

Purdue Weed Science

Acuron Flexi Broadleaf Performance		
Trial ID: 18S-TPAC-CORN-09	Location: TPAC	Trial Year: 2018
Protocol ID: 18S-TPAC-CORN-09	Investigator: Dr. Bill Johnson	
Project ID: H004BIAD-2018US	Study Director: Dustin Johnson	
	Sponsor Contact: C. Threewits - Syngenta	

General Trial Information	
Study Director: Dustin Johnson	Title: Research Associate
Investigator: Dr. Bill Johnson	Title: Professor
Discipline: H herbicide	
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 °: 86.90585 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
Variety: DKC62-52RIB	Corn
Description: RR/LL Stacked	
Planting Rate, Unit: 32000 S/A	Planting Date: Apr-27-2018
Depth, Unit: 1.5 IN	Planting Method: PLANTD planted
Row Spacing, Unit: 30 IN	Planting Equipment: PP plot planter
	Emergence Date: May-7-2018
Soil Temperature, Unit: 61 F	Harvested Width, Unit: 5 FT
Soil Moisture: DRY dry	Harvested Length, Unit: 25 FT
	% Standard Moisture: 15.5

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

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	Tillage Type: CONTIL conventional-till
Replications: 4	Study Design: RACOB� Randomized Complete Block (RCB)

Field Prep./Maintenance:
4/26/18-Farm Applied 180 lbs of N applied as UAN 28-0-0.

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Soil Description

Description Name: TPAC-Field 4A

% OM: 3.1

Texture: SIL

silt loam

pH: 6

Soil Name: Toronto-Millbrook

CEC: 11.1

Application Description

	A
Application Date:	Apr-27-2018
Appl. Start Time:	4:05 PM
Appl. Stop Time:	4:20 PM
Application Method:	SPRAY
Application Timing:	PREPRE
Application Placement:	BROADC
Applied By:	J. IKLEY
Air Temperature, Unit:	67 F
% Relative Humidity:	22
Wind Velocity, Unit:	10 MPH
Wind Direction:	WNW
Dew Presence (Y/N):	N no
Soil Temperature, Unit:	61 F
Soil Moisture:	DRY
% Cloud Cover:	0

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	ZEAMX BCOR
Stage Scale Used:	BBCH
Stage Majority, Percent:	00
Stage Minimum, Percent:	00
Stage Maximum, Percent:	00

Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	AMBTR W
Stage Majority, Percent:	00
Stage Minimum, Percent:	00
Stage Maximum, Percent:	00

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Application Equipment

	A
Appl. Equipment:	CO2 BACKPACK
Equipment Type:	BACSPR
Operation Pressure, Unit:	29 PSI
Nozzle Type:	TTI
Nozzle Size:	110015
Nozzle Spacing, Unit:	15 IN
Nozzles/Row:	8
Boom Length, Unit:	10 FT
Boom Height, Unit:	17 IN
Ground Speed, Unit:	3 MPH
Carrier:	WATER
Spray Volume, Unit:	15 GAL/AC

Date	By	Notes
Jun-8-2018	D. JOHNSON	Evening storm brought hail and damage to crop occurred.
Jun-22-2018	D. JOHNSON	Not able to rate SETFA do to AMBTR size and density.
Oct-16-2018	D. JOHNSON	Plot 702 for harvest had giant ragweed fallen over in it which knock down corn plants.

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Acuron Flexi Broadleaf Performance

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 Sponsor Contact: C. Threewits - Syngenta

Reps: 4 Plots: 10 by 30 feet
 Spray vol: 15 GAL/AC Mix Size: 1.8 L (total for 4 plots; minimum=1.564 L)

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	UNTREATED CHECK									101	402	504	602
2	ACURON	3.44 LB/GAL	ZC		3 qt/a		A	AT PLANTING	90.0 mL/mx	102	302	404	703
3	ACURON FLEXI	3.26 LB/GAL	L		2.25 qt/a		A	AT PLANTING	67.5 mL/mx	103	301	501	603
4	ACURON FLEXI PRINCEP	3.26 LB/GAL 4 LB/GAL	L L		2.25 qt/a 1 qt/a		A A	AT PLANTING AT PLANTING	67.5 mL/mx 30.0 mL/mx	104	304	403	704
5	CORVUS	2.63 LB/GAL	SC		5.6 fl oz/a		A	AT PLANTING	5.25 mL/mx	201	204	601	702
6	RESICORE	3.29 LB/GAL	L		2.5 qt/a		A	AT PLANTING	75.0 mL/mx	202	303	502	604
7	HARNESS MAX	3.85 LB/GAL	L		2.35 qt/a		A	AT PLANTING	70.5 mL/mx	203	401	503	701

Sort Order: Treatment

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Project ID: H004BIAD-2018US		Study Director: Dustin Johnson						
		Sponsor Contact: C. Threewits - Syngenta						
Pest Type		W Weed		W Weed	W Weed			
Pest Code		AMBTR		AMBTR	SETFA			
Pest Name		Giant ragweed		Giant ragweed	Giant foxtail			
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	May-11-2018	May-11-2018	May-25-2018	May-25-2018	May-25-2018	Jun-7-2018		
Rating Type	PHYGEN	CONTROL	PHYGEN	CONTROL	CONTROL	PHYGEN		
Rating Unit	%	%	%	%	%	%		
Number of Subsamples	1	1	1	1	1	1		
Assessed By	D. JOHNSON	D. JOHNSON	D. JOHNSON	D. JOHNSON	D. JOHNSON	D. JOHNSON		
Rating Timing	A1	A1	A2	A2	A2	A3		
Days After First/Last Applic.	14 14	14 14	28 28	28 28	28 28	41 41		
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A		
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	5	6
1 UNTREATED CHECK	0	0	0	0	0	0	0	0
2 ACURON	3 qt/a A	0 -	83 -	0 -	70 -	83 -	0 -	0 -
3 ACURON FLEXI	2.25 qt/a A	0 -	80 -	0 -	69 -	80 -	0 -	0 -
4 ACURON FLEXI PRINCEP	2.25 qt/a A 1 qt/a A	0 -	81 -	1 -	61 -	80 -	0 -	0 -
5 CORVUS	5.6 fl oz/a A	0 -	83 -	0 -	64 -	75 -	0 -	0 -
6 RESICORE	2.5 qt/a A	0 -	88 -	0 -	76 -	83 -	0 -	0 -
7 HARNESS MAX	2.35 qt/a A	0 -	83 -	0 -	56 -	91 -	0 -	0 -
LSD P=.05	.	6.9	0.9	16.7	12.5	.	.	.
Standard Deviation	0.0	4.6	0.6	11.1	8.3	0.0	0.0	0.0
CV	0.0	5.55	489.9	16.87	10.09	0.0	0.0	0.0
Levene's F	0.00	3.72		1.091	1.581	0.00	0.00	0.00
Levene's Prob(F)	0.00*	0.017*		0.399	0.216	0.00*	0.00*	0.00*
Skewness	.	-0.432	4.899*	-1.1822*	-0.5491	.	.	.
Kurtosis	.	0.6962	24.0*	2.1416*	-0.5268	.	.	.
Replicate F	0.000	1.634	1.000	2.045	2.216	0.000	0.000	0.000
Replicate Prob(F)	1.0000	0.2237	0.4199	0.1508	0.1285	1.0000	1.0000	1.0000
Treatment F	0.000	1.238	1.000	1.598	1.689	0.000	0.000	0.000
Treatment Prob(F)	1.0000	0.3401	0.4509	0.2206	0.1979	1.0000	1.0000	1.0000

Means followed by same letter or symbol do not significantly differ (P=.05, LSD)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Untreated treatment(s) 1 excluded from analysis.

Missing data estimates are included in columns: Yates=10,11,12

Could not calculate LSD (% mean diff) for columns 1,6 because error mean square = 0.

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Pest Type	W Weed	W Weed	W Weed			
Pest Code	AMBTR	SETFA	AMBTR			
Pest Name	Giant ragweed	Giant foxtail	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-7-2018	Jun-7-2018	Jun-22-2018	Oct-16-2018	Oct-16-2018	Oct-16-2018
Rating Type	CONTROL	CONTROL	CONTROL	YIELD	MOICON	YIELD
Rating Unit	%	%	%	lb/plot	%	BU
Number of Subsamples	1	1	1	1	1	1
Assessed By	D. JOHNSON	D. JOHNSON	D. JOHNSON	D. JOHNSON	D. JOHNSON	D. JOHNSON
Rating Timing	A3	A3	A4			
Days After First/Last Applic.	41 41	41 41	56 56	172 172	172 172	172 172
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	123 DA-A	123 DA-A	172 DA-A
ARM Action Codes	P	P	P	P	P	TY1
Number of Decimals	0	0	0	1	1	1
Trt Treatment	Rate	Rate	Rate	Rate	Rate	Rate
No. Name	Rate Unit	Rate Unit	Rate Unit	Rate Unit	Rate Unit	Rate Unit
	7	8	9	10	11	12
1 UNTREATED CHECK	0	0	0	10.6	16.3	65.8
2 ACURON	3 qt/a A	54 -	71 -	53 a	37.9 a	16.8 -
3 ACURON FLEXI	2.25 qt/a A	59 -	69 -	43 ab	38.5 a	16.5 -
4 ACURON FLEXI PRINCEP	2.25 qt/a A 1 qt/a A	54 -	74 -	41 ab	37.4 a	16.1 -
5 CORVUS	5.6 fl oz/a A	45 -	69 -	20 b	27.9 b	16.3 -
6 RESICORE	2.5 qt/a A	71 -	79 -	61 a	40.2 a	16.4 -
7 HARNESS MAX	2.35 qt/a A	43 -	90 -	23 b	32.2 b	16.7 -
LSD P=.05	22.8	18.0	27.8	5.18	1.00	33.01
Standard Deviation	15.1	11.9	18.4	3.39	0.65	21.61
CV	27.97	15.85	46.12	9.51	3.96	9.84
Levene's F	0.764	2.219	0.911	0.218	1.458	0.206
Levene's Prob(F)	0.587	0.097	0.496	0.949	0.258	0.955
Skewness	-1.1222*	-0.3428	0.2633	-1.0547*	1.804*	-1.0329*
Kurtosis	0.6064	-1.1581	-0.9777	-0.0075	2.8453*	-0.1635
Replicate F	5.004	0.965	1.380	4.292	3.935	4.605
Replicate Prob(F)	0.0133	0.4350	0.2873	0.0260	0.0336	0.0209
Treatment F	1.806	1.872	3.108	7.502	0.667	7.031
Treatment Prob(F)	0.1723	0.1593	0.0402	0.0016	0.6549	0.0022

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Pest Type

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

Pest Code

AMBTR, Ambrosia trifida, Giant ragweed = US

SETFA, Setaria faberi, Giant foxtail = 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/plot = pounds per plot

BU = bushel

Rating Timing

A1 = 1st Assessment According to Trial Schedule

A2 = 2nd Assessment According to trial Schedule

A3 = 3rd Assessment According to Trial Schedule

A4 = 4th Assessment According to Trial Schedule

ARM Action Codes

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

TY1 = $6.222857 \times [10] \times (100 - [11]) / 84.5$