

MSU Soil Fertility Research Program

RESPONSE OF POTATO SOIL AND FOLIAR APPLIED P APPLICATIONS

Trial ID: PMRF02-15 Location: MRF Trial Year: 15
 Investigator: Kurt Steinke
 Project ID: PHOSPOT

Crop Code Crop Name Crop Variety Description Rating Date Rating Type Rating Unit Crop Stage Scale							SOLTU Potato FL 2137 harvest Sep-15-2015 YIELD B'S CWT	SOLTU Potato FL 2137 harvest Sep-15-2015 YIELD B'S CWT	SOLTU Potato FL 2137 harvest Sep-15-2015 YIELD A'S CWT	SOLTU Potato FL 2137 harvest Sep-15-2015 Total Yield CWT	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate	Other Rate Unit	Growth Stage	58	59	60	61
1	TSP-PHOS	45 GR		0 lb ai/a				7.8 a	67.9 a	329.0 a	344.6 a
	K2O 0-0-62	62 GR		105 lb ai/a	170 lb/a		PPI				
	K2O 0-0-62	62 GR		100 lb ai/a	161 lb/a		APBAND				
	GYP SUM	16 GR		500 lb/a	500 lb/a		PPI				
	K-Mag	22 GR		250 lb/a	250 lb/a		PPI				
	Urea 46-0-0	46 GR		25 lb ai/a	54.3 lb/a		APBAND				
	AS (21-0-0)-N	21 GR		83 lb ai/a	395 lb/a		EMBAND				
	Urea 46-0-0	46 GR		167 lb ai/a	363 lb/a		BHILL				
	K-Mag	22 GR		180 lb/a	180 lb/a		BHILL				
2	TSP-PHOS	45 GR		40 lb ai/a	89 lb/a		APBAND	9.8 a	39.7 a	377.8 a	397.3 a
	K2O 0-0-62	62 GR		105 lb ai/a	170 lb/a		PPI				
	K2O 0-0-62	62 GR		100 lb ai/a	161 lb/a		APBAND				
	GYP SUM	16 GR		500 lb/a	500 lb/a		PPI				
	K-Mag	22 GR		250 lb/a	250 lb/a		PPI				
	Urea 46-0-0	46 GR		25 lb ai/a	54.3 lb/a		APBAND				
	AS (21-0-0)-N	21 GR		83 lb ai/a	395 lb/a		EMBAND				
	Urea 46-0-0	46 GR		167 lb ai/a	363 lb/a		BHILL				
	K-Mag	22 GR		180 lb/a	180 lb/a		BHILL				
3	TSP-PHOS	45 GR		80 lb ai/a	178 lb/a		APBAND	15.4 a	27.1 a	349.9 a	380.6 a
	K2O 0-0-62	62 GR		105 lb ai/a	170 lb/a		PPI				
	K2O 0-0-62	62 GR		100 lb ai/a	161 lb/a		APBAND				
	GYP SUM	16 GR		500 lb/a	500 lb/a		PPI				
	K-Mag	22 GR		250 lb/a	250 lb/a		PPI				
	Urea 46-0-0	46 GR		25 lb ai/a	54.3 lb/a		APBAND				
	AS (21-0-0)-N	21 GR		83 lb ai/a	395 lb/a		EMBAND				
	Urea 46-0-0	46 GR		167 lb ai/a	363 lb/a		BHILL				
	K-Mag	22 GR		180 lb/a	180 lb/a		BHILL				
4	TSP-PHOS	45 GR		120 lb ai/a	267 lb/a		APBAND	11.2 a	36.6 a	350.8 a	373.1 a
	K2O 0-0-62	62 GR		105 lb ai/a	170 lb/a		PPI				
	K2O 0-0-62	62 GR		100 lb ai/a	161 lb/a		APBAND				
	GYP SUM	16 GR		500 lb/a	500 lb/a		PPI				
	K-Mag	22 GR		250 lb/a	250 lb/a		PPI				
	Urea 46-0-0	46 GR		25 lb ai/a	54.3 lb/a		APBAND				
	AS (21-0-0)-N	21 GR		83 lb ai/a	395 lb/a		EMBAND				
	Urea 46-0-0	46 GR		167 lb ai/a	363 lb/a		BHILL				
	K-Mag	22 GR		180 lb/a	180 lb/a		BHILL				
5	TSP-PHOS	45 GR		160 lb ai/a	356 lb/a		APBAND	10.7 a	24.9 a	384.3 a	405.7 a
	K2O 0-0-62	62 GR		105 lb ai/a	170 lb/a		PPI				
	K2O 0-0-62	62 GR		100 lb ai/a	161 lb/a		APBAND				
	GYP SUM	16 GR		500 lb/a	500 lb/a		PPI				
	K-Mag	22 GR		250 lb/a	250 lb/a		PPI				
	Urea 46-0-0	46 GR		25 lb ai/a	54.3 lb/a		APBAND				
	AS (21-0-0)-N	21 GR		83 lb ai/a	395 lb/a		EMBAND				
	Urea 46-0-0	46 GR		167 lb ai/a	363 lb/a		BHILL				
	K-Mag	22 GR		180 lb/a	180 lb/a		BHILL				

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.

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Crop Code Crop Name Crop Variety Description Rating Date Rating Type Rating Unit Crop Stage Scale						SOLTU Potato FL 2137 harvest Sep-15-2015 YIELD B'S CWT	SOLTU Potato FL 2137 harvest Sep-15-2015 YIELD B'S CWT	SOLTU Potato FL 2137 harvest Sep-15-2015 YIELD A'S CWT	SOLTU Potato FL 2137 harvest Sep-15-2015 Total Yield CWT	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Rate Unit	Growth Stage	58	59	60	61
6	TSP-PHOS	45 GR		200 lb ai/a	444 lb/a	APBAND	10.4 a	35.4 a	361.7 a	382.6 a
	K2O 0-0-62	62 GR		105 lb ai/a	170 lb/a	PPI				
	K2O 0-0-62	62 GR		100 lb ai/a	161 lb/a	APBAND				
	GYP SUM	16 GR		500 lb/a	500 lb/a	PPI				
	K-Mag	22 GR		250 lb/a	250 lb/a	PPI				
	Urea 46-0-0	46 GR		25 lb ai/a	54.3 lb/a	APBAND				
	AS (21-0-0)-N	21 GR		83 lb ai/a	395 lb/a	EMBAND				
	Urea 46-0-0	46 GR		167 lb ai/a	363 lb/a	BHILL				
	K-Mag	22 GR		180 lb/a	180 lb/a	BHILL				
7	TSP-PHOS	45 GR		80 lb ai/a	178 lb/a	APBAND	9.9 a	33.1 a	366.4 a	386.3 a
	K2O 0-0-62	62 GR		105 lb ai/a	170 lb/a	PPI				
	K2O 0-0-62	62 GR		100 lb ai/a	161 lb/a	APBAND				
	GYP SUM	16 GR		500 lb/a	500 lb/a	PPI				
	K-Mag	22 GR		250 lb/a	250 lb/a	PPI				
	Urea 46-0-0	46 GR		25 lb ai/a	54.3 lb/a	APBAND				
	AS (21-0-0)-N	21 GR		83 lb ai/a	395 lb/a	EMBAND				
	Urea 46-0-0	46 GR		167 lb ai/a	363 lb/a	BHILL				
	K-Mag	22 GR		180 lb/a	180 lb/a	BHILL				
	9-18-9	AL		2.5 gal/a	2.5 gal/a	20DAE				
	Water	AL		12.5 gal/a	12.5 gal/a	20DAE				
	9-18-9	AL		2.5 gal/a	2.5 gal/a	30DAE				
	Water	AL		12.5 gal/a	12.5 gal/a	30DAE				
	9-18-9	AL		2.5 gal/a	2.5 gal/a	40DAE				
	Water	AL		12.5 gal/a	12.5 gal/a	40DAE				
8	TSP-PHOS	45 GR		120 lb ai/a	267 lb/a	APBAND	10.9 a	24.1 a	334.6 a	356.3 a
	K2O 0-0-62	62 GR		105 lb ai/a	170 lb/a	PPI				
	K2O 0-0-62	62 GR		100 lb ai/a	161 lb/a	APBAND				
	GYP SUM	16 GR		500 lb/a	500 lb/a	PPI				
	K-Mag	22 GR		250 lb/a	250 lb/a	PPI				
	Urea 46-0-0	46 GR		25 lb ai/a	54.3 lb/a	APBAND				
	AS (21-0-0)-N	21 GR		83 lb ai/a	395 lb/a	EMBAND				
	Urea 46-0-0	46 GR		167 lb ai/a	363 lb/a	BHILL				
	K-Mag	22 GR		180 lb/a	180 lb/a	BHILL				
	9-18-9	AL		2.5 gal/a	2.5 gal/a	20DAE				
	Water	AL		12.5 gal/a	12.5 gal/a	20DAE				
	9-18-9	AL		2.5 gal/a	2.5 gal/a	30DAE				
	Water	AL		12.5 gal/a	12.5 gal/a	30DAE				
	9-18-9	AL		2.5 gal/a	2.5 gal/a	40DAE				
	Water	AL		12.5 gal/a	12.5 gal/a	40DAE				

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Trial ID: PMRF02-15 Location: MRF Trial Year: 15
 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-15-2015	Sep-15-2015	Sep-15-2015	Sep-15-2015	
Rating Type						YIELD B'S	YIELD B'S	YIELD A'S	Total Yield	
Rating Unit						CWT	CWT	CWT	CWT	
Crop Stage Scale										
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate Rate Unit	Growth Stage	58	59	60	61
9	TSP-PHOS	45	GR	160 lb ai/a	356 lb/a	APBAND	12.8 a	37.5 a	385.3 a	410.8 a
	K2O 0-0-62	62	GR	105 lb ai/a	170 lb/a	PPI				
	K2O 0-0-62	62	GR	100 lb ai/a	161 lb/a	APBAND				
	GYP SUM	16	GR	500 lb/a	500 lb/a	PPI				
	K-Mag	22	GR	250 lb/a	250 lb/a	PPI				
	Urea 46-0-0	46	GR	25 lb ai/a	54.3 lb/a	APBAND				
	AS (21-0-0)-N	21	GR	83 lb ai/a	395 lb/a	EMBAND				
	Urea 46-0-0	46	GR	167 lb ai/a	363 lb/a	BHILL				
	K-Mag	22	GR	180 lb/a	180 lb/a	BHILL				
	9-18-9		AL	2.5 gal/a	2.5 gal/a	20DAE				
	Water		AL	12.5 gal/a	12.5 gal/a	20DAE				
	9-18-9		AL	2.5 gal/a	2.5 gal/a	30DAE				
	Water		AL	12.5 gal/a	12.5 gal/a	30DAE				
	9-18-9		AL	2.5 gal/a	2.5 gal/a	40DAE				
	Water		AL	12.5 gal/a	12.5 gal/a	40DAE				
LSD P=.10						5.08	25.87 - 34.98	43.47	42.88	
Standard Deviation						4.20	0.25t	35.94	35.45	
CV						38.27	16.41t	9.98	9.28	
Replicate F						0.407	0.476	4.322	4.192	
Replicate Prob(F)						0.7493	0.7017	0.0143	0.0161	
Treatment F						1.007	1.083	1.310	1.508	
Treatment Prob(F)						0.4565	0.4076	0.2856	0.2065	

Crop Code
 SOLTU, BPOT, Solanum tuberosum, = US

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

ARM Action Codes
 TY1 = 7.321094*[C48]
 TY2 = LOG([59]+ 1)
 TY3 = 7.32187*[C54]
 T4 = [C58]+[C58]+[C60]