

MSU Soil Fertility Research Program

RESPONSE OF POTATO WITH SQM PRODUCTS

Trial ID: PMRF04-19 Location: MRF Trial Year: 2019

Investigator: Kurt Steinke

Project ID: SQM

						SOLTU Potato Lamoka harvest Sep-18-2019	SOLTU Potato Lamoka harvest Sep-18-2019	SOLTU Potato Lamoka harvest Sep-18-2019	
						YIELD Bs CWT	YIELD OVs CWT	YIELD POs CWT	
						TY1 1	TY3 1	ET2 TY2 1	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Unit	Growth Stage	27	28	29
1	GYP SUM	16 GR		1000 lb/a	1000 lb/a	PPI	40.8 a	0.0 a	0.0 a
	SOP 0-0-50-17	GR		210 lb/a	210 lb/a	PPI			
	QROPKN	GR		98 lb/a	98 lb/a	PPI			
	QROPKN	GR		326 lb/a	326 lb/a	BHILL			
	10-34-0	AL		20 gal/a	20 gal/a	INFUR			
	28% Nitrogen	3 AL		30 lb ai/a	10 gal/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	GYP SUM	16 GR		1000 lb/a	1000 lb/a	PPI	43.4 a	0.0 a	1.6
	SOP 0-0-50-17	GR		300 lb/a	300 lb/a	PPI			
	KRISTA K	GR		108 lb/a	108 lb/a	EMBAND			
	KRISTA K	GR		108 lb/a	108 lb/a	BHILL			
	KRISTA K	GR		108 lb/a	108 lb/a	6-10DAH			
	10-34-0	AL		20 gal/a	20 gal/a	INFUR			
	28% Nitrogen	3 AL		36 lb ai/a	12 gal/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	GYP SUM	16 GR		1000 lb/a	1000 lb/a	PPI	48.2 a	0.0 a	0.0 a
	SOP 0-0-50-17	GR		300 lb/a	300 lb/a	PPI			
	10-34-0	AL		20 gal/a	20 gal/a	INFUR			
	28% Nitrogen	3 AL		36 lb ai/a	12 gal/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			
	K NITRATE	AL		17.5 gal/a	17.5 gal/a	0WKAEM			
	K NITRATE	AL		17.5 gal/a	17.5 gal/a	1WKAEM			
	K NITRATE	AL		17.5 gal/a	17.5 gal/a	2WKAEM			
	K NITRATE	AL		17.5 gal/a	17.5 gal/a	3WKAEM			
	K NITRATE	AL		17.5 gal/a	17.5 gal/a	4WKAEM			
	K NITRATE	AL		17.5 gal/a	17.5 gal/a	5WKAEM			
	K NITRATE	AL		17.5 gal/a	17.5 gal/a	6WKAEM			
	K NITRATE	AL		17.5 gal/a	17.5 gal/a	7WKAEM			

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

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

Missing data estimates are included in columns: Yates=30,32

Could not calculate LSD (% mean diff) for columns 28,29 because error mean square = 0.

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Investigator: Kurt Steinke

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Crop Code						SOLTU	SOLTU	SOLTU	
Crop Name						Potato	Potato	Potato	
Crop Variety						Lamoka	Lamoka	Lamoka	
Description						harvest	harvest	harvest	
Rating Date						Sep-18-2019	Sep-18-2019	Sep-18-2019	
Rating Type						YIELD Bs	YIELD OVs	YIELD POs	
Rating Unit						CWT	CWT	CWT	
Crop Stage Scale						TY1	TY3	ET2 TY2	
ARM Action Codes						1	1	1	
Number of Decimals						1	1	1	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Unit	Growth Stage	27	28	29
4	GYP SUM	16	GR	1000 lb/a	1000 lb/a	PPI	39.3 a	0.0 a	0.0 a
	SOP 0-0-50-17		GR	300 lb/a	300 lb/a	PPI			
	QROPKN		GR	109 lb/a	109 lb/a	EMBAND			
	QROPKN		GR	109 lb/a	109 lb/a	BHILL			
	QROPKN		GR	109 lb/a	109 lb/a	6-10HBRD			
	10-34-0		AL	20 gal/a	20 gal/a	INFUR			
	28% Nitrogen	3	AL	42 lb ai/a	14 gal/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	GYP SUM	16	GR	1000 lb/a	1000 lb/a	PPI	28.0 a	0.0 a	0.0 a
	MOP 0-0-62	62	GR	242 lb/a	242 lb/a	PPI			
	QROPKN		GR	109 lb/a	109 lb/a	EMBAND			
	QROPKN		GR	109 lb/a	109 lb/a	BHILL			
	QROPKN		GR	109 lb/a	109 lb/a	6-10HBRD			
	10-34-0		AL	20 gal/a	20 gal/a	INFUR			
	28% Nitrogen	3	AL	42 lb ai/a	14 gal/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			
6	GYP SUM	16	GR	1000 lb/a	1000 lb/a	PPI	36.7 a	0.0 a	0.0 a
	SOP 0-0-50-17		GR	300 lb/a	300 lb/a	PPI			
	QROPKN		GR	326 lb/a	326 lb/a	BHILL			
	10-34-0		AL	20 gal/a	20 gal/a	INFUR			
	28% Nitrogen	3	AL	42 lb ai/a	14 gal/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			
7	GYP SUM	16	GR	1000 lb/a	1000 lb/a	PPI	40.9 a	0.0 a	0.0 a
	SOP 0-0-50-17		GR	600 lb/a	600 lb/a	PPI			
	10-34-0		AL	20 gal/a	20 gal/a	INFUR			
	28% Nitrogen	3	AL	81 lb ai/a	27 gal/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			

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RESPONSE OF POTATO WITH SQM PRODUCTS

Trial ID: PMRF04-19 Location: MRF Trial Year: 2019

Investigator: Kurt Steinke

Project ID: SQM

						SOLTU	SOLTU	SOLTU	
						Potato	Potato	Potato	
						Lamoka	Lamoka	Lamoka	
						harvest	harvest	harvest	
						Sep-18-2019	Sep-18-2019	Sep-18-2019	
						YIELD Bs	YIELD OVs	YIELD POs	
						CWT	CWT	CWT	
						TY1	TY3	ET2 TY2	
						1	1	1	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Unit	Growth Stage	27	28	29
8	GYPSUM	16	GR	1000 lb/a	1000 lb/a	PPI	31.2 a	0.0 a	0.0 a
	MOP 0-0-62	62	GR	484 lb/a	484 lb/a	PPI			
	10-34-0		AL	20 gal/a	20 gal/a	INFUR			
	28% Nitrogen	3	AL	81 lb ai/a	27 gal/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						15.19	.	.	
Standard Deviation						12.48	0.00	0.00	
CV						32.37	0.0	0.0	
Replicate F						0.528	0.000	0.000	
Replicate Prob(F)						0.6680	1.0000	1.0000	
Treatment F						1.089	0.000	0.000	
Treatment Prob(F)						0.4052	1.0000	1.0000	

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Project ID: SQM

						SOLTU Potato Lamoka harvest Sep-18-2019 YIELD As CWT	SOLTU Potato Lamoka harvest Sep-18-2019 spec gravit	SOLTU Potato Lamoka harvest Sep-18-2019 YIELD Total CWT	
						TY4 1	T5 3	TY7 1	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Unit	Growth Stage	30	31	32
1	GYP SUM	16	GR	1000 lb/a	1000 lb/a	PPI	103.5 a	1.078 a	144.3 a
	SOP 0-0-50-17		GR	210 lb/a	210 lb/a	PPI			
	QROPKN		GR	98 lb/a	98 lb/a	PPI			
	QROPKN		GR	326 lb/a	326 lb/a	BHILL			
	10-34-0		AL	20 gal/a	20 gal/a	INFUR			
	28% Nitrogen	3	AL	30 lb ai/a	10 gal/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	GYP SUM	16	GR	1000 lb/a	1000 lb/a	PPI	102.3 a	1.075 abc	148.4 a
	SOP 0-0-50-17		GR	300 lb/a	300 lb/a	PPI			
	KRISTA K		GR	108 lb/a	108 lb/a	EMBAND			
	KRISTA K		GR	108 lb/a	108 lb/a	BHILL			
	KRISTA K		GR	108 lb/a	108 lb/a	6-10DAH			
	10-34-0		AL	20 gal/a	20 gal/a	INFUR			
	28% Nitrogen	3	AL	36 lb ai/a	12 gal/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	GYP SUM	16	GR	1000 lb/a	1000 lb/a	PPI	122.3 a	1.074 bc	170.5 a
	SOP 0-0-50-17		GR	300 lb/a	300 lb/a	PPI			
	10-34-0		AL	20 gal/a	20 gal/a	INFUR			
	28% Nitrogen	3	AL	36 lb ai/a	12 gal/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			
	K NITRATE		AL	17.5 gal/a	17.5 gal/a	0WKAEM			
	K NITRATE		AL	17.5 gal/a	17.5 gal/a	1WKAEM			
	K NITRATE		AL	17.5 gal/a	17.5 gal/a	2WKAEM			
	K NITRATE		AL	17.5 gal/a	17.5 gal/a	3WKAEM			
	K NITRATE		AL	17.5 gal/a	17.5 gal/a	4WKAEM			
	K NITRATE		AL	17.5 gal/a	17.5 gal/a	5WKAEM			
	K NITRATE		AL	17.5 gal/a	17.5 gal/a	6WKAEM			
	K NITRATE		AL	17.5 gal/a	17.5 gal/a	7WKAEM			

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Trial ID: PMRF04-19 Location: MRF Trial Year: 2019

Investigator: Kurt Steinke

Project ID: SQM

						SOLTU Potato Lamoka harvest Sep-18-2019 YIELD As CWT	SOLTU Potato Lamoka harvest Sep-18-2019 spec gravit	SOLTU Potato Lamoka harvest Sep-18-2019 YIELD Total CWT	
						TY4 1	T5 3	TY7 1	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Rate Unit	Growth Stage	30	31	32
4	GYP SUM	16	GR	1000 lb/a	1000 lb/a	PPI	128.9 a	1.076 ab	168.1 a
	SOP 0-0-50-17		GR	300 lb/a	300 lb/a	PPI			
	QROPKN		GR	109 lb/a	109 lb/a	EMBAND			
	QROPKN		GR	109 lb/a	109 lb/a	BHILL			
	QROPKN		GR	109 lb/a	109 lb/a	6-10HBRD			
	10-34-0		AL	20 gal/a	20 gal/a	INFUR			
	28% Nitrogen		3 AL	42 lb ai/a	14 gal/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	GYP SUM	16	GR	1000 lb/a	1000 lb/a	PPI	129.8 a	1.072 cd	156.0 a
	MOP 0-0-62	62	GR	242 lb/a	242 lb/a	PPI			
	QROPKN		GR	109 lb/a	109 lb/a	EMBAND			
	QROPKN		GR	109 lb/a	109 lb/a	BHILL			
	QROPKN		GR	109 lb/a	109 lb/a	6-10HBRD			
	10-34-0		AL	20 gal/a	20 gal/a	INFUR			
	28% Nitrogen		3 AL	42 lb ai/a	14 gal/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			
6	GYP SUM	16	GR	1000 lb/a	1000 lb/a	PPI	132.3 a	1.074 bc	169.0 a
	SOP 0-0-50-17		GR	300 lb/a	300 lb/a	PPI			
	QROPKN		GR	326 lb/a	326 lb/a	BHILL			
	10-34-0		AL	20 gal/a	20 gal/a	INFUR			
	28% Nitrogen		3 AL	42 lb ai/a	14 gal/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			
7	GYP SUM	16	GR	1000 lb/a	1000 lb/a	PPI	132.7 a	1.076 ab	173.6 a
	SOP 0-0-50-17		GR	600 lb/a	600 lb/a	PPI			
	10-34-0		AL	20 gal/a	20 gal/a	INFUR			
	28% Nitrogen		3 AL	81 lb ai/a	27 gal/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			

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						SOLTU	SOLTU	SOLTU
						Potato	Potato	Potato
						Lamoka	Lamoka	Lamoka
						harvest	harvest	harvest
						Sep-18-2019	Sep-18-2019	Sep-18-2019
						YIELD As	spec gravit	YIELD Total
						CWT		CWT
						TY4	T5	TY7
						1	3	1
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Rate Unit	Other Rate Rate Unit	Growth Unit Stage	
8	GYP SUM	16	GR	1000 lb/a	1000 lb/a		PPI	
	MOP 0-0-62	62	GR	484 lb/a	484 lb/a		PPI	
	10-34-0		AL	20 gal/a	20 gal/a		INFUR	
	28% Nitrogen	3	AL	81 lb ai/a	27 gal/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					24.42	0.0032	35.02
	Standard Deviation					19.97	0.0026	28.64
	CV					16.61	0.24	18.02
	Replicate F					1.369	0.223	1.001
	Replicate Prob(F)					0.2824	0.8792	0.4137
	Treatment F					1.671	4.078	0.814
	Treatment Prob(F)					0.1762	0.0057	0.5871

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RESPONSE OF POTATO WITH SQM PRODUCTS

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Investigator: Kurt Steinke

Project ID: SQM

Crop Code

SOLTU, BPOT, Solanum tuberosum, Potato = US

Rating Unit

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

ARM Action Codes

ET2 = Excluded treatment 2

TY1 = 16.15916\*[C17]

TY3 = 16.15916\*[C18]

TY2 = 16.15916\*[C20]

TY4 = 16.15916\*[C22]

T5 = [C26]/([C26]-[C25])

TY7 = 16.15916\*[C24]