

BASF and DuPont Foliar Fungicides in Corn.

Trial ID: 09-23M-N210 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: 06-24-09

Objectives: Evaluate commercial and experimental formulations of foliar fungicides
 for use in corn.

Crop 1: ZEAMD Dent corn Variety: DKC 61-69 Description: RR2 (VT3)
 Planting Method: SEEDED Planting Date: 06-24-09
 Rate, Unit: 28000 S/A Depth, Unit: 1.5 IN
 Row Spacing, Unit: 30 IN

Pest 1 Type: D Code: CERCZM Cercospora zeae-maydis Gray leaf spot of corn
 Pest 2 Type: D Code: PUCCPY Puccinia polysora Southern rust of corn

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 30 FT Tillage Type: MINIMUM-TILL
 Replications: 6 Study Design: Randomized Complete Block

Prior Crops, Year
 1. ZEAMD 2008

Field Prep./Maintenance: N 150 LB/A, P2O5 0 LB/A, K2O 100 LB/A

% OM: 1.8 Texture: SILT LOAM
 pH: 6.5 Soil Name: CASEYVILLE
 CEC: 8 Fert. Level: P1: 145 LB/A, K: 383 LB/A

Application Description

	A	B
Application Date:	07-18-09	08-19-09
Time of Day:	10:00	13:15
Application Method:	Spray	Spray
Application Timing:	V6	VT
Application Placement:	BROFOL	BROFOL
Applied By:	NVH	DKP
Air Temperature, Unit:	70 F	84 F
% Relative Humidity:	80	92
Wind Velocity, Unit:	6 MPH	8 MPH
Wind Direction:	N	S
Dew Presence (Y/N):	N	N
Soil Moisture:	NORMAL	ABONOR
% Cloud Cover:	30	80

	07-18-09	08-19-09
Crop stage at application:	V5	VT
Height Min, Max (inch):	9 11	96 108

Pest Stage At Each Application

	07-18-09	08-19-09
Application Date:	07-18-09	08-19-09
Weed Code:	CERCZM	CERCZM
Stage Majority (leaves):	NA	NA
Weed Code:	PUCCPY	PUCCPY
Stage Majority (leaves):	NA	NA

Application Equipment

	CO2 sprayer	CO2 sprayer
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:	5 FT	5 FT
Spray Volume, Unit:	20 GPA	20 GPA

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

ZEAMD 11-05-09 Lodging Percent EOS	ZEAMD 12-04-09 Moisture Percent	ZEAMD 12-04-09 Yield bu/A	ZEAMD Injury Percent 28 DAT	ZEAMD Injury Percent 42 DAT	ZEAMD Injury Percent R5
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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code						
1	NONTREATED									10 ab	21.0 bcd	161 a	0 a	0 a	0 a
2	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	V6	A	13 a	20.9 cd	155 a	0 a	0 a	0 a
2	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	V6	A						
3	HEADLINE SC	2.09	SC	0.098	lb ai/a	6	fl oz/a	V6	A	7 ab	20.8 cd	162 a	0 a	0 a	0 a
3	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	V6	A						
4	BAS 556 UUF	1.67	SC	0.13	lb ai/a	10	fl oz/a	V6	A	5 ab	20.8 cd	164 a	0 a	0 a	0 a
4	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	V6	A						
5	BAS 500 18F	2.09	L	0.098	lb ai/a	6	fl oz/a	V6	A						
6	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	VT	B	7 ab	21.3 abc	161 a	0 a	0 a	0 a
6	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	VT	B						
7	HEADLINE SC	2.09	SC	0.098	lb ai/a	6	fl oz/a	VT	B	2 b	21.7 a	166 a	0 a	0 a	0 a
7	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	VT	B						
8	BAS 556 UUF	1.67	SC	0.13	lb ai/a	10	fl oz/a	VT	B	2 b	21.2 abc	159 a	0 a	0 a	0 a
8	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	VT	B						
9	QUILT	1.66	SC	0.182	lb ai/a	14	fl oz/a	VT	B	3 b	20.5 d	163 a	0 a	0 a	0 a
9	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	VT	B						
10	STRATEGO	2.08	EC	0.163	lb ai/a	10	fl oz/a	VT	B	3 b	21.3 abc	161 a	0 a	0 a	0 a
10	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	VT	B						
11	TILT	3.6	EC	0.113	lb ai/a	4	fl oz/a	VT	B	10 ab	21.2 abc	164 a	0 a	0 a	0 a
11	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	VT	B						
12	DPX-LEM17	1.67	EC	0.209	lb ai/a	16	fl oz/a	VT	B	7 ab	21.0 bcd	161 a	0 a	0 a	0 a
12	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	VT	B						
13	DPX-YT669	2.08	SC	0.146	lb ai/a	9	fl oz/a	VT	B	7 ab	21.5 ab	156 a	0 a	0 a	0 a
13	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	VT	B						
LSD (P=.05)										9.6	0.59	17.0	0.0	0.0	0.0
Replicate F										1.398	10.253	11.744	0.000	0.000	0.000
Replicate Prob(F)										0.2395	0.0001	0.0001	1.0000	1.0000	1.0000
Treatment F										1.110	2.343	0.318	0.000	0.000	0.000
Treatment Prob(F)										0.3710	0.0190	0.9789	1.0000	1.0000	1.0000

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

BASF and DuPont Foliar Fungicides in Corn.

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Pest Code Crop Code Rating Date Rating Data Type Rating Unit Rating Timing Trt-Eval Interval								CERCZM ZEAMD	CERCZM ZEAMD	CERCZM ZEAMD	CERCZM ZEAMD	CERCZM ZEAMD	CERCZM ZEAMD	CERCZM ZEAMD	CERCZM ZEAMD
								Incidence Percent 0 DAT	Severity Percent 0 DAT	Incidence Percent 28 DAT	Severity Percent 28 DAT	Incidence Percent 42 DAT	Severity Percent 42 DAT	Incidence Percent R5	Severity Percent R5
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code						
1	NONTREATED									0 a	0 a	0.0 b	0.0 b	1.0 a	0.2 b
2	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	V6	A	0 a	0 a	0.0 b	0.0 b	1.0 a	0.2 b
2	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	V6	A						
3	HEADLINE SC	2.09	SC	0.098	lb ai/a	6	fl oz/a	V6	A	0 a	0 a	0.0 b	0.0 b	1.0 a	0.2 b
3	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	V6	A						
4	BAS 556 UUF	1.67	SC	0.13	lb ai/a	10	fl oz/a	V6	A	0 a	0 a	0.0 b	0.0 b	1.0 a	0.2 b
4	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	V6	A						
5	BAS 500 18F	2.09	L	0.098	lb ai/a	6	fl oz/a	V6	A						
6	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	VT	B	0 a	0 a	1.0 a	0.2 a	1.0 a	0.2 b
6	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	VT	B						
7	HEADLINE SC	2.09	SC	0.098	lb ai/a	6	fl oz/a	VT	B	0 a	0 a	1.0 a	0.2 a	1.0 a	0.2 b
7	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	VT	B						
8	BAS 556 UUF	1.67	SC	0.13	lb ai/a	10	fl oz/a	VT	B	0 a	0 a	1.0 a	0.2 a	1.0 a	0.2 b
8	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	VT	B						
9	QUILT	1.66	SC	0.182	lb ai/a	14	fl oz/a	VT	B	0 a	0 a	1.0 a	0.2 a	1.0 a	0.2 b
9	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	VT	B						
10	STRATEGO	2.08	EC	0.163	lb ai/a	10	fl oz/a	VT	B	0 a	0 a	1.0 a	0.2 a	1.0 a	0.2 b
10	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	VT	B						
11	TILT	3.6	EC	0.113	lb ai/a	4	fl oz/a	VT	B	0 a	0 a	1.0 a	0.2 a	1.0 a	0.2 b
11	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	VT	B						
12	DPX-LEM17	1.67	EC	0.209	lb ai/a	16	fl oz/a	VT	B	0 a	0 a	1.0 a	0.2 a	1.0 a	0.2 a
12	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	VT	B						
13	DPX-YT669	2.08	SC	0.146	lb ai/a	9	fl oz/a	VT	B	0 a	0 a	1.0 a	0.2 a	1.0 a	0.2 b
13	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	VT	B						
LSD (P=.05)								0.0	0.0	0.00	0.00	0.00	0.01	0.00	0.01
Replicate F								0.000	0.000	0.000	0.000	0.000	1.007	0.000	1.007
Replicate Prob(F)								1.0000	1.0000	1.0000	1.0000	1.0000	0.4226	1.0000	0.4226
Treatment F								0.000	0.000	0.000	0.000	0.000	1.003	0.000	1.003
Treatment Prob(F)								1.0000	1.0000	1.0000	1.0000	1.0000	0.4559	1.0000	0.4559

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

BASF and DuPont Foliar Fungicides in Corn.

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Location: Belleville Res. Center

								PUCCPY ZEAMD	PUCCPY ZEAMD	PUCCPY ZEAMD	PUCCPY ZEAMD	ZEAMD 10-19-09 Greenness Percent	ZEAMD 10-19-09 Plant Hlth 1-10
Pest Code Crop Code Rating Date Rating Data Type Rating Unit Rating Timing Trt-Eval Interval								Incidence Percent 42 DAT	Severity Percent 42 DAT	Incidence Percent R5	Severity Percent R5		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
1	NONTREATED									1.0 a	5.0 a	54 bc	4 ab
2	HEADLINE	2.09	EC	0.098	lb ai/a	6 fl oz/a		V6	A	1.0 a	5.0 a	50 c	4 a
2	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25 % v/v		V6	A				
3	HEADLINE SC	2.09	SC	0.098	lb ai/a	6 fl oz/a		V6	A	1.0 a	5.0 a	59 bc	3 abc
3	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25 % v/v		V6	A				
4	BAS 556 UUF	1.67	SC	0.13	lb ai/a	10 fl oz/a		V6	A	1.0 a	5.0 a	67 ab	3 abc
4	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25 % v/v		V6	A				
5	BAS 500 18F	2.09	L	0.098	lb ai/a	6 fl oz/a		V6	A				
6	HEADLINE	2.09	EC	0.098	lb ai/a	6 fl oz/a		VT	B	1.0 a	1.0 b	65 abc	3 abc
6	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25 % v/v		VT	B				
7	HEADLINE SC	2.09	SC	0.098	lb ai/a	6 fl oz/a		VT	B	1.0 a	1.0 b	77 a	3 c
7	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25 % v/v		VT	B				
8	BAS 556 UUF	1.67	SC	0.13	lb ai/a	10 fl oz/a		VT	B	1.0 a	1.3 b	68 ab	3 abc
8	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25 % v/v		VT	B				
9	QUILT	1.66	SC	0.182	lb ai/a	14 fl oz/a		VT	B	1.0 a	1.0 b	64 abc	3 abc
9	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25 % v/v		VT	B				
10	STRATEGO	2.08	EC	0.163	lb ai/a	10 fl oz/a		VT	B	1.0 a	3.0 a	63 abc	3 abc
10	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25 % v/v		VT	B				
11	TILT	3.6	EC	0.113	lb ai/a	4 fl oz/a		VT	B	1.0 a	2.7 a	63 abc	3 bc
11	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25 % v/v		VT	B				
12	DPX-LEM17	1.67	EC	0.209	lb ai/a	16 fl oz/a		VT	B	1.0 a	2.7 a	63 abc	3 abc
12	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25 % v/v		VT	B				
13	DPX-YT669	2.08	SC	0.146	lb ai/a	9 fl oz/a		VT	B	1.0 a	3.0 a	63 abc	3 abc
13	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25 % v/v		VT	B				
LSD (P=.05)								0.00	0.58	0.00	0.47	16.6	0.7
Replicate F								0.000	1.155	0.000	1.147	4.575	5.720
Replicate Prob(F)								1.0000	0.3504	1.0000	0.3468	0.0015	0.0003
Treatment F								0.000	22.087	0.000	102.669	1.291	1.400
Treatment Prob(F)								1.0000	0.0001	1.0000	0.0001	0.2541	0.1993

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

Trial Comments

1. Protocol: BASF (CF1), DuPont.
2. Ratings: Record disease pressure in each plot at application; Percent disease control and CI at 28 and 42 DAT, and at R5 including stalk rot and anthracnose top die back.
Percent greenness 1-2 weeks before harvest.
Corn percent corn lodging at or near harvest; Stalk push test at harvest.
3. Yield.
4. Blanket PRE application of Lumax + Atrazine and maintain weedfree with Touchdown Total if necessary.
5. Missing data for treatment 5 was due to unavailability of product at application time, nothing was applied.
6. CERCZM = Gray leaf spot of corn (*Cercospora zeae-maydis*).
PUCCPY = Southern rust of corn (*Puccinia polysora*).
7. DAT = Days after either the V6 or VT application. EOS = End of season.
The nontreated plots were rated the same day as the VT treatments
Ratings at 0 days after the V6 and VT applications were on 7-18-09 and 8-19-09, respectively.
Ratings at 28 days after the V6 and VT applications were on 8-15-09 and 9-16-09, respectively.
Ratings at 42 days after the V6 and VT applications were on 8-29-09 and 9-30-09, respectively.
Ratings at R5 were on 9-30-09.
8. Harvested 12-4-09, (2) 30 inch rows by 27 ft.