

MSU Soil Fertility Research Program

RESPONSE OF POTATO INPUTS FROM MIDWEST BIO AG

Trial ID: PMRF03-19 Location: MRF Trial Year: 2019

Investigator: Kurt Steinke

Project ID: MIDWEST BIO

Crop Code Crop Name Crop Variety Description Rating Date						SOLTU Potato Lamoka harvest Sep-18-2019	SOLTU Potato Lamoka harvest Sep-18-2019	SOLTU Potato Lamoka harvest Sep-18-2019	
Rating Type Rating Unit Crop Stage Scale ARM Action Codes Number of Decimals						YIELD Bs CWT TY2 1	YIELD OVs CWT TY3 1	YIELD POs CWT ET2 TY4 1	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Unit	Growth Stage	26	27	28
1	10-34-0		AL	20 gal/a	20 gal/a	INFUR	35.4 a	0.0 a	0.0 a
	K20 Liquid	3.25	AL	75 lb ai/a	23 gal/a	INFUR			
	Sulfate of Potash		GR	325 lb/a	325 lb/a	PPI			
	MOP 0-0-62	62	GR	101 lb/a	101 lb/a	PPI			
	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			
2	Ground GYPSUM	16	GR	345 lb/a	345 lb/a	PPI	34.4 a	0.0 a	1.4
	10-34-0		AL	20 gal/a	20 gal/a	INFUR			
	K20 Liquid	3.25	AL	75 lb ai/a	23 gal/a	INFUR			
	MOP 0-0-62	62	GR	225 lb ai/a	363 lb/a	PPI			
	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			
3	Pellet GYPSUM	16	GR	345 lb/a	345 lb/a	PPI	37.5 a	0.0 a	0.0 a
	10-34-0		AL	20 gal/a	20 gal/a	INFUR			
	K20 Liquid	3.25	AL	75 lb ai/a	23 gal/a	INFUR			
	MOP 0-0-62	62	GR	225 lb ai/a	363 lb/a	PPI			
	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			
4	Tara New Calcium	16	GR	400 lb/a	400 lb/a	PPI	37.9 a	0.0 a	0.0 a
	10-34-0		AL	20 gal/a	20 gal/a	INFUR			
	K20 Liquid	3.25	AL	75 lb ai/a	23 gal/a	INFUR			
	Sulfate of Potash		GR	206 lb/a	206 lb/a	PPI			
	MOP 0-0-62	62	GR	197 lb/a	197 lb/a	PPI			
	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			

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=31

Could not calculate LSD (% mean diff) for columns 27,28 because error mean square = 0.

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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								
ARM Action Codes						TY2	TY3	ET2 TY4
Number of Decimals						1	1	1
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Unit	Other Rate Unit	Growth Unit Stage	
								26
								27
								28
5	Ground GYPSUM	16	GR	345 lb/a	345 lb/a		EMBAND	35.7 a
	10-34-0		AL	20 gal/a	20 gal/a		INFUR	0.0 a
	K20 Liquid	3.25	AL	75 lb ai/a	23 gal/a		INFUR	
	MOP 0-0-62	62	GR	225 lb ai/a	363 lb/a		PPI	
	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							13.24
	Standard Deviation							10.50
	CV							29.03
	Replicate F							0.622
	Replicate Prob(F)							0.6143
	Treatment F							0.077
	Treatment Prob(F)							0.9878

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						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	
						ET4 TY5 1	T6 3	TY7 1	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Rate Unit	Growth Stage	29	30	31
1	10-34-0	AL		20 gal/a	20 gal/a	INFUR	118.2 a	1.069 ab	153.6 a
	K20 Liquid	3.25 AL		75 lb ai/a	23 gal/a	INFUR			
	Sulfate of Potash	GR		325 lb/a	325 lb/a	PPI			
	MOP 0-0-62	62 GR		101 lb/a	101 lb/a	PPI			
	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			
2	Ground GYPSUM	16 GR		345 lb/a	345 lb/a	PPI	106.9 a	1.068 bc	142.7 a
	10-34-0	AL		20 gal/a	20 gal/a	INFUR			
	K20 Liquid	3.25 AL		75 lb ai/a	23 gal/a	INFUR			
	MOP 0-0-62	62 GR		225 lb ai/a	363 lb/a	PPI			
	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			
3	Pellet GYPSUM	16 GR		345 lb/a	345 lb/a	PPI	119.3 a	1.067 c	156.8 a
	10-34-0	AL		20 gal/a	20 gal/a	INFUR			
	K20 Liquid	3.25 AL		75 lb ai/a	23 gal/a	INFUR			
	MOP 0-0-62	62 GR		225 lb ai/a	363 lb/a	PPI			
	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			
4	Tara New Calcium	16 GR		400 lb/a	400 lb/a	PPI	153.7	1.071 a	185.6 a
	10-34-0	AL		20 gal/a	20 gal/a	INFUR			
	K20 Liquid	3.25 AL		75 lb ai/a	23 gal/a	INFUR			
	Sulfate of Potash	GR		206 lb/a	206 lb/a	PPI			
	MOP 0-0-62	62 GR		197 lb/a	197 lb/a	PPI			
	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			

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

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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	
						ET4 TY5	T6	TY7	
						1	3	1	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Rate Unit	Growth Unit Stage	29	30	31
5	Ground GYPSUM 10-34-0	16	GR	345 lb/a	345 lb/a	EMBAND	114.0 a	1.068 bc	149.8 a
	K20 Liquid	3.25	AL	75 lb ai/a	23 gal/a	INFUR			
	MOP 0-0-62	62	GR	225 lb ai/a	363 lb/a	PPI			
	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						30.40	0.0019	27.82	
Standard Deviation						23.46	0.0015	21.91	
CV						20.46	0.14	13.89	
Replicate F						0.084	11.014	0.817	
Replicate Prob(F)						0.9669	0.0009	0.5112	
Treatment F						0.231	4.802	2.260	
Treatment Prob(F)						0.8728	0.0152	0.1285	

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Crop Code

SOLTU, BPOT, Solanum tuberosum, Potato = US

Rating Unit

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

ARM Action Codes

ET2 = Excluded treatment 2

ET4 = Excluded treatment 4

TY2 = 16.15916*[C16]

TY3 = 16.15916*[C17]

TY4 = 16.15916*[C19]

TY5 = 16.15916*[C21]

T6 = [C25]/([C25]-[C24])

TY7 = 16.15916*[C23]