. Welker - BASF	

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	ECHSS	CHEAL	DIGSA	AMBTR	ECHSS
Pest Name	Barnyardgrass	common lambsqu>	large crabgrass	Giant ragweed	Barnyardgrass
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
Crop Name	Corn	Corn	Corn	Corn	Corn
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -	PLOT -
Rating Date	Jun-21-2017	Jun-21-2017	Jun-21-2017	Jul-12-2017	Jul-12-2017
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Assessed By	M. ZIMMER	M. ZIMMER	M. ZIMMER	D. JOHNSON	D. JOHNSON
Rating Timing	A2	A2	A2	A3	A3
Days After First/Last Applic.	57 21	57 21	57 21	78 42	78 42
Days After Emergence	37 DE-1	37 DE-1	37 DE-1	58 DE-1	58 DE-1
ARM Action Codes	P	P	P	P	P
Number of Decimals	0	0	0	0	0

Trt Treatment	Rate	Appl	7	8	9	10	11
No. Name	Rate Unit	Code					
1 CHECK			0 b	0 b	0 b	0 c	0 b
2 VERDICT	10.0 fl oz/a	A	100 a	100 a	100 a	63 ab	100 a
ARMEZON PRO	16.0 fl oz/a	B					
AATREX	16.0 fl oz/a	B					
ROUNDUP POWERMAX	32.0 fl oz/a	B					
ACTIVATOR 90 NIS	0.25 % v/v	B					
N-PAK AMS	2.5 % v/v	B					
3 VERDICT	10.0 fl oz/a	A	100 a	100 a	100 a	71 a	95 a
STATUS	5.0 oz wt/a	C					
ROUNDUP POWERMAX	32.0 fl oz/a	C					
ACTIVATOR 90 NIS	0.25 % v/v	C					
N-PAK AMS	2.5 % v/v	C					
4 ZIDUA SC	3.3 fl oz/a	A	100 a	100 a	100 a	73 a	100 a
AATREX	32.0 fl oz/a	A					
ARMEZON PRO	14.0 fl oz/a	C					
ROUNDUP POWERMAX	32.0 fl oz/a	C					
AATREX	16.0 fl oz/a	C					
ACTIVATOR 90 NIS	0.25 % v/v	C					
N-PAK AMS	2.5 % v/v	C					
5 ARMEZON PRO	14.0 fl oz/a	A	100 a	100 a	100 a	75 a	99 a
AATREX	32.0 fl oz/a	A					
STATUS	5.0 oz wt/a	C					
ROUNDUP POWERMAX	32.0 fl oz/a	C					
ACTIVATOR 90 NIS	0.25 % v/v	C					
N-PAK AMS	2.5 % v/v	C					
6 ARMEZON PRO	14.0 fl oz/a	A	100 a	100 a	100 a	36 b	100 a
AATREX	32.0 fl oz/a	A					
ARMEZON PRO	14.0 fl oz/a	B					
AATREX	16.0 fl oz/a	B					
ROUNDUP POWERMAX	32.0 fl oz/a	B					
ACTIVATOR 90 NIS	0.25 % v/v	B					
N-PAK AMS	2.5 % v/v	B					
7 SURESTART	28.0 fl oz/a	A	100 a	100 a	100 a	83 a	100 a
RESICORE	40.0 fl oz/a	B					
ROUNDUP POWERMAX	32.0 fl oz/a	B					
ACTIVATOR 90 NIS	0.25 % v/v	B					
N-PAK AMS	2.5 % v/v	B					
8 RESICORE	40.0 fl oz/a	A	100 a	100 a	100 a	89 a	100 a
RESICORE	40.0 fl oz/a	B					
ROUNDUP POWERMAX	32.0 fl oz/a	B					
ACTIVATOR 90 NIS	0.25 % v/v	B					
N-PAK AMS	2.5 % v/v	B					

Means followed by same letter or symbol 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=13,14,15
 Could not calculate LSD (% mean diff) for columns 2,3,4,5,7,8,9 because error mean square = 0.

Purdue Weed Science

Two Pass Corn Herbicide Programs	
Trial ID: 17S-TPAC-CORN-13	Location: TPAC Trial Year: 2017
Protocol ID: 17S-TPAC-CORN-13	Investigator: Dr. Bill Johnson
Project ID: H17C52S	Study Director: Dustin Johnson
Sponsor Contact: G. Welker - BASF	

	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Type	ECHSS	CHEAL	DIGSA	AMBTR	ECHSS
Pest Code	Barnyardgrass	common lambsqu	large crabgrass	Giant ragweed	Barnyardgrass
Pest Name	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
Crop Code	Corn	Corn	Corn	Corn	Corn
Crop Name	PLOT -	PLOT -	PLOT -	PLOT -	PLOT -
Part Rated	Jun-21-2017	Jun-21-2017	Jun-21-2017	Jul-12-2017	Jul-12-2017
Rating Date	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Type	%	%	%	%	%
Rating Unit	1	1	1	1	1
Number of Subsamples	M. ZIMMER	M. ZIMMER	M. ZIMMER	D. JOHNSON	D. JOHNSON
Assessed By	A2	A2	A2	A3	A3
Rating Timing	57 21	57 21	57 21	78 42	78 42
Days After First/Last Applic.	37 DE-1	37 DE-1	37 DE-1	58 DE-1	58 DE-1
Days After Emergence	P	P	P	P	P
ARM Action Codes	0	0	0	0	0
Number of Decimals					
Trt Treatment	Rate	Appl			
No. Name	Rate Unit	Code	7	8	9
			10	11	
9 ANTHEM ATZ	32.0 fl oz/a	A	100 a	100 a	100 a
CALLISTO	3.0 fl oz/a	B			40 b
ROUNDUP POWERMAX	32.0 fl oz/a	B			
AATREX	16.0 fl oz/a	B			
ACTIVATOR 90 NIS	0.25 % v/v	B			
N-PAK AMS	2.5 % v/v	B			
10 VERDICT	16.0 fl oz/a	A	100 a	100 a	100 a
STATUS	5.0 oz wt/a	C			75 a
ROUNDUP POWERMAX	32.0 fl oz/a	C			
ACTIVATOR 90 NIS	0.25 % v/v	C			
N-PAK AMS	2.5 % v/v	C			
11 VERDICT	10.0 fl oz/a	A	100 a	100 a	100 a
STATUS	5.0 oz wt/a	C			81 a
ZIDUA SC	1.64 fl oz/a	C			
ROUNDUP POWERMAX	32.0 fl oz/a	C			
ACTIVATOR 90 NIS	0.25 % v/v	C			
N-PAK AMS	2.5 % v/v	C			
12 ACURON	48.0 fl oz/a	A	100 a	100 a	100 a
HALEX GT	57.6 fl oz/a	B			89 a
AATREX	16.0 fl oz/a	B			
ROUNDUP POWERMAX	32.0 fl oz/a	B			
ACTIVATOR 90 NIS	0.25 % v/v	B			
N-PAK AMS	2.5 % v/v	B			
LSD P=.05					22.7
Standard Deviation	0.0	0.0	0.0	0.0	15.8
CV	0.0	0.0	0.0	0.0	24.47
Bartlett's X2	0.0	0.0	0.0	0.0	30.682
P(Bartlett's X2)					0.001*
Skewness	-3.1133*	-3.1133*	-3.1133*	-1.2484*	-3.0333*
Kurtosis	8.0253*	8.0253*	8.0253*	0.1543	7.6762*
Replicate F	0.000	0.000	0.000	5.802	0.661
Replicate Prob(F)	1.0000	1.0000	1.0000	0.0027	0.5821
Treatment F	0.000	0.000	0.000	11.195	244.449
Treatment Prob(F)	1.0000	1.0000	1.0000	0.0001	0.0001

Means followed by same letter or symbol 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=13,14,15
 Could not calculate LSD (% mean diff) for columns: 2,3,4,5,7,8,9 because error mean square = 0.

Purdue Weed Science

Two Pass Corn Herbicide Programs	
Trial ID: 17S-TPAC-CORN-13	Location: TPAC Trial Year: 2017
Protocol ID: 17S-TPAC-CORN-13	Investigator: Dr. Bill Johnson
Project ID: H17C52S	Study Director: Dustin Johnson
Sponsor Contact: G. Welker - BASF	

Pest Type	W Weed	ZEAMX	ZEAMX	ZEAMX
Pest Code	DIGSA			
Pest Name	large crabgrass			
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX
Crop Name	Corn	Corn	Corn	Corn
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -
Rating Date	Jul-12-2017	Oct-21-2017	Oct-21-2017	Oct-21-2017
Rating Type	CONTROL	YIELD	MOICON	YIELD
Rating Unit	%	LB	%	bu/ac
Number of Subsamples	1	1	1	1
Assessed By	D. JOHNSON	T. CAMPBELL	T. CAMPBELL	T. CAMPBELL
Rating Timing	A3			
Days After First/Last Applic.	78 42	179 143	179 143	179 143
Days After Emergence	58 DE-1	159 DE-1	159 DE-1	159 DE-1
ARM Action Codes	P			TY2
Number of Decimals	0			1
Trt Treatment	Rate	Appl		
No. Name	Rate Unit	Code	12	13
1 CHECK			0 b	4.293 b
2 VERDICT	10.0 fl oz/a A		100 a	36.863 a
ARMEZON PRO	16.0 fl oz/a B			14.660 b
AATREX	16.0 fl oz/a B			231.7 a
ROUNDUP POWERMAX	32.0 fl oz/a B			
ACTIVATOR 90 NIS	0.25 % v/v B			
N-PAK AMS	2.5 % v/v B			
3 VERDICT	10.0 fl oz/a A		95 a	31.905 a
STATUS	5.0 oz wt/a C			15.385 b
ROUNDUP POWERMAX	32.0 fl oz/a C			198.9 ab
ACTIVATOR 90 NIS	0.25 % v/v C			
N-PAK AMS	2.5 % v/v C			
4 ZIDUA SC	3.3 fl oz/a A		100 a	33.913 a
AATREX	32.0 fl oz/a A			15.400 b
ARMEZON PRO	14.0 fl oz/a C			211.4 ab
ROUNDUP POWERMAX	32.0 fl oz/a C			
AATREX	16.0 fl oz/a C			
ACTIVATOR 90 NIS	0.25 % v/v C			
N-PAK AMS	2.5 % v/v C			
5 ARMEZON PRO	14.0 fl oz/a A		99 a	34.338 a
AATREX	32.0 fl oz/a A			15.143 b
STATUS	5.0 oz wt/a C			214.6 ab
ROUNDUP POWERMAX	32.0 fl oz/a C			
ACTIVATOR 90 NIS	0.25 % v/v C			
N-PAK AMS	2.5 % v/v C			
6 ARMEZON PRO	14.0 fl oz/a A		100 a	33.736 a
AATREX	32.0 fl oz/a A			15.090 b
ARMEZON PRO	14.0 fl oz/a B			211.1 ab
AATREX	16.0 fl oz/a B			
ROUNDUP POWERMAX	32.0 fl oz/a B			
ACTIVATOR 90 NIS	0.25 % v/v B			
N-PAK AMS	2.5 % v/v B			
7 SURESTART	28.0 fl oz/a A		100 a	33.253 a
RESICORE	40.0 fl oz/a B			15.248 b
ROUNDUP POWERMAX	32.0 fl oz/a B			207.5 ab
ACTIVATOR 90 NIS	0.25 % v/v B			
N-PAK AMS	2.5 % v/v B			
8 RESICORE	40.0 fl oz/a A		100 a	34.080 a
RESICORE	40.0 fl oz/a B			15.590 b
ROUNDUP POWERMAX	32.0 fl oz/a B			211.8 ab
ACTIVATOR 90 NIS	0.25 % v/v B			
N-PAK AMS	2.5 % v/v B			

Means followed by same letter or symbol 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=13, 14, 15
 Could not calculate LSD (% mean diff) for columns 2,3,4,5,7,8,9 because error mean square = 0.

Purdue Weed Science

Two Pass Corn Herbicide Programs	
Trial ID: 17S-TPAC-CORN-13	Location: TPAC Trial Year: 2017
Protocol ID: 17S-TPAC-CORN-13	Investigator: Dr. Bill Johnson
Project ID: H17C52S	Study Director: Dustin Johnson
Sponsor Contact: G. Welker - BASF	

Pest Type	W Weed	ZEAMX	ZEAMX	ZEAMX
Pest Code	DIGSA			
Pest Name	large crabgrass			
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX
Crop Name	Corn	Corn	Corn	Corn
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -
Rating Date	Jul-12-2017	Oct-21-2017	Oct-21-2017	Oct-21-2017
Rating Type	CONTROL	YIELD	MOICON	YIELD
Rating Unit	%	LB	%	bu/ac
Number of Subsamples	1	1	1	1
Assessed By	D. JOHNSON	T. CAMPBELL	T. CAMPBELL	T. CAMPBELL
Rating Timing	A3			
Days After First/Last Applic.	78 42	179 143	179 143	179 143
Days After Emergence	58 DE-1	159 DE-1	159 DE-1	159 DE-1
ARM Action Codes	P			TY2
Number of Decimals	0			1
Trt Treatment	Rate	Appl		
No. Name	Rate Unit	Code	12	13
9 ANTHEM ATZ	32.0 fl oz/a	A	98 a	28.516 a
CALLISTO	3.0 fl oz/a	B		15.433 b
ROUNDUP POWERMAX	32.0 fl oz/a	B		177.6 b
AATREX	16.0 fl oz/a	B		
ACTIVATOR 90 NIS	0.25 % v/v	B		
N-PAK AMS	2.5 % v/v	B		
10 VERDICT	16.0 fl oz/a	A	100 a	30.743 a
STATUS	5.0 oz wt/a	C		15.508 b
ROUNDUP POWERMAX	32.0 fl oz/a	C		191.2 ab
ACTIVATOR 90 NIS	0.25 % v/v	C		
N-PAK AMS	2.5 % v/v	C		
11 VERDICT	10.0 fl oz/a	A	100 a	32.615 a
STATUS	5.0 oz wt/a	C		15.365 b
ZIDUA SC	1.64 fl oz/a	C		203.2 ab
ROUNDUP POWERMAX	32.0 fl oz/a	C		
ACTIVATOR 90 NIS	0.25 % v/v	C		
N-PAK AMS	2.5 % v/v	C		
12 ACURON	48.0 fl oz/a	A	100 a	33.380 a
HALEX GT	57.6 fl oz/a	B		15.505 b
AATREX	16.0 fl oz/a	B		207.7 ab
ROUNDUP POWERMAX	32.0 fl oz/a	B		
ACTIVATOR 90 NIS	0.25 % v/v	B		
N-PAK AMS	2.5 % v/v	B		
LSD P=.05	4.7	4.9293	0.7155	30.80
Standard Deviation	3.3	3.4134	0.4947	21.33
CV	3.63	11.14	3.21	11.16
Bartlett's X2	4.915	7.388	13.795	7.928
P(Bartlett's X2)	0.086	0.767	0.245	0.72
Skewness	-3.0455*	-2.05*	-0.0335	-2.0251*
Kurtosis	7.7256*	4.0093*	0.3244	3.9544*
Replicate F	1.070	6.633	7.607	6.806
Replicate Prob(F)	0.3753	0.0014	0.0007	0.0012
Treatment F	302.538	25.064	3.621	25.203
Treatment Prob(F)	0.0001	0.0001	0.0027	0.0001

Means followed by same letter or symbol 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=13,14,15
 Could not calculate LSD (% mean diff) for columns: 2,3,4,5,7,8,9 because error mean square = 0.

Purdue Weed Science

Two Pass Corn Herbicide Programs

Trial ID: 17S-TPAC-CORN-13	Location: TPAC Trial Year: 2017
Protocol ID: 17S-TPAC-CORN-13	Investigator: Dr. Bill Johnson
Project ID: H17C52S	Study Director: Dustin Johnson
	Sponsor Contact: G. Welker - BASF

Pest Type

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

Pest Code

AMBTR, Ambrosia trifida, Giant ragweed = US
 ECHSS, Echinochloa sp., Barnyardgrass = US
 CHEAL, Chenopodium album, common lambsquarters = US
 DIGSA, Digitaria sanguinalis, large crabgrass = US

Crop Code

ZEAMX, BCOR, Zea mays, Corn = US

Part Rated

PLOT = plot

Rating Type

PHYGEN = phytotoxicity - general / injury
 YIELD = yield
 MOICON = moisture content

Rating Unit

% = percent
 LB = pound
 bu/ac = bushels per acre

Rating Timing

A1 = 1st Assessment According to Trial Schedule
 A2 = 2nd Assessment According to trial Schedule
 A3 = 3rd Assessment According to Trial Schedule

ARM Action Codes

P = Rating scale of 0 to 100 (e.g. % control or injury)
 TY2 = $6.222857 * [13] * (100 - @MVAVGREP([14])) / 84.5$

Purdue Weed Science

Two Pass Corn Herbicide Programs

Trial ID: 17S-TPAC-CORN-13 Location: TPAC Trial Year: 2017
 Protocol ID: 17S-TPAC-CORN-13 Investigator: Dr. Bill Johnson
 Project ID: H17C52S Study Director: Dustin Johnson
 Sponsor Contact: G. Welker - BASF

Pest Type	W Weed	W Weed	W Weed	W Weed				
Pest Code	AMBTR	ECHSS	CHEAL	DIGSA				
Pest Name	Giant ragweed	Barnyardgrass	common lambsqu>	large crabgrass				
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX			
Crop Name	Corn	Corn	Corn	Corn	Corn			
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -	PLOT -			
Rating Date	Jun-7-2017	Jun-7-2017	Jun-7-2017	Jun-7-2017	Jun-7-2017			
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL	PHYGEN			
Rating Unit	%	%	%	%	%			
Number of Subsamples	1	1	1	1	1			
Assessed By	M. ZIMMER	M. ZIMMER	M. ZIMMER	M. ZIMMER	M. ZIMMER			
Rating Timing	A1	A1	A1	A1	A1			
Days After First/Last Applic.	43 7	43 7	43 7	43 7	43 7			
Days After Emergence	23 DE-1	23 DE-1	23 DE-1	23 DE-1	23 DE-1			
ARM Action Codes	P	P	P	P	P			
Number of Decimals	0	0	0	0	0			
Trt Treatment	Rate	Appl						
No. Name	Rate Unit	Code Plot	1	2	3	4	5	
1 CHECK		101	0	0	0	0	0	0
		306	0	0	0	0	0	0
		601	0	0	0	0	0	0
		706	0	0	0	0	0	0
		Mean =	0	0	0	0	0	0
2 VERDICT	10.0 fl oz/a	A 102	98	100	100	100	0	0
ARMEZON PRO	16.0 fl oz/a	B 302	99	100	100	100	0	0
AATREX	16.0 fl oz/a	B 501	85	100	100	100	0	0
ROUNDUP POWERMAX	32.0 fl oz/a	B 705	99	100	100	100	0	0
ACTIVATOR 90 NIS	0.25 % v/v	B						
N-PAK AMS	2.5 % v/v	B						
		Mean =	95	100	100	100	0	0
3 VERDICT	10.0 fl oz/a	A 103	85	100	100	100	0	0
STATUS	5.0 oz wt/a	C 304	88	100	100	100	0	0
ROUNDUP POWERMAX	32.0 fl oz/a	C 605	85	100	100	100	0	0
ACTIVATOR 90 NIS	0.25 % v/v	C 806	90	100	100	100	0	0
N-PAK AMS	2.5 % v/v	C						
		Mean =	87	100	100	100	0	0
4 ZIDUA SC	3.3 fl oz/a	A 104	95	100	100	100	0	0
AATREX	32.0 fl oz/a	A 406	95	100	100	100	0	0
ARMEZON PRO	14.0 fl oz/a	C 604	95	100	100	100	0	0
ROUNDUP POWERMAX	32.0 fl oz/a	C 801	91	100	100	100	0	0
AATREX	16.0 fl oz/a	C						
ACTIVATOR 90 NIS	0.25 % v/v	C						
N-PAK AMS	2.5 % v/v	C						
		Mean =	94	100	100	100	0	0
5 ARMEZON PRO	14.0 fl oz/a	A 105	85	100	100	100	0	0
AATREX	32.0 fl oz/a	A 301	93	100	100	100	0	0
STATUS	5.0 oz wt/a	C 503	85	100	100	100	0	0
ROUNDUP POWERMAX	32.0 fl oz/a	C 704	88	100	100	100	0	0
ACTIVATOR 90 NIS	0.25 % v/v	C						
N-PAK AMS	2.5 % v/v	C						
		Mean =	88	100	100	100	0	0
6 ARMEZON PRO	14.0 fl oz/a	A 106	95	100	100	100	0	0
AATREX	32.0 fl oz/a	A 401	80	100	100	100	0	0
ARMEZON PRO	14.0 fl oz/a	B 504	85	100	100	100	0	0
AATREX	16.0 fl oz/a	B 703	85	100	100	100	0	0
ROUNDUP POWERMAX	32.0 fl oz/a	B						
ACTIVATOR 90 NIS	0.25 % v/v	B						
N-PAK AMS	2.5 % v/v	B						
		Mean =	86	100	100	100	0	0
7 SURESTART	28.0 fl oz/a	A 201	98	100	100	100	0	0
RESICORE	40.0 fl oz/a	B 404	96	100	100	100	0	0
ROUNDUP POWERMAX	32.0 fl oz/a	B 502	93	100	100	100	0	0
ACTIVATOR 90 NIS	0.25 % v/v	B 803	99	100	100	100	0	0
N-PAK AMS	2.5 % v/v	B						
		Mean =	97	100	100	100	0	0

Purdue Weed Science

Two Pass Corn Herbicide Programs	
Trial ID: 17S-TPAC-CORN-13	Location: TPAC Trial Year: 2017
Protocol ID: 17S-TPAC-CORN-13	Investigator: Dr. Bill Johnson
Project ID: H17C52S	Study Director: Dustin Johnson
Sponsor Contact: G. Welker - BASF	

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	AMBTR	ECHSS	CHEAL	DIGSA	AMBTR
Pest Name	Giant ragweed	Barnyardgrass	common lambsqu>	large crabgrass	Giant ragweed
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
Crop Name	Corn	Corn	Corn	Corn	Corn
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -	PLOT -
Rating Date	Jun-21-2017	Jun-21-2017	Jun-21-2017	Jun-21-2017	Jul-12-2017
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Assessed By	M. ZIMMER	M. ZIMMER	M. ZIMMER	M. ZIMMER	D. JOHNSON
Rating Timing	A2	A2	A2	A2	A3
Days After First/Last Applic.	57 21	57 21	57 21	57 21	78 42
Days After Emergence	37 DE-1	37 DE-1	37 DE-1	37 DE-1	58 DE-1
ARM Action Codes	P	P	P	P	P
Number of Decimals	0	0	0	0	0

Trt Treatment	Rate	Appl	6	7	8	9	10
No. Name	Rate Unit	Code Plot					
1 CHECK		101	0	0	0	0	0
		306	0	0	0	0	0
		601	0	0	0	0	0
		706	0	0	0	0	0
		Mean =	0	0	0	0	0
2 VERDICT	10.0 fl oz/a	A 102	100	100	100	100	90
ARMEZON PRO	16.0 fl oz/a	B 302	95	100	100	100	75
AATREX	16.0 fl oz/a	B 501	70	100	100	100	10
ROUNDUP POWERMAX	32.0 fl oz/a	B 705	95	100	100	100	75
ACTIVATOR 90 NIS	0.25 % v/v	B					
N-PAK AMS	2.5 % v/v	B					
		Mean =	90	100	100	100	63
3 VERDICT	10.0 fl oz/a	A 103	100	100	100	100	85
STATUS	5.0 oz wt/a	C 304	95	100	100	100	70
ROUNDUP POWERMAX	32.0 fl oz/a	C 605	90	100	100	100	60
ACTIVATOR 90 NIS	0.25 % v/v	C 806	93	100	100	100	70
N-PAK AMS	2.5 % v/v	C					
		Mean =	95	100	100	100	71
4 ZIDUA SC	3.3 fl oz/a	A 104	100	100	100	100	85
AATREX	32.0 fl oz/a	A 406	90	100	100	100	70
ARMEZON PRO	14.0 fl oz/a	C 604	96	100	100	100	55
ROUNDUP POWERMAX	32.0 fl oz/a	C 801	95	100	100	100	80
AATREX	16.0 fl oz/a	C					
ACTIVATOR 90 NIS	0.25 % v/v	C					
N-PAK AMS	2.5 % v/v	C					
		Mean =	95	100	100	100	73
5 ARMEZON PRO	14.0 fl oz/a	A 105	100	100	100	100	90
AATREX	32.0 fl oz/a	A 301	97	100	100	100	70
STATUS	5.0 oz wt/a	C 503	98	100	100	100	70
ROUNDUP POWERMAX	32.0 fl oz/a	C 704	90	100	100	100	70
ACTIVATOR 90 NIS	0.25 % v/v	C					
N-PAK AMS	2.5 % v/v	C					
		Mean =	96	100	100	100	75
6 ARMEZON PRO	14.0 fl oz/a	A 106	90	100	100	100	85
AATREX	32.0 fl oz/a	A 401	40	100	100	100	0
ARMEZON PRO	14.0 fl oz/a	B 504	80	100	100	100	30
AATREX	16.0 fl oz/a	B 703	80	100	100	100	30
ROUNDUP POWERMAX	32.0 fl oz/a	B					
ACTIVATOR 90 NIS	0.25 % v/v	B					
N-PAK AMS	2.5 % v/v	B					
		Mean =	73	100	100	100	36
7 SURESTART	28.0 fl oz/a	A 201	93	100	100	100	85
RESICORE	40.0 fl oz/a	B 404	85	100	100	100	75
ROUNDUP POWERMAX	32.0 fl oz/a	B 502	90	100	100	100	85
ACTIVATOR 90 NIS	0.25 % v/v	B 803	97	100	100	100	85
N-PAK AMS	2.5 % v/v	B					
		Mean =	91	100	100	100	83

Purdue Weed Science

Two Pass Corn Herbicide Programs	
Trial ID: 17S-TPAC-CORN-13	Location: TPAC Trial Year: 2017
Protocol ID: 17S-TPAC-CORN-13	Investigator: Dr. Bill Johnson
Project ID: H17C52S	Study Director: Dustin Johnson
Sponsor Contact: G. Welker - BASF	

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	AMBTR	ECHSS	CHEAL	DIGSA	AMBTR
Pest Name	Giant ragweed	Barnyardgrass	common lambsqu>	large crabgrass	Giant ragweed
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
Crop Name	Corn	Corn	Corn	Corn	Corn
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -	PLOT -
Rating Date	Jun-21-2017	Jun-21-2017	Jun-21-2017	Jun-21-2017	Jul-12-2017
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Assessed By	M. ZIMMER	M. ZIMMER	M. ZIMMER	M. ZIMMER	D. JOHNSON
Rating Timing	A2	A2	A2	A2	A3
Days After First/Last Applic.	57 21	57 21	57 21	57 21	78 42
Days After Emergence	37 DE-1	37 DE-1	37 DE-1	37 DE-1	58 DE-1
ARM Action Codes	P	P	P	P	P
Number of Decimals	0	0	0	0	0

Trt Treatment	Rate	Appl	6	7	8	9	10
No. Name	Rate Unit	Code Plot					
8 RESICORE	40.0 fl oz/a	A 202	93	100	100	100	95
RESICORE	40.0 fl oz/a	B 303	95	100	100	100	90
ROUNDUP POWERMAX	32.0 fl oz/a	B 506	99	100	100	100	95
ACTIVATOR 90 NIS	0.25 % v/v	B 701	90	100	100	100	75
N-PAK AMS	2.5 % v/v	B					
		Mean =	94	100	100	100	89
9 ANTHEM ATZ	32.0 fl oz/a	A 203	85	100	100	100	80
CALLISTO	3.0 fl oz/a	B 403	80	100	100	100	50
ROUNDUP POWERMAX	32.0 fl oz/a	B 602	75	100	100	100	10
AATREX	16.0 fl oz/a	B 805	80	100	100	100	20
ACTIVATOR 90 NIS	0.25 % v/v	B					
N-PAK AMS	2.5 % v/v	B					
		Mean =	80	100	100	100	40
10 VERDICT	16.0 fl oz/a	A 204	98	100	100	100	83
STATUS	5.0 oz wt/a	C 405	98	100	100	100	75
ROUNDUP POWERMAX	32.0 fl oz/a	C 603	93	100	100	100	60
ACTIVATOR 90 NIS	0.25 % v/v	C 802	95	100	100	100	80
N-PAK AMS	2.5 % v/v	C					
		Mean =	96	100	100	100	75
11 VERDICT	10.0 fl oz/a	A 205	98	100	100	100	83
STATUS	5.0 oz wt/a	C 402	99	100	100	100	80
ZIDUA SC	1.64 fl oz/a	C 505	98	100	100	100	75
ROUNDUP POWERMAX	32.0 fl oz/a	C 702	97	100	100	100	85
ACTIVATOR 90 NIS	0.25 % v/v	C					
N-PAK AMS	2.5 % v/v	C					
		Mean =	98	100	100	100	81
12 ACURON	48.0 fl oz/a	A 206	97	100	100	100	90
HALEX GT	57.6 fl oz/a	B 305	90	100	100	100	85
AATREX	16.0 fl oz/a	B 606	93	100	100	100	85
ROUNDUP POWERMAX	32.0 fl oz/a	B 804	95	100	100	100	95
ACTIVATOR 90 NIS	0.25 % v/v	B					
N-PAK AMS	2.5 % v/v	B					
		Mean =	94	100	100	100	89

Purdue Weed Science

Two Pass Corn Herbicide Programs	
Trial ID: 17S-TPAC-CORN-13	Location: TPAC Trial Year: 2017
Protocol ID: 17S-TPAC-CORN-13	Investigator: Dr. Bill Johnson
Project ID: H17C52S	Study Director: Dustin Johnson
Sponsor Contact: G. Welker - BASF	

Pest Type	W Weed	W Weed			
Pest Code	ECHSS	DIGSA			
Pest Name	Barnyardgrass	large crabgrass			
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
Crop Name	Corn	Corn	Corn	Corn	Corn
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -	PLOT -
Rating Date	Jul-12-2017	Jul-12-2017	Oct-21-2017	Oct-21-2017	Oct-21-2017
Rating Type	CONTROL	CONTROL	YIELD	MOICON	YIELD
Rating Unit	%	%	LB	%	bu/ac
Number of Subsamples	1	1	1	1	1
Assessed By	D. JOHNSON	D. JOHNSON	T. CAMPBELL	T. CAMPBELL	T. CAMPBELL
Rating Timing	A3	A3			
Days After First/Last Applic.	78 42	78 42	179 143	179 143	179 143
Days After Emergence	58 DE-1	58 DE-1	159 DE-1	159 DE-1	159 DE-1
ARM Action Codes	P	P			TY2
Number of Decimals	0	0			1
Trt Treatment	Rate	Appl			
No. Name	Rate Unit	Code Plot	11	12	13
1 CHECK		101	0	0	4.510
		306	0	0	6.170
		601	0	0	2.030
		706	0	0	4.460
		Mean =	0	0	4.293
2 VERDICT	10.0 fl oz/a	A 102	100	100	37.270
ARMEZON PRO	16.0 fl oz/a	B 302	100	100	36.700
AATREX	16.0 fl oz/a	B 501	100	100	33.670*
ROUNDUP POWERMAX	32.0 fl oz/a	B 705	100	100	39.810
ACTIVATOR 90 NIS	0.25 % v/v	B			
N-PAK AMS	2.5 % v/v	B			
		Mean =	100	100	36.863
3 VERDICT	10.0 fl oz/a	A 103	80	80	33.900
STATUS	5.0 oz wt/a	C 304	100	100	34.370
ROUNDUP POWERMAX	32.0 fl oz/a	C 605	100	100	27.010
ACTIVATOR 90 NIS	0.25 % v/v	C 806	100	100	32.340
N-PAK AMS	2.5 % v/v	C			
		Mean =	95	95	31.905
4 ZIDUA SC	3.3 fl oz/a	A 104	100	100	41.880
AATREX	32.0 fl oz/a	A 406	100	100	27.840
ARMEZON PRO	14.0 fl oz/a	C 604	100	100	30.840
ROUNDUP POWERMAX	32.0 fl oz/a	C 801	100	100	35.090
AATREX	16.0 fl oz/a	C			
ACTIVATOR 90 NIS	0.25 % v/v	C			
N-PAK AMS	2.5 % v/v	C			
		Mean =	100	100	33.913
5 ARMEZON PRO	14.0 fl oz/a	A 105	95	95	36.850
AATREX	32.0 fl oz/a	A 301	100	100	32.030
STATUS	5.0 oz wt/a	C 503	100	100	31.620
ROUNDUP POWERMAX	32.0 fl oz/a	C 704	100	100	36.850
ACTIVATOR 90 NIS	0.25 % v/v	C			
N-PAK AMS	2.5 % v/v	C			
		Mean =	99	99	34.338
6 ARMEZON PRO	14.0 fl oz/a	A 106	100	100	39.420
AATREX	32.0 fl oz/a	A 401	100	100	33.174*
ARMEZON PRO	14.0 fl oz/a	B 504	100	100	28.870
AATREX	16.0 fl oz/a	B 703	100	100	33.480
ROUNDUP POWERMAX	32.0 fl oz/a	B			
ACTIVATOR 90 NIS	0.25 % v/v	B			
N-PAK AMS	2.5 % v/v	B			
		Mean =	100	100	33.736
7 SURESTART	28.0 fl oz/a	A 201	100	100	29.390
RESICORE	40.0 fl oz/a	B 404	100	100	30.690
ROUNDUP POWERMAX	32.0 fl oz/a	B 502	100	100	36.230
ACTIVATOR 90 NIS	0.25 % v/v	B 803	100	100	36.700
N-PAK AMS	2.5 % v/v	B			
		Mean =	100	100	33.253

Purdue Weed Science

Two Pass Corn Herbicide Programs

Trial ID: 17S-TPAC-CORN-13	Location: TPAC Trial Year: 2017
Protocol ID: 17S-TPAC-CORN-13	Investigator: Dr. Bill Johnson
Project ID: H17C52S	Study Director: Dustin Johnson
	Sponsor Contact: G. Welker - BASF

Pest Type

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

Pest Code

AMBTR, Ambrosia trifida, Giant ragweed = US
 ECHSS, Echinochloa sp., Barnyardgrass = US
 CHEAL, Chenopodium album, common lambsquarters = US
 DIGSA, Digitaria sanguinalis, large crabgrass = US

Crop Code

ZEAMX, BCOR, Zea mays, Corn = US

Part Rated

PLOT = plot

Rating Type

PHYGEN = phytotoxicity - general / injury
 YIELD = yield
 MOICON = moisture content

Rating Unit

% = percent
 LB = pound
 bu/ac = bushels per acre

Rating Timing

A1 = 1st Assessment According to Trial Schedule
 A2 = 2nd Assessment According to trial Schedule
 A3 = 3rd Assessment According to Trial Schedule

ARM Action Codes

P = Rating scale of 0 to 100 (e.g. % control or injury)
 TY2 = $6.222857 * [13] * (100 - @MVAVGREP([14])) / 84.5$