

Corn Herbicides: Lethal Dose versus Cut Rates Demonstration - Syngenta.

Trial ID: 11-21N-E70

Location: Belleville Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu
 City State Zip Country: Belleville IL 62221 USA
 Trial Status: FINAL Initiation Date: 5-18-11

Objectives: Demonstrate the efficacy of full versus "cut" rates of various Syngenta and competitive herbicides in corn.

Crop 1: ZEAMD Dent corn Variety: DKC 61-21 GENSS Description: RR2/LL
 Planting Method: SEEDED Planting Date: 5-18-11
 Rate, Unit: 28000 S/A Depth, Unit: 1.5 IN
 Row Spacing, Unit: 30 IN

Pest 1 Type: W Code: SETFA Setaria faberi Herrm. foxtail, giant
 Pest 2 Type: W Code: AMATA Amaranthus rudis Sauer waterhemp, common
 Pest 3 Type: W Code: XANST Xanthium strumarium L. cocklebur, common
 Pest 4 Type: W Code: IPOHE Ipomoea hederacea (L.) Jacq. morningglory, ivyleaf
 Pest 5 Type: W Code: AMBTR Ambrosia trifida L. ragweed, giant
 Pest 6 Type: W Code: ABUTH Abutilon theophrasti Medicus velvetleaf

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 45 FT Tillage Type: REDUCED-TILL
 Replications: 1 Study Design: Non-Randomized

Prior Crops, Year
 1. GLXMA 2010

Field Prep./Maintenance: N 150 LB/A, P205 0 LB/A, K20 150 LB/A

% OM: 2.1 Texture: SILT LOAM
 pH: 6 Soil Name: BETHALTO
 CEC: 12 Fert. Level: P1: 89 LB/A, K: 400 LB/A

Application Description

	A	B
Application Date:	5-20-11	6-8-11
Time of Day:	8:00	7:30
Application Method:	Spray	Spray
Application Timing:	PRE	4-6"W
Application Placement:	BROSIO	BROFOL
Applied By:	RFK	LAH
Air Temperature, Unit:	68 F	80 F
% Relative Humidity:	78	69
Wind Velocity, Unit:	0 MPH	3 MPH
Wind Direction:		S
Dew Presence (Y/N):	N	N
Soil Temperature, Unit:	65 F	76 F
Soil Moisture:	ABONOR	NORMAL
% Cloud Cover:	70	0

Crop stage at application: 20-5-11 8-6-11
 NA V4
 Height Min, Max (inch): 10 15

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	Pest Stage At Each Application	
Application Date:	5-20-11	6-8-11
Weed Code:	SETFA	SETFA
Stage Majority (leaves):	NA	3
Stage Min, Max:		coty 5
Height Majority:		7 IN
Height Min, Max:		0.5 8
Density, Unit:		15 FT2
Weed Code:	AMATA	AMATA
Stage Majority (leaves):	NA	5
Stage Min, Max:		coty 9
Height Majority:		3 IN
Height Min, Max:		0.5 6
Density, Unit:		6 FT2
Weed Code:	XANST	XANST
Stage Majority (leaves):	NA	5
Stage Min, Max:		4 5
Height Majority:		3 IN
Height Min, Max:		1 5
Density, Unit:		0.1 FT2
Weed Code:	IPOHE	IPOHE
Stage Majority (leaves):	NA	4
Stage Min, Max:		2 5
Height Majority:		3 IN
Height Min, Max:		1 3
Density, Unit:		0.1 FT2
Weed Code:	AMBTR	AMBTR
Stage Majority (leaves):	NA	6
Stage Min, Max:		4 8
Height Majority:		3 IN
Height Min, Max:		2 7
Density, Unit:		0.01 FT2
Weed Code:	ABUTH	ABUTH
Stage Majority (leaves):	NA	4
Stage Min, Max:		coty 5
Height Majority:		3 IN
Height Min, Max:		0.5 7
Density, Unit:		0.01 FT2

Application Equipment

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

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Pest Code		ZEAMD				SETFA											
Crop Code		ZEAMD	ZEAMD	ZEAMD	ZEAMD	SETFA	SETFA	SETFA	SETFA								
Rating Date		6-8-11	6-22-11	7-6-11	7-27-11	6-8-11	6-22-11	7-6-11	7-27-11								
Rating Data Type		Injury	Injury	Injury	Injury	Control	Control	Control	Control								
Rating Unit		Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent								
Rating Timing		0 DA-B				49 DA-B											
Trt-Eval Interval		14 DA-B	28 DA-B	49 DA-B	0 DA-B	14 DA-B	28 DA-B	49 DA-B	0 DA-B								
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code								
1	NONTREATED									0	0	0	0	0	0	0	0
2	HALEX GT	4.38	CS	1.92	lb ai/a	3.5	pt/a	4-6"W	B	.	0	0	0	.	99	98	93
2	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	4-6"W	B								
2	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
3	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	0	0	0	.	99	95	85
3	CALLISTO XTRA	3.7	SC	0.694	lb ai/a	24	fl oz/a	4-6"W	B								
3	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
4	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	0	0	0	.	97	85	65
4	CALLISTO	4	SC	0.047	lb ai/a	1.5	fl oz/a	4-6"W	B								
4	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
5	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	0	0	0	.	98	90	85
5	STATUS	56	WG	0.0875	lb ae/a	2.5	oz/a	4-6"W	B								
5	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
6	LEXAR	3.7	SC	2.78	lb ai/a	3	qt/a	PRE	A	0	0	0	0	99	98	93	90
7	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	0	0	0	.	97	75	70
7	IMPACT	2.8	SC	0.0109	lb ai/a	0.5	fl oz/a	4-6"W	B								
7	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
8	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	0	0	0	.	99	93	85
8	SURESTART	4.25	SE	0.53	lb ai/a	1	pt/a	4-6"W	B								
8	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
9	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	0	0	0	.	99	95	93
9	CAPRENO	3.45	SC	0.0404	lb ai/a	1.5	fl oz/a	4-6"W	B								
9	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
10	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	0	0	0	.	99	99	97
10	CAPRENO	3.45	SC	0.081	lb ai/a	3	fl oz/a	4-6"W	B								
10	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
11	CORVUS	2.62	SC	0.0614	lb ai/a	3	fl oz/a	PRE	A	0	0	0	0	95	90	40	40
12	DEGREE XTRA	4.04	CS	2.02	lb ai/a	2	qt/a	PRE	A	0	0	0	0	97	96	60	60

LSD (P=.05)

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

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										AMATA	AMATA	AMATA	AMATA	XANST	XANST	XANST	XANST
										6-8-11	6-22-11	7-6-11	7-27-11	6-8-11	6-22-11	7-6-11	7-27-11
										Control	Control	Control	Control	Control	Control	Control	Control
										Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
										0 DA-B	14 DA-B	28 DA-B	49 DA-B	0 DA-B	14 DA-B	28 DA-B	49 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code								
1	NONTREATED									0	0	0	0	0	0	0	0
2	HALEX GT	4.38	CS	1.92	lb ai/a	3.5	pt/a	4-6"W	B	.	99	97	96	.	99	96	90
2	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	4-6"W	B								
2	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
3	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	99	99	97	.	99	93	90
3	CALLISTO XTRA	3.7	SC	0.694	lb ai/a	24	fl oz/a	4-6"W	B								
3	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
4	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	97	95	90	.	97	85	75
4	CALLISTO	4	SC	0.047	lb ai/a	1.5	fl oz/a	4-6"W	B								
4	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
5	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	99	99	95	.	97	80	70
5	STATUS	56	WG	0.0875	lb ae/a	2.5	oz/a	4-6"W	B								
5	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
6	LEXAR	3.7	SC	2.78	lb ai/a	3	qt/a	PRE	A	99	99	99	99	97	93	85	80
7	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	98	85	90	.	97	75	75
7	IMPACT	2.8	SC	0.0109	lb ai/a	0.5	fl oz/a	4-6"W	B								
7	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
8	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	97	90	90	.	97	90	90
8	SURESTART	4.25	SE	0.53	lb ai/a	1	pt/a	4-6"W	B								
8	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
9	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	99	93	90	.	98	93	90
9	CAPRENO	3.45	SC	0.0404	lb ai/a	1.5	fl oz/a	4-6"W	B								
9	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
10	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	97	95	93	.	95	80	80
10	CAPRENO	3.45	SC	0.081	lb ai/a	3	fl oz/a	4-6"W	B								
10	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
11	CORVUS	2.62	SC	0.0614	lb ai/a	3	fl oz/a	PRE	A	99	95	50	50	75	70	30	20
12	DEGREE XTRA	4.04	CS	2.02	lb ai/a	2	qt/a	PRE	A	99	99	99	99	60	60	20	0

LSD (P=.05)

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

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										IPOHE	IPOHE	IPOHE	IPOHE	AMBTR	AMBTR	AMBTR	AMBTR
										6-8-11	6-22-11	7-6-11	7-27-11	6-8-11	6-22-11	7-6-11	7-27-11
										Control	Control	Control	Control	Control	Control	Control	Control
										Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
										0 DA-B	14 DA-B	28 DA-B	49 DA-B	0 DA-B	14 DA-B	28 DA-B	49 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code								
1	NONTREATED									0	0	0	0	0	0	0	0
2	HALEX GT	4.38	CS	1.92	lb ai/a	3.5	pt/a	4-6"W	B	.	97	95	90	.	99	97	95
2	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	4-6"W	B								
2	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
3	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	98	95	93	.	99	99	99
3	CALLISTO XTRA	3.7	SC	0.694	lb ai/a	24	fl oz/a	4-6"W	B								
3	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
4	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	97	90	90	.	99	95	80
4	CALLISTO	4	SC	0.047	lb ai/a	1.5	fl oz/a	4-6"W	B								
4	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
5	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	95	75	70	.	98	75	90
5	STATUS	56	WG	0.0875	lb ae/a	2.5	oz/a	4-6"W	B								
5	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
6	LEXAR	3.7	SC	2.78	lb ai/a	3	qt/a	PRE	A	99	95	93	90	97	97	93	93
7	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	93	90	85	.	98	87	80
7	IMPACT	2.8	SC	0.0109	lb ai/a	0.5	fl oz/a	4-6"W	B								
7	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
8	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	93	85	80	.	99	90	87
8	SURESTART	4.25	SE	0.53	lb ai/a	1	pt/a	4-6"W	B								
8	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
9	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	95	85	80	.	98	90	80
9	CAPRENO	3.45	SC	0.0404	lb ai/a	1.5	fl oz/a	4-6"W	B								
9	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
10	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	.	97	90	85	.	99	85	85
10	CAPRENO	3.45	SC	0.081	lb ai/a	3	fl oz/a	4-6"W	B								
10	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B								
11	CORVUS	2.62	SC	0.0614	lb ai/a	3	fl oz/a	PRE	A	90	90	60	55	90	90	20	5
12	DEGREE XTRA	4.04	CS	2.02	lb ai/a	2	qt/a	PRE	A	85	80	70	65	70	70	20	5

LSD (P=.05)

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

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Trial ID: 11-21N-E70

Location: Belleville Res. Center

Pest Code	ABUTH	ABUTH	ABUTH
Crop Code			
Rating Date	6-22-11	7-6-11	7-27-11
Rating Data Type	Control	Control	Control
Rating Unit	Percent	Percent	Percent
Rating Timing			
Trt-Eval Interval	14 DA-B	28 DA-B	49 DA-B

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	NONTREATED									0	0	0
2	HALEX GT	4.38	CS	1.92	lb ai/a	3.5	pt/a	4-6"W	B	99	99	99
2	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	4-6"W	B			
2	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B			
3	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	99	99	99
3	CALLISTO XTRA	3.7	SC	0.694	lb ai/a	24	fl oz/a	4-6"W	B			
3	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B			
4	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	99	99	99
4	CALLISTO	4	SC	0.047	lb ai/a	1.5	fl oz/a	4-6"W	B			
4	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B			
5	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	97	80	93
5	STATUS	56	WG	0.0875	lb ae/a	2.5	oz/a	4-6"W	B			
5	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B			
6	LEXAR	3.7	SC	2.78	lb ai/a	3	qt/a	PRE	A	96	93	90
7	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	98	80	.
7	IMPACT	2.8	SC	0.0109	lb ai/a	0.5	fl oz/a	4-6"W	B			
7	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B			
8	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	99	99	99
8	SURESTART	4.25	SE	0.53	lb ai/a	1	pt/a	4-6"W	B			
8	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B			
9	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	99	95	93
9	CAPRENO	3.45	SC	0.0404	lb ai/a	1.5	fl oz/a	4-6"W	B			
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10	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	4-6"W	B	99	99	99
10	CAPRENO	3.45	SC	0.081	lb ai/a	3	fl oz/a	4-6"W	B			
10	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4-6"W	B			
11	CORVUS	2.62	SC	0.0614	lb ai/a	3	fl oz/a	PRE	A	97	.	.
12	DEGREE XTRA	4.04	CS	2.02	lb ai/a	2	qt/a	PRE	A	50	30	30

LSD (P=.05)

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

Trial Comments

1. Protocol: Syngenta (HSC 001A4).
2. Ratings: CI/WC at 0 ("A" applications only), 14, 28, and 49-56 DA-B.