

# Purdue Weed Science

## Acuron Programs for Control of Glyphosate-Resistant Palmer amaranth

Trial ID: 16S-MED-CORN-04      Location: Medaryville      Trial Year: 2016  
 Protocol ID: 16S-MED-CORN-04      Investigator: Dr. Bill Johnson  
 Project ID: EHLCOR3-2016      Study Director: Joe Ikley  
 Sponsor Contact: Syngenta/Dow

### 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

### Crop Description

**Crop 1:** ZEAMX      Zea mays      Corn  
**Variety:** DKC 62-08  
**Planting Rate, Unit:** 32000 S/A      **Planting Date:** May-19-2016  
**Depth, Unit:** 1.5 IN      **Planting Method:** PLANTD planted  
**Row Spacing, Unit:** 30 IN      **Planting Equipment:** PP Plot Planter  
**Soil Temperature, Unit:** 55 F      **Emergence Date:** May-27-2016  
**Soil Moisture:** NORMAL normal, adequate

### Pest Description

**Pest 1 Type:** W      **Code:** AMAPA *Amaranthus palmeri*  
**Common Name:** Carelessweed

### 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 FT<sup>2</sup>      **Treatments:** 10      **Tillage Type:** NOTILL no-till  
**Replications:** 4      **Study Design:** RACOB L Randomized Complete Block (RCB)

### Field Prep./Maintenance:

180 Pounds of N Applied as 32-0-5 on 5/13/16

Gramoxone Max Applied at 3.5 pt/A on 5/18/16

### Soil Description

**Description Name:** MEDARYVILLE  
**% Sand:** 84.5      **% OM:** 5.6      **Texture:** LS loamy sand  
**% Silt:** 12.8      **pH:** 6.7  
**% Clay:** 2.7      **CEC:** 13.6      **Fert. Level:** G good  
**Soil Drainage:** G good

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### Application Description

	A	B	C
<b>Application Date:</b>	May-19-2016	Jun-9-2016	Jun-13-2016
<b>Appl. Start Time:</b>	1:30 PM	7:45 AM	12:30 PM
<b>Appl. Stop Time:</b>	2:00 PM	8:15 AM	12:45 PM
<b>Application Method:</b>	SPRAY	SPRAY	SPRAY
<b>Application Timing:</b>	PRE	M POST	L POST
<b>Application Placement:</b>	BROADC	BROADC	BROADC
<b>Applied By:</b>	DJ	DS	TC
<b>Air Temperature, Unit:</b>	67 F	56 F	81 F
<b>% Relative Humidity:</b>	30	65	35
<b>Wind Velocity, Unit:</b>	1 MPH	3 MPH	3 MPH
<b>Wind Direction:</b>	E	ESE	SSE
<b>Dew Presence (Y/N):</b>	N no	Y yes	N no
<b>Soil Temperature, Unit:</b>	64 F	62 F	72 F
<b>Soil Moisture:</b>	NORMAL	SLIWET	DRY
<b>% Cloud Cover:</b>	30	50	20

### Crop Stage At Each Application

	A	B	C
<b>Crop 1 Code, BBCH Scale:</b>	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR
<b>Stage Scale Used:</b>		BBCH	BBCH
<b>Stage Majority, Percent:</b>		34	36
<b>Stage Minimum, Percent:</b>		33	35
<b>Stage Maximum, Percent:</b>		34	36
<b>Height, Unit:</b>		9.5 IN	14 IN
<b>Height Minimum, Maximum:</b>		7 12	12 16

### Pest Stage At Each Application

	A	B	C
<b>Pest 1 Code, Type, Scale:</b>	AMAPA W	AMAPA W	AMAPA W
<b>Stage Majority, Percent:</b>		33G	33G
<b>Stage Minimum, Percent:</b>		31G	31G
<b>Stage Maximum, Percent:</b>		36G	35G
<b>Height, Unit:</b>		2.5 IN	3.5 IN
<b>Height Minimum, Maximum:</b>		0.5 4	0.5 6
<b>Density, Unit:</b>		150 YD2	150 YD2

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### Application Equipment

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

**Trt No Treatment Application Comment**  
 8 RESICORE + ATRAZINE DID NOT MIX WELL TOGETHER  
 7 REP 4 HAD HIGHER PRESSURE AND MORE PALMER EMERGED AT APP B

### 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	Rep 2	Rep 3	Rep 4
1	Untreated Check								101	202	308	404
2	ACURON	3.44 LB/GAL		ZC	3 qt/a		A	90.0 ml/mx	102	207	302	401
3	ACURON PRINCEP	3.44 LB/GAL 4 LB/GAL		ZC L	3 qt/a 1 qt/a		A A	90.0 ml/mx 30.0 ml/mx	103	208	303	409
4	ACURON HALEX GT	3.44 LB/GAL 4.389 LBAE/GAL		ZC L	1.5 qt/a 3.6 pt/a		A C	45.0 ml/mx 54.0 ml/mx	104	201	305	406
	ACTIVATOR 90 - NIS	90 %		L	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	ACURON	3.44 LB/GAL		ZC	1.5 qt/a		A	45.0 ml/mx	105	204	301	408
	ACURON	3.44 LB/GAL		ZC	1.5 qt/a		C	45.0 ml/mx				
	ROUNDUP POWERMAX	4.5 LBAE/GAL		SL	22 fl oz/a		C	20.62 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		L	2.5 % v/v		C	45.0 ml/mx				
6	SURESTART II	4.25 LB/GAL		L	2.5 pt/a		A	37.5 ml/mx	106	205	309	402
	DURANGO DMA	4 LBAE/GAL		SL	1 qt/a		C	30.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		L	2.5 % v/v		C	45.0 ml/mx				
7	SURESTART II	4.25 LB/GAL		L	2 pt/a		B	30.0 ml/mx	107	209	310	405
	DURANGO DMA	4 LBAE/GAL		SL	1 qt/a		B	30.0 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		SE	1.25 qt/a		A	37.5 ml/mx	108	210	304	407
	AATREX	4 LB/GAL		L	1 qt/a		A	30.0 ml/mx				
	RESICORE	3.29 LB/GAL		SE	1.25 qt/a		C	37.5 ml/mx				
	AATREX	4 LB/GAL		L	0.5 qt/a		C	15.0 ml/mx				
	DURANGO DMA	4 LBAE/GAL		SL	1 qt/a		C	30.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		L	2.5 % v/v		C	45.0 ml/mx				

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Reps: 4      Plots: 10 by 30 feet  
 Spray vol: 15 GAL/AC      Mix Size: 1.8 liters (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	Rep 2	Rep 3	Rep 4
9	RESICORE	3.29	LB/GAL	SE	1.25 qt/a	B	37.5 ml/mx	109	206	307	403
	DURANGO DMA	4	LBAE/GAL	SL	1 qt/a	B	30.0 ml/mx				
	AATREX	4	LB/GAL	L	0.5 qt/a	B	15.0 ml/mx				
	N-PAK - AMS	3.4	LBA/GAL	L	2.5 % v/v	B	45.0 ml/mx				
10	RESICORE	3.29	LB/GAL	SE	2.5 qt/a	A	75.0 ml/mx	110	203	306	410
	AATREX	4	LB/GAL	L	1 qt/a	A	30.0 ml/mx				
	DURANGO DMA	4	LBAE/GAL	SL	1 qt/a	C	30.0 ml/mx				
	N-PAK - AMS	3.4	LBA/GAL	L	2.5 % v/v	C	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
393.749	ml	ACURON	3.44	LB/GAL	ZC	
37.500	ml	PRINCEP	4	LB/GAL	L	
67.500	ml	HALEX GT	4.389	LBAE/GAL	L	
5.624	ml	ACTIVATOR 90 - NIS	90	%	L	
393.707	ml	N-PAK - AMS	3.4	LBA/GAL	L	
25.781	ml	ROUNDUP POWERMAX	4.5	LBAE/GAL	SL	
84.375	ml	SURESTART II	4.25	LB/GAL	L	
187.499	ml	DURANGO DMA	4	LBAE/GAL	SL	
234.374	ml	RESICORE	3.29	LB/GAL	SE	
112.500	ml	AATREX	4	LB/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.

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Pest Type			W Weed		W Weed		W Weed	
Pest Code			AMAPA		AMAPA		AMAPA	
Pest Name			Carelessweed		Carelessweed		Carelessweed	
Crop Code	ZEAMX			ZEAMX		ZEAMX		
Crop Name	Corn			Corn		Corn		
Part Rated	PLOT C	PLOT P		PLOT C	PLOT P	PLOT C	PLOT P	
Rating Date	Jun-9-2016	Jun-9-2016		Jun-13-2016	Jun-13-2016	Jun-23-2016	Jun-23-2016	
Rating Type	PHYGEN	CONTRO		PHYGEN	CONTRO	PHYGEN	CONTRO	
Rating Unit	%	%		%	%	%	%	
Number of Subsamples	1	1		1	1	1	1	
Days After First/Last Applic.	21 21	21 21		25 4	25 4	35 10	35 10	
Trt-Eval Interval	0 DA-B	0 DA-B		0 DA-C	0 DA-C	14 DA-B	14 DA-B	
Days After Emergence	13 DE-1	13 DE-1		17 DE-1	17 DE-1	27 DE-1	27 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	5	6
1 Untreated Check		101	0	0	0	0	0	0
		202	0	0	0	0	0	0
		308	0	0	0	0	0	0
		404	0	0	0	0	0	0
		Mean =	0	0	0	0	0	0
2 ACURON	3 qt/a	A 102	0	100	0	100	0	100
		207	5	100	0	100	0	100
		302	0	100	0	95	0	90
		401	0	100	0	90	0	80
		Mean =	1	100	0	96	0	93
3 ACURON	3 qt/a	A 103	0	100	0	100	0	100
PRINCEP	1 qt/a	A 208	0	100	0	100	0	100
		303	0	100	0	95	0	100
		409	0	100	0	100	0	95
		Mean =	0	100	0	99	0	99
4 ACURON	1.5 qt/a	A 104	0	100	0	100	0	100
HALEX GT	3.6 pt/a	C 201	0	95	0	90	0	90
ACTIVATOR 90 - NIS	0.25 % v/v	C 305	0	100	0	95	0	100
N-PAK - AMS	2.5 % v/v	C 406	0	95	0	80	0	95
		Mean =	0	98	0	91	0	96
5 ACURON	1.5 qt/a	A 105	0	100	0	100	0	100
ACURON	1.5 qt/a	C 204	0	100	0	95	0	100
ROUNDUP POWERMAX	22 fl oz/a	C 301	0	100	0	75	0	95
N-PAK - AMS	2.5 % v/v	C 408	10	100	0	85	0	100
		Mean =	3	100	0	89	0	99
6 SURESTART II	2.5 pt/a	A 106	20	100	0	100	0	95
DURANGO DMA	1 qt/a	C 205	0	100	0	100	0	95
N-PAK - AMS	2.5 % v/v	C 309	5	100	0	100	0	95
		402	0	100	0	100	0	95
		Mean =	6	100	0	100	0	95
7 SURESTART II	2 pt/a	B 107	0	0	0	95	0	95
DURANGO DMA	1 qt/a	B 209	0	0	0	95	0	90
N-PAK - AMS	2.5 % v/v	B 310	0	0	0	90	0	90
		405	0	0	0	0	0	20
		Mean =	0	0	0	70	0	74
8 RESICORE	1.25 qt/a	A 108	10	100	0	100	5	100
AATREX	1 qt/a	A 210	5	100	0	100	5	100
RESICORE	1.25 qt/a	C 304	0	100	0	100	0	100
AATREX	0.5 qt/a	C 407	0	100	0	100	0	100
DURANGO DMA	1 qt/a	C						
N-PAK - AMS	2.5 % v/v	C						
		Mean =	4	100	0	100	3	100
9 RESICORE	1.25 qt/a	B 109	0	0	0	100	0	100
DURANGO DMA	1 qt/a	B 206	0	0	0	100	0	100
AATREX	0.5 qt/a	B 307	0	0	0	100	0	100
N-PAK - AMS	2.5 % v/v	B 403	0	0	0	90	0	100
		Mean =	0	0	0	98	0	100

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 Sponsor Contact: Syngenta/Dow

Pest Type	W Weed		W Weed		W Weed	
	AMAPA		AMAPA		AMAPA	
Pest Code	Carelessweed		Carelessweed		Carelessweed	
Pest Name	ZEAMX		ZEAMX		ZEAMX	
Crop Code	Corn		Corn		Corn	
Crop Name	PLOT C		PLOT C		PLOT C	
Part Rated	PLOT P		PLOT P		PLOT P	
Rating Date	Jun-9-2016	Jun-9-2016	Jun-13-2016	Jun-13-2016	Jun-23-2016	Jun-23-2016
Rating Type	PHYGEN		PHYGEN		PHYGEN	
Rating Unit	CONTRO		CONTRO		CONTRO	
Number of Subsamples	%		%		%	
Days After First/Last Applic.	1		1		1	
Trt-Eval Interval	21 21		25 4		35 10	
Days After Emergence	0 DA-B		0 DA-C		14 DA-B	
ARM Action Codes	13 DE-1		17 DE-1		27 DE-1	
Number of Decimals	P		P		P	
	0		0		0	
Trt Treatment	Rate	Appl				
No. Name	Rate Unit	Code Plot	1	2	3	4
10 RESICORE	2.5 qt/a	A 110	5	100	0	100
AATREX	1 qt/a	A 203	0	100	0	100
DURANGO DMA	1 qt/a	C 306	0	100	0	100
N-PAK - AMS	2.5 % v/v	C 410	0	100	0	100
		Mean =	1	100	0	100

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				W Weed	W Weed
				AMAPA	AMAPA
				Carelessweed	Carelessweed
Pest Type					
Pest Code					
Pest Name					
Crop Code					
Crop Name					
Part Rated			PLOT P	PLOT P	
Rating Date			Jun-27-2016	Jul-12-2016	
Rating Type			CONTRO	CONTRO	
Rating Unit			%	%	
Number of Subsamples			1	1	
Days After First/Last Applic.			39 14	54 29	
Trt-Eval Interval			14 DA-C	29 DA-C	
Days After Emergence			31 DE-1	46 DE-1	
ARM Action Codes			P	P	
Number of Decimals			0	0	
Trt Treatment	Rate	Appl			
No. Name	Rate Unit	Code Plot	7	8	
1 Untreated Check		101	0	0	
		202	0	0	
		308	0	0	
		404	0	0	
		Mean =	0	0	
2 ACURON	3 qt/a	A 102	95	95	
		207	100	100	
		302	95	95	
		401	75	75	
		Mean =	91	91	
3 ACURON	3 qt/a	A 103	95	95	
PRINCEP	1 qt/a	A 208	100	100	
		303	100	100	
		409	95	95	
		Mean =	98	98	
4 ACURON	1.5 qt/a	A 104	100	100	
HALEX GT	3.6 pt/a	C 201	90	90	
ACTIVATOR 90 - NIS	0.25 % v/v	C 305	95	95	
N-PAK - AMS	2.5 % v/v	C 406	90	90	
		Mean =	94	94	
5 ACURON	1.5 qt/a	A 105	100	100	
ACURON	1.5 qt/a	C 204	100	100	
ROUNDUP POWERMAX	22 fl oz/a	C 301	95	95	
N-PAK - AMS	2.5 % v/v	C 408	100	100	
		Mean =	99	99	
6 SURESTART II	2.5 pt/a	A 106	100	100	
DURANGO DMA	1 qt/a	C 205	100	100	
N-PAK - AMS	2.5 % v/v	C 309	90	90	
		402	80	80	
		Mean =	93	93	
7 SURESTART II	2 pt/a	B 107	90	90	
DURANGO DMA	1 qt/a	B 209	90	85	
N-PAK - AMS	2.5 % v/v	B 310	85	85	
		405	20	0	
		Mean =	71	65	
8 RESICORE	1.25 qt/a	A 108	100	100	
AATREX	1 qt/a	A 210	100	100	
RESICORE	1.25 qt/a	C 304	95	95	
AATREX	0.5 qt/a	C 407	100	100	
DURANGO DMA	1 qt/a	C			
N-PAK - AMS	2.5 % v/v	C			
		Mean =	99	99	
9 RESICORE	1.25 qt/a	B 109	100	100	
DURANGO DMA	1 qt/a	B 206	100	100	
AATREX	0.5 qt/a	B 307	100	100	
N-PAK - AMS	2.5 % v/v	B 403	100	95	
		Mean =	100	99	

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Pest Type	W Weed	W Weed	
Pest Code	AMAPA	AMAPA	
Pest Name	Carelessweed	Carelessweed	
Crop Code			
Crop Name			
Part Rated	PLOT P	PLOT P	
Rating Date	Jun-27-2016	Jul-12-2016	
Rating Type	CONTRO	CONTRO	
Rating Unit	%	%	
Number of Subsamples	1	1	
Days After First/Last Applic.	39 14	54 29	
Trt-Eval Interval	14 DA-C	29 DA-C	
Days After Emergence	31 DE-1	46 DE-1	
ARM Action Codes	P	P	
Number of Decimals	0	0	
Trt Treatment	Rate Appl		
No. Name	Rate Unit Code Plot		
		7	8
10 RESICORE	2.5 qt/a A 110	100	100
AATREX	1 qt/a A 203	95	95
DURANGO DMA	1 qt/a C 306	100	100
N-PAK - AMS	2.5 % v/v C 410	95	95
	Mean =	98	98



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Pest Type  
 W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop  
Pest Code  
 AMAPA, Amaranthus palmeri, = 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  
Rating Unit  
 % = percent  
ARM Action Codes  
 P = Rating scale of 0 to 100 (e.g. % control or injury)

Pest Type	Pest Code	W Weed AMAPA Carelessweed	W Weed AMAPA Carelessweed	W Weed AMAPA Carelessweed	W Weed AMAPA Carelessweed	W Weed AMAPA Carelessweed			
Pest Name									
Crop Code	ZEAMX		ZEAMX		ZEAMX				
Crop Name	Corn		Corn		Corn				
Part Rated	PLOT C	PLOT P	PLOT C	PLOT P	PLOT C	PLOT P			
Rating Date	Jun-9-2016	Jun-9-2016	Jun-13-2016	Jun-13-2016	Jun-23-2016	Jun-23-2016			
Rating Type	PHYGEN	CONTRO	PHYGEN	CONTRO	PHYGEN	CONTRO			
Rating Unit	%	%	%	%	%	%			
Number of Subsamples	1	1	1	1	1	1			
Days After First/Last Applic.	21 21	21 21	25 4	25 4	35 10	35 10			
Trt-Eval Interval	0 DA-B	0 DA-B	0 DA-C	0 DA-C	14 DA-B	14 DA-B			
Days After Emergence	13 DE-1	13 DE-1	17 DE-1	17 DE-1	27 DE-1	27 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	1	2	3	4	5	6
1	Untreated Check			0 -	0 c	0 -	0 b	0 b	0 b
2	ACURON	3 qt/a	A	1 -	100 a	0 -	96 a	0 b	93 a
3	ACURON PRINCEP	3 qt/a 1 qt/a	A A	0 -	100 a	0 -	99 a	0 b	99 a
4	ACURON HALEX GT ACTIVATOR 90 - NIS N-PAK - AMS	1.5 qt/a 3.6 pt/a 0.25 % v/v 2.5 % v/v	A C C C	0 -	98 b	0 -	91 a	0 b	96 a
5	ACURON ACURON ROUNDUP POWERMAX N-PAK - AMS	1.5 qt/a 1.5 qt/a 22 fl oz/a 2.5 % v/v	A C C C	3 -	100 a	0 -	89 a	0 b	99 a
6	SURESTART II DURANGO DMA N-PAK - AMS	2.5 pt/a 1 qt/a 2.5 % v/v	A C C	6 -	100 a	0 -	100 a	0 b	95 a
7	SURESTART II DURANGO DMA N-PAK - AMS	2 pt/a 1 qt/a 2.5 % v/v	B B B	0 -	0 c	0 -	70 a	0 b	74 a
8	RESICORE AATREX RESICORE AATREX DURANGO DMA N-PAK - AMS	1.25 qt/a 1 qt/a 1.25 qt/a 0.5 qt/a 1 qt/a 2.5 % v/v	A A C C C C	4 -	100 a	0 -	100 a	3 a	100 a
9	RESICORE DURANGO DMA AATREX N-PAK - AMS	1.25 qt/a 1 qt/a 0.5 qt/a 2.5 % v/v	B B B B	0 -	0 c	0 -	98 a	0 b	100 a

# Purdue Weed Science

## Acuron Programs for Control of Glyphosate-Resistant Palmer amaranth

Trial ID: 16S-MED-CORN-04      Location: Medaryville      Trial Year: 2016  
 Protocol ID: 16S-MED-CORN-04      Investigator: Dr. Bill Johnson  
 Project ID: EHLCOR3-2016      Study Director: Joe Ikley  
 Sponsor Contact: Syngenta/Dow

Pest Type		W Weed		W Weed		W Weed		
Pest Code		AMAPA		AMAPA		AMAPA		
Pest Name		Carelessweed		Carelessweed		Carelessweed		
Crop Code	ZEAMX		ZEAMX		ZEAMX			
Crop Name	Corn		Corn		Corn			
Part Rated	PLOT C	PLOT P	PLOT C	PLOT P	PLOT C	PLOT P		
Rating Date	Jun-9-2016	Jun-9-2016	Jun-13-2016	Jun-13-2016	Jun-23-2016	Jun-23-2016		
Rating Type	PHYGEN	CONTRO	PHYGEN	CONTRO	PHYGEN	CONTRO		
Rating Unit	%	%	%	%	%	%		
Number of Subsamples	1	1	1	1	1	1		
Days After First/Last Applic.	21 21	21 21	25 4	25 4	35 10	35 10		
Trt-Eval Interval	0 DA-B	0 DA-B	0 DA-C	0 DA-C	14 DA-B	14 DA-B		
Days After Emergence	13 DE-1	13 DE-1	17 DE-1	17 DE-1	27 DE-1	27 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
10 RESICORE	2.5 qt/a	A	1 -	100 a	0 -	100 a	0 b	98 a
AATREX	1 qt/a	A						
DURANGO DMA	1 qt/a	C						
N-PAK - AMS	2.5 % v/v	C						
LSD P=.05	5.5	1.3				21.5	1.3	16.9
Standard Deviation	3.8	0.9	0.0	14.8	0.9	11.7		
CV	254.99	1.31	0.0	17.59	365.15	13.7		
Bartlett's X2	7.106	0.0	0.0	31.157	0.0	31.54		
P(Bartlett's X2)	0.13	.	.	0.001*	.	0.001*		
Skewness	3.3248*	-0.9054*	.	-2.222*	4.2921*	-2.3061*		
Kurtosis	12.445*	-1.2424	.	3.3266*	17.2853*	3.7197*		
Replicate F	1.253	1.000	0.000	2.084	1.000	1.570		
Replicate Prob(F)	0.3101	0.4079	1.0000	0.1258	0.4079	0.2195		
Treatment F	1.215	11123.001	0.000	17.500	3.000	28.084		
Treatment Prob(F)	0.3265	0.0001	1.0000	0.0001	0.0130	0.0001		

# Purdue Weed Science

## Acuron Programs for Control of Glyphosate-Resistant Palmer amaranth

Trial ID: 16S-MED-CORN-04	Location: Medaryville	Trial Year: 2016
Protocol ID: 16S-MED-CORN-04	Investigator: Dr. Bill Johnson	
Project ID: EHLCOR3-2016	Study Director: Joe Ikley	
	Sponsor Contact: Syngenta/Dow	

Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	AMAPA	AMAPA	AMAPA	AMAPA
Pest Name	Carelessweed	Carelessweed	Carelessweed	Carelessweed
Crop Code				
Crop Name				
Part Rated	PLOT P	PLOT P	PLOT P	PLOT P
Rating Date	Jun-27-2016	Jul-12-2016	Jul-12-2016	Jul-12-2016
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%
Number of Subsamples	1	1	1	1
Days After First/Last Applic.	39 14	54 29	54 29	54 29
Trt-Eval Interval	14 DA-C	29 DA-C	29 DA-C	29 DA-C
Days After Emergence	31 DE-1	46 DE-1	46 DE-1	46 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	7	8
1 Untreated Check			0 c	0 c
2 ACURON	3 qt/a	A	91 a	91 a
3 ACURON	3 qt/a	A	98 a	98 a
PRINCEP	1 qt/a	A		
4 ACURON	1.5 qt/a	A	94 a	94 a
HALEX GT	3.6 pt/a	C		
ACTIVATOR 90 - NIS	0.25 % v/v	C		
N-PAK - AMS	2.5 % v/v	C		
5 ACURON	1.5 qt/a	A	99 a	99 a
ACURON	1.5 qt/a	C		
ROUNDUP POWERMAX	22 fl oz/a	C		
N-PAK - AMS	2.5 % v/v	C		
6 SURESTART II	2.5 pt/a	A	93 a	93 a
DURANGO DMA	1 qt/a	C		
N-PAK - AMS	2.5 % v/v	C		
7 SURESTART II	2 pt/a	B	71 b	65 b
DURANGO DMA	1 qt/a	B		
N-PAK - AMS	2.5 % v/v	B		
8 RESICORE	1.25 qt/a	A	99 a	99 a
AATREX	1 qt/a	A		
RESICORE	1.25 qt/a	C		
AATREX	0.5 qt/a	C		
DURANGO DMA	1 qt/a	C		
N-PAK - AMS	2.5 % v/v	C		
9 RESICORE	1.25 qt/a	B	100 a	99 a
DURANGO DMA	1 qt/a	B		
AATREX	0.5 qt/a	B		
N-PAK - AMS	2.5 % v/v	B		

# Purdue Weed Science

## Acuron Programs for Control of Glyphosate-Resistant Palmer amaranth

Trial ID: 16S-MED-CORN-04	Location: Medaryville	Trial Year: 2016
Protocol ID: 16S-MED-CORN-04	Investigator: Dr. Bill Johnson	
Project ID: EHLCOR3-2016	Study Director: Joe Ikley	
	Sponsor Contact: Syngenta/Dow	

Pest Type	W Weed	W Weed
Pest Code	AMAPA	AMAPA
Pest Name	Carelessweed	Carelessweed
Crop Code		
Crop Name		
Part Rated	PLOT P	PLOT P
Rating Date	Jun-27-2016	Jul-12-2016
Rating Type	CONTRO	CONTRO
Rating Unit	%	%
Number of Subsamples	1	1
Days After First/Last Applic.	39 14	54 29
Trt-Eval Interval	14 DA-C	29 DA-C
Days After Emergence	31 DE-1	46 DE-1
ARM Action Codes	P	P
Number of Decimals	0	0
Trt Treatment		
No. Name	Rate Unit Appl Code	
10 RESICORE	2.5 qt/a A	98 a
AATREX	1 qt/a A	98 a
DURANGO DMA	1 qt/a C	
N-PAK - AMS	2.5 % v/v C	
LSD P=.05	16.0	19.7
Standard Deviation	11.0	13.6
CV	13.13	16.32
Bartlett's X2	38.916	53.431
P(Bartlett's X2)	0.001*	0.001*
Skewness	-2.2468*	-2.2143*
Kurtosis	3.5335*	3.3112*
Replicate F	2.807	2.639
Replicate Prob(F)	0.0586	0.0698
Treatment F	30.963	20.753
Treatment Prob(F)	0.0001	0.0001

## Purdue Weed Science

### Acuron Programs for Control of Glyphosate-Resistant Palmer amaranth

Trial ID: 16S-MED-CORN-04      Location: Medaryville      Trial Year: 2016  
Protocol ID: 16S-MED-CORN-04      Investigator: Dr. Bill Johnson  
Project ID: EHLCOR3-2016      Study Director: Joe Ikley  
Sponsor Contact: Syngenta/Dow

#### Pest Type

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

#### Pest Code

AMAPA, Amaranthus palmeri, = 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

#### Rating Unit

% = percent

#### ARM Action Codes

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