

Purdue Weed Science

Bicyclopyrone: Acuron Herbicide University trials for weed control and corn tolerance in soils with greater than 3% organic matter

Trial ID: 15S-THP-CTC-28 Location: TPAC Trial Year: 2015
 Protocol ID: 15S-THP-CTC-28 Investigator: Dr. Bill Johnson
 Project ID: HBI001B3-2015US Study Director: Joe Ikley
 Sponsor Contact: Syngenta - Steve Mroczkiewicz

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
Variety: DKC 62-08 RIB **BBCH Scale:** BCOR
Description: RR/LL
Planting Date: 5/2/2015
Planting Method: SEEDED seeded
Planting Equipment: FPP Finger Pickup Planter
Emergence Date: 5/9/2015
Planting Rate, Unit: 32000 S/A
Depth, Unit: 1.5 IN
Row Spacing, Unit: 30 IN
Spacing Within Row, Unit: 6 IN
Planting Density, Unit: 32000 S/A
Soil Temperature, Unit: 55 F
Soil Moisture: SLIWET slightly wet, moist
Seed Bed: MEDIUM medium **% Standard Moisture:** 15.5
Harvested Width, Unit: 5 FT
Harvested Length, Unit: 25 FT

Pest Description

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

Site and Design

Treated Plot Width: 10 FT
Treated Plot Length: 30 FT
Treated Plot Area: 300 FT² **Treatments:** 12
Replications: 4
Untreated Arrangement: INCLUDED single control randomized in each block
Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: CONTIL conventional-till
Study Design: RACOB� Randomized Complete Block (RCB)

Field Prep./Maintenance:

171 pounds of UAN (28-0-0) applied and disked in on May 1st

Purdue Weed Science

Application Description

	A	B
Application Date:	5/2/2015	5/28/2015
Appl. Start Time:	14:00	12:30
Appl. Stop Time:	15:00	12:45
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Application Placement:	SOIL	BROADC
Applied By:	Jl	Jl
Air Temperature, Unit:	74 F	73 F
% Relative Humidity:	37	61
Wind Velocity, Unit:	5 MPH	5 MPH
Wind Direction:	SW	E
Dew Presence (Y/N):	N no	N no
Soil Temperature, Unit:	58 F	70 F
Soil Moisture:	SLIWET	DRY
% Cloud Cover:	30	10
Next Moisture Occurred On:	5/4/2015	

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	ZEAMX BCOR	ZEAMX BCOR
Stage Scale Used:	BBCH	BBCH
Stage Majority, Percent:	00	35
Height, Unit:		11 IN
Height Minimum, Maximum:		10 12

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale:	AMBTR W	AMBTR W
Stage Majority, Percent:		33G
Stage Minimum, Percent:		31G
Stage Maximum, Percent:		35G
Height, Unit:		5 IN
Height Minimum, Maximum:		2 8
Density, Unit:		40 YD2

Purdue Weed Science

Application Equipment		
	A	B
Appl. Equipment:	CO2 BACKPACK	CO2 BACKPACK
Equipment Type:	BACSPR	BACSPR
Operation Pressure, Unit:	18 PSI	18 PSI
Nozzle Type:	FLAT FAN	FLAT FAN
Nozzle Size:	XR 11002	XR 11002
Nozzle Spacing, Unit:	15 IN	15 IN
Nozzles/Row:	8	8
Boom Length, Unit:	10 FT	10 FT
Boom Height, Unit:	17 IN	17 IN
Ground Speed, Unit:	3 MPH	3 MPH
Carrier:	MEIGS	MEIGS
Spray Volume, Unit:	15 gal/ac	15 gal/ac
Mix Size, Unit:	1.8 liters	1.8 liters
Propellant:	CO2	CO2

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

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Amt Product to Measure	Rep 1	Rep 2	Rep 3	Rep 4
1	Untreated Check									101	301	606	703
2	ACURON	3.44	LB/GAL	ZC	3	qt/a	PRE	A	90.0 ml/mx	102	403	506	706
3	ACURON AATREX	3.44 4	LB/GAL LB/GAL	ZC L	3 1	qt/a qt/a	PRE	A A	90.0 ml/mx 30.0 ml/mx	103	401	602	806
4	ACURON TOUCHDOWN TOTAL STATUS N-PAK - AMS	3.44 4.17 61.1 3.4	LB/GAL LBAE/GAL % LBA/GAL	ZC L WG SL	3 30 5 2.5	qt/a fl oz/a oz/a % v/v	PRE	A B B C B	90.0 ml/mx 28.12 ml/mx 4.493 g/mx 45.0 ml/mx	104	405	504	803
5	ANTHEM ATZ	4.505	LB/GAL	SE	2.5	pt/a	PRE	A	37.5 ml/mx	105	306	505	801
6	SURESTART II	4.25	LB/GAL	SC	3	pt/a	PRE	A	45.0 ml/mx	106	302	601	805
7	VERDICT	5.57	LB/GAL	EC	1	pt/a	PRE	A	15.0 ml/mx	201	402	503	705
8	AATREX CORVUS	4 2.63	LB/GAL LB/GAL	L SC	1	pt/a fl oz/a	PRE	A A	15.0 ml/mx 5.25 ml/mx	202	305	605	701
9	ACURON ANTHEM MAXX	3.44 4.3	LB/GAL LB/GAL	ZC SE	3	qt/a fl oz/a	PRE	A A	90.0 ml/mx 2.812 ml/mx	203	404	604	804
10	ACURON ACURON ACTIVATOR 90 - NIS N-PAK - AMS	3.44 3.44 90 3.4	LB/GAL LB/GAL % LBA/GAL	ZC ZC L SL	1.5 1.5 0.25 2.5	qt/a qt/a % v/v % v/v	PRE	A B B C B	45.0 ml/mx 45.0 ml/mx 4.5 ml/mx 45.0 ml/mx	204	303	502	802
11	ACURON HALEX GT ACTIVATOR 90 - NIS N-PAK - AMS	3.44 4.389 90 3.4	LB/GAL LBAE/GAL % LBA/GAL	ZC L L SL	1.5 3.6 0.25 2.5	qt/a pt/a % v/v % v/v	PRE	A B B C B	45.0 ml/mx 54.0 ml/mx 4.5 ml/mx 45.0 ml/mx	205	304	501	702
12	ACURON TOUCHDOWN TOTAL N-PAK - AMS	3.44 4.17 3.4	LB/GAL LBAE/GAL LBA/GAL	ZC L SL	2 30 2.5	qt/a fl oz/a % v/v	PRE	A B C B	60.0 ml/mx 28.12 ml/mx 45.0 ml/mx	206	406	603	704

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
693.748	ml	ACURON	3.44	ZC	
56.250	ml	AATREX	4	L	

Purdue Weed Science

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
70.312	ml	TOUCHDOWN TOTAL	4.17	L	
5.617	g	STATUS	61.1	WG	
224.976	ml	N-PAK - AMS	3.4	SL	
46.875	ml	ANTHEM ATZ	4.505	SE	
56.250	ml	SURESTART II	4.25	SC	
18.750	ml	VERDICT	5.57	EC	
6.562	ml	CORVUS	2.63	SC	
3.516	ml	ANTHEM MAXX	4.3	SE	
11.249	ml	ACTIVATOR 90 - NIS	90	L	
67.500	ml	HALEX GT	4.389	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.

Purdue Weed Science

Bicyclopyrone: Acuron Herbicide University trials for weed control and corn tolerance in soils with greater than 3% organic matter

Trial ID: 15S-THP-CTC-28 Location: TPAC Trial Year: 2015
 Protocol ID: 15S-THP-CTC-28 Investigator: Dr. Bill Johnson
 Project ID: HBI001B3-2015US Study Director: Joe Ikley
 Sponsor Contact: Syngenta - Steve Mroczkiewicz

Pest Type		W Weed	W Weed	W Weed		W Weed
Pest Code		SETFA	CHEAL	AMBTR		SETFA
Pest Name		Giant foxtail	Common lambsqu>	Giant ragweed		Giant foxtail
Crop Code	ZEAMX				ZEAMX	
Crop Name	Corn				Corn	
Part Rated	PLOT C	PLOT P	PLOT P	PLOT P	PLOT C	PLOT P
Rating Date	5/28/2015	5/28/2015	5/28/2015	5/28/2015	6/9/2015	6/9/2015
Rating Type	PHYGEN	CONTRO	CONTRO	CONTRO	PHYGEN	CONTRO
Rating Unit	%	%	%	%	%	%
Number of Subsamples	1	1	1	1	1	1
Days After First/Last Applic.	26 26	26 26	26 26	26 26	38 12	38 12
Trt-Eval Interval	0 DA-B	0 DA-B	0 DA-B	0 DA-B	12 DA-B	12 DA-B
Days After Emergence	19 DE-1	19 DE-1	19 DE-1	19 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	Rate	Appl				
No. Name	Rate Unit	Code Plot	1	2	3	4
1 Untreated Check		101	0	0	0	0
		301	0	0	0	0
		606	0	0	0	0
		703	0	0	0	0
		Mean =	0	0	0	0
2 ACURON	3 qt/a	A 102	0	99	100	90
		403	0	100	100	90
		506	0	100	100	92
		706	0	100	100	70
		Mean =	0	100	100	86
3 ACURON	3 qt/a	A 103	0	100	100	85
AATREX	1 qt/a	A 401	0	100	100	97
		602	0	100	100	80
		806	0	100	100	70
		Mean =	0	100	100	83
4 ACURON	3 qt/a	A 104	0	100	100	90
TOUCHDOWN TOTAL	30 fl oz/a	B 405	0	100	100	95
STATUS	5 oz/a	B 504	0	100	100	90
N-PAK - AMS	2.5 % v/v	B 803	0	100	100	90
		Mean =	0	100	100	91
5 ANTHEM ATZ	2.5 pt/a	A 105	0	100	100	30
		306	0	100	100	10
		505	0	100	100	20
		801	0	100	100	35
		Mean =	0	100	100	24
6 SURESTART II	3 pt/a	A 106	0	100	100	70
		302	0	90	100	95
		601	0	90	100	95
		805	0	100	100	70
		Mean =	0	95	100	83
7 VERDICT	1 pt/a	A 201	3	95	100	85
		402	2	100	100	85
		503	2	99	100	90
		705	0	100	100	70
		Mean =	2	99	100	83
8 AATREX	1 pt/a	A 202	0	100	100	85
CORVUS	5.6 fl oz/a	A 305	0	100	100	70
		605	0	100	100	75
		701	0	90	100	90
		Mean =	0	98	100	80
9 ACURON	3 qt/a	A 203	0	100	100	95
ANTHEM MAXX	3 fl oz/a	A 404	0	100	100	93
		604	0	100	100	85
		804	0	100	100	85
		Mean =	0	100	100	90

Purdue Weed Science

Pest Type		W Weed		W Weed		W Weed	
Pest Code		SETFA		CHEAL			W Weed
Pest Name		Giant foxtail		Common lambsqu>		Giant ragweed	SETFA
Crop Code							Giant foxtail
Crop Name		ZEAMX					
Part Rated		Corn					
Rating Date		PLOT C	PLOT P	PLOT P	PLOT P	PLOT P	PLOT C
Rating Type		5/28/2015	5/28/2015	5/28/2015	5/28/2015	5/28/2015	6/9/2015
Rating Unit		PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO	PHYGEN
Number of Subsamples		%	%	%	%	%	%
Days After First/Last Applic.		1	1	1	1	1	1
Tri-Eval Interval		26 26	26 26	26 26	26 26	26 26	38 12
Days After Emergence		0 DA-B	0 DA-B	0 DA-B	0 DA-B	0 DA-B	12 DA-B
ARM Action Codes		19 DE-1	19 DE-1	19 DE-1	19 DE-1	19 DE-1	31 DE-1
Number of Decimals		P	P	P	P	P	P
		0	0	0	0	0	0
Tri Treatment	Rate	Appl					
No. Name	Rate Unit	Code Plot	1	2	3	4	5
10 ACURON	1.5 qt/a	A 204	0	100	100	70	0
ACURON	1.5 qt/a	B 303	0	100	100	70	0
ACTIVATOR 90 - NIS	0.25 % v/v	B 502	0	99	100	70	0
N-PAK - AMS	2.5 % v/v	B 802	0	90	100	60	0
	Mean =		0	97	100	68	0
11 ACURON	1.5 qt/a	A 205	0	100	100	80	0
HALEX GT	3.6 pt/a	B 304	0	100	100	60	0
ACTIVATOR 90 - NIS	0.25 % v/v	B 501	0	95	100	90	0
N-PAK - AMS	2.5 % v/v	B 702	0	100	100	50	0
	Mean =		0	99	100	70	0
12 ACURON	2 qt/a	A 206	0	95	100	80	0
TOUCHDOWN TOTAL	30 fl oz/a	B 406	0	100	100	90	0
N-PAK - AMS	2.5 % v/v	B 603	0	100	100	75	0
		704	0	100	100	60	0
	Mean =		0	99	100	76	0

Purdue Weed Science

Pest Type	W Weed	W Weed	W Weed	W Weed			
Pest Code	CHEAL	AMBTR	SETFA	CHEAL			
Pest Name	Common lambsqu>	Giant ragweed	ZEAMX Corn	Common lambsqu>			
Crop Code							
Crop Name							
Part Rated							
Rating Date	PLOT P 6/9/2015	PLOT P 6/9/2015	PLOT C 6/28/2015	PLOT P 6/28/2015			
Rating Type	CONTRO	CONTRO	PHYGEN	CONTRO			
Rating Unit	%	%	%	%			
Number of Subsamples	1	1	1	1			
Days After First/Last Applic.	38 12	38 12	57 31	57 31			
Trt-Eval Interval	12 DA-B	12 DA-B	31 DA-B	31 DA-B			
Days After Emergence	31 DE-1	31 DE-1	50 DE-1	50 DE-1			
ARM Action Codes	P	P	P	P			
Number of Decimals	0	0	0	0			
Trt Treatment	Rate	Appl					
No. Name	Rate Unit	Code Plot	7	8	9	10	11
1 Untreated Check		101	0	0	0	0	0
		301	0	0	0	0	0
		606	0	0	0	0	0
		703	0	0	0	0	0
		Mean =	0	0	0	0	0
2 ACURON	3 qt/a	A 102	100	70	0	100	100
		403	100	80	0	100	100
		506	100	85	0	100	100
		706	100	60	0	100	100
		Mean =	100	74	0	100	100
3 ACURON	3 qt/a	A 103	100	80	0	100	100
AATREX	1 qt/a	A 401	100	95	0	100	100
		602	100	85	0	100	100
		806	100	60	0	100	100
		Mean =	100	80	0	100	100
4 ACURON	3 qt/a	A 104	100	90	0	100	100
TOUCHDOWN TOTAL	30 fl oz/a	B 405	100	95	0	100	100
STATUS	5 oz/a	B 504	100	90	0	100	100
N-PAK - AMS	2.5 % v/v	B 803	100	90	0	100	100
		Mean =	100	91	0	100	100
5 ANTHEM ATZ	2.5 pt/a	A 105	.	5	0	.	.
		306	.	5	0	.	.
		505	.	10	0	.	.
		801	.	10	0	.	.
		Mean =	.	8	0	.	.
6 SURESTART II	3 pt/a	A 106	100	60	0	100	100
		302	100	85	0	100	100
		601	100	90	0	100	100
		805	100	75	0	100	100
		Mean =	100	78	0	100	100
7 VERDICT	1 pt/a	A 201	100	65	0	100	100
		402	100	60	0	100	100
		503	100	80	0	100	100
		705	100	30	0	100*	100*
		Mean =	100	59	0	100	100
8 AATREX	1 pt/a	A 202	100	70	0	100	100
CORVUS	5.6 fl oz/a	A 305	100	50	0	100	100
		605	100	60	0	100	100
		701	100	70	0	100	100
		Mean =	100	63	0	100	100
9 ACURON	3 qt/a	A 203	100	90	0	100	100
ANTHEM MAXX	3 fl oz/a	A 404	100	80	0	100	100
		604	100	60	0	100	100
		804	100	70	0	100	100
		Mean =	100	75	0	100	100

Purdue Weed Science

Pest Type	W Weed	W Weed		W Weed	W Weed		
Pest Code	CHEAL	AMBTR		SETFA	CHEAL		
Pest Name	Common lambsqu>	Giant ragweed		Giant foxtail	Common lambsqu>		
Crop Code							
Crop Name			ZEAMX				
Part Rated	PLOT P	PLOT P	PLOT C	PLOT P	PLOT P		
Rating Date	6/9/2015	6/9/2015	6/28/2015	6/28/2015	6/28/2015		
Rating Type	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO		
Rating Unit	%	%	%	%	%		
Number of Subsamples	1	1	1	1	1		
Days After First/Last Applic.	38 12	38 12	57 31	57 31	57 31		
Trt-Eval Interval	12 DA-B	12 DA-B	31 DA-B	31 DA-B	31 DA-B		
Days After Emergence	31 DE-1	31 DE-1	50 DE-1	50 DE-1	50 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	7	8	9	10	11
10 ACURON	1.5 qt/a	A 204	100	95	0	100	100
ACURON	1.5 qt/a	B 303	100	95	0	100	100
ACTIVATOR 90 - NIS	0.25 % v/v	B 502	100	95	0	100	100
N-PAK - AMS	2.5 % v/v	B 802	100	95	0	100	100
	Mean =		100	95	0	100	100
11 ACURON	1.5 qt/a	A 205	100	95	0	100	100
HALEX GT	3.6 pt/a	B 304	100	95	0	100	100
ACTIVATOR 90 - NIS	0.25 % v/v	B 501	100	95	0	100	100
N-PAK - AMS	2.5 % v/v	B 702	100	90	0	100	100
	Mean =		100	94	0	100	100
12 ACURON	2 qt/a	A 206	100	90	0	100	100
TOUCHDOWN TOTAL	30 fl oz/a	B 406	100	90	0	100	100
N-PAK - AMS	2.5 % v/v	B 603	100	90	0	100	100
		704	100	85	0	100	100
	Mean =		100	89	0	100	100

Purdue Weed Science

Pest Type	W Weed	W Weed			
Pest Code	AMBTR	AMBTR			
Pest Name	Giant ragweed	Giant ragweed			
Crop Code			ZEAMX	ZEAMX	ZEAMX
Crop Name			Corn	Corn	Corn
Part Rated	PLOT P	PLOT P	PLOT C	PLOT C	PLOT C
Rating Date	6/28/2015	7/23/2015	9/25/2015	9/25/2015	9/25/2015
Rating Type	CONTRO	CONTRO	YIELD	MOICON	YIELD
Rating Unit	%	%	lb/plot	%	BU
Number of Subsamples	1	1	1	1	1
Days After First/Last Applic.	57 31	82 56	146 120	146 120	146 120
Trt-Eval Interval	31 DA-B	56 DA-B			
Days After Emergence	50 DE-1	75 DE-1	139 DE-1	139 DE-1	139 DE-1
ARM Action Codes	P	P			TY1
Number of Decimals	0	0	2	2	1
Trt Treatment	Rate	Appl			
No. Name	Rate Unit	Code Plot	12	13	14
10 ACURON	1.5 qt/a	A 204	97	100	41.96
ACURON	1.5 qt/a	B 303	95	100	42.66
ACTIVATOR 90 - NIS	0.25 % v/v	B 502	99	100	43.57
N-PAK - AMS	2.5 % v/v	B 802	100	100	41.10
		Mean =	98	100	42.32
11 ACURON	1.5 qt/a	A 205	99	99	44.38
HALEX GT	3.6 pt/a	B 304	99	100	40.83
ACTIVATOR 90 - NIS	0.25 % v/v	B 501	100	100	44.48
N-PAK - AMS	2.5 % v/v	B 702	95	95	40.78
		Mean =	98	99	42.62
12 ACURON	2 qt/a	A 206	90	95	37.61
TOUCHDOWN TOTAL	30 fl oz/a	B 406	80	80	37.50
N-PAK - AMS	2.5 % v/v	B 603	80	95	41.31
		704	80	75	37.12
		Mean =	83	86	38.39
					17.94
					19.48
					19.00
					18.45
					222.9
					229.8

Purdue Weed Science

Bicyclopyrone: Acuron Herbicide University trials for weed control and corn tolerance in soils with greater than 3% organic matter

Trial ID: 15S-THP-CTC-28 Location: TPAC Trial Year: 2015
 Protocol ID: 15S-THP-CTC-28 Investigator: Dr. Bill Johnson
 Project ID: HBI001B3-2015US Study Director: Joe Ikley
 Sponsor Contact: Syngenta - Steve Mroczkiewicz

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

Pest Code
 SETFA, Setaria faberi, = US
 CHEAL, Chenopodium album, = US
 AMBTR, Ambrosia trifida, = US

Crop Code
 ZEAMX, BCOR, Zea mays, = US

Part Rated
 PLOT = plot
 C = Crop is Part Rated
 P = Pest is Part Rated

Rating Type
 PHYGEN = phytotoxicity - general / injury
 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 = $6.222857 * [14] * (100 - [15]) / 84.5$

Pest Type		W Weed	W Weed	W Weed		W Weed		
Pest Code		SETFA	CHEAL	AMBTR		SETFA		
Pest Name		Giant foxtail	Common lambsqu>	Giant ragweed		Giant foxtail		
Crop Code	ZEAMX				ZEAMX			
Crop Name	Corn				Corn			
Part Rated	PLOT C	PLOT P	PLOT P	PLOT P	PLOT C	PLOT P		
Rating Date	5/28/2015	5/28/2015	5/28/2015	5/28/2015	6/9/2015	6/9/2015		
Rating Type	PHYGEN	CONTRO	CONTRO	CONTRO	PHYGEN	CONTRO		
Rating Unit	%	%	%	%	%	%		
Number of Subsamples	1	1	1	1	1	1		
Days After First/Last Applic.	26 26	26 26	26 26	26 26	38 12	38 12		
Trt-Eval Interval	0 DA-B	0 DA-B	0 DA-B	0 DA-B	12 DA-B	12 DA-B		
Days After Emergence	19 DE-1	19 DE-1	19 DE-1	19 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	Rate	Appl						
No. Name	Rate Unit	Code	1	2	3	4	5	6
1 Untreated Check			0 b	0 c	0 b	0 f	0 a	0 c
2 ACURON	3 qt/a	A	0 b	100 a	100 a	86 ab	0 a	100 a
3 ACURON	3 qt/a	A	0 b	100 a	100 a	83 abc	0 a	99 ab
AATREX	1 qt/a	A						
4 ACURON	3 qt/a	A	0 b	100 a	100 a	91 a	0 a	100 a
TOUCHDOWN TOTAL	30 fl oz/a	B						
STATUS	5 oz/a	B						
N-PAK - AMS	2.5 % v/v	B						
5 ANTHEM ATZ	2.5 pt/a	A	0 b	100 a	100 a	24 e	0 a	
6 SURESTART II	3 pt/a	A	0 b	95 b	100 a	83 abc	0 a	95 b
7 VERDICT	1 pt/a	A	2 a	99 ab	100 a	83 abc	0 a	96 ab
8 AATREX	1 pt/a	A	0 b	98 ab	100 a	80 a-d	0 a	95 b
CORVUS	5.6 fl oz/a	A						
9 ACURON	3 qt/a	A	0 b	100 a	100 a	90 ab	0 a	100 a
ANTHEM MAXX	3 fl oz/a	A						
10 ACURON	1.5 qt/a	A	0 b	97 ab	100 a	68 d	0 a	100 a
ACURON	1.5 qt/a	B						
ACTIVATOR 90 - NIS	0.25 % v/v	B						
N-PAK - AMS	2.5 % v/v	B						

Purdue Weed Science

Pest Type		W Weed	W Weed	W Weed		W Weed		
Pest Code		SETFA	CHEAL	AMBTR		SETFA		
Pest Name		Giant foxtail	Common lambsqu>	Giant ragweed		Giant foxtail		
Crop Code	ZEAMX				ZEAMX			
Crop Name	Corn				Corn			
Part Rated	PLOT C	PLOT P	PLOT P	PLOT P	PLOT C	PLOT P		
Rating Date	5/28/2015	5/28/2015	5/28/2015	5/28/2015	6/9/2015	6/9/2015		
Rating Type	PHYGEN	CONTRO	CONTRO	CONTRO	PHYGEN	CONTRO		
Rating Unit	%	%	%	%	%	%		
Number of Subsamples	1	1	1	1	1	1		
Days After First/Last Applic.	26 26	26 26	26 26	26 26	38 12	38 12		
Trt-Eval Interval	0 DA-B	0 DA-B	0 DA-B	0 DA-B	12 DA-B	12 DA-B		
Days After Emergence	19 DE-1	19 DE-1	19 DE-1	19 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 Unit	Appl Code	1	2	3	4	5	6
11 ACURON	1.5 qt/a	A	0 b	99 ab	100 a	70 cd	0 a	100 a
HALEX GT	3.6 pt/a	B						
ACTIVATOR 90 - NIS	0.25 % v/v	B						
N-PAK - AMS	2.5 % v/v	B						
12 ACURON	2 qt/a	A	0 b	99 ab	100 a	76 bcd	0 a	100 a
TOUCHDOWN TOTAL	30 fl oz/a	B						
N-PAK - AMS	2.5 % v/v	B						
LSD P=.05			0.5	4.3	.	13.9	.	4.7
Standard Deviation			0.4	3.0	0.0	9.6	0.0	3.3
CV			249.08	3.31	0.0	13.92	0.0	3.65
Bartlett's X2			0.0	13.367	0.0	12.573	0.0	5.248
P(Bartlett's X2)			.	0.038*	.	0.249	.	0.155
Skewness			4.0162*	-3.0539*	-3.1133*	-1.4544*	.	-2.8762*
Kurtosis			15.6263*	7.781*	8.0253*	1.0502	.	6.7211*
Replicate F			1.000	0.214	0.000	2.668	0.000	0.258
Replicate Prob(F)			0.4051	0.8858	1.0000	0.0637	1.0000	0.8552
Treatment F			7.737	363.830	0.000	34.127	0.000	332.276
Treatment Prob(F)			0.0001	0.0001	1.0000	0.0001	1.0000	0.0001

Purdue Weed Science

Pest Type	W Weed	W Weed		W Weed	W Weed	W Weed			
Pest Code	CHEAL	AMBTR		SETFA	CHEAL	AMBTR			
Pest Name	Common lambsqu>	Giant ragweed		Giant foxtail	Common lambsqu>	Giant ragweed			
Crop Code			ZEAMX						
Crop Name			Corn						
Part Rated	PLOT P	PLOT P	PLOT C	PLOT P	PLOT P	PLOT P			
Rating Date	6/9/2015	6/9/2015	6/28/2015	6/28/2015	6/28/2015	6/28/2015			
Rating Type	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO	CONTRO			
Rating Unit	%	%	%	%	%	%			
Number of Subsamples	1	1	1	1	1	1			
Days After First/Last Applic.	38 12	38 12	57 31	57 31	57 31	57 31			
Trt-Eval Interval	12 DA-B	12 DA-B	31 DA-B	31 DA-B	31 DA-B	31 DA-B			
Days After Emergence	31 DE-1	31 DE-1	50 DE-1	50 DE-1	50 DE-1	50 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	Appl Code	7	8	9	10	11	12
1	Untreated Check			0 b	0 h	0 a	0 b	0 b	0 h
2	ACURON	3 qt/a	A	100 a	74 ef	0 a	100 a	100 a	63 de
3	ACURON AATREX	3 qt/a 1 qt/a	A A	100 a	80 b-e	0 a	100 a	100 a	78 cd
4	ACURON TOUCHDOWN TOTAL STATUS N-PAK - AMS	3 qt/a 30 fl oz/a 5 oz/a 2.5 % v/v	A B B B	100 a	91 abc	0 a	100 a	100 a	95 abc
5	ANTHEM ATZ	2.5 pt/a	A		8 h	0 a			3 h
6	SURESTART II	3 pt/a	A	100 a	78 cde	0 a	100 a	100 a	50 ef
7	VERDICT	1 pt/a	A	100 a	59 g	0 a	100 a	100 a	31 fg
8	AATREX CORVUS	1 pt/a 5.6 fl oz/a	A A	100 a	63 fg	0 a	100 a	100 a	30 g
9	ACURON ANTHEM MAXX	3 qt/a 3 fl oz/a	A A	100 a	75 def	0 a	100 a	100 a	79 bcd
10	ACURON ACURON ACTIVATOR 90 - NIS N-PAK - AMS	1.5 qt/a 1.5 qt/a 0.25 % v/v 2.5 % v/v	A B B B	100 a	95 a	0 a	100 a	100 a	98 ab

Purdue Weed Science

Pest Type	W Weed	W Weed		W Weed	W Weed	W Weed		
Pest Code	CHEAL	AMBTR		SETFA	CHEAL	AMBTR		
Pest Name	Common lambsqu>	Giant ragweed		Giant foxtail	Common lambsqu>	Giant ragweed		
Crop Code			ZEAMX					
Crop Name			Corn					
Part Rated	PLOT P	PLOT P	PLOT C	PLOT P	PLOT P	PLOT P		
Rating Date	6/9/2015	6/9/2015	6/28/2015	6/28/2015	6/28/2015	6/28/2015		
Rating Type	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO	CONTRO		
Rating Unit	%	%	%	%	%	%		
Number of Subsamples	1	1	1	1	1	1		
Days After First/Last Applic.	38 12	38 12	57 31	57 31	57 31	57 31		
Trt-Eval Interval	12 DA-B	12 DA-B	31 DA-B	31 DA-B	31 DA-B	31 DA-B		
Days After Emergence	31 DE-1	31 DE-1	50 DE-1	50 DE-1	50 DE-1	50 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	7	8	9	10	11	12
11 ACURON	1.5 qt/a	A	100 a	94 ab	0 a	100 a	100 a	98 a
HALEX GT	3.6 pt/a	B						
ACTIVATOR 90 - NIS	0.25 % v/v	B						
N-PAK - AMS	2.5 % v/v	B						
12 ACURON	2 qt/a	A	100 a	89 a-d	0 a	100 a	100 a	83 abc
TOUCHDOWN TOTAL	30 fl oz/a	B						
N-PAK - AMS	2.5 % v/v	B						
LSD P=.05	.			14.1	.	.	.	18.9
Standard Deviation	0.0			9.8	0.0	0.0	0.0	13.1
CV	0.0			14.6	0.0	0.0	0.0	22.27
Bartlett's X2	0.0			26.126	0.0	0.0	0.0	31.772
P(Bartlett's X2)	.			0.002*	.	.	.	0.001*
Skewness	-2.9475*			-1.2011*	.	-2.9046*	-2.9046*	-0.4482
Kurtosis	7.0044*			0.0843	.	6.7485*	6.7485*	-1.3505
Replicate F	0.000			1.967	0.000	0.000	0.000	2.161
Replicate Prob(F)	1.0000			0.1381	1.0000	1.0000	1.0000	0.1120
Treatment F	0.000			42.098	0.000	0.000	0.000	29.629
Treatment Prob(F)	1.0000			0.0001	1.0000	1.0000	1.0000	0.0001

Purdue Weed Science

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	7/23/2015		9/25/2015		9/25/2015		9/25/2015	
Rating Type	CONTRO		YIELD		MOICON		YIELD	
Rating Unit	%		lb/plot		%		BU	
Number of Subsamples	1		1		1		1	
Days After First/Last Applic.	82 56		146 120		146 120		146 120	
Trt-Eval Interval	56 DA-B							
Days After Emergence	75 DE-1		139 DE-1		139 DE-1		139 DE-1	
ARM Action Codes	P						TY1	
Number of Decimals	0		2		2		1	
Trt No.	Treatment Name	Rate	Appl Code	13	14	15	16	
		Rate Unit						
1	Untreated Check			0 e	2.98 e	6.18 b	18.9 d	
2	ACURON	3 qt/a	A	61 c	29.15 c	18.85 a	174.1 b	
3	ACURON AATREX	3 qt/a 1 qt/a	A A	73 bc	35.11 abc	18.89 a	210.1 ab	
4	ACURON TOUCHDOWN TOTAL STATUS N-PAK - AMS	3 qt/a 30 fl oz/a 5 oz/a 2.5 % v/v	A B B B	97 a	38.95 ab	18.02 a	235.1 a	
5	ANTHEM ATZ	2.5 pt/a	A	0 e	6.41 e	15.72 a	39.1 d	
6	SURESTART II	3 pt/a	A	36 d	28.57 c	18.55 a	170.9 b	
7	VERDICT	1 pt/a	A	5 e	16.80 d	18.45 a	100.6 c	
8	AATREX CORVUS	1 pt/a 5.6 fl oz/a	A A	0 e	19.36 d	17.90 a	116.6 c	
9	ACURON ANTHEM MAXX	3 qt/a 3 fl oz/a	A A	83 ab	33.90 bc	18.80 a	202.5 ab	
10	ACURON ACURON ACTIVATOR 90 - NIS N-PAK - AMS	1.5 qt/a 1.5 qt/a 0.25 % v/v 2.5 % v/v	A B B B	100 a	42.32 ab	19.55 a	250.7 a	

Purdue Weed Science

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	7/23/2015	9/25/2015	9/25/2015	9/25/2015	
Rating Type	CONTRO	YIELD	MOICON	YIELD	
Rating Unit	%	lb/plot	%	BU	
Number of Subsamples	1	1	1	1	
Days After First/Last Applic.	82 56	146 120	146 120	146 120	
Trt-Eval Interval	56 DA-B				
Days After Emergence	75 DE-1	139 DE-1	139 DE-1	139 DE-1	
ARM Action Codes	P			TY1	
Number of Decimals	0	2	2	1	
Trt Treatment	Rate	Appl			
No. Name	Rate Unit	Code	13	14	15
11 ACURON	1.5 qt/a	A	99 a	42.62 a	19.14 a
HALEX GT	3.6 pt/a	B			253.8 a
ACTIVATOR 90 - NIS	0.25 % v/v	B			
N-PAK - AMS	2.5 % v/v	B			
12 ACURON	2 qt/a	A	86 ab	38.39 ab	18.72 a
TOUCHDOWN TOTAL	30 fl oz/a	B			229.8 a
N-PAK - AMS	2.5 % v/v	B			
LSD P=.05			18.5	8.671	4.060
Standard Deviation			12.8	6.027	2.822
CV			24.02	21.62	16.22
Bartlett's X2			23.252	27.781	54.764
P(Bartlett's X2)			0.002*	0.003*	0.001*
Skewness			-0.1926	-0.672	-3.0882*
Kurtosis			-1.7984*	-0.969	9.042*
Replicate F			3.333	0.384	2.375
Replicate Prob(F)			0.0331	0.7652	0.0879
Treatment F			43.588	20.274	6.732
Treatment Prob(F)			0.0001	0.0001	0.0001

Purdue Weed Science

Bicyclopyrone: Acuron Herbicide University trials for weed control and corn tolerance in soils with greater than 3% organic matter

Trial ID: 15S-THP-CTC-28 Location: TPAC Trial Year: 2015
 Protocol ID: 15S-THP-CTC-28 Investigator: Dr. Bill Johnson
 Project ID: HBI001B3-2015US Study Director: Joe Ikley
 Sponsor Contact: Syngenta - Steve Mroczkiewicz

Pest Type

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

Pest Code

SETFA, Setaria faberi, = US
 CHEAL, Chenopodium album, = US
 AMBTR, Ambrosia trifida, = US

Crop Code

ZEAMX, BCOR, Zea mays, = US

Part Rated

PLOT = plot
 C = Crop is Part Rated
 P = Pest is Part Rated

Rating Type

PHYGEN = phytotoxicity - general / injury
 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 = $6.222857 * [14] * (100 - [15]) / 84.5$