

Corn Hybrid Sensitivity to ALS Herbicides.

Trial ID: 11-ARC-N8-N120 Location: Agronomy Res. Center

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 City State Zip Country: Carbondale IL 62901 USA
 Trial Status: FINAL Initiation Date: 5-12-11

Objectives: To determine hybrid sensitivity of ALS herbicides preemergence and early V1 stages in a field setting and to determine effect on yield.

Crop 1: ZEAMD Dent corn Variety: See treatment list
 Planting Method: SEEDED Planting Date: 5-12-11
 Rate, Unit: 28000 S/A Depth, Unit: 1.5 IN
 Row Spacing, Unit: 30 IN

Code: NA

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 30 FT Tillage Type: REDUCED-TILL
 Replications: 4 Study Design: Randomized Complete Block

Prior Crops, Year
 1. GLXMA 2010

Field Prep./Maintenance: N 186 LB/A, P205 92 LB/A, K20 200 LB/A

% OM: 2.1 Texture: SILT LOAM
 pH: 6.4 Soil Name: WEIR
 CEC: 7.6 Fert. Level: P1: 48 LB/A, K: 188 LB/A

Application Description

	A	B
Application Date:	5-13-11	5-24-11
Time of Day:	10:30	9:00
Application Method:	Spray	Spray
Application Timing:	PRE	V1
Application Placement:	BROSOI	BROFOL
Applied By:	NRJ	JRK
Air Temperature, Unit:	69 F	70 F
% Relative Humidity:	76	85
Wind Velocity, Unit:	5 MPH	2 MPH
Wind Direction:	S	SW
Dew Presence (Y/N):	N	Y
Soil Temperature, Unit:	64 F	66 F
Soil Moisture:	ABONOR	ABONOR
% Cloud Cover:	80	95

13-5-11 24-5-11
 Crop stage at application: NA V1
 Height Min, Max (inch): 1 3

Pest Stage At Each Application

Application Date: 5-13-11 5-24-11
 Weed Code: NA NA

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:	10 FT	10 FT
Spray Volume, Unit:	15 GPA	15 GPA

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Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	ZEAMD 9-29-11 Moisture Percent	ZEAMD 9-29-11 Test wt. lb/bu	ZEAMD 9-29-11 Yield bu/A	ZEAMD 9-29-11 Yield Reduc % 64-69	ZEAMD 9-29-11 Yield Diff vs 64-69	ZEAMD 11 DA-A 7 DA-B Injury Percent	ZEAMD 21 DAT Injury Percent	ZEAMD 42 DAT Injury Percent
1	DKC 61-69 VT3									15.0 ghi	59.0 ab	76 fg	68 cd	-30 ab	0 e	0 c	0 a
1	DEGREE XTRA	4.04	CS	2.53	lb ai/a	2.5	qt/a	PRE	A								
2	DKC 64-69 GENVT3P									16.6 a-e	58.3 def	129 ab			0 e	0 c	0 a
2	DEGREE XTRA	4.04	CS	2.53	lb ai/a	2.5	qt/a	PRE	A								
3	DKC 61-69 VT3									15.8 c-h	58.5 b-f	109 a-f	91 ab	-16 a	0 e	0 c	0 a
3	DEGREE XTRA	4.04	CS	2.53	lb ai/a	2.5	qt/a	V1	B								
4	DKC 64-69 GENVT3P									16.3 a-f	58.4 def	125 abc			1 d	0 c	0 a
4	DEGREE XTRA	4.04	CS	2.53	lb ai/a	2.5	qt/a	V1	B								
5	DKC 61-69 VT3									15.6 e-h	58.8 a-d	87 efg	71 bcd	-35 ab	0 e	1 c	0 a
5	CORVUS	2.62	SC	0.115	lb ai/a	5.6	fl oz/a	PRE	A								
6	DKC 64-69 GENVT3P									16.9 abc	58.2 f	122 a-d			0 e	0 c	0 a
6	CORVUS	2.62	SC	0.115	lb ai/a	5.6	fl oz/a	PRE	A								
7	DKC 61-69 VT3									15.4 f-i	59.0 a	85 efg	69 cd	-36 ab	4 c	0 c	0 a
7	CORVUS	2.62	SC	0.115	lb ai/a	5.6	fl oz/a	V1	B								
8	DKC 64-69 GENVT3P									17.1 a	58.2 f	121 a-d			0 e	0 c	0 a
8	CORVUS	2.62	SC	0.115	lb ai/a	5.6	fl oz/a	V1	B								
9	DKC 61-69 VT3									15.4 f-i	58.9 abc	106 a-g	87 abc	-16 a	0 e	2 b	0 a
9	RESOLVE	25	WG	0.0156	lb ai/a	1	oz/a	PRE	A								
10	DKC 64-69 GENVT3P									16.8 a-d	58.3 f	122 a-d			0 e	1 c	0 a
10	RESOLVE	25	WG	0.0156	lb ai/a	1	oz/a	PRE	A								
11	DKC 61-69 VT3									15.0 hi	59.0 a	90 d-g	73 bcd	-32 ab	5 b	0 c	0 a
11	RESOLVE	25	WG	0.0156	lb ai/a	1	oz/a	V1	B								
12	DKC 64-69 GENVT3P									16.6 a-e	58.3 ef	122 a-d			1 de	0 c	0 a
12	RESOLVE	25	WG	0.0156	lb ai/a	1	oz/a	V1	B								
13	DKC 61-69 VT3									16.0 b-g	58.5 b-f	123 a-d	94 a	-14 a	0 e	2 b	0 a
13	TRIPLEFLEX	4.25	EC	0.93	lb ai/a	1.75	pt/a	PRE	A								
14	DKC 64-69 GENVT3P									16.6 a-e	58.3 ef	137 a			0 e	0 c	0 a
14	TRIPLEFLEX	4.25	EC	0.93	lb ai/a	1.75	pt/a	PRE	A								
15	DKC 61-69 VT3									15.8 d-h	58.8 a-e	98 b-g	80 a-d	-24 ab	5 b	0 c	0 a
15	TRIPLEFLEX	4.25	EC	0.93	lb ai/a	1.75	pt/a	V1	B								
16	DKC 64-69 GENVT3P									16.3 a-f	58.5 c-f	122 a-d			1 d	0 c	0 a
16	TRIPLEFLEX	4.25	EC	0.93	lb ai/a	1.75	pt/a	V1	B								
17	DKC 61-69 VT3									14.4 i	59.2 a	75 g	66 d	-35 ab	0 e	5 a	0 a
17	TRIPLEFLEX	4.25	EC	0.93	lb ai/a	1.75	pt/a	PRE	A								
17	CALLISTO	4	SC	0.094	lb ai/a	3	fl oz/a	PRE	A								
18	DKC 64-69 GENVT3P									17.0 ab	58.2 f	110 a-e			0 e	1 c	0 a
18	TRIPLEFLEX	4.25	EC	0.93	lb ai/a	1.75	pt/a	PRE	A								
18	CALLISTO	4	SC	0.094	lb ai/a	3	fl oz/a	PRE	A								
19	DKC 61-69 VT3									15.1 ghi	59.1 a	92 c-g	69 cd	-43 b	7 a	0 c	0 a
19	TRIPLEFLEX	4.25	EC	0.93	lb ai/a	1.75	pt/a	V1	B								
19	CALLISTO	4	SC	0.094	lb ai/a	3	fl oz/a	V1	B								
20	DKC 64-69 GENVT3P									16.9 ab	58.2 f	135 a			1 de	0 c	0 a
20	TRIPLEFLEX	4.25	EC	0.93	lb ai/a	1.75	pt/a	V1	B								
20	CALLISTO	4	SC	0.094	lb ai/a	3	fl oz/a	V1	B								
LSD (P=.05)										1.02	0.46	33.7	20.1	23.3	1.0	0.9	0.0
Replicate F										25.745	18.401	28.489	2.072	2.921	1.394	0.861	0.000
Replicate Prob(F)										0.0001	0.0001	0.0001	0.1284	0.0528	0.2541	0.4669	1.0000
Treatment F										4.858	4.585	2.668	2.263	1.567	36.703	14.268	0.000
Treatment Prob(F)										0.0001	0.0001	0.0023	0.0503	0.1775	0.0001	0.0001	1.0000

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Pest Code										
Crop Code										
Rating Date										
Rating Data Type										
Rating Unit										
Rating Timing										
Trt-Eval Interval										

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	ZEAMD 9-29-11 Moisture Percent	ZEAMD 9-29-11 Test wt. lb/bu	ZEAMD 9-29-11 Yield bu/A	ZEAMD 9-29-11 Yield Reduc % 64-69	ZEAMD 9-29-11 Yield Diff vs 64-69	ZEAMD 11 DA-A Injury Percent	ZEAMD 21 DAT Injury Percent	ZEAMD 42 DAT Injury Percent
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Means followed by same letter do not significantly differ (P=.05, LSD)

Trial Comments

1. Protocol: Monsanto.
2. Ratings: CI (describe injury) at 7, 21, and 42 DAT.
3. V1 timing is targeted for when the first leaf starts to be visible and emerge from the coleoptile.
4. Take photos at the B application to document corn growth stage.
5. Apply Roundup PowerMax as needed to maintain weed-free.
6. Yield.
7. Corn injury was chlorosis.
 On 5-20-11 at 7 days after the PRE application corn was not yet emerged, so the first rating was delayed until 5-24-11.
 DA-A and DA-B are days after the PRE and V1 application, respectively.
 DAT = Days after either the PRE or V1 application.
 Ratings at 11 days after the PRE and 7 days after the V1 application were on 5-24-11 and 5-31-11, respectively.
 Ratings at 21 days after the PRE and V1 application were on 6-3-11 and 6-14-11, respectively.
 Ratings at 42 days after the PRE and V1 application were on 6-24-11 and 7-5-11, respectively.
8. Harvested 9-29-11, (2) 30 inch rows by 26.5 ft.