

MSU Soil Fertility Research Program

RESPONSE OF POTATO TO PHOSPHORUS INPUTS

Trial ID: PMRF05-18 Location: MRF Trial Year: 2018

Investigator: Kurt Steinke

Project ID: PHOSPOT

						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						TY4	TY1	ET4 TY2	
Number of Decimals						0	1	1	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Rate Unit	Growth Stage	47	48	49
1	GYPSUM	16	GR	1000 lb/a	1000 lb/a	PPI	33 a	4.6 a	0.0 a
	MOP 0-0-62	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	106 lb ai/a	505 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	GYPSUM	16	GR	1000 lb/a	1000 lb/a	PPI	33 a	0.0 a	0.0 a
	MOP 0-0-62	62	GR	225 lb ai/a	363 lb/a	PPI			
	K20 Liquid	3.25	AL	75 lb ai/a	23 gal/a	INFUR			
	10-34-0		AL	10 gal/a	10 gal/a	INFUR			
	AS (21-0-0-)N	21	GR	94 lb ai/a	448 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	GYPSUM	16	GR	1000 lb/a	1000 lb/a	PPI	29 ab	0.0 a	0.0 a
	MOP 0-0-62	62	GR	225 lb ai/a	363 lb/a	PPI			
	K20 Liquid	3.25	AL	75 lb ai/a	23 gal/a	INFUR			
	10-34-0		AL	20 gal/a	20 gal/a	INFUR			
	AS (21-0-0-)N	21	GR	82 lb ai/a	390 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	GYPSUM	16	GR	1000 lb/a	1000 lb/a	PPI	22 bc	4.6 a	2.3
	MOP 0-0-62	62	GR	225 lb ai/a	363 lb/a	PPI			
	K20 Liquid	3.25	AL	75 lb ai/a	23 gal/a	INFUR			
	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	GYPSUM	16	GR	1000 lb/a	1000 lb/a	PPI	18 c	11.4 a	0.0 a
	MOP 0-0-62	62	GR	225 lb ai/a	363 lb/a	PPI			
	K20 Liquid	3.25	AL	75 lb ai/a	23 gal/a	INFUR			
	10-34-0		AL	40 gal/a	40 gal/a	INFUR			
	AS (21-0-0-)N	21	GR	58 lb ai/a	276 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			

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.

Could not calculate LSD (% mean diff) for columns 49 because error mean square = 0.

MSU Soil Fertility Research Program

RESPONSE OF POTATO TO PHOSPHORUS INPUTS

Trial ID: PMRF05-18 Location: MRF Trial Year: 2018

Investigator: Kurt Steinke

Project ID: PHOSPOT

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
Crop Stage Scale								
ARM Action Codes						TY4	TY1	ET4 TY2
Number of Decimals						0	1	1
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Other Rate	Other Rate	Growth Unit Stage
						47	48	49
6	GYP SUM	16	GR	1000	lb/a	1000	lb/a	PPI
	MOP 0-0-62	62	GR	225	lb ai/a	363	lb/a	PPI
	K20 Liquid	3.25	AL	75	lb ai/a	23	gal/a	INFUR
	10-34-0		AL	50	gal/a	50	gal/a	INFUR
	AS (21-0-0-)N	21	GR	46	lb ai/a	220	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
	LSD P=.10					8.6	13.93	.
	Standard Deviation					6.9	11.24	0.00
	CV					26.36	327.5	0.0
	Replicate F					1.041	0.470	0.000
	Replicate Prob(F)					0.4031	0.7079	1.0000
	Treatment F					2.925	0.646	0.000
	Treatment Prob(F)					0.0488	0.6685	1.0000

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.

Could not calculate LSD (% mean diff) for columns 49 because error mean square = 0.

MSU Soil Fertility Research Program

RESPONSE OF POTATO TO PHOSPHORUS INPUTS

Trial ID: PMRF05-18 Location: MRF Trial Year: 2018

Investigator: Kurt Steinke

Project ID: PHOSPOT

						SOLTU Potato FL 2137 harvest Sep-11-2018	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	Total Tuber NUMBER	
						TY3 0	T6 3	T5 0	T7 0	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Unit	Growth Stage	50	51	52	53
1	GYPSPUM MOP 0-0-62 K20 Liquid AS (21-0-0-)N 28% Nitrogen 28% Nitrogen	16 GR 62 GR 3.25 AL 21 GR 3 AL 3 AL	GR GR AL GR AL AL	1000 lb/a 225 lb ai/a 75 lb ai/a 106 lb ai/a 60 lb ai/a 60 lb ai/a	1000 lb/a 363 lb/a 23 gal/a 505 lb/a 20 gal/a 20 gal/a	PPI PPI INFUR EMBAND BHILL 7-10DAH	291 a	1.076 a	328 a	135 a
2	GYPSPUM MOP 0-0-62 K20 Liquid 10-34-0 AS (21-0-0-)N 28% Nitrogen 28% Nitrogen	16 GR 62 GR 3.25 AL AL 21 GR 3 AL 3 AL	GR GR AL AL GR AL AL	1000 lb/a 225 lb ai/a 75 lb ai/a 10 gal/a 94 lb ai/a 60 lb ai/a 60 lb ai/a	1000 lb/a 363 lb/a 23 gal/a 10 gal/a 448 lb/a 20 gal/a 20 gal/a	PPI PPI INFUR INFUR EMBAND BHILL 7-10DAH	359 a	1.079 a	392 a	145 a
3	GYPSPUM MOP 0-0-62 K20 Liquid 10-34-0 AS (21-0-0-)N 28% Nitrogen 28% Nitrogen	16 GR 62 GR 3.25 AL AL 21 GR 3 AL 3 AL	GR GR AL AL GR AL AL	1000 lb/a 225 lb ai/a 75 lb ai/a 20 gal/a 82 lb ai/a 60 lb ai/a 60 lb ai/a	1000 lb/a 363 lb/a 23 gal/a 20 gal/a 390 lb/a 20 gal/a 20 gal/a	PPI PPI INFUR INFUR EMBAND BHILL 7-10DAH	406 a	1.081 a	435 a	146 a
4	GYPSPUM MOP 0-0-62 K20 Liquid 10-34-0 AS (21-0-0-)N 28% Nitrogen 28% Nitrogen	16 GR 62 GR 3.25 AL AL 21 GR 3 AL 3 AL	GR GR AL AL GR AL AL	1000 lb/a 225 lb ai/a 75 lb ai/a 30 gal/a 70 lb ai/a 60 lb ai/a 60 lb ai/a	1000 lb/a 363 lb/a 23 gal/a 30 gal/a 333 lb/a 20 gal/a 20 gal/a	PPI PPI INFUR INFUR EMBAND BHILL 7-10DAH	343 a	1.078 a	372 a	136 a
5	GYPSPUM MOP 0-0-62 K20 Liquid 10-34-0 AS (21-0-0-)N 28% Nitrogen 28% Nitrogen	16 GR 62 GR 3.25 AL AL 21 GR 3 AL 3 AL	GR GR AL AL GR AL AL	1000 lb/a 225 lb ai/a 75 lb ai/a 40 gal/a 58 lb ai/a 60 lb ai/a 60 lb ai/a	1000 lb/a 363 lb/a 23 gal/a 40 gal/a 276 lb/a 20 gal/a 20 gal/a	PPI PPI INFUR INFUR EMBAND BHILL 7-10DAH	360 a	1.077 a	390 a	123 a

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.

Could not calculate LSD (% mean diff) for columns 49 because error mean square = 0.

MSU Soil Fertility Research Program

RESPONSE OF POTATO TO PHOSPHORUS INPUTS

Trial ID: PMRF05-18 Location: MRF Trial Year: 2018

Investigator: Kurt Steinke

Project ID: PHOSPOT

Crop Code						SOLTU	SOLTU	SOLTU	SOLTU		
Crop Name						Potato	Potato	Potato	Potato		
Crop Variety						FL 2137	FL 2137	FL 2137	FL 2137		
Description						harvest	harvest	harvest	harvest		
Rating Date						Sep-11-2018	Sep-11-2018	Sep-11-2018	Sep-11-2018		
Rating Type						YIELD A's	spec gravit	Total Yield	Total Tuber		
Rating Unit						CWT		CWT	NUMBER		
Crop Stage Scale											
ARM Action Codes						TY3	T6	T5	T7		
Number of Decimals						0	3	0	0		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate	Other Rate Unit	Growth Stage	50	51	52	53
6	GYP SUM	16	GR	1000 lb/a	1000 lb/a		PPI	368 a	1.079 a	391 a	145 a
	MOP 0-0-62	62	GR	225 lb ai/a	363 lb/a		PPI				
	K20 Liquid	3.25	AL	75 lb ai/a	23 gal/a		INFUR				
	10-34-0		AL	50 gal/a	50 gal/a		INFUR				
	AS (21-0-0-)N	21	GR	46 lb ai/a	220 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				
LSD P=.10								75.6	0.0044	69.4	19.0
Standard Deviation								61.0	0.0036	55.9	15.4
CV								17.2	0.33	14.54	11.11
Replicate F								3.392	10.203	3.749	2.012
Replicate Prob(F)								0.0459	0.0007	0.0343	0.1556
Treatment F								1.523	0.988	1.530	1.329
Treatment Prob(F)								0.2414	0.4570	0.2393	0.3046

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.

Could not calculate LSD (% mean diff) for columns 49 because error mean square = 0.

MSU Soil Fertility Research Program

RESPONSE OF POTATO TO PHOSPHORUS INPUTS

Trial ID: PMRF05-18 Location: MRF Trial Year: 2018

Investigator: Kurt Steinke

Project ID: PHOSPOT

Crop Code

SOLTU, BPOT, Solanum tuberosum, Potato = US

Rating Unit

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

NUMBER = number

ARM Action Codes

ET4 = Excluded treatment 4

TY4 = 9.15126*[C37]

TY1 = 9.15126*[C40]

TY2 = 9.15126*[C42]

TY3 = 9.15126*[C43]

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

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

T7 = [C38]+[C40]+[C42]+[C44]