

PLANT ANALYSIS

Send To:	Grower:	Report No.: 18-093-0027 Cust No.: Lab No: 276616 Report Date : 4/4/2018 Page : 1 of 9
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Sample Id : **AT34588**

Growth Stage : **Plants 30 cm tall**

Farm:

Crop : **Potato***

Field id: **Frank Big**

Plant Part: **Most recently matured leaves (35+)**

Test	Analysis	Plant Test Ratings					Normal Range	Actual Ratio		Expected Ratio
		Deficient	Low	Sufficient	High	Very High				
Nitrogen %	5.08						4.00	N/S	12.7	11.2
							5.50			
Sulfur %	0.40						0.35	N/K	1.3	1.3
							0.50			
Phosphorus %	0.35						0.35	P/S	0.9	1.3
							0.75			
Potassium %	3.97						3.00	P/Zn	116.7	50.5
							4.50			
Magnesium %	0.49						0.25	K/Mg	8.1	6.0
							1.00			
Calcium %	1.16						1.00	K/Mn	158.2	136.4
							3.00			
Sodium %	0.07						0.00	Ca/B	828.6	400.0
							0.20			
Boron ppm	14						25	Fe/Mn	0.5	0.6
							75			
Zinc ppm	30						18	Ca/K	0.3	0.5
							200			
Manganese ppm	251						50	Ca/Mg	2.4	3.2
							500			
Iron ppm	133						50			
							300			
Copper ppm	3						6			
							100			
Aluminum ppm										

Comments:

- 02024) These plants are low or deficient in boron. This may be the result of low soil boron or droughty conditions. Boron may be applied foliarly at 0.2 to 0.5 lbs per acre.
- 02028) These plants are low or deficient in copper. Low copper availability may be caused by high soil organic matter, high soil pH, or sandy soils with low organic matter. Copper may be foliar applied at .5 to 1 lb per acre. If a chelated material is used, apply according to manufacturer specifications. Repeated application may be necessary.
- 02017) These plants are low or deficient in phosphorus. Possible causes included low soil phosphorus level, high soil pH, low soil pH, poor drainage, root damage or cool soil temperature. In season surface application of phosphorus on row crops is, generally, not recommended because phosphorus moves very little in the soil. However, for severe deficiencies, sidedress and incorporate 30 to 40 lbs of P2O5 per acre as early in the season as possible.

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Sample Id : **AT34545**

Growth Stage : **Plants 30 cm tall**

Farm:

Crop : **Potato***

Field id: **Frank house**

Plant Part: **Most recently matured leaves (35+)**

Test	Analysis	Plant Test Ratings					Normal Range	Actual Ratio		Expected Ratio	
		Deficient	Low	Sufficient	High	Very High					
Nitrogen	%	5.40						4.00	N/S	13.8	11.2
								5.50			
Sulfur	%	0.39						0.35	N/K	1.4	1.3
								0.50			
Phosphorus	%	0.40						0.35	P/S	1.0	1.3
								0.75			
Potassium	%	3.89						3.00	P/Zn	100.0	50.5
								4.50			
Magnesium	%	0.50						0.25	K/Mg	7.8	6.0
								1.00			
Calcium	%	1.01						1.00	K/Mn	131.4	136.4
								3.00			
Sodium	%	0.05						0.00	Ca/B	481.0	400.0
								0.20			
Boron	ppm	21						25	Fe/Mn	0.4	0.6
								75			
Zinc	ppm	40						18	Ca/K	0.3	0.5
								200			
Manganese	ppm	296						50	Ca/Mg	2.0	3.2
								500			
Iron	ppm	126						50			
								300			
Copper	ppm	7						6			
								100			
Aluminum	ppm										

Comments:

02024) These plants are low or deficient in boron. This may be the result of low soil boron or droughty conditions. Boron may be applied foliarly at 0.2 to 0.5 lbs per acre.

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Sample Id : **AT34546**

Growth Stage : **Plants 30 cm tall**

Farm:

Crop : **Potato***

Field id: **Frank house**

Plant Part: **Most recently matured leaves (35+)**

Test	Analysis	Plant Test Ratings					Normal Range	Actual Ratio	Expected Ratio
		Deficient	Low	Sufficient	High	Very High			
Nitrogen	% 5.22						4.00 5.50	N/S	
Sulfur	%							N/K	
Phosphorus	%							P/S	
Potassium	%							P/Zn	
Magnesium	%							K/Mg	
Calcium	%							K/Mn	
Sodium	%							Ca/B	
Boron	ppm							Fe/Mn	
Zinc	ppm							Ca/K	
Manganese	ppm							Ca/Mg	
Iron	ppm								
Copper	ppm								
Aluminum	ppm								
NO3-N	ppm 14300								

Comments:

02002) Nutrient levels are adequate at this time.

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Send To:	Grower:	Report No.: 18-093-0027 Cust No.: Lab No: 276619 Report Date : 4/4/2018 Page : 4 of 9
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Sample Id : **AT34548**

Growth Stage : **Plants 30 cm tall**

Farm:

Crop : **Potato***

Field id: **181**

Plant Part: **Most recently matured leaves (35+)**

Test	Analysis	Plant Test Ratings					Normal Range	Actual Ratio	Expected Ratio	
		Deficient	Low	Sufficient	High	Very High				
Nitrogen %	4.32						4.00	N/S	14.9	11.2
							5.50			
Sulfur %	0.29						0.35	N/K	1.2	1.3
							0.50			
Phosphorus %	0.28						0.35	P/S	1.0	1.3
							0.75			
Potassium %	3.49						3.00	P/Zn	82.4	50.5
							4.50			
Magnesium %	0.47						0.25	K/Mg	7.4	6.0
							1.00			
Calcium %	0.98						1.00	K/Mn	139.0	136.4
							3.00			
Sodium %	0.04						0.00	Ca/B	653.3	400.0
							0.20			
Boron ppm	15						25	Fe/Mn	0.4	0.6
							75			
Zinc ppm	34						18	Ca/K	0.3	0.5
							200			
Manganese ppm	251						50	Ca/Mg	2.1	3.2
							500			
Iron ppm	100						50			
							300			
Copper ppm	6						6			
							100			
Aluminum ppm										

Comments:

- 02023) These plants are low or deficient in sulfur. This could be a result of low soil sulfur content, poor root development or inadequate drainage. Sulfur may be applied to the crop in the sulfate form with sidedress or topdress applications or in irrigation water. Apply at a rate of 10 to 20 lbs of sulfur per acre. For foliar application, apply 1 to 2 lbs of sulfur per acre.
- 02017) These plants are low or deficient in phosphorus. Possible causes included low soil phosphorus level, high soil pH, low soil pH, poor drainage, root damage or cool soil temperature. In season surface application of phosphorus on row crops is, generally, not recommended because phosphorus moves very little in the soil. However, for severe deficiencies, sidedress and incorporate 30 to 40 lbs of P2O5 per acre as early in the season as possible.
- 02022) These plants are low or deficient in calcium. Possible causes include low soil pH or excess soil potassium. Calcium may be applied foliarly at 1 to 2 lbs per acre. If a chelated material is used, apply according to manufacturer specifications. Repeated applications may be necessary.



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Sample Id : **AT34548**

Growth Stage : **Plants 30 cm tall**

Farm:

Crop : **Potato***

Field id: **181**

Plant Part: **Most recently matured leaves (35+)**

Comments:

02024) These plants are low or deficient in boron. This may be the result of low soil boron or droughty conditions. Boron may be applied foliarly at 0.2 to 0.5 lbs per acre.

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Send To:	Grower:	Report No.: 18-093-0027 Cust No.: Lab No: 276620 Report Date : 4/4/2018 Page : 6 of 9
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Sample Id : **AT34587**

Growth Stage : **Plants 30 cm tall**

Farm:

Crop : **Potato***

Field id: **Frank Middle**

Plant Part: **Most recently matured leaves (35+)**

Test	Analysis	Plant Test Ratings					Normal Range	Actual Ratio		Expected Ratio	
		Deficient	Low	Sufficient	High	Very High					
Nitrogen	%	5.61						4.00	N/S	14.8	11.2
								5.50			
Sulfur	%	0.38						0.35	N/K	1.5	1.3
								0.50			
Phosphorus	%	0.40						0.35	P/S	1.1	1.3
								0.75			
Potassium	%	3.69						3.00	P/Zn	100.0	50.5
								4.50			
Magnesium	%	0.51						0.25	K/Mg	7.2	6.0
								1.00			
Calcium	%	1.07						1.00	K/Mn	88.3	136.4
								3.00			
Sodium	%	0.04						0.00	Ca/B	509.5	400.0
								0.20			
Boron	ppm	21						25	Fe/Mn	0.4	0.6
								75			
Zinc	ppm	40						18	Ca/K	0.3	0.5
								200			
Manganese	ppm	418						50	Ca/Mg	2.1	3.2
								500			
Iron	ppm	147						50			
								300			
Copper	ppm	3						6			
								100			
Aluminum	ppm										

Comments:

02028) These plants are low or deficient in copper. Low copper availability may be caused by high soil organic matter, high soil pH, or sandy soils with low organic matter. Copper may be foliar applied at .5 to 1 lb per acre. If a chelated material is used, apply according to manufacturer specifications. Repeated application may be necessary.

02024) These plants are low or deficient in boron. This may be the result of low soil boron or droughty conditions. Boron may be applied foliarly at 0.2 to 0.5 lbs per acre.

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Sample Id : **AT34589**

Growth Stage : **Plants 30 cm tall**

Farm:

Crop : **Potato***

Field id: **Frank Big**

Plant Part: **Most recently matured leaves (35+)**

Test	Analysis	Plant Test Ratings					Normal Range	Actual Ratio	Expected Ratio	
		Deficient	Low	Sufficient	High	Very High				
Nitrogen	%	5.55						4.00	N/S	
			5.50							
Sulfur	%							N/K		
Phosphorus	%							P/S		
Potassium	%							P/Zn		
Magnesium	%							K/Mg		
Calcium	%							K/Mn		
Sodium	%							Ca/B		
Boron	ppm							Fe/Mn		
Zinc	ppm							Ca/K		
Manganese	ppm							Ca/Mg		
Iron	ppm									
Copper	ppm									
Aluminum	ppm									
NO3-N	ppm	12800								

Comments:

02002) Nutrient levels are adequate at this time.

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Sample Id : **AT34547**

Growth Stage : **Plants 30 cm tall**

Farm:

Crop : **Potato***

Field id: **181**

Plant Part: **Most recently matured leaves (35+)**

Test	Analysis	Plant Test Ratings					Normal Range	Actual Ratio	Expected Ratio
		Deficient	Low	Sufficient	High	Very High			
Nitrogen	% 3.64	[Bar chart showing 3.64% in the Low range]					4.00 5.50	N/S	
Sulfur	%						N/K		
Phosphorus	%						P/S		
Potassium	%						P/Zn		
Magnesium	%						K/Mg		
Calcium	%						K/Mn		
Sodium	%						Ca/B		
Boron	ppm						Fe/Mn		
Zinc	ppm						Ca/K		
Manganese	ppm						Ca/Mg		
Iron	ppm								
Copper	ppm								
Aluminum	ppm								
NO3-N	ppm 7280								

Comments:

02015) These plants are low or deficient in nitrogen. This condition could be due to inadequate nitrogen fertilization, poor drainage, excessive rainfall or leaching.

02084) Additional nitrogen may be supplied to the crop with sidedress or topdress applications or in irrigation water. Apply at the rate of 20 to 50 lbs per acre. Repeated applications may be necessary.

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Sample Id : **AT34586**
 Farm:
 Field id: **Frank Middle**

Growth Stage : **Plants 30 cm tall**
 Crop : **Potato***
 Plant Part: **Most recently matured leaves (35+)**

Test	Analysis	Plant Test Ratings					Normal Range	Actual Ratio	Expected Ratio
		Deficient	Low	Sufficient	High	Very High			
Nitrogen	% 5.37						4.00 5.50	N/S	
Sulfur	%							N/K	
Phosphorus	%							P/S	
Potassium	%							P/Zn	
Magnesium	%							K/Mg	
Calcium	%							K/Mn	
Sodium	%							Ca/B	
Boron	ppm							Fe/Mn	
Zinc	ppm							Ca/K	
Manganese	ppm							Ca/Mg	
Iron	ppm								
Copper	ppm								
Aluminum	ppm								
NO3-N	ppm 15300								

Comments:

02002) Nutrient levels are adequate at this time.