

Acuron Bareground Trial.

Trial ID: 16-11B-E60 Location: Belleville Res. Center Trial Year: 2016
Investigator: Karla L. Gage, Ph.D.

Trial Status: F one-year/final
Initiation Date: 5-31-16
Completion Date: 7-26-16

Trial Location

City: Belleville **Country:** USA
State/Prov.: Illinois IL
Postal Code: 62221

Objectives:

Demonstrate the differences and similarities between soil residual herbicides.

Contacts

Study Director: Karla Gage, Ph.D. **Title:** Assistant Professor of Weed Science
Organization: Southern Illinois University Carbondale
Address: 1205 Lincoln Drive MC 4415 **Phone No.:** 618-453-7679
City+State/Prov.: Carbondale, IL
Postal Code: 62901 **E-mail:** kgage@siu.edu
Country: USA

Crop Description

Crop 1: NONE - Non-crop _
Variety: NA
Description: NA

Planting Method: NA

Pest Description

Pest 1 Type: W **Code:** CYPES Cyperus esculentus L.
Common Name: nutsedge, yellow

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

Site and Design

Treated Plot Width: 7.5 FT **Total Plot Width:** 10 FT
Treated Plot Length: 30 FT **Total Plot Length:** 30 FT **Site Type:** FIELD
Experimental Unit: 1 PLOT
Tillage Type: REDTIL reduced-till
Replications: 5 **Study Design:** RACOB L Randomized Complete Block (RCB)
Untreated Arrangement: NONE control is other than an untreated

No.	Previous Crop	Year
1.	GLXMA	2015

Maintenance

No.	Maintenance Product Name
1.	N 0 LB/A, P2O5 50 LB/A, K2O 150 LB/A

Soil Description

Description Name: 11B 2013
% OM: 3 **Texture:** SIL silt loam
pH: 6.5 **Soil Name:** Bethalto
CEC: 11

Additional Measured Elements

Element	Quantity	Unit
P1	41	lb/A
K	234	lb/A

Moisture and Weather Conditions

Overall Moisture Conditions: NORMAL
Closest Weather Station: ICN - Belleville IL **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.	4-1-16					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			

Comment:

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.

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Application Description

	A
Application Date:	5-31-16
Appl. Start Time:	14:50
Appl. Stop Time:	15:15
Application Method:	Spray
Application Timing:	PRE
Application Placement:	BROSOI
Applied By:	KNW
Air Temperature, Unit:	83 F
% Relative Humidity:	63
Wind Velocity, Unit:	5 MPH
Wind Direction:	SW
Dew Presence (Y/N):	N
Soil Temperature, Unit:	73 F
Soil Moisture:	NORMAL
% Cloud Cover:	0
Next Moisture Occurred On:	6-4-16
Time to Next Moisture, Unit:	4 DAY

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	NONE
Stage Scale Used:	DESC
Stage Majority, Percent:	NA

Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	CYPES W
Stage Majority, Percent:	NA
Pest 2 Code, Type, Scale:	AMBTR W
Stage Majority, Percent:	NA
Pest 3 Code, Type, Scale:	ABUTH W
Stage Majority, Percent:	NA
Pest 4 Code, Type, Scale:	AMATA W
Stage Majority, Percent:	NA
Pest 5 Code, Type, Scale:	IPOHE W
Stage Majority, Percent:	NA

Application Equipment

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

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Pest Code								CYPES	CYPES	CYPES	AMBTR	AMBTR	AMBTR
Crop Code								6-14-16	6-28-16	7-26-16	6-14-16	6-28-16	7-26-16
Rating Date								Control	Control	Control	Control	Control	Control
Rating Type								Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit													
Rating Timing													
Trt-Eval Interval								14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Other Rate	Other Rate	Growth Stage	Appl Code				
1	ACURON	3.44	CS	2.58	lb ai/a	3	qt/a	PRE	A	77 a	50 a	46 a	99 a
2	CORVUS	2.63	SC	0.115	lb ai/a	5.6	fl oz/a	PRE	A	54 b	37 a	74 a	99 a
	AATREX 4L	4	SC	1	lb ai/a	1	qt/a	PRE	A				81 a
3	RESICORE	3.29	EC	2.47	lb ai/a	3	qt/a	PRE	A	90 a	70 a	76 a	99 a
4	SURESTART II	4.16	SE	1.56	lb ai/a	3	pt/a	PRE	A	78 a	62 a	59 a	99 a
												62 a	32 a
LSD P=.05								16.0	34.9	41.0	.	14.6	39.9
Standard Deviation								11.6	25.3	29.8	0.0	10.6	28.9
CV								15.51	46.21	46.69	0.0	14.5	63.22
Replicate F								1.335	1.281	0.974	0.000	5.652	0.454
Replicate Prob(F)								0.3129	0.3310	0.4574	1.0000	0.0086	0.7678
Treatment F								8.419	1.622	1.115	0.000	3.332	3.109
Treatment Prob(F)								0.0028	0.2363	0.3813	1.0000	0.0563	0.0668

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.
Could not calculate LSD (% mean diff) for columns 9,8 because error mean square = 0.

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Pest Code								ABUTH	ABUTH	ABUTH	AMATA	AMATA	AMATA
Crop Code								6-14-16	6-28-16	7-26-16	6-14-16	6-28-16	7-26-16
Rating Date								Control	Control	Control	Control	Control	Control
Rating Type								Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit													
Rating Timing													
Trt-Eval Interval								14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A
Trt Treatment	Form	Form	Rate	Other	Other	Growth	Appl						
No. Name	Conc	Type	Rate	Unit	Rate	Rate	Unit Stage	Code					
1 ACURON	3.44	CS	2.58	lb ai/a	3	qt/a	PRE A		93 a	77 a	60 a	99 a	97 a
2 CORVUS	2.63	SC	0.115	lb ai/a	5.6	fl oz/a	PRE A		90 a	81 a	48 a	99 a	94 a
AATREX 4L	4	SC	1	lb ai/a	1	qt/a	PRE A						95 a
3 RESICORE	3.29	EC	2.47	lb ai/a	3	qt/a	PRE A		93 a	77 a	22 a	99 a	98 a
4 SURESTART II	4.16	SE	1.56	lb ai/a	3	pt/a	PRE A		74 b	55 b	49 a	99 a	97 a
LSD P=.05									7.8	15.6	40.8	.	6.8
Standard Deviation									5.7	11.3	29.6	0.0	4.9
CV									6.49	15.57	66.1	0.0	5.1
Replicate F									3.286	2.549	1.223	0.000	0.777
Replicate Prob(F)									0.0489	0.0938	0.3519	1.0000	0.5611
Treatment F									13.149	5.477	1.483	0.000	0.564
Treatment Prob(F)									0.0004	0.0132	0.2688	1.0000	0.6491

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Pest Code										IPOHE	IPOHE	IPOHE
Crop Code										6-14-16	6-28-16	7-26-16
Rating Date										Control	Control	Control
Rating Type										Percent	Percent	Percent
Rating Unit												
Rating Timing												
Trt-Eval Interval										14 DA-A	28 DA-A	56 DA-A
Trt Treatment	Form	Form	Rate	Other	Other	Growth	Appl					
No. Name	Conc	Type	Rate	Unit	Rate	Rate	Unit	Stage	Code			
1 ACURON	3.44	CS	2.58	lb ai/a	3	qt/a		PRE	A	91 a	70 a	40 b
2 CORVUS	2.63	SC	0.115	lb ai/a	5.6	fl oz/a		PRE	A	92 a	71 a	78 a
AATREX 4L	4	SC	1	lb ai/a	1	qt/a		PRE	A			
3 RESICORE	3.29	EC	2.47	lb ai/a	3	qt/a		PRE	A	91 a	75 a	28 b
4 SURESTART II	4.16	SE	1.56	lb ai/a	3	pt/a		PRE	A	64 b	0 b	20 b
LSD P=.05										6.5	17.4	35.4
Standard Deviation										4.7	12.6	25.7
CV										5.56	23.39	61.94
Replicate F										1.264	2.514	4.097
Replicate Prob(F)										0.3369	0.0969	0.0255
Treatment F										42.942	40.752	4.991
Treatment Prob(F)										0.0001	0.0001	0.0179

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Trial Comments

1. Protocol: Syngenta (EHLCor5-2016).
2. Ratings:
WC 14, 28, and 56 DA-A. You can rate just reps 1-3, the rest are just to get good photos.
Target Giant ragweed and rate all weeds.
3. No yield (noncrop).
4. Photos at each rating are a must, good overall plot shot and consider closeups especially if weeds are small at early ratings.
5. Rainfall following the PRE application A was 0.73 inch over 2 days beginning 4 days later.
6. At 14 DA-A there were only a few AMBTR emerging in either the nontreated or treated areas, but by 28 DA-A AMBTR was emerged and growing quickly.
7. Not harvested.