

# Purdue University

## Ignite and Roundup Efficacy in Corn

Trial ID: 09S-THP-CTC-02      Protocol ID: 09S-THP-CTC-02  
 Location: Throckmorton      Study Director: Paul Marquardt/Melissa Kruger  
 Project ID:      Investigator: Dr. Bill Johnson  
 Sponsor Contact: Dave Lamore

### General Trial Information

**Study Director:** Paul Marquardt/Melissa Kruger      **Title:** Research Associate  
**Investigator:** Dr. Bill Johnson      **Title:** Professor

**Discipline:** H herbicide  
**Trial Status:** F one-year/final  
**Initiation Date:** 5/22/09      **Planned Completion Date:** 7/6/09

### Trial Location

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

### Objectives:

Ignite and Roundup Efficacy in Corn

### Personnel

**Study Director:** Paul Marquardt/Melissa Kruger      **Title:** Research Associate  
**Affiliation:** Purdue University  
**Address:** 915 W. State Street, Department of Botany & Plant Path.  
**Location:** West Lafayette, IN  
**Postal Code:** 47907      **E-mail:** pmarquar@purdue.edu  
**Phone No.:** 765-494-4621  
**Investigator:** Dr. Bill Johnson      **Title:** Professor  
**Affiliation:** Purdue University  
**Address:** 915 W. State Street, Department of Botany & Plant Path.  
**Location:** West Lafayette, IN  
**Postal Code:** 47907

### Cooperator/Landowner

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

### Crop Description

**Crop 1:** ZEAMX Zea mays      Corn  
**Variety:** Pioneer 33W84  
**BBCH Scale:** BCOR  
**Planting Method:** DIRDRI direct drilled  
**Depth, Unit:** 2 in  
**Row Spacing, Unit:** 30 in      **Spacing Within Row, Unit:** 6 in  
**Seed Bed:** MEDIUM medium      **Soil Temperature, Unit:** 72 F  
**Soil Moisture:** NORMAL normal      **Emergence Date:** 5/27/09  
**Description:** Roundup Ready/Liberty Link  
**Planting Date:** 5/22/09  
**Rate, Unit:** 32000 S/A

### 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:** AMARE Amaranthus retroflexus  
**Common Name:** Redroot pigweed

**Pest 4 Type:** W      **Code:** IPOHE Ipomoea hederacea  
**Common Name:** Ivyleaf morningglory

**Pest 5 Type:** W      **Code:** ABUTH Abutilon theophrasti  
**Common Name:** Velvetleaf

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## Site and Design

**Plot Width, Unit:** 10 FT  
**Plot Length, Unit:** 30 FT  
**Plot Area, Unit:** 300 FT<sup>2</sup>  
**Replications:** 4

**Site Type:** FIELD field  
**Experimental Unit:** 1 PLOT plot  
**Tillage Type:** CONTIL conventional-till  
**Study Design:** RACOB� Randomized Complete Block (RCB)

## Field Prep./Maintenance:

Field cultivation and disc 2 days prior to planting

## Soil Description

**Description Name:** Silty Loam  
**% OM:** 3.1  
**pH:** 6  
**CEC:** 11.1

**Texture:** SIL silt loam  
**Soil Name:** Tornonto-Millbrook

## Application Description

	A
<b>Application Date:</b>	6/15/09
<b>Time of Day:</b>	9:20 AM
<b>Application Method:</b>	SPRAY
<b>Application Timing:</b>	LAPOWE
<b>Application Placement:</b>	BANT
<b>Applied By:</b>	AR
<b>Air Temperature, Unit:</b>	71 F
<b>% Relative Humidity:</b>	68
<b>Wind Velocity, Unit:</b>	5.2 MPH
<b>Wind Direction:</b>	SW
<b>Dew Presence (Y/N):</b>	N no
<b>Soil Temperature, Unit:</b>	62 F
<b>Soil Moisture:</b>	ABONOR
<b>% Cloud Cover:</b>	80
<b>Next Rain Occurred On:</b>	6/16/09

## Crop Stage At Each Application

	A
<b>Crop 1 Code, BBCH Scale:</b>	ZEAMX BCOR
<b>Stage Scale Used:</b>	BBCH
<b>Stage Majority, Percent:</b>	V4 90
<b>Stage Minimum, Percent:</b>	V3 10
<b>Stage Maximum, Percent:</b>	V4 90
<b>Height, Unit:</b>	15 IN
<b>Height Minimum, Maximum:</b>	10 18
<b>Plant Foliage Height, Unit:</b>	10 IN

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Pest Stage At Each Application	
	A
<b>Pest 1 Code, Type, Scale:</b>	AMBTR W
<b>Stage Majority, Percent:</b>	33 50
<b>Stage Minimum, Percent:</b>	10 20
<b>Stage Maximum, Percent:</b>	35 30
<b>Height, Unit:</b>	10 IN
<b>Height Minimum, Maximum:</b>	1 10
<b>Density, Unit:</b>	50 YD2
<b>Pest 2 Code, Type, Scale:</b>	SETFA W
<b>Stage Majority, Percent:</b>	12 50
<b>Stage Minimum, Percent:</b>	14 50
<b>Stage Maximum, Percent:</b>	14 50
<b>Height, Unit:</b>	5 IN
<b>Height Minimum, Maximum:</b>	2 8
<b>Density, Unit:</b>	30 YD2
<b>Pest 3 Code, Type, Scale:</b>	AMARE W
<b>Stage Majority, Percent:</b>	15 50
<b>Stage Minimum, Percent:</b>	10 50
<b>Stage Maximum, Percent:</b>	15 50
<b>Height, Unit:</b>	3 IN
<b>Height Minimum, Maximum:</b>	1 3
<b>Density, Unit:</b>	25 YD2
<b>Pest 4 Code, Type, Scale:</b>	IPOHE W
<b>Stage Majority, Percent:</b>	10 50
<b>Stage Minimum, Percent:</b>	10 50
<b>Stage Maximum, Percent:</b>	11 50
<b>Height, Unit:</b>	1.5 IN
<b>Height Minimum, Maximum:</b>	1 3
<b>Density, Unit:</b>	1.5 YD2
<b>Pest 5 Code, Type, Scale:</b>	ABUTH W
<b>Stage Majority, Percent:</b>	12 50
<b>Stage Minimum, Percent:</b>	11 20
<b>Stage Maximum, Percent:</b>	14 30
<b>Height, Unit:</b>	2.5 IN
<b>Height Minimum, Maximum:</b>	2 5
<b>Density, Unit:</b>	1.5 YD2

Application Equipment	
	A
<b>Appl. Equipment:</b>	CO2 BACKPACK
<b>Equipment Type:</b>	SPRBAC
<b>Operating Pressure, Unit:</b>	17 psi
<b>Nozzle Type:</b>	FLAT FAN
<b>Nozzle Size:</b>	XR11002
<b>Nozzle Spacing, Unit:</b>	15 IN
<b>Nozzles/Row:</b>	6
<b>Boom Length, Unit:</b>	7.5 FT
<b>Boom Height, Unit:</b>	18 IN
<b>Ground Speed, Unit:</b>	3 MPH
<b>Carrier:</b>	H2O
<b>Water Hardness (ppm CaCO3):</b>	150
<b>Spray Volume, Unit:</b>	15 gal/ac
<b>Mix Size, Unit:</b>	1.8 liters
<b>Propellant:</b>	CO2
<b>Tank Mix (Y/N):</b>	N no

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 Project ID:      Investigator: Dr. Bill Johnson  
 Sponsor Contact: Dave Lamore

Pest Type			W Weed AMBTR	W Weed SETFA	W Weed ABUTH	W Weed AMASS		
Pest Code			Ambrosia trifi>	Setaria faberi	Abutilon theop>	Amaranthus sp.		
Pest Scientific Name								
Pest Name			Giant ragweed	Giant foxtail	Velvetleaf	Amaranth		
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMA		
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR		
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays amyla>		
Crop Name	Corn	Corn	Corn	Corn	Corn	Flour corn		
Crop Variety	P33W84	P33W84	P33W84	P33W84	P33W84	P33W84		
Part Rated	PLANT C	PLANT C	PLANT P	PLANT P	PLANT P	PLANT P		
Rating Date	6/23/09	6/29/09	6/29/09	6/29/09	6/29/09	6/29/09		
Rating Type	PHYGEN	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO		
Rating Unit	percent	percent	percent	percent	percent	percent		
Number of Subsamples	1	1	1	1	1	1		
Crop Stage Majority	V5	V6-V7	V6-V7	V6-V7	V6-V7	V6-V7		
Crop Stage Scale	12-30"	40-50"	40-50"	40-50"	40-50"	40-50"		
Pest Stage Majority			4-48"	6-18"	1-18"	0-12"		
Pest Density, Unit			27.5YD2	27.5YD2	9.5 YD2	6 YD2		
Assessed By	MK	MK	MK	MK	MK	MK		
Days After First/Last Applic.	8 8	14 14	14 14	14 14	14 14	14 14		
Trt-Eval Interval	8 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A		
Plant-Eval Interval	32 DP-1	38 DP-1	38 DP-1	38 DP-1	38 DP-1	38 DP-1		
Days After Emergence	27 DE-	33 DE-	33 DE-	33 DE-	33 DE-	33 DE-		
Trt Treatment	Rate	Appl						
No. Name	Rate Unit	Code	1	2	3	4	5	6
1 UNTREATED			0.0 a	0.0 a	0.0 b	0.0 d	0.0 b	0.0 b
2 Ignite 280 Ammonium Sulfate	450 g ai/ha A 1680 g ai/ha A		0.0 a	0.8 a	93.0 a	91.0 c	95.5 a	93.0 a
3 Touchdown HiTech Ammonium Sulfate	1061 g ai/ha A 1680 g ai/ha A		0.0 a	2.3 a	95.8 a	98.5 ab	99.0 a	99.0 a
4 Ignite 280 Touchdown HiTech Ammonium Sulfate	300 g ai/ha A 750 g ai/ha A 1680 g ai/ha A		0.0 a	2.5 a	91.0 a	98.5 ab	96.3 a	95.3 a
5 Ignite 280 Touchdown HiTech Ammonium Sulfate	300 g ai/ha A 1060 g ai/ha A 1680 g ai/ha A		0.0 a	7.0 a	90.5 a	97.8 ab	98.8 a	98.0 a
6 Ignite 280 Touchdown HiTech Ammonium Sulfate	350 g ai/ha A 250 g ai/ha A 1680 g ai/ha A		0.0 a	3.8 a	93.0 a	98.3 ab	98.5 a	98.3 a
7 Ignite 280 Touchdown HiTech Ammonium Sulfate	350 g ai/ha A 500 g ai/ha A 1680 g ai/ha A		0.0 a	1.5 a	93.3 a	95.3 ab	95.3 a	96.5 a
8 Ignite 280 Touchdown HiTech Ammonium Sulfate	350 g ai/ha A 750 g ai/ha A 1680 g ai/ha A		0.0 a	4.5 a	95.5 a	98.8 ab	98.8 a	98.0 a
9 Ignite 280 Touchdown HiTech Ammonium Sulfate	350 g ai/ha A 1060 g ai/ha A 1680 g ai/ha A		0.0 a	3.3 a	91.3 a	98.0 ab	99.0 a	98.5 a
10 Ignite 280 Touchdown HiTech Ammonium Sulfate	400 g ai/ha A 250 g ai/ha A 1680 g ai/ha A		0.0 a	3.3 a	89.5 a	92.5 bc	93.8 a	94.8 a
11 Ignite 280 Touchdown HiTech Ammonium Sulfate	400 g ai/ha A 500 g ai/ha A 1680 g ai/ha A		0.0 a	6.5 a	94.3 a	96.5 ab	98.0 a	96.5 a
12 Ignite 280 Touchdown HiTech Ammonium Sulfate	400 g ai/ha A 750 g ai/ha A 1680 g ai/ha A		0.0 a	5.8 a	89.8 a	97.8 ab	97.5 a	97.3 a
13 Ignite 280 Touchdown HiTech Ammonium Sulfate	400 g ai/ha A 1060 g ai/ha A 1680 g ai/ha A		0.0 a	5.3 a	93.8 a	98.3 ab	98.5 a	97.3 a

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Pest Type			W Weed AMBTR	W Weed SETFA	W Weed ABUTH	W Weed AMASS				
Pest Code			Ambrosia trifi>	Setaria faberi	Abutilon theop>	Amaranthus sp.				
Pest Scientific Name										
Pest Name			Giant ragweed	Giant foxtail	Velvetleaf	Amaranth				
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMA				
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR				
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays amyla>				
Crop Name	Corn	Corn	Corn	Corn	Corn	Flour corn				
Crop Variety	P33W84	P33W84	P33W84	P33W84	P33W84	P33W84				
Part Rated	PLANT C	PLANT C	PLANT P	PLANT P	PLANT P	PLANT P				
Rating Date	6/23/09	6/29/09	6/29/09	6/29/09	6/29/09	6/29/09				
Rating Type	PHYGEN	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO				
Rating Unit	percent	percent	percent	percent	percent	percent				
Number of Subsamples	1	1	1	1	1	1				
Crop Stage Majority	V5	V6-V7	V6-V7	V6-V7	V6-V7	V6-V7				
Crop Stage Scale	12-30"	40-50"	40-50"	40-50"	40-50"	40-50"				
Pest Stage Majority			4-48"	6-18"	1-18"	0-12"				
Pest Density, Unit			27.5YD2	27.5YD2	9.5 YD2	6 YD2				
Assessed By	MK	MK	MK	MK	MK	MK				
Days After First/Last Applic.	8 8	14 14	14 14	14 14	14 14	14 14				
Trt-Eval Interval	8 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A				
Plant-Eval Interval	32 DP-1	38 DP-1	38 DP-1	38 DP-1	38 DP-1	38 DP-1				
Days After Emergence	27 DE-	33 DE-	33 DE-	33 DE-	33 DE-	33 DE-				
Trt No.	Treatment Name	Rate	Appl Unit	Code	1	2	3	4	5	6
14	Ignite 280	450 g ai/ha	A		0.0 a	4.8 a	93.3 a	97.5 ab	99.0 a	92.8 a
	Touchdown HiTech	250 g ai/ha	A							
	Ammonium Sulfate	1680 g ai/ha	A							
15	Ignite 280	450 g ai/ha	A		0.0 a	4.0 a	96.0 a	98.0 ab	96.8 a	97.3 a
	Touchdown HiTech	500 g ai/ha	A							
	Ammonium Sulfate	1680 g ai/ha	A							
16	Ignite 280	450 g ai/ha	A		0.0 a	3.8 a	95.0 a	98.0 ab	96.8 a	96.0 a
	Touchdown HiTech	750 g ai/ha	A							
	Ammonium Sulfate	1680 g ai/ha	A							
17	Ignite 280	450 g ai/ha	A		0.0 a	3.5 a	93.3 a	98.8 ab	95.8 a	99.0 a
	Touchdown HiTech	1060 g ai/ha	A							
	Ammonium Sulfate	1680 g ai/ha	A							
18	Ignite 280	900 g ai/ha	A		0.0 a	3.5 a	95.0 a	98.3 ab	97.0 a	97.3 a
	Touchdown HiTech	2120 g ai/ha	A							
	Ammonium Sulfate	1680 g ai/ha	A							
19	Ignite 280	450 g ai/ha	A		0.0 a	2.0 a	97.8 a	99.0 a	99.8 a	100.0 a
	Laudis	92 g ai/ha	A							
	Atrazine	1120 g ai/ha	A							
	COC	1 % v/v	A							
20	Touchdown HiTech	1060 g ai/ha	A		0.0 a	6.3 a	98.5 a	99.3 a	99.8 a	100.0 a
	Laudis	92 g ai/ha	A							
	Atrazine	1120 g ai/ha	A							
	COC	1 % v/v	A							
LSD (P=.05)		0.00			4.00	5.20	3.51	3.57	4.03	
Standard Deviation		0.00			2.83	3.68	2.48	2.52	2.85	
CV		0.0			76.48	4.13	2.68	2.72	3.09	
Bartlett's X2		0.0			27.688	45.626	75.059	44.625	39.884	
P(Bartlett's X2)		.			0.067	0.001*	0.001*	0.001*	0.001*	
Replicate F		0.000			1.878	7.756	5.460	0.547	3.329	
Replicate Prob(F)		1.0000			0.1436	0.0002	0.0023	0.6523	0.0258	
Treatment F		0.000			1.783	131.558	310.849	300.521	234.487	
Mean Prob(F)		0.000			0.0681	0.0001	0.0001	0.0001	0.0001	

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

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Pest Type Pest Code Pest Scientific Name	W Weed IPOSS Ipomoea sp.	W Weed CHEAL Chenopodium al>		W Weed AMBTR Ambrosia trifi>	W Weed SETFA Setaria faberi	W Weed ABUTH Abutilon theop>			
Pest Name	Morning glory	Common lambsqu>		Giant ragweed	Giant foxtail	Velvetleaf			
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX			
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR			
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays			
Crop Name	Corn	Corn	Corn	Corn	Corn	Corn			
Crop Variety	P33W84	P33W84	P33W84	P33W84	P33W84	P33W84			
Part Rated	PLANT P	PLANT P							
Rating Date	6/29/09	6/29/09	7/8/09	7/8/09	7/8/09	7/8/09			
Rating Type	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO	CONTRO			
Rating Unit	percent	percent	percent	percent	percent	percent			
Number of Subsamples	1	1	1	1	1	1			
Crop Stage Majority	V6-V7	V6-V7	V9	V9	V9	V9			
Crop Stage Scale	40-50"	40-50"							
Pest Stage Majority	0-15"	0-15"		2-64"	2-18"	2-18"			
Pest Density, Unit	7.5 YD2	7.5 YD2		30 YD2	50 YD2	2.5 YD2			
Assessed By	MK	MK	PM	PM	PM	PM			
Days After First/Last Applic.	14 14	14 14	23 23	23 23	23 23	23 23			
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	23 DA-A	23 DA-A	23 DA-A			
Plant-Eval Interval	38 DP-1	38 DP-1	47 DP-1	47 DP-1	47 DP-1	47 DP-1			
Days After Emergence	33 DE-	33 DE-	42 DE-	42 DE-	42 DE-	42 DE-			
Trt No.	Treatment Name	Rate	Appl Code	7	8	9	10	11	12
1	UNTREATED			0.0 c	0.0 c	0.0 a	0.0 c	0.0 d	0.0 b
2	Ignite 280 Ammonium Sulfate	450 g ai/ha A 1680 g ai/ha A		92.0 b	78.8 a	0.0 a	85.8 ab	85.8 c	85.5 a
3	Touchdown HiTech Ammonium Sulfate	1061 g ai/ha A 1680 g ai/ha A		95.0 ab	22.5 b	0.0 a	90.0 ab	95.0 ab	90.8 a
4	Ignite 280 Touchdown HiTech Ammonium Sulfate	300 g ai/ha A 750 g ai/ha A 1680 g ai/ha A		98.0 ab	98.0 a	0.0 a	87.0 ab	96.5 ab	83.8 a
5	Ignite 280 Touchdown HiTech Ammonium Sulfate	300 g ai/ha A 1060 g ai/ha A 1680 g ai/ha A		98.3 ab	97.5 a	0.0 a	86.8 ab	95.3 ab	89.5 a
6	Ignite 280 Touchdown HiTech Ammonium Sulfate	350 g ai/ha A 250 g ai/ha A 1680 g ai/ha A		98.8 ab	96.5 a	0.0 a	91.8 ab	95.5 ab	86.3 a
7	Ignite 280 Touchdown HiTech Ammonium Sulfate	350 g ai/ha A 500 g ai/ha A 1680 g ai/ha A		93.5 ab	95.0 a	0.0 a	87.3 ab	93.3 ab	77.5 a
8	Ignite 280 Touchdown HiTech Ammonium Sulfate	350 g ai/ha A 750 g ai/ha A 1680 g ai/ha A		97.5 ab	98.5 a	0.0 a	93.0 ab	97.3 ab	97.5 a
9	Ignite 280 Touchdown HiTech Ammonium Sulfate	350 g ai/ha A 1060 g ai/ha A 1680 g ai/ha A		97.0 ab	97.5 a	0.0 a	85.8 ab	96.0 ab	88.3 a
10	Ignite 280 Touchdown HiTech Ammonium Sulfate	400 g ai/ha A 250 g ai/ha A 1680 g ai/ha A		96.0 ab	98.8 a	0.0 a	82.5 b	87.5 bc	85.8 a
11	Ignite 280 Touchdown HiTech Ammonium Sulfate	400 g ai/ha A 500 g ai/ha A 1680 g ai/ha A		95.8 ab	99.0 a	0.0 a	90.8 ab	95.3 ab	87.0 a
12	Ignite 280 Touchdown HiTech Ammonium Sulfate	400 g ai/ha A 750 g ai/ha A 1680 g ai/ha A		94.5 ab	97.8 a	0.0 a	89.5 ab	96.8 ab	87.5 a
13	Ignite 280 Touchdown HiTech Ammonium Sulfate	400 g ai/ha A 1060 g ai/ha A 1680 g ai/ha A		97.0 ab	99.0 a	0.0 a	91.3 ab	97.3 ab	95.8 a

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Pest Type	W Weed	W Weed		W Weed	W Weed	W Weed			
Pest Code	IPOSS	CHEAL		AMBTR	SETFA	ABUTH			
Pest Scientific Name	Ipomoea sp.	Chenopodium al>		Ambrosia trifi>	Setaria faberi	Abutilon theop>			
Pest Name	Morning glory	Common lambsqu>		Giant ragweed	Giant foxtail	Velvetleaf			
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX			
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR			
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays			
Crop Name	Corn	Corn	Corn	Corn	Corn	Corn			
Crop Variety	P33W84	P33W84	P33W84	P33W84	P33W84	P33W84			
Part Rated	PLANT P	PLANT P							
Rating Date	6/29/09	6/29/09	7/8/09	7/8/09	7/8/09	7/8/09			
Rating Type	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO	CONTRO			
Rating Unit	percent	percent	percent	percent	percent	percent			
Number of Subsamples	1	1	1	1	1	1			
Crop Stage Majority	V6-V7	V6-V7	V9	V9	V9	V9			
Crop Stage Scale	40-50"	40-50"							
Pest Stage Majority	0-15"	0-15"		2-64"	2-18"	2-18"			
Pest Density, Unit	7.5 YD2	7.5 YD2		30 YD2	50 YD2	2.5 YD2			
Assessed By	MK	MK	PM	PM	PM	PM			
Days After First/Last Applic.	14 14	14 14	23 23	23 23	23 23	23 23			
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	23 DA-A	23 DA-A	23 DA-A			
Plant-Eval Interval	38 DP-1	38 DP-1	47 DP-1	47 DP-1	47 DP-1	47 DP-1			
Days After Emergence	33 DE-	33 DE-	42 DE-	42 DE-	42 DE-	42 DE-			
Trt No.	Treatment Name	Rate	Appl Code	7	8	9	10	11	12
14	Ignite 280	450 g ai/ha A		98.0 ab	98.3 a	0.0 a	90.8 ab	97.3 ab	94.8 a
	Touchdown HiTech	250 g ai/ha A							
	Ammonium Sulfate	1680 g ai/ha A							
15	Ignite 280	450 g ai/ha A		97.3 ab	99.0 a	0.0 a	90.3 ab	96.5 ab	92.0 a
	Touchdown HiTech	500 g ai/ha A							
	Ammonium Sulfate	1680 g ai/ha A							
16	Ignite 280	450 g ai/ha A		98.8 ab	97.8 a	0.0 a	92.5 ab	98.0 ab	94.0 a
	Touchdown HiTech	750 g ai/ha A							
	Ammonium Sulfate	1680 g ai/ha A							
17	Ignite 280	450 g ai/ha A		98.5 ab	98.8 a	0.0 a	88.8 ab	97.3 ab	92.0 a
	Touchdown HiTech	1060 g ai/ha A							
	Ammonium Sulfate	1680 g ai/ha A							
18	Ignite 280	900 g ai/ha A		100.0 a	99.0 a	0.0 a	95.0 ab	96.0 ab	90.8 a
	Touchdown HiTech	2120 g ai/ha A							
	Ammonium Sulfate	1680 g ai/ha A							
19	Ignite 280	450 g ai/ha A		100.0 a	100.0 a	0.0 a	98.3 a	97.5 ab	99.5 a
	Laudis	92 g ai/ha A							
	Atrazine	1120 g ai/ha A							
	COC	1 % v/v A							
20	Touchdown HiTech	1060 g ai/ha A		99.5 a	100.0 a	0.0 a	98.5 a	99.3 a	99.5 a
	Laudis	92 g ai/ha A							
	Atrazine	1120 g ai/ha A							
	COC	1 % v/v A							
LSD (P=.05)	4.06	18.59	0.00	7.76	6.16	12.09			
Standard Deviation	2.87	13.14	0.00	5.49	4.35	8.55			
CV	3.11	14.84	0.0	6.4	4.8	9.96			
Bartlett's X2	27.453	145.971	0.0	45.857	45.001	32.143			
P(Bartlett's X2)	0.037*	0.001*	.	0.001*	0.001*	0.021*			
Replicate F	8.248	1.959	0.000	1.913	0.740	3.747			
Replicate Prob(F)	0.0001	0.1305	1.0000	0.1377	0.5324	0.0158			
Treatment F	231.416	16.966	0.000	56.241	98.352	24.026			
Treatment Prob(F)	0.0001	0.0001	1.0000	0.0001	0.0001	0.0001			

# Purdue University

Pest Type	W Weed	W Weed	W Weed
Pest Code	AMASS	IPOSS	CHEAL
Pest Scientific Name	Amaranthus sp.	Ipomoea sp.	Chenopodium al>
Pest Name	Amaranth	Morning glory	Common lambsqu>
Crop Code	ZEAMA	ZEAMX	ZEAMX
BBCH Scale	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays amyla>	Zea mays	Zea mays
Crop Name	Flour corn	Corn	Corn
Crop Variety	P33W84	P33W84	P33W84
Part Rated			
Rating Date	7/8/09	7/8/09	7/8/09
Rating Type	CONTRO	CONTRO	CONTRO
Rating Unit	percent	percent	percent
Number of Subsamples	1	1	1
Crop Stage Majority	V9	V9	V9
Crop Stage Scale			
Pest Stage Majority	1-6"	2-12"	2-18"
Pest Density, Unit	2.5 YD2	5 YD2	2 YD2
Assessed By	PM	PM	PM
Days After First/Last Applic.	23 23	23 23	23 23
Trt-Eval Interval	23 DA-A	23 DA-A	23 DA-A
Plant-Eval Interval	47 DP-1	47 DP-1	47 DP-1
Days After Emergence	42 DE-	42 DE-	42 DE-
Trt No.	13	14	15
Treatment Name			
Rate			
Unit			
Appl Code			
1 UNTREATED	0.0 b	0.0 b	0.0 c
2 Ignite 280 Ammonium Sulfate	450 g ai/ha A 1680 g ai/ha A	80.0 a	79.8 a 76.3 b
3 Touchdown HiTech Ammonium Sulfate	1061 g ai/ha A 1680 g ai/ha A	78.0 a	81.5 a 1.0 c
4 Ignite 280 Touchdown HiTech Ammonium Sulfate	300 g ai/ha A 750 g ai/ha A 1680 g ai/ha A	91.3 a	85.0 a 91.3 ab
5 Ignite 280 Touchdown HiTech Ammonium Sulfate	300 g ai/ha A 1060 g ai/ha A 1680 g ai/ha A	94.0 a	87.5 a 94.3 ab
6 Ignite 280 Touchdown HiTech Ammonium Sulfate	350 g ai/ha A 250 g ai/ha A 1680 g ai/ha A	88.3 a	82.3 a 95.1 ab
7 Ignite 280 Touchdown HiTech Ammonium Sulfate	350 g ai/ha A 500 g ai/ha A 1680 g ai/ha A	84.5 a	68.8 a 92.8 ab
8 Ignite 280 Touchdown HiTech Ammonium Sulfate	350 g ai/ha A 750 g ai/ha A 1680 g ai/ha A	94.0 a	85.0 a 96.0 a
9 Ignite 280 Touchdown HiTech Ammonium Sulfate	350 g ai/ha A 1060 g ai/ha A 1680 g ai/ha A	89.3 a	91.3 a 92.5 ab
10 Ignite 280 Touchdown HiTech Ammonium Sulfate	400 g ai/ha A 250 g ai/ha A 1680 g ai/ha A	94.0 a	68.8 a 90.8 ab
11 Ignite 280 Touchdown HiTech Ammonium Sulfate	400 g ai/ha A 500 g ai/ha A 1680 g ai/ha A	98.3 a	84.5 a 91.5 ab
12 Ignite 280 Touchdown HiTech Ammonium Sulfate	400 g ai/ha A 750 g ai/ha A 1680 g ai/ha A	89.3 a	90.0 a 91.3 ab
13 Ignite 280 Touchdown HiTech Ammonium Sulfate	400 g ai/ha A 1060 g ai/ha A 1680 g ai/ha A	96.3 a	92.3 a 91.3 ab

### Purdue University

Pest Type	W Weed	W Weed	W Weed
Pest Code	AMASS	IPOSS	CHEAL
Pest Scientific Name	Amaranthus sp.	Ipomoea sp.	Chenopodium al>
Pest Name	Amaranth	Morning glory	Common lambsqu>
Crop Code	ZEAMA	ZEAMX	ZEAMX
BBCH Scale	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays amyla>	Zea mays	Zea mays
Crop Name	Flour corn	Corn	Corn
Crop Variety	P33W84	P33W84	P33W84
Part Rated			
Rating Date	7/8/09	7/8/09	7/8/09
Rating Type	CONTRO	CONTRO	CONTRO
Rating Unit	percent	percent	percent
Number of Subsamples	1	1	1
Crop Stage Majority	V9	V9	V9
Crop Stage Scale			
Pest Stage Majority	1-6"	2-12"	2-18"
Pest Density, Unit	2.5 YD2	5 YD2	2 YD2
Assessed By	PM	PM	PM
Days After First/Last Applic.	23 23	23 23	23 23
Trt-Eval Interval	23 DA-A	23 DA-A	23 DA-A
Plant-Eval Interval	47 DP-1	47 DP-1	47 DP-1
Days After Emergence	42 DE-	42 DE-	42 DE-
Trt No.	13	14	15
Treatment Name			
Rate			
Unit			
Appl Code			
14 Ignite 280	450 g ai/ha A	93.0 a	93.3 a
Touchdown HiTech	250 g ai/ha A		
Ammonium Sulfate	1680 g ai/ha A		
15 Ignite 280	450 g ai/ha A	95.0 a	85.0 a
Touchdown HiTech	500 g ai/ha A		
Ammonium Sulfate	1680 g ai/ha A		
16 Ignite 280	450 g ai/ha A	90.3 a	81.8 a
Touchdown HiTech	750 g ai/ha A		
Ammonium Sulfate	1680 g ai/ha A		
17 Ignite 280	450 g ai/ha A	99.3 a	91.5 a
Touchdown HiTech	1060 g ai/ha A		
Ammonium Sulfate	1680 g ai/ha A		
18 Ignite 280	900 g ai/ha A	95.0 a	90.3 a
Touchdown HiTech	2120 g ai/ha A		
Ammonium Sulfate	1680 g ai/ha A		
19 Ignite 280	450 g ai/ha A	100.0 a	99.5 a
Laudis	92 g ai/ha A		
Atrazine	1120 g ai/ha A		
COC	1 % v/v A		
20 Touchdown HiTech	1060 g ai/ha A	100.0 a	99.5 a
Laudis	92 g ai/ha A		
Atrazine	1120 g ai/ha A		
COC	1 % v/v A		
LSD (P=.05)	13.50	19.53	11.03
Standard Deviation	9.55	13.81	7.80
CV	10.91	16.87	9.29
Bartlett's X2	48.339	41.956	32.855
P(Bartlett's X2)	0.001*	0.001*	0.008*
Replicate F	9.661	6.311	3.858
Replicate Prob(F)	0.0001	0.0009	0.0142
Treatment F	20.216	9.153	55.235
Treatment Prob(F)	0.0001	0.0001	0.0001

# Purdue University

## Ignite and Roundup Efficacy in Corn

Trial ID: 09S-THP-CTC-02      Protocol ID: 09S-THP-CTC-02  
Location: Throckmorton      Study Director: Paul Marquardt/Melissa Kruger  
Project ID:      Investigator: Dr. Bill Johnson  
Sponsor Contact: Dave Lamore

### 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

AMASS, Amaranthus sp., = US

IPOSS, Ipomoea sp., = US

CHEAL, Chenopodium album, = US

### Crop Code

ZEAMX, BCOR, Zea mays, = US

ZEAMA, BCOR, Zea mays amylacea, = US

### Part Rated

PLANT = plant

C = Crop is Part Rated

P = Pest is Part Rated

### Rating Type

PHYGEN = phytotoxicity - general / injury

CONTRO = control / burndown or knockdown

YD2 = per square yard

### Plant-Eval Interval

32 DP-1 = 1 5/22/09

38 DP-1 = 1 5/22/09

47 DP-1 = 1 5/22/09