

# Purdue University

## Weed control programs with Prequel.

Trial ID: 12S-THP-CTC-07      Protocol ID: 12S-THP-CTC-07  
 Location: Throckmorton      Study Director: White/Marquardt  
 Project ID: USA-12-011      Investigator: Dr. Bill Johnson  
 Sponsor Contact: DuPont - Helen Flanigan

### General Trial Information

**Study Director:** White/Marquardt      **Title:** Research Associate  
**Investigator:** Dr. Bill Johnson      **Title:** Professor

**Discipline:** H herbicide  
**Trial Status:** E established  
**Initiation Date:** 3-16-2012

### Trial Location

**City:** Lafayette  
**State/Prov.:** IN  
**Postal Code:** 47909  
**Country:** USA

### Personnel

**Study Director:** White/Marquardt      **Title:** Research Associate  
**Affiliation:** Purdue University  
**Address:** 915 W State Street  
**Location:** West Lafayette, IN, USA  
**Postal Code:** 47907      **E-mail:** mdwhite@purdue.edu  
**Phone No.:** 765-494-0891  
**Investigator:** Dr. Bill Johnson      **Title:** Professor  
**Affiliation:** Purdue University  
**Address:** 915 W State Street  
**Location:** West Lafayette, IN, USA  
**Postal Code:** 47907      **E-mail:** wgj@purdue.edu  
**Phone No.:** 765-494-4656      **Mobile No.:** 765-404-9801

### Cooperator/Landowner

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

### Crop Description

**Crop 1:** ZEAMD Zea mays indentata Dent corn  
**Variety:** Beck's 6175      **Description:** HXX, LL, RR2  
**BBCH Scale:** BCOR      **Planting Date:** 4-18-2012  
**Planting Method:** PLANTD planted      **Rate, Unit:** 32000 S/A  
**Depth, Unit:** 1.5 IN  
**Row Spacing, Unit:** 30 IN  
**Soil Moisture:** DRY dry      **Soil Temperature, Unit:** 68 F  
**Emergence Date:** 5-2-2012

### Pest Description

**Pest 1 Type:** W      **Code:** AMBTR Ambrosia trifida  
**Common Name:** Giant ragweed  
**Pest 2 Type:** W      **Code:** SETFA Setaria faberi  
**Common Name:** Giant foxtail  
**Pest 3 Type:** W      **Code:** CHEAL Chenopodium album  
**Common Name:** Common lambsquarters

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Site and Design	
<b>Plot Width, Unit:</b> 10 FT <b>Plot Length, Unit:</b> 30 FT <b>Plot Area, Unit:</b> 300 FT2 <b>Replications:</b> 4	<b>Site Type:</b> FIELD field <b>Experimental Unit:</b> 1 PLOT plot <b>Tillage Type:</b> CONTIL conventional-till <b>Study Design:</b> RACOBL Randomized Complete Block (RCB) <b>Untreated Arrangement:</b> INCLUDED single control randomized in each block

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

Application Description		
	A	B
<b>Application Date:</b>	4-18-2012	5-22-2012
<b>Time of Day:</b>		8:30
<b>Application Method:</b>	SPRAY	SPRAY
<b>Application Timing:</b>	ATPLAN	POSPOS
<b>Application Placement:</b>	SOIL	FOLIAR
<b>Applied By:</b>	MW	MW
<b>Air Temperature, Unit:</b>	72 F	63 F
<b>% Relative Humidity:</b>	39	54
<b>Wind Velocity, Unit:</b>	9 MPH	7 MPH
<b>Wind Direction:</b>	E	E
<b>Dew Presence (Y/N):</b>	N no	N no
<b>Soil Temperature, Unit:</b>	68 F	69 F
<b>Soil Moisture:</b>	DRY	DRY
<b>% Cloud Cover:</b>	10	5

Crop Stage At Each Application		
	A	B
<b>Crop 1 Code, BBCH Scale:</b>	ZEAMD BCOR	ZEAMD BCOR
<b>Stage Scale Used:</b>		BBCH
<b>Stage Majority, Percent:</b>		V3

Pest Stage At Each Application		
	A	B
<b>Pest 1 Code, Type, Scale:</b>	AMBTR W	AMBTR W
<b>Height, Unit:</b>		4.5 IN
<b>Height Minimum, Maximum:</b>		2 7
<b>Density, Unit:</b>		4 YD2
<b>Pest 2 Code, Type, Scale:</b>	SETFA W	SETFA W
<b>Height, Unit:</b>		2.75 IN
<b>Height Minimum, Maximum:</b>		1 4.5
<b>Density, Unit:</b>		60 YD2
<b>Pest 3 Code, Type, Scale:</b>	CHEAL W	CHEAL W
<b>Height, Unit:</b>		2.5 IN
<b>Height Minimum, Maximum:</b>		1 4
<b>Density, Unit:</b>		30 YD2

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## Application Equipment

	A	B
<b>Appl. Equipment:</b>	CO2 FORD	CO2 FORD
<b>Equipment Type:</b>	SPTRMO	SPTRMO
<b>Nozzle Type:</b>	FLAT FAN	FLAT FAN
<b>Nozzle Size:</b>	XR 100 02	XR 100 02
<b>Nozzle Spacing, Unit:</b>	20 IN	20 IN
<b>Nozzles/Row:</b>	6	6
<b>Boom Length, Unit:</b>	10 FT	10 FT
<b>Boom Height, Unit:</b>	20 IN	20 IN
<b>Ground Speed, Unit:</b>	2.1 MPH	2.1 MPH
<b>Carrier:</b>	MEIGS	MEIGS
<b>Spray Volume, Unit:</b>	20 gal/ac	20 gal/ac
<b>Mix Size, Unit:</b>	2.5 liters	2.5 liters
<b>Propellant:</b>	CO2	CO2

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Trial ID: 12S-THP-CTC-07      Protocol ID: 12S-THP-CTC-07  
 Location: Throckmorton      Study Director: White/Marquardt  
 Project ID: USA-12-011      Investigator: Dr. Bill Johnson  
 Sponsor Contact: DuPont - Helen Flanigan

Pest Type	W Weed SETFA	W Weed AMBTR	W Weed CHEAL		W Weed AMBTR	W Weed SETFA	W Weed CHEAL		
Pest Code	Setaria faberi	Ambrosia trifi>	Chenopodium al>		Ambrosia trifi>	Setaria faberi	Chenopodium al>		
Pest Scientific Name	Giant foxtail	Giant ragweed	Common lambsqu>		Giant ragweed	Giant foxtail	Common lambsqu>		
Pest Name									
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR	
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	
Crop Name	Corn	Corn	Corn	Corn	Corn	Corn	Corn	Corn	
Rating Date	5-8-2012	5-8-2012	5-8-2012	5-8-2012	5-16-2012	5-16-2012	5-16-2012	5-16-2012	
Rating Type	CONTRO	CONTRO	CONTRO	PHYLCU	CONTRO	CONTRO	CONTRO	PHYGEN	
Rating Unit	%	%	%	%	%	%	%	%	
Number of Subsamples	1	1	1	1	1	1	1	1	
Crop Stage Majority	V1	V1	V1	V1	V3	V3	V3	V3	
Pest Stage Majority	.5 IN	2 IN	.5 IN		1-10 IN	1-4 IN	1-4 IN		
Pest Density, Unit	10 FT2	1 FT2	10 FT2		25 M2	50 M2	10 M2		
Assessed By	MW	MW	MW	MW	PM/GC	PM/GC	PM/GC	PM/GC	
Days After First/Last Applic.	20 20	20 20	20 20	20 20	28 28	28 28	28 28	28 28	
Plant-Eval Interval	20 DP-1	20 DP-1	20 DP-1	20 DP-1	28 DP-1	28 DP-1	28 DP-1	28 DP-1	
Days After Emergence	6 DE-1	6 DE-1	6 DE-1	6 DE-1	14 DE-1	14 DE-1	14 DE-1	14 DE-1	
Trt Treatment									
No. Name	1	2	3	4	5	6	7	8	
1 Untreated Check	0.0 c	0.0 b	0.0 b	0.0 a	0.0 b	0.0 b	0.0 b	0.0 a	
2 Resolve (25 SG) Isoxaflutole (75 SG) Breakfree ATZ (5.25 SC)	0.3 oz ai/a A 0.6 oz ai/a A 1.97 lb ai/a A	96.8 a	96.0 a	99.0 a	1.3 a	92.8 a	100.0 a	100.0 a	0.3 a
3 Resolve (25 SG) Isoxaflutole (75 SG) Breakfree ATZ (5.25 SC)	0.25 oz ai/a A 0.5 oz ai/a A 2.62 lb ai/a A	98.5 a	94.0 a	99.0 a	1.5 a	91.0 a	100.0 a	100.0 a	0.3 a
4 Resolve (25 SG) Isoxaflutole (75 SG) Cinch ATZ (5.5 SC)	0.25 oz ai/a A 0.5 oz ai/a A 2.75 lb ai/a A	99.0 a	91.3 a	99.0 a	1.3 a	85.0 a	100.0 a	100.0 a	0.0 a
5 Resolve (25 SG) Isoxaflutole (75 SG) Atrazine Resolve (25 SG) Mesotrione (50 WG) Isoxadifen (50 WG) Abundit (3 SL) AMS - Liquid	0.25 oz ai/a A 0.5 oz ai/a A 1 lb ai/a A 0.3 oz ai/a B 1.25 oz ai/a B 0.15 oz ai/a B 0.75 lb ae/a B 3 lb ai/a B	93.8 ab	85.5 a	99.0 a	1.5 a	80.8 a	93.8 a	100.0 a	0.0 a
6 Corvus (2.63 SC)	1.84 oz ai/a A	90.0 b	82.5 a	99.0 a	2.5 a	86.3 a	97.5 a	100.0 a	0.3 a
7 Corvus (2.63 SC) Atrazine	1.84 oz ai/a A 1 lb ai/a A	97.0 a	88.0 a	99.0 a	0.8 a	84.5 a	94.5 a	100.0 a	0.0 a
8 Lexar (3.7 SC)	3.24 lb ai/a A	98.5 a	88.8 a	99.0 a	0.0 a	86.3 a	100.0 a	100.0 a	0.0 a
LSD (P=.05)	4.82	14.18	0.00	2.71	12.93	6.36	0.00	0.44	
Standard Deviation	3.28	9.64	0.00	1.84	8.79	4.32	0.00	0.30	
CV	3.89	12.32	0.0	168.59	11.59	5.04	0.0	321.37	
Bartlett's X2	14.974	19.04	0.0	1.878	5.965	1.195	0.0	0.0	
P(Bartlett's X2)	0.01*	0.004*	.	0.866	0.427	0.55	.	.	
Replicate F	0.811	0.503	0.000	1.553	0.803	2.403	0.000	1.262	
Replicate Prob(F)	0.5018	0.6842	1.0000	0.2304	0.5060	0.0963	1.0000	0.3128	
Treatment F	434.681	43.856	0.000	0.818	49.330	258.385	0.000	0.738	
Treatment Prob(F)	0.0001	0.0001	1.0000	0.5830	0.0001	0.0001	1.0000	0.6430	

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Pest Type	W Weed	W Weed	W Weed
Pest Code	SETFA	AMBTR	CHEAL
Pest Scientific Name	Setaria faberi	Ambrosia trifi>	Chenopodium ai>
Pest Name	Giant foxtail	Giant ragweed	Common lambsqu>
Crop Code	ZEAMX	ZEAMX	ZEAMX
BBCH Scale	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays	Zea mays	Zea mays
Crop Name	Corn	Corn	Corn
Rating Date	6-11-2012	6-11-2012	6-11-2012
Rating Type	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%
Number of Subsamples	1	1	1
Crop Stage Majority	V8-V9	V8-V9	V8-V9
Pest Stage Majority	4-24 IN	6-36 IN	
Pest Density, Unit	30 M2	28 M2	3 M2
Assessed By	JR	JR	JR
Days After First/Last Applic.	54 20	54 20	54 20
Plant-Eval Interval	54 DP-1	54 DP-1	54 DP-1
Days After Emergence	40 DE-1	40 DE-1	40 DE-1
Trt No.	Treatment	Rate	Appl
	Name	Rate Unit	Code
1	Untreated Check	0.0 e	10
2	Resolve (25 SG) Isoxaflutole (75 SG) Breakfree ATZ (5.25 SC)	0.3 oz ai/a A 0.6 oz ai/a A 1.97 lb ai/a A	9
3	Resolve (25 SG) Isoxaflutole (75 SG) Breakfree ATZ (5.25 SC)	0.25 oz ai/a A 0.5 oz ai/a A 2.62 lb ai/a A	10
4	Resolve (25 SG) Isoxaflutole (75 SG) Cinch ATZ (5.5 SC)	0.25 oz ai/a A 0.5 oz ai/a A 2.75 lb ai/a A	11
5	Resolve (25 SG) Isoxaflutole (75 SG) Atrazine Resolve (25 SG) Mesotrione (50 WG) Isoxadifen (50 WG) Abundit (3 SL) AMS - Liquid	0.25 oz ai/a A 0.5 oz ai/a A 1 lb ai/a A 0.3 oz ai/a B 1.25 oz ai/a B 0.15 oz ai/a B 0.75 lb ae/a B 3 lb ai/a B	
6	Corvus (2.63 SC)	1.84 oz ai/a A	
7	Corvus (2.63 SC) Atrazine	1.84 oz ai/a A 1 lb ai/a A	
8	Lexar (3.7 SC)	3.24 lb ai/a A	
LSD (P=.05)	15.57	21.26	3.90
Standard Deviation	10.59	14.46	2.65
CV	15.52	22.23	3.05
Bartlett's X2	18.653	8.972	0.0
P(Bartlett's X2)	0.005*	0.175	.
Replicate F	1.786	0.166	1.000
Replicate Prob(F)	0.1807	0.9181	0.4123
Treatment F	34.130	15.751	704.492
Treatment Prob(F)	0.0001	0.0001	0.0001

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Sponsor Contact: DuPont - Helen Flanigan

### Pest Type

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

### Pest Code

SETFA, Setaria faberi, = US

AMBTR, Ambrosia trifida, = US

CHEAL, Chenopodium album, = US

### Crop Code

ZEAMX, BCOR, Zea mays, = US

### Rating Type

CONTRO = control / burndown or knockdown

PHYLCU = phytotoxicity - leaf curl

PHYGEN = phytotoxicity - general / injury

### Rating Unit

% = percent

FT2 = per square foot

M2 = per square meter

### Plant-Eval Interval

20 DP-1 = 1 ZEAMD 4-18-2012

28 DP-1 = 1 ZEAMD 4-18-2012

54 DP-1 = 1 ZEAMD 4-18-2012