

MSU Soil Fertility Research Program

THE EFFECTS OF SULFUR AND NITROGEN APPLICATION ON NITROGEN USE EFFICIENCY AND CORN PRODUCTION

Trial ID: CMNS10-14 Location: Mason, Ingham, Co Trial Year: 2014  
 Protocol ID: CMNS10-14 Investigator: Kurt Steinke  
 Project ID: Study Director:

Crop Code						ZEAMX
Crop Name						Corn
Crop Variety						P0094AMX
Description						15% moist
Rating Date						Nov-6-2014
Rating Type						YIELD
Rating Unit						BU
Crop Stage Scale						
ARM Action Codes						TY3
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate	Growth Unit Stage
						30
TABLE OF R MEANS						
Replicate 1						188.7
Replicate 2						202.4
Replicate 3						197.4
Replicate 4						195.9
TABLE OF A (SULFUR) MEANS						
1	GYP SUM	16	GR	0 lb ai/a	0 lb/a	PPI 186.7 a
2	GYP SUM	16	GR	20 lb ai/a	125 lb/a	PPI 200.4 a
3	GYP SUM	16	GR	320 lb ai/a	2000 lb/a	PPI 201.3 a
TABLE OF B (NITROGEN) MEANS						
1	UREA	46	GR	140 lb ai/a	304 lb/a	PPI 184.8 c
1	K2O 0-0-62	62	GR	50 lb ai/a	81 lb/a	2X2PL
1	MAP 11-52-0	52	GR	20 lb ai/a	38.5 lb/a	2X2PL
1	28% Nitrogen	3	SC	10 lb ai/a	3.33 gal/a	2X2PL
2	UREA	46	GR	70 lb ai/a	152 lb/a	PPI 197.5 b
2	28% Nitrogen	3	SC	70 lb ai/a	23.3 gal/a	V4-V6
2	K2O 0-0-62	62	GR	50 lb ai/a	81 lb/a	2X2PL
2	MAP 11-52-0	52	GR	20 lb ai/a	38.5 lb/a	2X2PL
2	28% Nitrogen	3	SC	10 lb ai/a	3.33 gal/a	2X2PL
3	28% Nitrogen	3	SC	140 lb ai/a	46.7 gal/a	V4-V6 206.0 a
3	K2O 0-0-62	62	GR	50 lb ai/a	81 lb/a	2X2PL
3	MAP 11-52-0	52	GR	20 lb ai/a	38.5 lb/a	2X2PL
3	28% Nitrogen	3	SC	10 lb ai/a	3.33 gal/a	2X2PL
TABLE OF A (SULFUR) B (NITROGEN) MEANS						
1	GYP SUM	16	GR	0 lb ai/a	0 lb/a	PPI 174.9 a
1	UREA	46	GR	140 lb ai/a	304 lb/a	PPI
1	K2O 0-0-62	62	GR	50 lb ai/a	81 lb/a	2X2PL
1	MAP 11-52-0	52	GR	20 lb ai/a	38.5 lb/a	2X2PL
1	28% Nitrogen	3	SC	10 lb ai/a	3.33 gal/a	2X2PL
2	GYP SUM	16	GR	20 lb ai/a	125 lb/a	PPI 191.3 a
1	UREA	46	GR	140 lb ai/a	304 lb/a	PPI
1	K2O 0-0-62	62	GR	50 lb ai/a	81 lb/a	2X2PL
1	MAP 11-52-0	52	GR	20 lb ai/a	38.5 lb/a	2X2PL
1	28% Nitrogen	3	SC	10 lb ai/a	3.33 gal/a	2X2PL
3	GYP SUM	16	GR	320 lb ai/a	2000 lb/a	PPI 188.1 a
1	UREA	46	GR	140 lb ai/a	304 lb/a	PPI
1	K2O 0-0-62	62	GR	50 lb ai/a	81 lb/a	2X2PL
1	MAP 11-52-0	52	GR	20 lb ai/a	38.5 lb/a	2X2PL
1	28% Nitrogen	3	SC	10 lb ai/a	3.33 gal/a	2X2PL

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

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Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Other Rate	Other Rate	Unit	Growth Stage	
Crop Code Crop Name Crop Variety Description Rating Date Rating Type Rating Unit Crop Stage Scale ARM Action Codes										ZEAMX Corn P0094AMX 15% moist Nov-6-2014 YIELD BU TY3
										30
1	GYPSUM	16	GR	0	lb ai/a	0	lb/a		PPI	190.0 a
2	UREA	46	GR	70	lb ai/a	152	lb/a		PPI	
2	28% Nitrogen	3	SC	70	lb ai/a	23.3	gal/a		V4-V6	
2	K2O 0-0-62	62	GR	50	lb ai/a	81	lb/a		2X2PL	
2	MAP 11-52-0	52	GR	20	lb ai/a	38.5	lb/a		2X2PL	
2	28% Nitrogen	3	SC	10	lb ai/a	3.33	gal/a		2X2PL	
2	GYPSUM	16	GR	20	lb ai/a	125	lb/a		PPI	199.8 a
2	UREA	46	GR	70	lb ai/a	152	lb/a		PPI	
2	28% Nitrogen	3	SC	70	lb ai/a	23.3	gal/a		V4-V6	
2	K2O 0-0-62	62	GR	50	lb ai/a	81	lb/a		2X2PL	
2	MAP 11-52-0	52	GR	20	lb ai/a	38.5	lb/a		2X2PL	
2	28% Nitrogen	3	SC	10	lb ai/a	3.33	gal/a		2X2PL	
3	GYPSUM	16	GR	320	lb ai/a	2000	lb/a		PPI	202.8 a
2	UREA	46	GR	70	lb ai/a	152	lb/a		PPI	
2	28% Nitrogen	3	SC	70	lb ai/a	23.3	gal/a		V4-V6	
2	K2O 0-0-62	62	GR	50	lb ai/a	81	lb/a		2X2PL	
2	MAP 11-52-0	52	GR	20	lb ai/a	38.5	lb/a		2X2PL	
2	28% Nitrogen	3	SC	10	lb ai/a	3.33	gal/a		2X2PL	
1	GYPSUM	16	GR	0	lb ai/a	0	lb/a		PPI	195.2 a
3	28% Nitrogen	3	SC	140	lb ai/a	46.7	gal/a		V4-V6	
3	K2O 0-0-62	62	GR	50	lb ai/a	81	lb/a		2X2PL	
3	MAP 11-52-0	52	GR	20	lb ai/a	38.5	lb/a		2X2PL	
3	28% Nitrogen	3	SC	10	lb ai/a	3.33	gal/a		2X2PL	
2	GYPSUM	16	GR	20	lb ai/a	125	lb/a		PPI	210.0 a
3	28% Nitrogen	3	SC	140	lb ai/a	46.7	gal/a		V4-V6	
3	K2O 0-0-62	62	GR	50	lb ai/a	81	lb/a		2X2PL	
3	MAP 11-52-0	52	GR	20	lb ai/a	38.5	lb/a		2X2PL	
3	28% Nitrogen	3	SC	10	lb ai/a	3.33	gal/a		2X2PL	
3	GYPSUM	16	GR	320	lb ai/a	2000	lb/a		PPI	212.9 a
3	28% Nitrogen	3	SC	140	lb ai/a	46.7	gal/a		V4-V6	
3	K2O 0-0-62	62	GR	50	lb ai/a	81	lb/a		2X2PL	
3	MAP 11-52-0	52	GR	20	lb ai/a	38.5	lb/a		2X2PL	
3	28% Nitrogen	3	SC	10	lb ai/a	3.33	gal/a		2X2PL	

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COMPLETE SPLIT-PLOT AOV For ZEAMX Corn P0094AMX 15% moist Nov-6-2014 YIELD BU TY3 (Data Column 30)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.05)
Total	35	8863.838170				
R	3	861.674884	287.224961	3.275	0.0451	9.3
A	2	1606.353460	803.176730	2.430	0.1686	18.2
ERROR A	6	1982.877863	330.479644	3.769	0.0132	16.1
B	2	2748.746106	1374.373053	15.673	0.0001	8.0
AB	4	85.728451	21.432113	0.244	0.9093	13.9
ERROR B	18	1578.457407	87.692078			

Crop Code

ZEAMX, BCOR, Zea mays, = US

Rating Type

YIELD = yield

Rating Unit

BU = bushel

ARM Action Codes

TY3 = 3.889286\*[C27]\*(100-[C28])/85