

FBS-1039 Timing and Placement Methods with Fertilizer in Corn.

Trial ID: 10-18-W60

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:** 05-31-10

Objectives: Evaluate FBS-1039 with starter and sidedress fertilizers for efficiency, yield and quality in corn.

Crop 1: ZEAMD Dent corn **Variety:** DKC 61-21 GENSS **Description:** RR2/LL
Planting Method: SEEDED **Planting Date:** 05-31-10
Rate, Unit: 28000 S/A **Depth, Unit:** 1.5 IN
Row Spacing, Unit: 30 IN

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 2009

Field Prep./Maintenance: N 100 LB/A, P205 0 LB/A, K20 0 LB/A

% OM: 1.9 **Texture:** SILT LOAM
pH: 7 **Soil Name:** BETHALTO
CEC: 12 **Fert. Level:** P1 89 LB/A, K 359 LB/A

Application Description

	A	B
Application Date:	05-31-10	06-18-10
Time of Day:	16:00	16:00
Application Method:	Spray	Spray
Application Timing:	START	V5-SIDE
Application Placement:	IN-FURROW	SIDEDRESS
Applied By:		NVH
Air Temperature, Unit:		92 F
% Relative Humidity:		80
Wind Velocity, Unit:		4 MPH
Wind Direction:		S
Dew Presence (Y/N):		N
Soil Moisture:	NORMAL	ABONOR
% Cloud Cover:		40

	A	B
Crop stage at application:	NA	V5
Height Min, Max (inch):		9 10

Pest Stage At Each Application

	A	B
Application Date:	05-31-10	06-18-10
Stage Majority (leaves):	NA	NA

Application Equipment

	A	B
Appl. Equipment:	CO2 sprayer	CO2 sprayer
Operating Pressure:	30 PSI	30 PSI
Nozzle Type:	Flat fan	Flat fan
Nozzle Size:	XR 8003	XR 8003
Boom Length, Unit:		7.5 FT
Spray Volume, Unit:	24 GPA	24 GPA

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

ZEAMD ZEAMD ZEAMD ZEAMD ZEAMD ZEAMD ZEAMD ZEAMD
 10-20-10 10-20-10 10-20-10 10-20-10 10-20-10 10-20-10 10-20-10 10-20-10
 Kernel Rows Kernal Rows Ear Length Protein Grain Oil Moisture Test wt. Yield
 /Ear /Row cm Percent Percent Percent lb/bu bu/A

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Rate Unit	Growth Stage	Appl Code							
1	NO STARTER													
1	28% UAN	3	SL	70.8 lb ai/a	23.6 gal/a	V5-SIDE	B	19.7 a	28.3 a	18.0 a	7.9 a	5.9 a	13.0 a	62.2 a 184 a
2	10-34-0	100	SL	5 gal/a	5 gal/a	START	A	19.8 a	29.2 a	18.3 a	8.0 a	6.0 a	13.2 a	62.1 a 186 a
2	28% UAN	3	SL	70.8 lb ai/a	23.6 gal/a	V5-SIDE	B							
3	FBS 1039	100	SL	6 fl oz/a	6 fl oz/a	START	A	19.5 a	28.5 a	18.1 a	8.4 a	6.0 a	13.2 a	62.1 a 187 a
3	10-34-0	100	SL	5 gal/a	5 gal/a	START	A							
3	28% UAN	3	SL	70.8 lb ai/a	23.6 gal/a	V5-SIDE	B							
4	10-34-0	100	SL	5 gal/a	5 gal/a	START	A	19.8 a	28.2 a	18.1 a	8.5 a	6.1 a	12.9 a	62.2 a 188 a
4	FBS 1039	100	SL	8 fl oz/a	8 fl oz/a	V5-SIDE	B							
4	28% UAN	3	SL	70.8 lb ai/a	23.6 gal/a	V5-SIDE	B							
5	FBS 1039	100	SL	6 fl oz/a	6 fl oz/a	START	A	19.6 a	28.9 a	18.3 a	7.7 a	6.0 a	13.0 a	62.2 a 178 a
5	10-34-0	100	SL	5 gal/a	5 gal/a	START	A							
5	FBS 1039	100	SL	8 fl oz/a	8 fl oz/a	V5-SIDE	B							
5	28% UAN	3	SL	70.8 lb ai/a	23.6 gal/a	V5-SIDE	B							
LSD (P=.05)								1.12	3.31	1.02	1.06	0.29	0.57	0.13 10.5
Replicate F								0.975	4.056	1.180	0.819	0.277	0.088	0.000 0.910
Replicate Prob(F)								0.4368	0.0333	0.3582	0.5081	0.8407	0.9650	1.0000 0.4651
Treatment F								0.131	0.160	0.095	0.915	0.646	0.424	0.000 1.212
Treatment Prob(F)								0.9682	0.9547	0.9820	0.4863	0.6402	0.7882	1.0000 0.3558

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

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Rating Data Type																
Rating Unit																
Rating Timing																
Trt-Eval Interval																
		ZEAMD		ZEAMD		ZEAMD		ZEAMD		ZEAMD		ZEAMD		ZEAMD		
		06-28-10		07-16-10		06-28-10		07-16-10		06-28-10		07-16-10		06-28-10		
		Vigor		Vigor		Leaf count		Growth		Height		Height		Height		
		0-9		0-9		V Stage		V Stage		inch		inch		inch		
		28 DA-A		28 DA-B		28 DA-A		28 DA-B		5 Plants		5 Plants		Overall		
		28 DA-A		28 DA-B		28 DA-A		28 DA-B		28 DA-A		28 DA-B		28 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code								
1	NO STARTER								6.0 d	7.0 b	7 a	15 ab	35.3 a	99.6 c	35.0 b	99.5 b
1	28% UAN	3	SL	70.8 lb ai/a	23.6 gal/a		V5-SIDE	B								
2	10-34-0	100	SL	5 gal/a	5 gal/a		START	A	7.5 c	8.3 a	7 a	15 ab	36.2 a	103.8 a	36.8 ab	102.8 a
2	28% UAN	3	SL	70.8 lb ai/a	23.6 gal/a		V5-SIDE	B								
3	FBS 1039	100	SL	6 fl oz/a	6 fl oz/a		START	A	7.8 bc	7.8 a	7 a	14 b	36.5 a	101.8 b	37.3 a	102.0 a
3	10-34-0	100	SL	5 gal/a	5 gal/a		START	A								
3	28% UAN	3	SL	70.8 lb ai/a	23.6 gal/a		V5-SIDE	B								
4	10-34-0	100	SL	5 gal/a	5 gal/a		START	A	8.3 ab	7.8 a	7 a	15 a	35.5 a	102.3 ab	36.3 ab	102.3 a
4	FBS 1039	100	SL	8 fl oz/a	8 fl oz/a		V5-SIDE	B								
4	28% UAN	3	SL	70.8 lb ai/a	23.6 gal/a		V5-SIDE	B								
5	FBS 1039	100	SL	6 fl oz/a	6 fl oz/a		START	A	8.8 a	8.3 a	7 a	15 a	36.6 a	104.0 a	38.0 a	103.5 a
5	10-34-0	100	SL	5 gal/a	5 gal/a		START	A								
5	FBS 1039	100	SL	8 fl oz/a	8 fl oz/a		V5-SIDE	B								
5	28% UAN	3	SL	70.8 lb ai/a	23.6 gal/a		V5-SIDE	B								
LSD (P=.05)									0.73	0.72	0.0	0.9	2.10	1.71	2.01	1.61
Replicate F									0.815	0.615	0.000	0.884	3.086	1.622	5.024	4.397
Replicate Prob(F)									0.5100	0.6181	1.0000	0.4771	0.0680	0.2364	0.0175	0.0263
Treatment F									19.222	4.846	0.000	2.302	0.789	10.352	2.971	8.359
Treatment Prob(F)									0.0001	0.0147	1.0000	0.1183	0.5542	0.0007	0.0641	0.0018

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ZEAMD
 07-15-10
 NDVI

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	
1	NO STARTER									0.856 c
1	28% UAN	3	SL	70.8	lb ai/a	23.6	gal/a	V5-SIDE	B	
2	10-34-0	100	SL	5	gal/a	5	gal/a	START	A	0.876 b
2	28% UAN	3	SL	70.8	lb ai/a	23.6	gal/a	V5-SIDE	B	
3	FBS 1039	100	SL	6	fl oz/a	6	fl oz/a	START	A	0.889 ab
3	10-34-0	100	SL	5	gal/a	5	gal/a	START	A	
3	28% UAN	3	SL	70.8	lb ai/a	23.6	gal/a	V5-SIDE	B	
4	10-34-0	100	SL	5	gal/a	5	gal/a	START	A	0.882 b
4	FBS 1039	100	SL	8	fl oz/a	8	fl oz/a	V5-SIDE	B	
4	28% UAN	3	SL	70.8	lb ai/a	23.6	gal/a	V5-SIDE	B	
5	FBS 1039	100	SL	6	fl oz/a	6	fl oz/a	START	A	0.900 a
5	10-34-0	100	SL	5	gal/a	5	gal/a	START	A	
5	FBS 1039	100	SL	8	fl oz/a	8	fl oz/a	V5-SIDE	B	
5	28% UAN	3	SL	70.8	lb ai/a	23.6	gal/a	V5-SIDE	B	
LSD (P=.05)										0.0171
Replicate F										2.680
Replicate Prob(F)										0.0940
Treatment F										8.670
Treatment Prob(F)										0.0016

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

Trial Comments

1. Protocol: Floratine BioSciences (FBS-1039).
2. Ratings: Crop vigor, leaf count (growth stage), and plant height at 28 days after each timing.
3. Yield, moisture, test weight and protein at harvest.
4. Collect grain samples from reps 2 and 4 combined to be sent to FBSciences for protien analysis.
5. Blanket preplant broadcast nitrogen application of 100 lb N/Acre.
6. Blanket PRE application of Lumax (6 pt/A) and Aatrex 4L (2.5 pt/A) applied on 6/1/10.
7. Side dress application B at corn stage V5.
8. Corn height; 5 Plants is average height of 5 random plants per plot, Overall is looking across the top of the plants.
 Corn vigor scale is 0-9, 0 = dead, 9 = very vigorous. Corn V Stage = Vegetative stage of corn.
 NDVI = Normalized Difference Vegetation Index as measured with a Greenseeker.
 Kernal Rows per Ear, Kernals per Row, and Ear Length are averages of six ears per plot.
9. Harvested 10-14-10, (2) 30 inch rows by 25.2 ft.