

Volunteer Corn Control in RR2 Xtend Soybeans with SelectMax and Dicamba.

Trial ID: 16-10B-W240 Location: Belleville Res. Center Trial Year: 2016  
Investigator: Karla L. Gage, Ph.D.

<b>Trial Status:</b> F one-year/final <b>Initiation Date:</b> 6-8-16 <b>Completion Date:</b> 8-18-16	<b>Trial Location</b>
<b>City:</b> Belleville <b>Country:</b> USA <b>State/Prov.:</b> Illinois IL <b>Postal Code:</b> 62221	

**Objectives:**  
Evaluate the possibility of antagonism between Select Max and dicamba tank-mixed for control of volunteer corn in an Xtend system.

<b>Study Director:</b> Karla Gage, Ph.D. <b>Title:</b> Assistant Professor of Weed Science <b>Organization:</b> Southern Illinois University Carbondale <b>Address:</b> 1205 Lincoln Drive MC 4415 <b>Phone No.:</b> 618-453-7679 <b>City+State/Prov:</b> Carbondale, IL <b>Postal Code:</b> 62901 <b>E-mail:</b> kgage@siu.edu <b>Country:</b> USA	<b>Contacts</b>
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<b>Crop 1:</b> GLXMA Glycine max    Soybean <b>Variety:</b> AG38X6 <b>BBCH Scale:</b> BSOY <b>Description:</b> RR2X <b>Planting Rate, Unit:</b> 140000 S/A <b>Depth, Unit:</b> 1 IN <b>Row Spacing, Unit:</b> 30 IN	<b>Crop Description</b>
<b>Planting Date:</b> 6-8-16 <b>Planting Method:</b> SEEDED	

<b>Pest 1 Type:</b> W <b>Code:</b> ZEAMX Zea mays L. <b>Common Name:</b> corn, volunteer <b>Description:</b> Roundup Ready corn	<b>Pest Description</b>
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<b>Treated Plot Width:</b> 7.5 FT <b>Total Plot Width:</b> 10 FT <b>Treated Plot Length:</b> 30 FT <b>Total Plot Length:</b> 30 FT <b>Replications:</b> 4 <b>Untreated Arrangement:</b> INCLUDED single control randomized in each block	<b>Site and Design</b>
	<b>Site Type:</b> FIELD <b>Experimental Unit:</b> 1 PLOT <b>Tillage Type:</b> REDTIL reduced-till <b>Study Design:</b> RACOB� Randomized Complete Block (RCB)

No.	Previous Crop	Year
1.	ZEAMD	2015

<b>Maintenance</b>				
<table border="1"> <thead> <tr> <th>No.</th> <th>Maintenance Product Name</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>N 0 LB/A, P2O5 50 LB/A, K2O 100 LB/A</td> </tr> </tbody> </table>	No.	Maintenance Product Name	1.	N 0 LB/A, P2O5 50 LB/A, K2O 100 LB/A
No.	Maintenance Product Name			
1.	N 0 LB/A, P2O5 50 LB/A, K2O 100 LB/A			

<b>Description Name:</b> 10B_2013 <b>% OM:</b> 2.8 <b>Texture:</b> SIL silt loam <b>pH:</b> 6.4 <b>Soil Name:</b> Pierron <b>CEC:</b> 9	<b>Soil Description</b>
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Element	Quantity	Unit
P1	80	lb/A
K	335	lb/A

<b>Overall Moisture Conditions:</b> NORMAL <b>Closest Weather Station:</b> ICN - Belleville IL	<b>Moisture and Weather Conditions</b>
	<b>Distance, Unit:</b> 0.5 MI

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No.	Date	Amount	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Temp Unit
1.	4-1-16					7	DAY	32	75	F
2.	4-6-16	0.49	IN	RAIN	rain	1	DAY			
3.	4-8-16					7	DAY	28	71	F
4.	4-10-16	0.97	IN	RAIN	rain	2	DAY			
5.	4-15-16					7	DAY	48	81	F
6.	4-20-16	0.45	IN	RAIN	rain	3	DAY			
7.	4-22-16					7	DAY	47	85	F
8.	4-26-16	1.74	IN	RAIN	rain	2	DAY			
9.	4-29-16					7	DAY	46	75	F
10.	4-29-16	1.94	IN	RAIN	rain	2	DAY			
11.	5-4-16	0.02	IN	RAIN	rain	1	DAY			
12.	5-6-16					7	DAY	44	87	F
13.	5-7-16	0.07	IN	RAIN	rain	1	DAY			
14.	5-9-16	2.12	IN	RAIN	rain	5	DAY			
15.	5-13-16					7	DAY	41	76	F
16.	5-16-16	1.06	IN	RAIN	rain	2	DAY			
17.	5-20-16					7	DAY	51	83	F
18.	5-20-16	0.06	IN	RAIN	rain	1	DAY			
19.	5-25-16	0.68	IN	RAIN	rain	3	DAY			
20.	5-27-16					7	DAY	62	88	F
21.	5-31-16	0.03	IN	RAIN	rain	2	DAY			
22.	6-3-16					7	DAY	55	89	F
23.	6-3-16	0.01	IN	RAIN	rain	1	DAY			
24.	6-4-16	0.72	IN	RAIN	rain	1	DAY			
25.	6-10-16					7	DAY	65	96	F
26.	6-13-16	0.03	IN	RAIN	rain	1	DAY			
27.	6-17-16					7	DAY	67	97	F
28.	6-21-16	0.01	IN	RAIN	rain	1	DAY			
29.	6-24-16					7	DAY	57	95	F
30.	6-25-16	0.02	IN	RAIN	rain	1	DAY			
31.	6-30-16	0.03	IN	RAIN	rain	1	DAY			
32.	7-1-16					7	DAY	60	91	F
33.	7-1-16	2.26	IN	RAIN	rain	4	DAY			
34.	7-6-16	0.32	IN	RAIN	rain	3	DAY			
35.	7-8-16					7	DAY	67	93	F
36.	7-13-16	0.49	IN	RAIN	rain	2	DAY			
37.	7-15-16					7	DAY	68	93	F
38.	7-17-16	0.02	IN	RAIN	rain	1	DAY			
39.	7-19-16	1.47	IN	RAIN	rain	2	DAY			
40.	7-22-16					7	DAY	72	94	F
41.	7-25-16	0.1	IN	RAIN	rain	1	DAY			
42.	7-29-16					7	DAY	69	91	F
43.	7-31-16	0.52	IN	RAIN	rain	3	DAY			
44.	8-3-16	0.75	IN	RAIN	rain	1	DAY			
45.	8-5-16					7	DAY	66	93	F
46.	8-5-16	0.06	IN	RAIN	rain	1	DAY			
47.	8-12-16					7	DAY	68	91	F
48.	8-12-16	4.85	IN	RAIN	rain	5	DAY			
49.	8-19-16					7	DAY	57	93	F
50.	8-23-16	0.02	IN	RAIN	rain	1	DAY			
51.	8-30-16	0.03	IN	RAIN	rain	1	DAY			

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Rainfall was recorded on station and provided by Illinois Climate Network.  
Air temperature was recorded at Scott Air Force Base 2.5 miles north and provided by NOAA's National Centers for Environmental Information.  
Air temperatures given are summarized as weekly high and low, detailed weather data is available on request.

**Application Description**

	A	B	C
<b>Application Date:</b>	7-1-16	7-13-16	7-21-16
<b>Appl. Start Time:</b>	7:25	7:00	10:20
<b>Appl. Stop Time:</b>	8:05	7:30	11:00
<b>Application Method:</b>	Spray	Spray	Spray
<b>Application Timing:</b>	12"VC	24"VC	36"VC
<b>Application Placement:</b>	BROFOL	BROFOL	BROFOL
<b>Applied By:</b>	KNW	KNW	MCG
<b>Air Temperature, Unit:</b>	71 F	79 F	90 F
<b>% Relative Humidity:</b>	100	97	77
<b>Wind Velocity, Unit:</b>	4 MPH	2 MPH	5 MPH
<b>Wind Direction:</b>	NE	SW	S
<b>Dew Presence (Y/N):</b>	N	Y	N
<b>Soil Temperature, Unit:</b>	76 F	80 F	83 F
<b>Soil Moisture:</b>	ABONOR	BELNOR	ABONOR
<b>% Cloud Cover:</b>	100	60	0
<b>Next Moisture Occurred On:</b>	7-2-16	7-13-16	7-25-16
<b>Time to Next Moisture, Unit:</b>	29 HR	9 HR	4 DAY

**Crop Stage At Each Application**

	A	B	C
<b>Crop 1 Code, BBCH Scale:</b>	GLXMA	GLXMA	GLXMA
<b>Stage Scale Used:</b>	DESC	DESC	DESC
<b>Stage Majority, Percent:</b>	V3	V5	R1
<b>Stage Minimum, Percent:</b>	V2	V4	R1
<b>Stage Maximum, Percent:</b>	V3	V5	R1
<b>Height, Unit:</b>	5 IN	13 IN	18 IN
<b>Height Minimum, Maximum:</b>	4 5	9 13	16 18

**Pest Stage At Each Application**

	A	B	C
<b>Pest 1 Code, Type, Scale:</b>	ZEAMX W	ZEAMX W	ZEAMX W
<b>Stage Majority, Percent:</b>	V6	V8	V10
<b>Stage Minimum, Percent:</b>	V6	V8	V10
<b>Stage Maximum, Percent:</b>	V6	V8	V10
<b>Height, Unit:</b>	12 IN	22 IN	36 IN
<b>Height Minimum, Maximum:</b>	8 14	19 23	30 40
<b>Density, Unit:</b>	0.4 FT2	0.4 FT2	0.4 FT2

**Application Equipment**

	A	B	C
<b>Appl. Equipment:</b>	CO2 sprayer	CO2 sprayer	CO2 sprayer
<b>Equipment Type:</b>	BACSPR	BACSPR	BACSPR
<b>Operation Pressure, Unit:</b>	30 PSI	30 PSI	30 PSI
<b>Nozzle Type:</b>	TTI	TTI	TTI
<b>Nozzle Size:</b>	11002	11002	11002
<b>Boom Length, Unit:</b>	7.5 FT	7.5 FT	7.5 FT
<b>Spray Volume, Unit:</b>	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							ZEAMX	ZEAMX	ZEAMX	ZEAMX			
							Control Percent 7 DAT	Control Percent 14 DAT	Control Percent 21 DAT	Control Percent 28 DAT			
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Unit	Appl Stage	Code				
1	NONTREATED									0	0	0	0
2	SELECT MAX NIS	0.97 100	EC SL	0.0454 lb 0.25 %	ai/a v/v	6 fl 0.25 %	oz/a v/v	12"VC 12"VC	A A	49 i	73 fg	76 f	65 c
3	SELECT MAX DICAMBA DGA NIS	0.97 4 100	EC SL SL	0.0454 lb 0.5 lb 0.25 %	ai/a ae/a v/v	6 fl 1 0.25 %	oz/a pt/a v/v	12"VC 12"VC 12"VC	A A A	58 fgh	85 d	89 e	88 b
4	SELECT MAX DICAMBA DGA NIS	0.97 4 100	EC SL SL	0.0606 lb 0.5 lb 0.25 %	ai/a ae/a w/w	8 fl 1 0.25 %	oz/a pt/a v/v	12"VC 12"VC 12"VC	A A A	64 c-f	87 cd	94 bcd	95 a
5	SELECT MAX DICAMBA DGA NIS	0.97 4 100	EC SL SL	0.076 lb 0.5 lb 0.25 %	ai/a ae/a v/v	10 fl 1 0.25 %	oz/a pt/a v/v	12"VC 12"VC 12"VC	A A A	68 bcd	92 b	96 ab	96 a
6	FUSILADE DX NIS	2 100	EC SL	0.094 lb 0.25 %	ai/a v/v	6 fl 0.25 %	oz/a v/v	12"VC 12"VC	A A	70 bc	97 a	98 a	98 a
7	FUSILADE DX DICAMBA DGA NIS	2 4 100	EC SL SL	0.094 lb 0.5 lb 0.25 %	ai/a ae/a v/v	6 fl 1 0.25 %	oz/a pt/a v/v	12"VC 12"VC 12"VC	A A A	85 a	98 a	98 a	98 a
8	SELECT MAX NIS	0.97 100	EC SL	0.068 lb 0.25 %	ai/a v/v	9 fl 0.25 %	oz/a v/v	24"VC 24"VC	B B	58 fgh	88 bcd	95 abc	97 a
9	SELECT MAX DICAMBA DGA NIS	0.97 4 100	EC SL SL	0.068 lb 0.5 lb 0.25 %	ai/a ae/a v/v	9 fl 1 0.25 %	oz/a pt/a v/v	24"VC 24"VC 24"VC	B B B	66 bcd	90 bcd	97 ab	97 a
10	SELECT MAX DICAMBA DGA NIS	0.97 4 100	EC SL SL	0.083 lb 0.5 lb 0.25 %	ai/a ae/a v/v	11 fl 1 0.25 %	oz/a pt/a v/v	24"VC 24"VC 24"VC	B B B	65 b-e	90 bcd	97 a	98 a
11	SELECT MAX DICAMBA DGA NIS	0.97 4 100	EC SL SL	0.099 lb 0.5 lb 0.25 %	ai/a ae/a v/v	13 fl 1 0.25 %	oz/a pt/a v/v	24"VC 24"VC 24"VC	B B B	70 bc	90 bc	98 a	98 a
12	FUSILADE DX NIS	2 100	EC SL	0.125 lb 0.25 %	ai/a v/v	8 fl 0.25 %	oz/a v/v	24"VC 24"VC	B B	71 b	91 bc	98 a	99 a
13	FUSILADE DX DICAMBA DGA NIS	2 4 100	EC SL SL	0.125 lb 0.5 lb 0.25 %	ai/a ae/a v/v	8 fl 1 0.25 %	oz/a pt/a v/v	24"VC 24"VC 24"VC	B B B	70 bc	91 bc	97 a	99 a
14	SELECT MAX NIS	0.97 100	EC SL	0.091 lb 0.25 %	ai/a v/v	12 fl 0.25 %	oz/a v/v	36"VC 36"VC	C C	46 i	69 g	89 e	88 b
15	SELECT MAX DICAMBA DGA NIS	0.97 4 100	EC SL SL	0.091 lb 0.5 lb 0.25 %	ai/a ae/a v/v	12 fl 1 0.25 %	oz/a pt/a v/v	36"VC 36"VC 36"VC	C C C	53 hi	76 ef	89 e	88 b
16	SELECT MAX DICAMBA DGA NIS	0.97 4 100	EC SL SL	0.106 lb 0.5 lb 0.25 %	ai/a ae/a v/v	14 fl 1 0.25 %	oz/a pt/a v/v	36"VC 36"VC 36"VC	C C C	56 gh	76 ef	89 e	84 b

Means followed by same letter or symbol 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							ZEAMX	ZEAMX	ZEAMX	ZEAMX			
Crop Code													
Rating Date													
Rating Type													
Rating Unit							Control	Control	Control	Control			
Rating Timing							Percent	Percent	Percent	Percent			
Trt-Eval Interval							7 DAT	14 DAT	21 DAT	28 DAT			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
17	SELECT MAX	0.97	EC	0.121	lb ai/a	16	fl oz/a	36"	VC C	63	d-g	79	e
	DICAMBA DGA	4	SL	0.5	lb ae/a	1	pt/a	36"	VC C			92	de
	NIS	100	SL	0.25	% v/v	0.25	% v/v	36"	VC C				85
18	FUSILADE DX	2	EC	0.156	lb ai/a	10	fl oz/a	36"	VC C	63	d-g	79	e
	NIS	100	SL	0.25	% v/v	0.25	% v/v	36"	VC C			93	cd
19	FUSILADE DX	2	EC	0.156	lb ai/a	10	fl oz/a	36"	VC C	59	e-h	76	ef
	DICAMBA DGA	4	SL	0.5	lb ae/a	1	pt/a	36"	VC C			93	cd
	NIS	100	SL	0.25	% v/v	0.25	% v/v	36"	VC C				99
20	NONTREATED									0		0	
21	ROUNDUP POWERMAX	4.5	SL	1	lb ae/a	28.4	fl oz/a	12"	VC A	0	j	11	h
	DICAMBA DGA	4	SL	0.5	lb ae/a	1	pt/a	12"	VC A			8	g
22	ROUNDUP POWERMAX	4.5	SL	1	lb ae/a	28.4	fl oz/a	24"	VC B	0	j	1	i
	DICAMBA DGA	4	SL	0.5	lb ae/a	1	pt/a	24"	VC B			0	h
23	ROUNDUP POWERMAX	4.5	SL	1	lb ae/a	28.4	fl oz/a	36"	VC C	0	j	0	i
	DICAMBA DGA	4	SL	0.5	lb ae/a	1	pt/a	36"	VC C			0	h
LSD P=.05							7.0	4.9	3.3	5.3			
Standard Deviation							4.9	3.5	2.3	3.8			
CV							9.18	4.74	2.88	4.73			
Replicate F							2.935	2.520	4.458	2.854			
Replicate Prob(F)							0.0405	0.0664	0.0068	0.0446			
Treatment F							95.022	298.264	814.852	312.233			
Treatment Prob(F)							0.0001	0.0001	0.0001	0.0001			

Means followed by same letter or symbol 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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Trial Comments

1. Protocol: Valent (6401).
2. Ratings:  
CI not requested.  
WC (vol corn) 7, 14, 21, and 28 DA-A+B+C, rate in same column on different dates.
3. Yield not requested, do not sell grain.
4. Blanket Roundup Powermax (32 floz/A) at least 7 days before applications A, B, and C as needed to reduce weed competition and get good growth of volunteer corn was applied on 6-23-16 and again on 7-8-16 to all plots.
5. Plant volunteer corn between soybean rows, was planted same day as soybean on 6-8-16.
6. Photos not requested.
7. Rainfall following the 12"VC application A was 1.98 inch over 7 days beginning 29 hours later.  
Rainfall following the 24"VC application B was 0.8 inch over 2 days beginning 9 hours later.  
Rainfall following the 36"VC application C was 0.1 inch over 1 day beginning 4 days later.
8. Ratings at 7 days after applications A, B, and C were on 7-8-16, 7-20-16, and 7-28-16, respectively.  
Ratings at 14 days after applications A, B, and C were on 7-15-16, 7-27-16, and 8-4-16, respectively.  
Ratings at 21 days after applications A, B, and C were on 7-22-16, 8-3-16, and 8-11-16, respectively.  
Ratings at 28 days after applications A, B, and C were on 7-29-16, 8-10-16, and 8-18-16, respectively.
9. Not harvested.