

Crop Protection Market Development Corn Trial - Monsanto.

Trial ID: 14-52-M80 Location: Belleville Res. Center Trial Year: 2014
Investigator: Ronald F. Krausz

Trial Status: F one-year/final Initiation Date: 5-11-14 Completion Date: 10-8-14		Trial Location
City: Belleville	Country: USA	
State/Prov.: Illinois IL		
Postal Code: 62221		

Objectives: Demonstrate various corn herbicide weed control systems common to the midwest.
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Study Director: Ronald F. Krausz Organization: Belleville Research Center - Southern Illinois Univ Carbondale Address: 2036 Charles Lane City+State/Prov: Belleville, IL Postal Code: 62221 Country: USA	Contacts Title: Researcher/Farm Manager Phone No.: 618-566-4761 E-mail: rkrausz@siu.edu
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Crop 1: ZEAMD Zea mays indentata Dent corn Variety: DKC 63-33 BBCH Scale: BCOR Description: SS RIB Planting Rate, Unit: 28000 S/A Depth, Unit: 1.5 IN Row Spacing, Unit: 30 IN	Crop Description Planting Date: 5-11-14 Planting Method: SEEDED
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Pest 1 Type: W Code: SETFA Setaria faberi Herm. Common Name: foxtail, giant Pest 2 Type: W Code: AMBTR Ambrosia trifida L. Common Name: ragweed, giant Pest 3 Type: W Code: ABUTH Abutilon theophrasti Medik. Common Name: velvetleaf Pest 4 Type: W Code: AMATA Amaranthus rudis Sauer Common Name: waterhemp, common Pest 5 Type: W Code: IPOHE Ipomoea hederacea (L.) Jacq. Common Name: morningglory, ivyleaf	Pest Description
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Treated Plot Width: 7.5 FT Total Plot Width: 10 FT Treated Plot Length: 25 FT Total Plot Length: 25 FT Replications: 4 Untreated Arrangement: NONE control is other than an untreated	Site and Design Site Type: FIELD Experimental Unit: 1 PLOT Tillage Type: REDTIL reduced-till Study Design: RACOB L Randomized Complete Block (RCB)
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No.	Previous Crop	Year
1.	GLXMA	2013

Maintenance <table border="1"> <thead> <tr> <th>No.</th> <th>Maintenance Product Name</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>N 150 LB/A, P2O5 50 LB/A, K2O 100 LB/A</td> </tr> </tbody> </table>	No.	Maintenance Product Name	1.	N 150 LB/A, P2O5 50 LB/A, K2O 100 LB/A
No.	Maintenance Product Name			
1.	N 150 LB/A, P2O5 50 LB/A, K2O 100 LB/A			

% OM: 2.6 Texture: SIL silt loam pH: 6.9 Soil Name: Pierron CEC: 7	Soil Description
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Additional Measured Elements		
Element	Quantity	Unit
P1	77	lb/A
K	326	lb/A

Overall Moisture Conditions: NORMAL Closest Weather Station: ICN - Belleville IL	Moisture and Weather Conditions Distance, Unit: 0.5 MI
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No.	Date	Amount	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Temp Unit
1.	4-1-14	3.19	IN	RAIN	rain	4	DAY			
2.	4-1-14					7	DAY	34	66	F
3.	4-7-14	0.3	IN	RAIN	rain	2	DAY			
4.	4-8-14					7	DAY	34	83	F
5.	4-12-14	0.66	IN	RAIN	rain	3	DAY			
6.	4-15-14					7	DAY	31	79	F
7.	4-21-14	0.17	IN	RAIN	rain	2	DAY			
8.	4-22-14					7	DAY	44	78	F
9.	4-24-14	2.24	IN	RAIN	rain	5	DAY			
10.	4-29-14	0.09	IN	RAIN	rain	2	DAY			
11.	4-29-14					7	DAY	41	87	F
12.	5-6-14					7	DAY	56	86	F
13.	5-8-14	0.13	IN	RAIN	rain	2	DAY			
14.	5-12-14	0.88	IN	RAIN	rain	4	DAY			
15.	5-13-14					7	DAY	37	76	F
16.	5-20-14					7	DAY	55	87	F
17.	5-21-14	0.06	IN	RAIN	rain	1	DAY			
18.	5-25-14	0.49	IN	RAIN	rain	2	DAY			
19.	5-27-14	0.08	IN	RAIN	rain	2	DAY			
20.	5-27-14					7	DAY	60	86	F
21.	5-31-14	0.14	IN	RAIN	rain	1	DAY			
22.	6-1-14	0.13	IN	RAIN	rain	1	DAY			
23.	6-3-14					7	DAY	59	90	F
24.	6-4-14	0.67	IN	RAIN	rain	1	DAY			
25.	6-7-14	0.6	IN	RAIN	rain	1	DAY			
26.	6-9-14	1.38	IN	RAIN	rain	2	DAY			
27.	6-10-14					7	DAY	51	90	F
28.	6-12-14	0.07	IN	RAIN	rain	1	DAY			
29.	6-15-14	0.02	IN	RAIN	rain	1	DAY			
30.	6-17-14					7	DAY	67	92	F
31.	6-20-14	2.09	IN	RAIN	rain	5	DAY			
32.	6-24-14					7	DAY	65	91	F
33.	6-27-14	0.11	IN	RAIN	rain	2	DAY			
34.	7-1-14	0.01	IN	RAIN	rain	1	DAY			
35.	7-1-14					7	DAY	55	90	F
36.	7-7-14	0.79	IN	RAIN	rain	2	DAY			
37.	7-8-14					7	DAY	59	89	F
38.	7-12-14	0.49	IN	RAIN	rain	3	DAY			
39.	7-15-14					7	DAY	54	85	F
40.	7-22-14					7	DAY	57	98	F
41.	7-25-14	0.02	IN	RAIN	rain	1	DAY			
42.	7-29-14					7	DAY	52	89	F
43.	8-1-14	0.04	IN	RAIN	rain	1	DAY			
44.	8-5-14	4.04	IN	RAIN	rain	4	DAY			
45.	8-5-14					7	DAY	66	88	F
46.	8-12-14					7	DAY	57	84	F
47.	8-15-14	1.21	IN	RAIN	rain	3	DAY			
48.	8-19-14					7	DAY	67	95	F

Application Description

	A	B	C
Application Date:	5-13-14	5-30-14	6-5-14
Appl. Start Time:	9:30	10:00	9:00
Appl. Stop Time:	10:00	10:30	9:30
Application Method:	Spray	Spray	Spray
Application Timing:	PRE	4"W-1	4"W-2
Application Placement:	BROSOL	BROFOL	BROFOL
Applied By:	RFK	RJW	LXF
Air Temperature, Unit:	61 F	82 F	71 F
% Relative Humidity:	100	65	81
Wind Velocity, Unit:	4 MPH	2 MPH	5 MPH
Wind Direction:	N	E	E
Dew Presence (Y/N):	N	N	N
Soil Temperature, Unit:	67 F	72 F	73 F
Soil Moisture:	ABONOR	NORMAL	ABONOR
% Cloud Cover:	100	90	98
Next Moisture Occurred On:	5-13-14	6-14-14	6-7-14
Time to Next Moisture, Unit:	1 HR	5 DAY	2 DAY

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Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	ZEAMD	ZEAMD	ZEAMD
Stage Scale Used:	DESC	DESC	DESC
Stage Majority, Percent:	NA	V2	V5
Stage Minimum, Percent:		V2	V4
Stage Maximum, Percent:		V2	V5
Height, Unit:		8 IN	12 IN
Height Minimum, Maximum:		6 8	10 12

Pest Stage At Each Application

	A	B	C
Pest 1 Code, Type, Scale:	SETFA W	SETFA W	SETFA W
Stage Majority, Percent:	NA	3	NA
Stage Minimum, Percent:		2	
Stage Maximum, Percent:		3	
Height, Unit:		4 IN	
Height Minimum, Maximum:		3 4	
Density, Unit:		10 FT2	
Pest 2 Code, Type, Scale:	AMBTR W	AMBTR W	AMBTR W
Stage Majority, Percent:	NA	4	1
Stage Minimum, Percent:		4	1
Stage Maximum, Percent:		6	2
Height, Unit:		4 IN	1 IN
Height Minimum, Maximum:		3 4	1 1.5
Density, Unit:		0.5 FT2	0.01 FT2
Pest 3 Code, Type, Scale:	ABUTH W	ABUTH W	ABUTH W
Stage Majority, Percent:	NA	3	1
Stage Minimum, Percent:		3	1
Stage Maximum, Percent:		4	2
Height, Unit:		3 IN	1 IN
Height Minimum, Maximum:		3 4	0.5 1
Density, Unit:		0.5 FT2	0.01 FT2
Pest 4 Code, Type, Scale:	AMATA W	AMATA W	AMATA W
Stage Majority, Percent:	NA	NA	NA
Pest 5 Code, Type, Scale:	IPOHE W	IPOHE W	IPOHE W
Stage Majority, Percent:	NA	NA	6
Stage Minimum, Percent:			1
Stage Maximum, Percent:			8
Height, Unit:			1.5 IN
Height Minimum, Maximum:			0.5 2
Density, Unit:			0.1 FT2

Application Equipment

	A	B	C
Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer
Equipment Type:	BACSPR	BACSPR	BACSPR
Operation Pressure, Unit:	30 PSI	30 PSI	30 PSI
Nozzle Type:	XR	XR	XR
Nozzle Size:	8002	8002	8002
Boom Length, Unit:	7.5 FT	7.5 FT	7.5 FT
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA

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Pest Code	Crop Code	Rating Date	Rating Type	Rating Unit	Rating Timing	Trt-Eval Interval	ZEAMD 10-8-14 Moisture Percent	ZEAMD 10-8-14 Test wt lb/bu	ZEAMD 10-8-14 Yield bu/A	ZEAMD 6-5-14 Injury Percent	ZEAMD 7-3-14 Injury Percent	SETFA 6-5-14 Control Percent	SETFA 7-3-14 Control Percent		
										6 DA-B 0 DA-C	34 DA-B 28 DA-C	6 DA-B 0 DA-C	34 DA-B 28 DA-C		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Other Rate	Other Rate	Growth Stage	Appl Code							
1	HARNESS XTRA 5.6L ROUNDUP POWERMAX N-PAK AMS	5.6 EC 4.5 SL 100 SL		3.36 lb ai/a 1.1 lb ae/a 5 % v/v	2.4 qt/a 0.98 qt/a 5 % v/v		PRE 4"W-2 4"W-2	A C C	14.5 a	58.6 abc	246 a	0 a	0 a	99 a	99 a
2	DEGREE XTRA ROUNDUP POWERMAX N-PAK AMS	4.04 CS 4.5 SL 100 SL		3.03 lb ai/a 1.1 lb ae/a 5 % v/v	3 qt/a 0.98 qt/a 5 % v/v		PRE 4"W-2 4"W-2	A C C	14.6 a	58.5 bcd	243 a	0 a	0 a	99 a	99 a
3	TRIPLEFLEX ROUNDUP POWERMAX N-PAK AMS	4.25 EC 4.5 SL 100 SL		1.06 lb ai/a 1.1 lb ae/a 5 % v/v	1 qt/a 0.98 qt/a 5 % v/v		PRE 4"W-2 4"W-2	A C C	15.2 a	58.2 d	246 a	0 a	0 a	99 a	99 a
4	TRIPLEFLEX AATREX 4L	4.25 EC 4 SC		1.6 lb ai/a 0.75 lb ai/a	1.5 qt/a 0.75 qt/a		PRE PRE	A A	14.9 a	58.3 cd	242 a	0 a	0 a	99 a	99 a
5	ROUNDUP POWERMAX N-PAK AMS DEGREE XTRA IMPACT	4.5 SL 100 SL 4.04 CS 2.8 SC		1.1 lb ae/a 5 % v/v 2.53 lb ai/a 0.0164 lb ai/a	0.98 qt/a 5 % v/v 2.5 qt/a 0.75 fl oz/a		4"W-1 B 4"W-1 B 4"W-1 B	B B B B	14.2 a	58.8 ab	237 a	0 a	0 a	99 a	99 a
6	VERDICT	5.57 EC		0.65 lb ai/a	15 fl oz/a		PRE	A	14.8 a	58.4 cd	237 a	0 a	0 a	99 a	99 a
7	VERDICT ROUNDUP POWERMAX N-PAK AMS	5.57 EC 4.5 SL 100 SL		0.65 lb ai/a 1.1 lb ae/a 5 % v/v	15 fl oz/a 0.98 qt/a 5 % v/v		PRE 4"W-2 4"W-2	A C C	14.9 a	58.4 cd	235 a	0 a	0 a	99 b	99 a
8	CORVUS AATREX 4L	2.63 SC 4 SC		0.115 lb ai/a 0.75 lb ai/a	5.6 fl oz/a 0.75 qt/a		PRE PRE	A A	14.6 a	58.6 a-d	234 a	0 a	0 a	99 a	99 a
9	CORVUS AATREX 4L ROUNDUP POWERMAX N-PAK AMS	2.63 SC 4 SC 4.5 SL 100 SL		0.115 lb ai/a 0.75 lb ai/a 1.1 lb ae/a 5 % v/v	5.6 fl oz/a 0.75 qt/a 1.1 lb ae/a 5 % v/v		PRE PRE 4"W-2 4"W-2	A A C C	14.6 a	58.5 bcd	244 a	0 a	0 a	99 a	99 a
10	LUMAX EZ	3.674 SE		2.48 lb ai/a	2.7 qt/a		PRE	A	14.3 a	58.8 ab	236 a	0 a	0 a	99 a	99 a
11	LUMAX EZ ROUNDUP POWERMAX N-PAK AMS	3.674 SE 4.5 SL 100 SL		2.48 lb ai/a 1.1 lb ae/a 5 % v/v	2.7 qt/a 0.98 qt/a 5 % v/v		PRE 4"W-2 4"W-2	A C C	14.8 a	58.4 cd	238 a	0 a	0 a	99 a	99 a
12	HALEX GT	4.389 CS		1.98 lb ai/a	3.6 pt/a		4"W-1	B	14.1 a	58.9 a	248 a	0 a	0 a	99 a	99 a
13	BICEP II MAGNUM HALEX GT	5.5 SC 4.389 CS		2.06 lb ai/a 1.98 lb ai/a	1.5 qt/a 3.6 pt/a		PRE 4"W-2	A C	14.6 a	58.5 a-d	243 a	0 a	0 a	99 a	99 a
14	REALM Q CINCH ATZ ABUNDIT EXTRA N-PAK AMS	38.75 WG 5.5 SC 3 SL 100 SL		0.097 lb ai/a 3.58 lb ai/a 0.75 lb ae/a 5 % v/v	4 oz/a 2.6 qt/a 1 qt/a 5 % v/v		PRE PRE 4"W-2 4"W-2	A A C C	14.5 a	58.6 abc	241 a	0 a	0 a	99 a	99 a
15	ROUNDUP POWERMAX N-PAK AMS	4.5 SL 100 SL		1.1 lb ae/a 5 % v/v	0.98 qt/a 5 % v/v		4"W-1 4"W-1	B B	14.7 a	58.5 bcd	232 a	0 a	0 a	99 a	99 a
16	NONTREATED								14.3 a	58.7 abc	131 b	0	0	0	0
LSD (P=.05)									0.64	0.37	16.9	0.0	0.0	0.2	0.0
Standard Deviation									0.44	0.26	11.8	0.0	0.0	0.1	0.0
CV									3.05	0.45	5.08	0.0	0.0	0.15	0.0
Replicate F									0.423	0.552	3.437	0.000	0.000	1.000	0.000
Replicate Prob(F)									0.7371	0.6497	0.0246	1.0000	1.0000	0.4023	1.0000
Treatment F									1.764	2.028	21.825	0.000	0.000	3.000	0.000
Treatment Prob(F)									0.0718	0.0344	0.0001	1.0000	1.0000	0.0030	1.0000

Means followed by same letter do not significantly differ (P=.05, LSD)

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

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Pest Code	Crop Code	Rating Date	Rating Type	Rating Unit	Rating Timing	Trt-Eval Interval	AMBTR	AMBTR	ABUTH	ABUTH	AMATA	AMATA	IPOHE	IPOHE
							6-5-14 Control Percent	7-3-14 Control Percent	6-5-14 Control Percent	7-3-14 Control Percent	6-5-14 Control Percent	7-3-14 Control Percent	6-5-14 Control Percent	7-3-14 Control Percent
							6 DA-B 0 DA-C	34 DA-B 28 DA-C	6 DA-B 0 DA-C	34 DA-B 28 DA-C	6 DA-B 0 DA-C	34 DA-B 28 DA-C	6 DA-B 0 DA-C	34 DA-B 28 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Other Rate	Other Rate	Other Rate	Growth Unit	Appl Stage	Code			
1	HARNESS XTRA 5.6L ROUNDUP POWERMAX N-PAK AMS	5.6 EC 4.5 SL 100 SL			3.36 lb ai/a 1.1 lb ae/a 5 % v/v	2.4 qt/a 0.98 qt/a 5 % v/v			PRE 4"W-2 4"W-2	A C C		99 a	99 a	99 a
2	DEGREE XTRA ROUNDUP POWERMAX N-PAK AMS	4.04 CS 4.5 SL 100 SL			3.03 lb ai/a 1.1 lb ae/a 5 % v/v	3 qt/a 0.98 qt/a 5 % v/v			PRE 4"W-2 4"W-2	A C C		99 a	99 a	99 a
3	TRIPLEFLEX ROUNDUP POWERMAX N-PAK AMS	4.25 EC 4.5 SL 100 SL			1.06 lb ai/a 1.1 lb ae/a 5 % v/v	1 qt/a 0.98 qt/a 5 % v/v			PRE 4"W-2 4"W-2	A C C		99 a	99 a	98 a
4	TRIPLEFLEX AATREX 4L	4.25 EC 4 SC			1.6 lb ai/a 0.75 lb ai/a	1.5 qt/a 0.75 qt/a			PRE PRE	A A		99 a	99 a	99 a
5	ROUNDUP POWERMAX N-PAK AMS DEGREE XTRA IMPACT	4.5 SL 100 SL 4.04 CS 2.8 SC			1.1 lb ae/a 5 % v/v 2.53 lb ai/a 0.0164 lb ai/a	0.98 qt/a 5 % v/v 2.5 qt/a 0.75 fl oz/a			4"W-1 4"W-1 4"W-1 4"W-1	B B B B		99 a	99 a	99 a
6	VERDICT	5.57 EC			0.65 lb ai/a	15 fl oz/a			PRE	A		99 a	99 a	99 a
7	VERDICT ROUNDUP POWERMAX N-PAK AMS	5.57 EC 4.5 SL 100 SL			0.65 lb ai/a 1.1 lb ae/a 5 % v/v	15 fl oz/a 0.98 qt/a 5 % v/v			PRE 4"W-2 4"W-2	A C C		99 a	99 a	99 a
8	CORVUS AATREX 4L	2.63 SC 4 SC			0.115 lb ai/a 0.75 lb ai/a	5.6 fl oz/a 0.75 qt/a			PRE PRE	A A		99 a	99 a	99 a
9	CORVUS AATREX 4L ROUNDUP POWERMAX N-PAK AMS	2.63 SC 4 SC 4.5 SL 100 SL			0.115 lb ai/a 0.75 lb ai/a 1.1 lb ae/a 5 % v/v	5.6 fl oz/a 0.75 qt/a 1.1 lb ae/a 5 % v/v			PRE PRE 4"W-2 4"W-2	A A C C		99 a	99 a	99 a
10	LUMAX EZ	3.674 SE			2.48 lb ai/a	2.7 qt/a			PRE	A		99 a	99 a	99 a
11	LUMAX EZ ROUNDUP POWERMAX N-PAK AMS	3.674 SE 4.5 SL 100 SL			2.48 lb ai/a 1.1 lb ae/a 5 % v/v	2.7 qt/a 0.98 qt/a 5 % v/v			PRE 4"W-2 4"W-2	A C C		99 a	99 a	99 a
12	HALEX GT	4.389 CS			1.98 lb ai/a	3.6 pt/a			4"W-1	B		99 a	99 a	99 a
13	BICEP II MAGNUM HALEX GT	5.5 SC 4.389 CS			2.06 lb ai/a 1.98 lb ai/a	1.5 qt/a 3.6 pt/a			PRE 4"W-2	A C		99 a	99 a	99 a
14	REALM Q CINCH ATZ ABUNDIT EXTRA N-PAK AMS	38.75 WG 5.5 SC 3 SL 100 SL			0.097 lb ai/a 3.58 lb ai/a 0.75 lb ae/a 5 % v/v	4 oz/a 2.6 qt/a 1 qt/a 5 % v/v			PRE PRE 4"W-2 4"W-2	A A C C		99 a	99 a	99 a
15	ROUNDUP POWERMAX N-PAK AMS	4.5 SL 100 SL			1.1 lb ae/a 5 % v/v	0.98 qt/a 5 % v/v			4"W-1 4"W-1	B B		99 a	90 a	99 a
16	NONTREATED											0	0	0
LSD (P=.05)							0.3	0.0	0.0	0.0	0.0	2.6	0.7	0.0
Standard Deviation							0.2	0.0	0.0	0.0	0.0	1.8	0.5	0.0
CV							0.18	0.0	0.0	0.0	0.0	1.83	0.53	0.0
Replicate F							2.154	0.000	0.000	0.000	0.000	1.000	1.522	0.000
Replicate Prob(F)							0.1078	1.0000	1.0000	1.0000	1.0000	0.4023	0.2228	1.0000
Treatment F							1.000	0.000	0.000	0.000	0.000	1.000	1.000	0.000
Treatment Prob(F)							0.4708	1.0000	1.0000	1.0000	1.0000	0.4708	0.4708	1.0000

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Trial Comments

1. Protocol: Monsanto (2014-01-24-28).
2. Ratings: CI at 0 DA-C (rate prior to POST), CI 28 DA-C.
WC at 0 DA-C (rate prior to POST), WC 28 DA-C.
3. Yield.
4. Applications B and C, if 4 inch weeds not achieved by corn stage V5 then spray B and/or C at V5.
5. Photos.
6. Following the PRE application the first significant rainfall event was 0.49 inch the next day.
Following the 4"W-1 application the first significant rainfall event was 0.27 inch over the next 2 days
then 0.67 inch 5 days after application.
7. Ratings on 6-5-14 at 0 DA-C were also 23 DA-A.
8. Harvested 10-8-14, (2) 30 inch rows by 22 ft.