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## RyzUp SmartGrass - Field corn

Trial ID: 12S-THP-CTC-03      Protocol ID: 12S-THP-CTC-03  
 Location: Throckmorton      Study Director: White/Marquardt  
 Project ID: MD 68.10      Investigator: Dr. Bill Johnson  
                                  Sponsor Contact: Valent - Eric Ott

### 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:** wji@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      **Phone No.:** 765-538-3422  
**State/Prov:** IN      **Fax No.:** 765-538-3423  
**Postal Code:** 47909      **E-mail:** jayyoung@purdue.edu  
**Country:** USA      United States

### Crop Description

**Crop 1:** ZEAMD Zea mays indentata      Dent corn  
**Variety:** Beck's 6175      **Description:** HXX, LL, RR2  
**BBCH Scale:** BCOR      **Planting Date:** 4-19-2012  
**Planting Method:** PLANTD      planted      **Rate, Unit:** 34000 S/A  
**Depth, Unit:** 1.5      IN  
**Row Spacing, Unit:** 30      IN  
**Soil Moisture:** DRY      dry      **Soil Temperature, Unit:** 63      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

### Site and Design

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

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

Application Description				
	A	B	C	D
<b>Application Date:</b>	4-19-2012	5-11-2012	5-30-2012	6-6-2012
<b>Time of Day:</b>			8	8:30
<b>Application Method:</b>	SPRAY	SPRAY	SPRAY	SPRAY
<b>Application Timing:</b>	ATPLAN	EAPOCR	MIPOCR	POSPOS
<b>Application Placement:</b>	SOIL	FOLIAR	FOLIAR	FOLIAR
<b>Applied By:</b>	MW	MW	MW	MW
<b>Air Temperature, Unit:</b>	69 F	59 F	78 F	70 F
<b>% Relative Humidity:</b>	50	0	25	50
<b>Wind Velocity, Unit:</b>	8 MPH	3 MPH	0 MPH	5 MPH
<b>Wind Direction:</b>	E	SE		NE
<b>Dew Presence (Y/N):</b>	N no	Y yes	Y yes	N no
<b>Soil Temperature, Unit:</b>	63 F	59 F	85 F	64 F
<b>Soil Moisture:</b>	DRY	SLIWET	DRY	DRY
<b>% Cloud Cover:</b>	10	0	0	1

Crop Stage At Each Application				
	A	B	C	D
<b>Crop 1 Code, BBCH Scale:</b>	ZEAMD BCOR	ZEAMD BCOR	ZEAMD BCOR	ZEAMD BCOR
<b>Stage Scale Used:</b>		BBCH	BBCH	BBCH
<b>Stage Majority, Percent:</b>		V2	V5	V6
<b>Height, Unit:</b>		4.5 IN	24 IN	30 IN

Pest Stage At Each Application				
	A	B	C	D
<b>Pest 1 Code, Type, Scale:</b>	AMBTR W	AMBTR W	AMBTR W	AMBTR W
<b>Height, Unit:</b>		0.75 IN	5 IN	8.5 IN
<b>Height Minimum, Maximum:</b>		0.5 1	3 7	2 15
<b>Density, Unit:</b>		16 YD2	12 YD2	37 YD2
<b>Pest 2 Code, Type, Scale:</b>	SETFA W	SETFA W	SETFA W	SETFA W
<b>Height, Unit:</b>			3 IN	6 IN
<b>Height Minimum, Maximum:</b>			1 5	2 10
<b>Density, Unit:</b>			11 YD2	12 YD2

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## Application Equipment

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

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 Location: Throckmorton      Study Director: White/Marquardt  
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Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX			
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR			
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays			
Crop Name	Corn	Corn	Corn	Corn	Corn	Corn	Corn			
Rating Date	5-21-2012	5-21-2012	5-31-2012	5-31-2012	6-13-2012	6-13-2012	6-20-2012			
Rating Type	HEIGHT	COLOR	COLOR	HEIGHT	COLOR	HEIGHT	COLOR			
Rating Unit	CM			CM		CM				
Sample Size, Unit	10	PLINRO	10	PLINRO	10	PLINRO	10			
Number of Subsamples	6	1	1	6	1	6	1			
Crop Stage Majority	V4	V4		V7	V7					
Assessed By	MW/BM/GT	MW/BM/GT	BM/GT	BM/GT	MW/GT	MW/GT	BM/GT			
Days After First/Last Applic.	32 10	32 10	42 1	42 1	55 7	55 7	62 14			
Plant-Eval Interval	32 DP-1	32 DP-1	42 DP-1	42 DP-1	55 DP-1	55 DP-1	62 DP-1			
Days After Emergence	19 DE-1	19 DE-1	29 DE-1	29 DE-1	42 DE-1	42 DE-1	49 DE-1			
Trt Treatment	Rate	Rate	Appl	1	2	3	4	5	6	7
No. Name	Unit	Unit	Code							
1 Lexar (3.7 SC)	3.24 lb ai/a		A	35.8541677 b	40.45 a	46.40 b	71.0416712 c	48.93 a	96.041674 b	44.25 a
Roundup PowerMax 4.5 SL	0.77 lb ae/a		D							
AMS - Liquid	17 lb ai/100 gal		D							
2 Lexar (3.7 SC)	3.24 lb ai/a		A	44.9166724 a	34.98 ab	46.65 b	75.0625075 ab	47.88 a	97.875010 ab	45.10 a
RyzUP (40 WG)	0.0075 lb ai/a		B							
NIS	0.25 % v/v		B							
Roundup PowerMax 4.5 SL	0.77 lb ae/a		D							
AMS - Liquid	17 lb ai/100 gal		D							
3 Lexar (3.7 SC)	3.24 lb ai/a		A	48.5416690 a	34.45 b	45.95 b	77.8750078 a	47.43 a	95.583345 b	45.13 a
RyzUP (40 WG)	0.015 lb ai/a		B							
NIS	0.25 % v/v		B							
Roundup PowerMax 4.5 SL	0.77 lb ae/a		D							
AMS - Liquid	17 lb ai/100 gal		D							
4 Lexar (3.7 SC)	3.24 lb ai/a		A	36.4583357 b	37.03 ab	50.23 a	75.3541717 ab	49.45 a	102.875010 a	47.28 a
RyzUP (40 WG)	0.0075 lb ai/a		C							
NIS	0.25 % v/v		C							
Roundup PowerMax 4.5 SL	0.77 lb ae/a		D							
AMS - Liquid	17 lb ai/100 gal		D							
5 Lexar (3.7 SC)	3.24 lb ai/a		A	35.9375036 b	38.65 ab	47.65 b	73.5000074 bc	49.15 a	100.458346 ab	46.75 a
RyzUP (40 WG)	0.015 lb ai/a		C							
NIS	0.25 % v/v		C							
Roundup PowerMax 4.5 SL	0.77 lb ae/a		D							
AMS - Liquid	17 lb ai/100 gal		D							
LSD (P=.05)	4.29323764	4.020		2.119	3.01268298	3.493	4.1734275	2.804		
Standard Deviation	2.78639535	2.609		1.375	1.95529016	2.267	2.7086363	1.820		
CV	6.91	7.03		2.9	2.62	4.67	2.75	3.98		
Bartlett's X2	2.359	2.744		4.787	3.974	1.728	6.153	1.043		
P(Bartlett's X2)	0.67	0.601		0.31	0.41	0.786	0.188	0.903		
Replicate F	0.588	2.676		3.226	3.050	0.890	3.181	0.020		
Replicate Prob(F)	0.6342	0.0944		0.0610	0.0700	0.4742	0.0632	0.9958		
Treatment F	18.391	3.698		6.187	6.638	0.589	5.166	1.924		
Treatment Prob(F)	0.0001	0.0348		0.0061	0.0047	0.6768	0.0118	0.1710		

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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				ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	
				Zea mays Corn	Zea mays Corn	Zea mays Corn	Zea mays Corn	Zea mays Corn	
				6-20-2012	6-29-2012	6-29-2012	9-19-2012	9-19-2012	
				HEIGHT CM	COLOR PLINRO	HEIGHT CM	MOICON %	YIELD bu/ac	
				6	1	6	1	1	
				BM/GT 62 14	BM/GT 71 23	BM/GT 71 23	153 105	153 105	
				62 DP-1	71 DP-1	71 DP-1	153 DP-1	153 DP-1	
				49 DE-1	58 DE-1	58 DE-1	140 DE-1	140 DE-1	
Trt	Treatment	Rate	Rate Unit	Appl Code	8	9	10	11	12
1	Lexar (3.7 SC)	3.24	lb ai/a	A	130.041685 b	42.00 a	179.041690 a	21.470 a	88.45 a
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	D					
	AMS - Liquid	17	lb ai/100 gal	D					
2	Lexar (3.7 SC)	3.24	lb ai/a	A	130.791670 b	43.15 a	184.625018 a	21.243 a	119.70 a
	RyzUP (40 WG)	0.0075	lb ai/a	B					
	NIS	0.25	% v/v	B					
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	D					
	AMS - Liquid	17	lb ai/100 gal	D					
3	Lexar (3.7 SC)	3.24	lb ai/a	A	128.416685 b	41.53 a	184.541675 a	21.600 a	119.83 a
	RyzUP (40 WG)	0.015	lb ai/a	B					
	NIS	0.25	% v/v	B					
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	D					
	AMS - Liquid	17	lb ai/100 gal	D					
4	Lexar (3.7 SC)	3.24	lb ai/a	A	136.708342 a	44.90 a	194.916676 a	21.440 a	155.65 a
	RyzUP (40 WG)	0.0075	lb ai/a	C					
	NIS	0.25	% v/v	C					
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	D					
	AMS - Liquid	17	lb ai/100 gal	D					
5	Lexar (3.7 SC)	3.24	lb ai/a	A	136.958357 a	42.23 a	185.791690 a	21.565 a	121.60 a
	RyzUP (40 WG)	0.015	lb ai/a	C					
	NIS	0.25	% v/v	C					
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	D					
	AMS - Liquid	17	lb ai/100 gal	D					
LSD (P=.05)					4.1924285	2.625	13.5800032	0.8612	50.756
Standard Deviation					2.7209680	1.704	8.8136882	0.5590	32.942
CV					2.05	3.98	4.74	2.6	27.21
Bartlett's X2					2.112	14.259	9.48	3.385	7.25
P(Bartlett's X2)					0.715	0.007*	0.05	0.496	0.123
Replicate F					2.306	2.531	0.976	0.606	0.779
Replicate Prob(F)					0.1286	0.1063	0.4363	0.6239	0.5281
Treatment F					8.532	2.453	1.696	0.250	2.086
Treatment Prob(F)					0.0017	0.1026	0.2153	0.9041	0.1458

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Crop Code

ZEAMX, BCOR, Zea mays, = US

Rating Type

HEIGHT = height

COLOR = color

MOICON = moisture content

YIELD = yield

Rating Unit

CM = centimeter

% = percent

bu/ac = bushels per acre

PLINRO = plant - in row

Plant-Eval Interval

32 DP-1 = 1 ZEAMD 4-19-2012

42 DP-1 = 1 ZEAMD 4-19-2012

55 DP-1 = 1 ZEAMD 4-19-2012

62 DP-1 = 1 ZEAMD 4-19-2012

71 DP-1 = 1 ZEAMD 4-19-2012

153 DP-1 = 1 ZEAMD 4-19-2012