

PLANT TISSUE ANALYSIS

Agent: APAL Agricultural Laboratory
 Agent Address: U3, 11 Ridley Street
 Hindmarsh SA 5007
 Client Name: Horti Produce Co.
 Sample Name: Pivot 1
 Barcode: 110488565
 Batch Number: 12273

Date Received: 24/09/2019
 Date Reported: 31/10/2019
 Plant/Product: Potato petiole
 Plant Part: Petiole 5th leaf from tip
 Growth Stage: 30-70mm tuber
 Actual Growth Stage:
 Sampling Date: 23/09/2019

NUTRIENT ELEMENT BALANCE CHART

	Result	Deficiency	Marginal	Normal	Above Normal	Excess	Target
Nitrogen	5.36 %						3.00-5.50 %
Nitrate	23600 mg/kg						15000-25000mg/kg
Sulfur S	0.25 %						0.18-0.34 %
Phosphorus P	0.69 %						0.30-0.55 %
Potassium K	11.3 %						9.00-15.0 %
Magnesium Mg	0.70 %						0.30-1.1 %
Calcium Ca	1.64 %						0.500-1.70 %
Sodium Na	0.066 %						0.10-0.35 %
Chloride	1.9 %						2.0-6.0 %
Iron Fe	390 mg/kg						50-200 mg/kg
Aluminium Al	520 mg/kg						# mg/kg
Manganese Mn	28 mg/kg						30-150 mg/kg
Boron B	22 mg/kg						20-40 mg/kg
Copper Cu	12 mg/kg						4.0-10 mg/kg
Zinc Zn	58 mg/kg						25-80 mg/kg
Cobalt Co	0.52 mg/kg						# mg/kg
Molybdenum Mo	<0.4 mg/kg						0.10-1.5 mg/kg

* Source references for graphing are available on request NT = Not Tested IS= Insufficient Sample #-Target levels are not available
 * The Normal Range levels may be altered without notification if new information becomes available.
 * All due care has been taken in the analysis and reporting of this sample. However APAL takes no responsibility for the adequacy or accuracy of sample collection and submission or the subsequent use of these results.

PLANT TISSUE ANALYSIS

Methods

Methods of Analysis: Samples are reported on an 80°C oven dried basis.
NITROGEN: finely ground dry sample analysed by DUMAS method. Apal in-house
TMp-003/TMp-003PP
NITRATE NITROGEN: water extraction analysed by colorimetry. Apal in-house TMp-005/TMp-005PP
MAJOR & TRACE ELEMENTS: microwave digestion and ICP-OES analysis. Apal in-house
TMp-002/TMp-002PP
CHLORIDES: water extraction and potentiometric silver nitrate titrimetry. Apal in-house
TMp-004/TMp-004PP

Please note Tissue samples have been analysed as received, with no washing prior to drying.
When Fe & Al are elevated above typical levels for a plant tissue type this can indicate soil or dust contamination of the submitted sample.

re: Iron & Aluminium Significant dust/soil contamination could potentially affect the results of other analytes as well.

PLANT TISSUE ANALYSIS

Agent: APAL Agricultural Laboratory
 Agent Address: U3, 11 Ridley Street
 Hindmarsh SA 5007
 Client Name: Horti Produce Co.
 Sample Name: Pivot 2
 Barcode: 110488566
 Batch Number: 12273

Date Received: 24/09/2019
 Date Reported: 31/10/2019
 Plant/Product: Potato petiole
 Plant Part: Petiole 5th leaf from tip
 Growth Stage: 30-70mm tuber
 Actual Growth Stage:
 Sampling Date: 23/09/2019

NUTRIENT ELEMENT BALANCE CHART

	Result	Deficiency	Marginal	Normal	Above Normal	Excess	Target
Nitrogen	5.88 %						3.00-5.50 %
Nitrate	29600 mg/kg						15000-25000mg/kg
Sulfur S	0.27 %						0.18-0.34 %
Phosphorus P	0.76 %						0.30-0.55 %
Potassium K	12.0 %						9.00-15.0 %
Magnesium Mg	0.83 %						0.30-1.1 %
Calcium Ca	1.53 %						0.500-1.70 %
Sodium Na	0.099 %						0.10-0.35 %
Chloride	1.9 %						2.0-6.0 %
Iron Fe	700 mg/kg						50-200 mg/kg
Aluminium Al	970 mg/kg						# mg/kg
Manganese Mn	35 mg/kg						30-150 mg/kg
Boron B	22 mg/kg						20-40 mg/kg
Copper Cu	9.8 mg/kg						4.0-10 mg/kg
Zinc Zn	47 mg/kg						25-80 mg/kg
Cobalt Co	0.57 mg/kg						# mg/kg
Molybdenum Mo	<0.4 mg/kg						0.10-1.5 mg/kg

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TMp-002/TMp-002PP
CHLORIDES: water extraction and potentiometric silver nitrate titrimetry. Apal in-house
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Agent: APAL Agricultural Laboratory
 Agent Address: U3, 11 Ridley Street
 Hindmarsh SA 5007
 Client Name: Horti Produce Co.
 Sample Name: Pivot 3
 Barcode: 110488567
 Batch Number: 12273

Date Received: 24/09/2019
 Date Reported: 31/10/2019
 Plant/Product: Potato petiole
 Plant Part: Petiole 5th leaf from tip
 Growth Stage: 30-70mm tuber
 Actual Growth Stage:
 Sampling Date: 23/09/2019

NUTRIENT ELEMENT BALANCE CHART

		Result	Deficiency	Marginal	Normal	Above Normal	Excess	Target
Nitrogen		4.72 %						3.00-5.50 %
Nitrate		24000 mg/kg						15000-25000mg/kg
Sulfur	S	0.24 %						0.18-0.34 %
Phosphorus	P	0.49 %						0.30-0.55 %
Potassium	K	12.5 %						9.00-15.0 %
Magnesium	Mg	0.59 %						0.30-1.1 %
Calcium	Ca	1.99 %						0.500-1.70 %
Sodium	Na	0.064 %						0.10-0.35 %
Chloride		3.7 %						2.0-6.0 %
Iron	Fe	380 mg/kg						50-200 mg/kg
Aluminium	Al	570 mg/kg					#	mg/kg
Manganese	Mn	33 mg/kg						30-150 mg/kg
Boron	B	24 mg/kg						20-40 mg/kg
Copper	Cu	15 mg/kg						4.0-10 mg/kg
Zinc	Zn	38 mg/kg						25-80 mg/kg
Cobalt	Co	0.53 mg/kg					#	mg/kg
Molybdenum	Mo	<0.4 mg/kg						0.10-1.5 mg/kg

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Agent: APAL Agricultural Laboratory
 Agent Address: U3, 11 Ridley Street
 Hindmarsh SA 5007
 Client Name: Horti Produce Co.
 Sample Name: Pivot 4
 Barcode: 110488568
 Batch Number: 12273

Date Received: 24/09/2019
 Date Reported: 31/10/2019
 Plant/Product: Potato petiole
 Plant Part: Petiole 5th leaf from tip
 Growth Stage: 30-70mm tuber
 Actual Growth Stage:
 Sampling Date: 23/09/2019

NUTRIENT ELEMENT BALANCE CHART

	Result	Deficiency	Marginal	Normal	Above Normal	Excess	Target
Nitrogen	5.96 %						3.00-5.50 %
Nitrate	25600 mg/kg						15000-25000mg/kg
Sulfur S	0.25 %						0.18-0.34 %
Phosphorus P	0.75 %						0.30-0.55 %
Potassium K	11.2 %						9.00-15.0 %
Magnesium Mg	0.65 %						0.30-1.1 %
Calcium Ca	1.22 %						0.500-1.70 %
Sodium Na	0.087 %						0.10-0.35 %
Chloride	2.1 %						2.0-6.0 %
Iron Fe	250 mg/kg						50-200 mg/kg
Aluminium Al	330 mg/kg						# mg/kg
Manganese Mn	61 mg/kg						30-150 mg/kg
Boron B	22 mg/kg						20-40 mg/kg
Copper Cu	18 mg/kg						4.0-10 mg/kg
Zinc Zn	84 mg/kg						25-80 mg/kg
Cobalt Co	0.54 mg/kg						# mg/kg
Molybdenum Mo	<0.4 mg/kg						0.10-1.5 mg/kg

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