

# Corn Fungicide and Insecticide Studies

Southern Illinois University

Foliar Fungicide and Adjuvant Evaluation in Corn.

Trial ID: 11-20A-MME100-A Location: Belleville Res. Center

**Investigator:** Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu  
**City State Zip Country:** Belleville IL 62221 USA  
**Trial Status:** PRELIMINARY **Initiation Date:** 5-31-11

**Objectives:** Evaluate various fungicides and fungicides plus adjuvants for crop response and disease control in corn.

**Crop 1:** ZEAMD Dent corn **Variety:** DKC 64-82 **Description:** RR2  
**Planting Method:** SEEDED **Planting Date:** 5-31-11  
**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:** 27 FT **Tillage Type:** REDUCED-TILL  
**Replications:** 4 **Study Design:** Randomized Complete Block

**Prior Crops, Year**  
1. GLXMA 2010

**Field Prep./Maintenance:** N 150 LB/A, P205 50 LB/A, K20 150 LB/A

**% OM:** 2 **Texture:** SILT LOAM  
**pH:** 6.8 **Soil Name:** BETHALTO  
**CEC:** 10 **Fert. Level:** P1 64 LB/A, K 327 LB/A

## Application Description

	A	B	C
<b>Application Date:</b>	6-23-11	6-24-11	7-25-11
<b>Time of Day:</b>	8:00	9:30	11:30
<b>Application Method:</b>	Spray	Spray	Spray
<b>Application Timing:</b>	12"CN	V4-8	R1
<b>Application Placement:</b>	BROFOL	BROFOL	BROFOL
<b>Applied By:</b>	LAH	LAH	LAH
<b>Air Temperature, Unit:</b>	72 F	74 F	88 F
<b>% Relative Humidity:</b>	64	56	61
<b>Wind Velocity, Unit:</b>	6 MPH	4 MPH	0 MPH
<b>Wind Direction:</b>	W	W	
<b>Dew Presence (Y/N):</b>	N	N	N
<b>Soil Temperature, Unit:</b>	75 F	74 F	83 F
<b>Soil Moisture:</b>	ABONOR	ABONOR	BELNOR
<b>% Cloud Cover:</b>	10	0	0

<b>Crop stage at application:</b>	6-23-11	6-24-11	7-25-11
	V5-V6	V5-V6	R1
<b>Height Min, Max (inch):</b>	12	14 13	15 125 130

## Pest Stage At Each Application

<b>Application Date:</b>	6-23-11	6-24-11	7-25-11
<b>Weed Code:</b>	NA	NA	NA
<b>Stage Majority (leaves):</b>	NA	NA	NA

## Application Equipment

<b>Appl. Equipment:</b>	CO2 sprayer	CO2 sprayer	CO2 sprayer
<b>Operating Pressure:</b>	40 PSI	40 PSI	40 PSI
<b>Nozzle Type:</b>	Flat fan	Flat fan	Flat fan
<b>Nozzle Size:</b>	XR 8002	XR 8002	XR 8002
<b>Boom Length, Unit:</b>	5 FT	5 FT	5 FT
<b>Spray Volume, Unit:</b>	20 GPA	20 GPA	20 GPA

Foliar Fungicide and Adjuvant Evaluation in Corn.

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Pest Code												CERCZM	CERCZM				
Crop Code												ZEAMD	ZEAMD				
Rating Date												10-7-11	10-7-11				
Rating Data Type												Moisture	Test wt.				
Rating Unit												Percent	lb/bu				
Rating Timing												Percent	Percent				
Trt-Eval Interval												21 DAT	35 DA-C				
												49 DA-C	21 DAT				
												21 DAT	21 DAT				
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	20.1 a	53.9 a	164 a	0 a	0 a	0 a	0 a	0 a
1	NONTREATED									20.1 a	53.9 a	164 a	0 a	0 a	0 a	0 a	0 a
2	QUILT XCEL	2.2	SC	0.18	lb ai/a	10.5	fl oz/a	V4-8	B	20.1 a	53.9 a	159 a	0 a	0 a	0 a	0 a	0 a
3	QUILT XCEL	2.2	SC	0.18	lb ai/a	10.5	fl oz/a	V4-8	B	19.5 a	54.3 a	164 a	0 a	0 a	0 a	0 a	0 a
3	QUILT XCEL	2.2	SC	0.18	lb ai/a	10.5	fl oz/a	R1	C								
4	QUILT XCEL	2.2	SC	0.18	lb ai/a	10.5	fl oz/a	R1	C	19.7 a	54.1 a	161 a	0 a	0 a	0 a	0 a	0 a
5	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	V4-8	B	19.8 a	54.1 a	172 a	0 a	0 a	0 a	0 a	0 a
6	HEADLINE AMP	1.68	SC	0.131	lb ai/a	10	fl oz/a	R1	C	19.9 a	54.0 a	171 a	0 a	0 a	0 a	0 a	0 a
7	KOCIDE 3000	46.1	WG	0.46	lb ai/a	1	lb/a	12"CN	A	19.6 a	54.2 a	162 a	0 a	0 a	0 a	0 a	0 a
8	KOCIDE 3000	46.1	WG	0.46	lb ai/a	1	lb/a	12"CN	A	19.7 a	54.1 a	165 a	0 a	0 a	0 a	0 a	0 a
8	APPROACH	2.08	SC	0.0975	lb ai/a	6	fl oz/a	R1	C								
8	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R1	C								
LSD (P=.05)										0.72	0.35	14.3	0.0	0.0	0.0	0.0	0.0
Replicate F										2.875	3.072	23.520	0.000	0.000	0.000	0.000	0.000
Replicate Prob(F)										0.0605	0.0500	0.0001	1.0000	1.0000	1.0000	1.0000	1.0000
Treatment F										0.809	0.920	0.859	0.000	0.000	0.000	0.000	0.000
Treatment Prob(F)										0.5893	0.5112	0.5567	1.0000	1.0000	1.0000	1.0000	1.0000

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

## Foliar Fungicide and Adjuvant Evaluation in Corn.

Trial ID: 11-20A-MME100-A Location: Belleville Res. Center

Pest Code	CERCZM	CERCZM	CERCZM	CERCZM
Crop Code	ZEAMD	ZEAMD	ZEAMD	ZEAMD
Rating Date	8-29-11	8-29-11	9-12-11	9-12-11
Rating Data Type	Incidence	Severity	Incidence	Severity
Rating Unit	Percent	Percent	Percent	Percent
Rating Timing				
Trt-Eval Interval	35 DA-C	35 DA-C	49 DA-C	49 DA-C

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
1	NONTREATED									90 a	1.0 a	90 a	7.5 a
2	QUILT XCEL	2.2	SC	0.18	lb ai/a	10.5	fl oz/a	V4-8	B	90 a	1.0 a	90 a	5.3 ab
3	QUILT XCEL	2.2	SC	0.18	lb ai/a	10.5	fl oz/a	V4-8	B	1 b	0.5 b	1 c	0.8 c
3	QUILT XCEL	2.2	SC	0.18	lb ai/a	10.5	fl oz/a	R1	C				
4	QUILT XCEL	2.2	SC	0.18	lb ai/a	10.5	fl oz/a	R1	C	1 b	0.5 b	2 c	0.8 c
5	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	V4-8	B	90 a	1.0 a	90 a	5.3 ab
6	HEADLINE AMP	1.68	SC	0.131	lb ai/a	10	fl oz/a	R1	C	1 b	0.5 b	1 c	0.6 c
7	KOCIDE 3000	46.1	WG	0.46	lb ai/a	1	lb/a	12"CN	A	90 a	1.0 a	90 a	7.5 a
8	KOCIDE 3000	46.1	WG	0.46	lb ai/a	1	lb/a	12"CN	A	2 b	0.5 b	4 b	3.0 bc
8	APPROACH	2.08	SC	0.0975	lb ai/a	6	fl oz/a	R1	C				
8	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R1	C				
LSD (P=.05)										0.4	0.00	1.0	3.13
Replicate F										4.934	0.000	0.759	3.886
Replicate Prob(F)										0.0095	1.0000	0.5296	0.0235
Treatment F										99027.893	0.000	17968.881	7.670
Treatment Prob(F)										0.0001	1.0000	0.0001	0.0001

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

## Trial Comments

1. Protocol: Syngenta, DuPont, BASF.
2. Ratings: CI/DI/DS at 21 DAT and prior to loss of green tissue at maturity.
3. Yield, crop destruct possible for treatment 8.
4. Blanket PRE application of Degree Xtra (3 qt/A) plus Atrazine (1 lb ai/A) was applied to entire area on 5-31-11.
5. DAT = Days after various applications.  
Ratings at 21 days after the 12"CN, V4-8 and R1 applications were on 7-14-11, 7-15-11, and 8-15-11, respectively.  
Ratings on 8-29-11 at 35 DA-C were also 66 and 67 days after the 12"CN and V4-8 applications, respectively.  
Ratings on 9-12-11 at 49 DA-C were also 80 and 81 days after the 12"CN and V4-8 applications, respectively.
6. CERCZM = Grey leaf spot of corn.
7. Missing yield data for plots 410 - 416 were due to flooding.
8. Harvested 10-7-11, (2) 30 inch rows by 24 ft.