

MSU Soil Fertility Research Program

RESPONSE OF POTATO TO POTASIUUM APPLICATIONS

Trial ID: PMRF03-18 Location: MRF Trial Year: 2018

Investigator: Kurt Steinke

Project ID: POT POT

						SOLTU Potato FL 2137 harvest Sep-11-2018	SOLTU Potato FL 2137 harvest Sep-11-2018	SOLTU Potato FL 2137 harvest Sep-11-2018	
Crop Code									
Crop Name									
Crop Variety									
Description									
Rating Date									
Rating Type						YIELD B's	YIELD OS	YIELD PickO	
Rating Unit						CWT	CWT	CWT	
Crop Stage Scale									
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 Rate Unit	Growth Stage	47	48	49
1	GYPSUM 10-34-0	16	GR	1000 lb/a	1000 lb/a	PPI	25.6 a	0.0 a	0.0 a
	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	6-10DAH			
2	GYPSUM MOP 0-0-62	16	GR	1000 lb/a	1000 lb/a	PPI	17.6 a	1.4 a	0.0 a
	10-34-0	62	GR	225 lb ai/a	363 lb/a	PPI			
	K20 Liquid	3.25	AL	75 lb ai/a	23 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	6-10DAH			
3	GYPSUM MOP 0-0-62	16	GR	1000 lb/a	1000 lb/a	PPI	22.2 a	2.3 a	0.0 a
	10-34-0	62	GR	150 lb ai/a	242 lb/a	PPI			
	K20 Liquid	3.25	AL	150 lb ai/a	46 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	6-10DAH			
4	GYPSUM MOP 0-0-62	16	GR	1000 lb/a	1000 lb/a	PPI	18.1 a	0.8 a	4.3 a
	10-34-0	62	GR	300 lb ai/a	484 lb/a	PPI			
	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	6-10DAH			
5	GYPSUM MOP 0-0-62	16	GR	1000 lb/a	1000 lb/a	PPI	22.8 a	0.8 a	0.0 a
	10-34-0	62	GR	105 lb ai/a	170 lb/a	PPI			
	K20 Liquid	3.25	AL	75 lb ai/a	23 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			
	K20 Liquid	3.25	AL	120 lb ai/a	37 gal/a	BHILL			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	6-10DAH			

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 OSL.

Missing data estimates are included in columns: Yates=47,48,49,50,51,52

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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	
Rating Type						YIELD B's	YIELD OS	YIELD PickO	
Rating Unit						CWT	CWT	CWT	
Crop Stage Scale									
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 Other Rate Rate Unit	Growth Stage	47	48	49
6	GYPSUM	16	GR	1000 lb/a	1000 lb/a	PPI	21.2 a	1.6 a	4.7 a
	MOP 0-0-62	62	GR	165 lb ai/a	266 lb/a	PPI			
	10-34-0		AL	30 gal/a	30 gal/a	INFUR			
	K20 Liquid	3.25	AL	75 lb ai/a	23 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			
	K20 Liquid	3.25	AL	120 lb ai/a	37 gal/a	BHILL			
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a	6-10DAH			
7	GYPSUM	16	GR	1000 lb/a	1000 lb/a	PPI	26.9 a	2.0 a	8.0 a
	MOP 0-0-62	62	GR	187 lb ai/a	302 lb/a	PPI			
	10-34-0		AL	30 gal/a	30 gal/a	INFUR			
	K20 Liquid	3.25	AL	113 lb ai/a	34.8 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	6-10DAH			
LSD P=.10						7.57	2.72 - 8.09	7.40	
Standard Deviation						6.16	0.61t	6.01	
CV						27.88	185.94t	247.58	
Replicate F						0.310	1.998	0.716	
Replicate Prob(F)						0.8176	0.1526	0.5557	
Treatment F						1.282	0.338	1.162	
Treatment Prob(F)						0.3169	0.9073	0.3710	

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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's CWT	spec gravit	Total Yield CWT	
						ET5 TY4 1	T6 3	T5 0	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Rate Unit	Growth Stage	50	51	52
1	GYPSUM 10-34-0 AS (21-0-0-)N 28% Nitrogen 28% Nitrogen CHECK	16 GR AL 21 GR 3 AL 3 AL	GR AL GR AL AL	1000 lb/a 30 gal/a 70 lb ai/a 60 lb ai/a 60 lb ai/a	1000 lb/a 30 gal/a 333 lb/a 20 gal/a 20 gal/a	PPI INFUR EMBAND BHILL 6-10DAH	306.2 a	1.086 a	332 a
2	GYPSUM MOP 0-0-62 10-34-0 K20 Liquid AS (21-0-0-)N 28% Nitrogen 28% Nitrogen	16 GR 62 GR AL 3.25 AL 21 GR 3 AL 3 AL	GR GR AL AL GR AL AL	1000 lb/a 225 lb ai/a 30 gal/a 75 lb ai/a 70 lb ai/a 60 lb ai/a 60 lb ai/a	1000 lb/a 363 lb/a 30 gal/a 23 gal/a 333 lb/a 20 gal/a 20 gal/a	PPI PPI INFUR INFUR EMBAND BHILL 6-10DAH	354.4 a	1.081 c	380 a
3	GYPSUM MOP 0-0-62 10-34-0 K20 Liquid AS (21-0-0-)N 28% Nitrogen 28% Nitrogen	16 GR 62 GR AL 3.25 AL 21 GR 3 AL 3 AL	GR GR AL AL GR AL AL	1000 lb/a 150 lb ai/a 30 gal/a 150 lb ai/a 70 lb ai/a 60 lb ai/a 60 lb ai/a	1000 lb/a 242 lb/a 30 gal/a 46 gal/a 333 lb/a 20 gal/a 20 gal/a	PPI PPI INFUR INFUR EMBAND BHILL 6-10DAH	351.6 a	1.080 c	379 a
4	GYPSUM MOP 0-0-62 10-34-0 AS (21-0-0-)N 28% Nitrogen 28% Nitrogen	16 GR 62 GR AL 21 GR 3 AL 3 AL	GR GR AL GR AL AL	1000 lb/a 300 lb ai/a 30 gal/a 70 lb ai/a 60 lb ai/a 60 lb ai/a	1000 lb/a 484 lb/a 30 gal/a 333 lb/a 20 gal/a 20 gal/a	PPI PPI INFUR EMBAND BHILL 6-10DAH	358.7 a	1.082 bc	383 a
5	GYPSUM MOP 0-0-62 10-34-0 K20 Liquid AS (21-0-0-)N 28% Nitrogen K20 Liquid 28% Nitrogen	16 GR 62 GR AL 3.25 AL 21 GR 3 AL 3.25 AL 3 AL	GR GR AL AL GR AL AL AL	1000 lb/a 105 lb ai/a 30 gal/a 75 lb ai/a 70 lb ai/a 60 lb ai/a 120 lb ai/a 60 lb ai/a	1000 lb/a 170 lb/a 30 gal/a 23 gal/a 333 lb/a 20 gal/a 37 gal/a 20 gal/a	PPI PPI INFUR INFUR EMBAND BHILL BHILL 6-10DAH	356.2	1.083 bc	381 a

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Crop Code								
Crop Name								
Crop Variety								
Description								
Rating Date								
Rating Type						YIELD A's	spec gravit	Total Yield
Rating Unit						CWT		CWT
Crop Stage Scale								
ARM Action Codes						ET5 TY4	T6	T5
Number of Decimals						1	3	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Unit	Other Rate Unit	Growth Stage	
								50
								51
								52
6	GYP SUM	16	GR	1000 lb/a	1000 lb/a		PPI	312.0 a
	MOP 0-0-62	62	GR	165 lb ai/a	266 lb/a		PPI	
	10-34-0		AL	30 gal/a	30 gal/a		INFUR	
	K20 Liquid	3.25	AL	75 lb ai/a	23 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	
	K20 Liquid	3.25	AL	120 lb ai/a	37 gal/a		BHILL	
	28% Nitrogen	3	AL	60 lb ai/a	20 gal/a		6-10DAH	
7	GYP SUM	16	GR	1000 lb/a	1000 lb/a		PPI	324.8 a
	MOP 0-0-62	62	GR	187 lb ai/a	302 lb/a		PPI	
	10-34-0		AL	30 gal/a	30 gal/a		INFUR	
	K20 Liquid	3.25	AL	113 lb ai/a	34.8 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		6-10DAH	
LSD P=.10						84.77	0.0034	71.2
Standard Deviation						68.06	0.0028	57.9
CV						20.34	0.26	15.69
Replicate F						0.120	1.147	0.397
Replicate Prob(F)						0.9467	0.3586	0.7566
Treatment F						0.463	2.549	0.487
Treatment Prob(F)						0.7976	0.0602	0.8088

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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

ET5 = Excluded treatment 5

TY1 = 9.15126\*[C37]

TY2 = 9.15126\*[C39]

TY3 = 9.15126\*[C41]

TY4 = 9.15126\*[C43]

T6 = [C46]/([C46]-[C45])

T5 = [C47]+[C48]+[C49]+[C50]