

MSU Soil Fertility Research Program

EVALUATION OF POTATO IN RESPONSE TO P AND K INPUTS

Trial ID: PMRF04-18 Location: MRF Trial Year: 2018

Investigator: Kurt Steinke

Project ID: MOPO

Crop Code						SOLTU	SOLTU	SOLTU	
Crop Name						Potato	Potato	Potato	
Crop Variety						FL 2137	FL 2137	FL 2137	
Description						harvest	harvest	harvest	
Rating Date						Sep-11-2018	Sep-11-2018	Sep-11-2018	
Rating Type						YIELD B's	YIELD OS	YIELD PickO	
Rating Unit						CWT	CWT	CWT	
ARM Action Codes						TY1	AL TY2	TY3	
Number of Decimals						1	1	1	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Unit	Growth Stage	11	12	13
1	CHECK						18.6 a	0.8 a	0.0 a
	GYP SUM	16	GR	1000 lb/a	1000 lb/a	PPI			
	10-34-0		AL	30 gal/a	30 gal/a	INFUR			
	AS (21-0-0)-N	21	GR	70 lb ai/a	333 lb/a	EMBAND			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	BHILL			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	7-10DAH			
2	MOP Mosaic	60	GR	300 lb ai/a	500 lb/a	PPI	22.6 a	0.1 a	1.3 a
	GYP SUM	16	GR	1000 lb/a	1000 lb/a	PPI			
	10-34-0		AL	30 gal/a	30 gal/a	INFUR			
	AS (21-0-0)-N	21	GR	70 lb ai/a	333 lb/a	EMBAND			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	BHILL			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	7-10DAH			
3	MOP Mosaic	60	GR	300 lb ai/a	500 lb/a	PPI	26.5 a	4.8 a	0.0 a
	GRANuBor 2	14.3	GR	2.5 lb ai/a	17.5 lb/a	PPI			
	GYP SUM	16	GR	1000 lb/a	1000 lb/a	PPI			
	10-34-0		AL	30 gal/a	30 gal/a	INFUR			
	AS (21-0-0)-N	21	GR	70 lb ai/a	333 lb/a	EMBAND			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	BHILL			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	7-10DAH			
4	Aspire	58	GR	300 lb ai/a	517 lb/a	PPI	25.5 a	16.8 a	0.0 a
	GYP SUM	16	GR	1000 lb/a	1000 lb/a	PPI			
	10-34-0		AL	30 gal/a	30 gal/a	INFUR			
	AS (21-0-0)-N	21	GR	70 lb ai/a	333 lb/a	EMBAND			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	BHILL			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	7-10DAH			
5	Aspire	58	GR	180 lb ai/a	310 lb/a	PPI	23.8 a	1.8 a	6.7 a
	GYP SUM	16	GR	1000 lb/a	1000 lb/a	PPI			
	10-34-0		AL	30 gal/a	30 gal/a	INFUR			
	AS (21-0-0)-N	21	GR	70 lb ai/a	333 lb/a	EMBAND			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	BHILL			
	Aspire	58	GR	120 lb ai/a	207 lb/a	BHILL			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	7-10DAH			

Means followed by same letter or symbol do not significantly differ (P=.10, LSD).

t=Mean descriptions are reported in transformed data units, and are not de-transformed.

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OS.

Missing data estimates are included in columns: Yates=11,12,13,14,15,16

Excluded replicate 4 in column 15

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Crop Name						Potato	Potato	Potato		
Crop Variety						FL 2137	FL 2137	FL 2137		
Description						harvest	harvest	harvest		
Rating Date						Sep-11-2018	Sep-11-2018	Sep-11-2018		
Rating Type						YIELD B's	YIELD OS	YIELD PickO		
Rating Unit						CWT	CWT	CWT		
ARM Action Codes						TY1	AL TY2	TY3		
Number of Decimals						1	1	1		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Unit Stage			
				Unit	Unit	Unit		11		
								12		
								13		
6	MOP Mosaic	60	GR	180 lb ai/a	300 lb/a		PPI	30.1 a	0.0 a	8.8 a
	GYP SUM	16	GR	1000 lb/a	1000 lb/a		PPI			
	10-34-0		AL	30 gal/a	30 gal/a		INFUR			
	AS (21-0-0-)N	21	GR	70 lb ai/a	333 lb/a		EMBAND			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a		BHILL			
	MOP Mosaic	60	GR	120 lb ai/a	200 lb/a		BHILL			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a		7-10DAH			
LSD P=.10						7.32	7.76 - 15.59	11.97		
Standard Deviation						5.88	0.72t	9.61		
CV						23.99	156.13t	341.87		
Replicate F						5.883	0.454	0.739		
Replicate Prob(F)						0.0081	0.7184	0.5461		
Treatment F						1.730	1.754	0.670		
Treatment Prob(F)						0.1925	0.1871	0.6524		

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						SOLTU Potato FL 2137 harvest Sep-11-2018	SOLTU Potato FL 2137 harvest Sep-11-2018	SOLTU Potato FL 2137 harvest Sep-11-2018	
						YIELD A' CWT EC TY4 1	spec gravit ER4 T6 3	Total Yield CWT T5 0	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Other Rate Rate Unit	Growth Stage	14	15	16
1	CHECK						323.0	1.083 a	344 a
	GYPNUM	16	GR	1000 lb/a	1000 lb/a	PPI			
	10-34-0		AL	30 gal/a	30 gal/a	INFUR			
	AS (21-0-0)-N	21	GR	70 lb ai/a	333 lb/a	EMBAND			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	BHILL			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	7-10DAH			
2	MOP Mosaic	60	GR	300 lb ai/a	500 lb/a	PPI	395.9 a	1.082 a	428 a
	GYPNUM	16	GR	1000 lb/a	1000 lb/a	PPI			
	10-34-0		AL	30 gal/a	30 gal/a	INFUR			
	AS (21-0-0)-N	21	GR	70 lb ai/a	333 lb/a	EMBAND			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	BHILL			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	7-10DAH			
3	MOP Mosaic	60	GR	300 lb ai/a	500 lb/a	PPI	337.9 a	1.083 a	381 a
	GRANuBor 2	14.3	GR	2.5 lb ai/a	17.5 lb/a	PPI			
	GYPNUM	16	GR	1000 lb/a	1000 lb/a	PPI			
	10-34-0		AL	30 gal/a	30 gal/a	INFUR			
	AS (21-0-0)-N	21	GR	70 lb ai/a	333 lb/a	EMBAND			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	BHILL			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	7-10DAH			
4	Aspire	58	GR	300 lb ai/a	517 lb/a	PPI	346.6 a	1.080 a	416 a
	GYPNUM	16	GR	1000 lb/a	1000 lb/a	PPI			
	10-34-0		AL	30 gal/a	30 gal/a	INFUR			
	AS (21-0-0)-N	21	GR	70 lb ai/a	333 lb/a	EMBAND			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	BHILL			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	7-10DAH			
5	Aspire	58	GR	180 lb ai/a	310 lb/a	PPI	369.8 a	1.079 a	416 a
	GYPNUM	16	GR	1000 lb/a	1000 lb/a	PPI			
	10-34-0		AL	30 gal/a	30 gal/a	INFUR			
	AS (21-0-0)-N	21	GR	70 lb ai/a	333 lb/a	EMBAND			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	BHILL			
	Aspire	58	GR	120 lb ai/a	207 lb/a	BHILL			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	7-10DAH			

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							SOLTU	SOLTU	SOLTU		
							Potato	Potato	Potato		
							FL 2137	FL 2137	FL 2137		
							harvest	harvest	harvest		
							Sep-11-2018	Sep-11-2018	Sep-11-2018		
							YIELD A'	spec gravit	Total Yield		
							CWT		CWT		
							EC TY4	ER4 T6	T5		
							1	3	0		
Trt	Treatment	Form	Form	Rate	Other	Other	Growth				
No.	Name	Conc	Type	Rate	Unit	Rate	Rate	Unit	Stage		
							14	15	16		
6	MOP Mosaic	60	GR	180	lb ai/a	300	lb/a	PPI	349.0 a	1.080 a	388 a
	GYP SUM	16	GR	1000	lb/a	1000	lb/a	PPI			
	10-34-0		AL	30	gal/a	30	gal/a	INFUR			
	AS (21-0-0-)N	21	GR	70	lb ai/a	333	lb/a	EMBAND			
	28% Nitrogen	3	AL	60	lb ai/a	20	gal/a	BHILL			
	MOP Mosaic	60	GR	120	lb ai/a	200	lb/a	BHILL			
	28% Nitrogen	3	AL	60	lb ai/a	20	gal/a	7-10DAH			
LSD P=.10							48.66	0.0039	66.0		
Standard Deviation							38.31	0.0026	53.0		
CV							10.65	0.24	13.39		
Replicate F							0.060	1.978	1.432		
Replicate Prob(F)							0.9797	0.1940	0.2754		
Treatment F							1.479	1.223	1.370		
Treatment Prob(F)							0.2741	0.3727	0.2938		

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Crop Code

SOLTU, BPOT, Solanum tuberosum, Potato = US

Rating Unit

CWT = hundredweight (u.s.=100 lb)

ARM Action Codes

AL = Automatic log transformation of X+1

EC = Do not analyze untreated check, while still reporting treatment mean on AOV Means Table

ER4 = Excluded replicate 4

TY1 = 9.15126\*[1]

TY2 = 9.15126\*[3]

TY3 = 9.15126\*[5]

TY4 = 9.15126\*[7]

T6 = [C10]/([C10]-[C9])

T5 = [c11]+[c12]+[c13]+[c14]