

# Purdue University

## Zidua Effectiveness in a One-pass System for Corn.

Trial ID: 11S-THP-CTC-10 Protocol ID: 11S-THP-CTC-110  
 Location: Throckmorton Study Director: White/Marquardt  
 Project ID: Investigator: Dr. Bill Johnson  
 Sponsor Contact: BASF- Gery Welker

### General Trial Information

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

**Discipline:** H herbicide  
**Trial Status:** Established  
**Initiation Date:** 4-8-2011

### 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:** wgi@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

**Phone No.:** 765-538-3422  
**Fax No.:** 765-538-3423

**City:** Lafayette  
**State/Prov.:** IN  
**Postal Code:** 47909 **E-mail:** jayyoung@purdue.edu  
**Country:** USA United States

### Crop Description

**Crop 1:** ZEAMD Zea mays indentata Dent corn

**Variety:** Pioneer 33W84  
**BBCH Scale:** BCOR

**Description:** HXX LL RR2  
**Planting Date:** 5-12-2011

**Planting Method:** PLANTD planted  
**Depth, Unit:** 1.5 IN

**Rate, Unit:** 34000 S/A

**Row Spacing, Unit:** 30 IN

**Soil Moisture:** SLIWET slightly wet  
**Soil Temperature, Unit:** 70.5 F  
**Emergence Date:** 5-22-2011

### Site and Design

**Plot Width, Unit:** 10 FT

**Site Type:** FIELD field

**Plot Length, Unit:** 30 FT  
**Plot Area, Unit:** 300 FT<sup>2</sup>

**Experimental Unit:** 1 PLOT plot  
**Tillage type:** CONTIL conventional-till

**Replications:** 4

**Study Design:** RACOB Randomized Complete Block (RCB)  
**Untreated Arrangement:** INCLUDED single control randomized in each block

### Soil Description

**Description Name:** TPAC - Field 4B

**% OM:** 2.9 **Texture:** SIL silt loam  
**pH:** 6.2 **Soil Name:** Toronto-Millbrook  
**CEC:** 13.3

# Purdue University

## Application Description

	A
Application Date:	5-12-2011
Application Method:	SPRAY
Application Timing:	ATPLAN
Application Placement:	FOLIAR
Applied By:	RT
Air Temperature, Unit:	79 F
% Relative Humidity:	43
Wind Velocity, Unit:	9.5 MPH
Dew Presence (Y/N):	N no
Soil Temperature, Unit:	70.5 F
Soil Moisture:	SLIWET
% Cloud Cover:	40

## Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	ZEAMD BCOR

## Application Equipment

	A
Appl. Equipment:	CO2 BKPK
Equipment Type:	SPRBAC
Operation Pressure, Unit:	17 PSI
Nozzle Type:	FLAT FAN
Nozzle Size:	XR 110 02
Nozzle Spacing, Unit:	15 IN
Nozzles/Row:	8
Boom Length, Unit:	10 FT
Boom Height, Unit:	18 IN
Ground Speed, Unit:	3 MPH
Carrier:	H2O
Water Hardness (ppm CaCO3):	150
Spray Volume, Unit:	15 gal/ac
Mix Size, Unit:	1.8 liters
Propellant:	C02
Tank Mix (Y/N):	N no

# Purdue University

## Zidua Effectiveness in a One-pass System for Corn.

Trial ID: 11S-THP-CTC-10      Protocol ID: 11S-THP-CTC-110  
 Location: Throckmorton      Study Director: White/Marquardt  
 Project ID:                      Investigator: Dr. Bill Johnson  
 Sponsor Contact: BASF- Gery Welker

Pest Type			W Weed AMBTR	W Weed SETFA	W Weed AMBTR	W Weed SETFA	W Weed SETFA	W Weed AMBTR		
Pest Code			Ambrosia trifi>	Setaria faberi	Ambrosia trifi>	Setaria faberi	Setaria faberi	Ambrosia trifi>		
Pest Scientific Name			Giant ragweed ZEAMX	Giant foxtail ZEAMX	Giant ragweed ZEAMX	Giant foxtail ZEAMX	Giant foxtail ZEAMX	Giant ragweed ZEAMX		
Pest Name	ZEAMX	ZEAMX	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR		
Crop Code	BCOR	BCOR	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays		
BBCH Scale			Corn	Corn	Corn	Corn	Corn	Corn		
Crop Scientific Name	Corn	Corn	5 IN	5 IN	5 IN	5 IN	5 IN	5 IN		
Crop Name	5 IN	5 IN	5 IN	5 IN	5 IN	5 IN	5 IN	5 IN		
Description	5 IN	5 IN	5 IN	5 IN	5 IN	5 IN	5 IN	5 IN		
Rating Date	5-31-2011	6-9-2011	6-9-2011	6-9-2011	6-21-2011	6-21-2011	7-18-2011	7-18-2011		
Rating Type	PHYNLS	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO		
Rating Unit	%	%	%	%	%	%	%	%		
Number of Subsamples	1	1	1	1	1	1	1	1		
Crop Stage Majority	V2	V5	V5	V5	V7	V7	V7	V7		
Pest Stage Majority			1-12 IN	1-8 IN	6-40 IN	2-15 IN	36 IN	84 IN		
Pest Density, Unit			20 YD2	30 YD2	AR	AR	40 YD2	10 YD2		
Assessed By	AR/CB		AR/CB	AR/CB	AR	AR	MW	MW		
Days After First/Last Applic.	19 19	28 28	28 28	28 28	40 40	40 40	67 67	67 67		
Trt-Eval Interval	19 DA-A	28 DA-A	28 DA-A	28 DA-A	40 DA-A	40 DA-A	67 DA-A	67 DA-A		
Plant-Eval Interval	19 DP-1	28 DP-1	28 DP-1	28 DP-1	40 DP-1	40 DP-1	67 DP-1	67 DP-1		
Days After Emergence	9 DE-1	18 DE-1	18 DE-1	18 DE-1	30 DE-1	30 DE-1	57 DE-1	57 DE-1		
Trt Treatment	Rate	Appl								
No. Name	Rate	Unit Code	1	2	3	4	5	6	7	8
1 Untreated Check			1.5 b	0.0 a	0.0 d	0.0 b	0.0 c	0.0 c	0.0 b	0.0 d
2 Zidua (85 WG) Atrazine	0.133 lb ai/a A 1.25 lb ai/a A		1.5 b	0.0 a	57.5 c	100.0 a	53.8 b	98.8 a	98.0 a	57.5 bc
3 Zidua (85 WG) Atrazine Sharpen 2.85 SC	0.133 lb ai/a A 1.25 lb ai/a A 0.0557 lb ai/a A		5.8 b	0.0 a	85.3 a	100.0 a	75.0 ab	97.8 a	96.5 a	75.0 ab
4 Zidua (85 WG) Atrazine Verdict (5.57 SC)	0.106 lb ai/a A 1.25 lb ai/a A 0.566 lb ai/a A		11.3 a	0.0 a	90.3 a	100.0 a	81.3 a	97.5 a	92.3 a	85.0 a
5 Lexar (3.7 SC)	2.78 lb ai/a A		3.3 b	0.0 a	79.5 ab	99.8 a	73.8 ab	83.8 b	94.3 a	72.5 ab
6 Bicep II Magnum (5.5 SC)	3.44 lb ai/a A		6.3 b	0.0 a	63.3 bc	100.0 a	62.5 ab	98.3 a	98.0 a	47.5 c
7 Corvus (2.63 SC) Atrazine	0.115 lb ai/a A 1.25 lb ai/a A		2.5 b	0.0 a	91.5 a	97.0 a	85.0 a	88.8 b	92.5 a	93.8 a
LSD (P=.05)	4.46	0.00	17.70	2.04	18.10	6.55	5.97	17.78		
Standard Deviation	3.00	0.00	11.91	1.38	12.18	4.41	4.02	11.96		
CV	65.68	0.0	17.85	1.61	19.77	5.46	4.92	19.42		
Bartlett's X2	4.315	0.0	12.114	7.554	24.255	9.911	16.581	14.454		
P(Bartlett's X2)	0.634	.	0.033*	0.006*	0.001*	0.078	0.005*	0.013*		
Replicate F	1.025	0.000	1.539	0.824	1.257	1.903	0.675	0.505		
Replicate Prob(F)	0.4051	1.0000	0.2386	0.4977	0.3187	0.1652	0.5785	0.6836		
Treatment F	5.451	0.000	29.239	2988.824	22.989	267.364	322.329	27.428		
Treatment Prob(F)	0.0023	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001		

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.

# Purdue University

Pest Type	W Weed	W Weed		
Pest Code	ABUTH	IPOHE		
Pest Scientific Name	Abutilon theop>	Ipomoea heder>		
Pest Name	Velvetleaf	Ivyleaf mornin>		
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX
BBCH Scale	BCOR	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays
Crop Name	Corn	Corn	Corn	Corn
Description				
Rating Date	7-18-2011	7-18-2011	10-3-2011	10-3-2011
Rating Type	CONTRO	CONTRO	MOICON	YIELD
Rating Unit	%	%	%	bu/ac
Number of Subsamples	1	1	1	1
Crop Stage Majority				
Pest Stage Majority	36 IN			
Pest Density, Unit	3 YD2			
Assessed By	MW	MW		
Days After First/Last Applic.	67 67	67 67	144 144	144 144
Trt-Eval Interval	67 DA-A	67 DA-A	144 DA-A	144 DA-A
Plant-Eval Interval	67 DP-1	67 DP-1	144 DP-1	144 DP-1
Days After Emergence	57 DE-1	57 DE-1	134 DE-1	134 DE-1
Trt Treatment	Rate Appl			
No. Name	Rate Unit Code	9	10	11
1 Untreated Check		0.0 b	0.0 b	22.683 a
2 Zidua (85 WG)	0.133 lb ai/a A	99.0 a	99.0 a	23.155 a
Atrazine	1.25 lb ai/a A			118.53 a
3 Zidua (85 WG)	0.133 lb ai/a A	98.5 a	99.0 a	22.768 a
Atrazine	1.25 lb ai/a A			144.23 a
Sharpen 2.85 SC	0.0557 lb ai/a A			
4 Zidua (85 WG)	0.106 lb ai/a A	99.0 a	99.0 a	22.905 a
Atrazine	1.25 lb ai/a A			149.85 a
Verdict (5.57 SC)	0.566 lb ai/a A			
5 Lexar (3.7 SC)	2.78 lb ai/a A	98.5 a	96.3 a	21.925 a
6 Bicep II Magnum (5.5 SC)	3.44 lb ai/a A	98.5 a	98.0 a	22.578 a
7 Corvus (2.63 SC)	0.115 lb ai/a A	99.0 a	98.0 a	21.845 a
Atrazine	1.25 lb ai/a A			174.15 a
LSD (P=.05)		1.03	2.82	1.9460
Standard Deviation		0.69	1.90	1.3043
CV		0.82	2.25	5.78
Bartlett's X2		0.0	2.39	12.864
P(Bartlett's X2)		.	0.303	0.045*
Replicate F		0.300	1.309	1.159
Replicate Prob(F)		0.8250	0.3021	0.3541
Treatment F		11702.402	1535.732	0.567
Treatment Prob(F)		0.0001	0.0001	0.7512

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.

# Purdue University

## Zidua Effectiveness in a One-pass System for Corn.

Trial ID: 11S-THP-CTC-10

Protocol ID: 11S-THP-CTC-110

Location: Throckmorton  
Project ID:Study Director: White/Marquardt  
Investigator: Dr. Bill Johnson

Sponsor Contact: BASF- Gery Welker

### Pest Type

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

### Pest Code

AMBTR, Ambrosia trifida, = US

SETFA, Setaria faberi, = US

ABUTH, Abutilon theophrasti, = US

IPOHE, Ipomoea hederacea, = US

### Crop Code

ZEAMX, BCOR, Zea mays, = US

### Rating Type

PHYNLS = phytotoxicity - necrosis, leaf spot

PHYGEN = phytotoxicity - general / injury

CONTRO = control / burndown or knockdown

MOICON = moisture content

YIELD = yield

### Rating Unit

% = percent

bu/ac = bushels per acre

YD2 = per square yard

### Plant-Eval Interval

19 DP-1 = 1 ZEAMD 5-12-2011

28 DP-1 = 1 ZEAMD 5-12-2011

40 DP-1 = 1 ZEAMD 5-12-2011

67 DP-1 = 1 ZEAMD 5-12-2011

144 DP-1 = 1 ZEAMD 5-12-2011