Hill Laboratories
BETTER TESTING BETTER RESULTS

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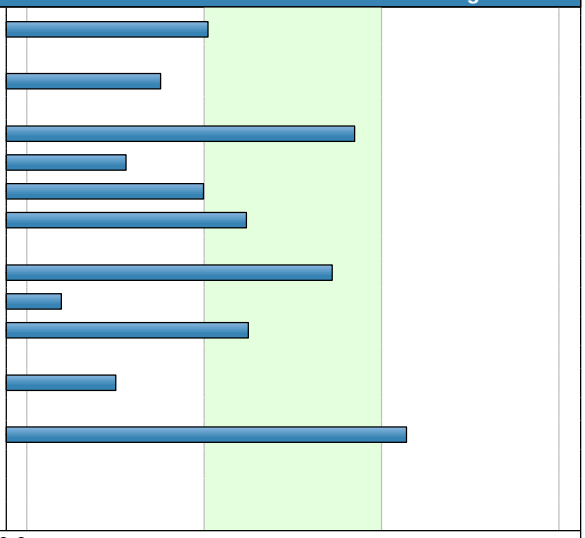
ANALYSIS REPORT

Client:	S Elton-Walters	**Lab No:**	1031064 shpv1
Address:	C/- Giant Pumpkins NZ	**Date Registered:**	31-Jul-2012
	PO Box 20324	**Date Reported:**	03-Aug-2012
	Te Rapa	**Quote No:**	
	HAMILTON 3240	**Order No:**	
		Client Reference:	Pumpkins
		Submitted By:	Giant Pumpkins NZ

Sample Name: Giant Pumpkins **Lab Number:** 1031064.1
Sample Type: SOIL Pumpkin/Squash (S65)

Analysis		Level Found	Medium Range
pH	pH Units	5.8	5.8 - 6.7
Olsen Phosphorus	mg/L	29	35 - 75
Potassium	me/100g	1.04	0.70 - 1.10
Calcium	me/100g	4.2	6.0 - 12.0
Magnesium	me/100g	1.00	1.00 - 3.00
Sodium	me/100g	0.12	0.00 - 0.50
CEC	me/100g	21	12 - 25
Total Base Saturation	%	30	50 - 85
Volume Weight	g/mL	0.70	0.60 - 1.00
Sulphate Sulphur	mg/kg	12	20 - 50
Available Nitrogen (15cm Depth)*	kg/ha	164	100 - 150
Anaerobically Mineralisable N*	µg/g	156	
Soil Sample Depth*	mm	0-150	
Base Saturation %		K 4.9 Ca 20	Mg 4.7 Na 0.6
MAF Units		K 15 Ca 4	Mg 16 Na 4



The above nutrient graph compares the levels found with reference interpretation levels. NOTE: It is important that the correct sample type be assigned, and that the recommended sampling procedure has been followed. R J Hill Laboratories Limited does not accept any responsibility for the resulting use of this information. IANZ Accreditation does not apply to comments and interpretations, i.e. the 'Range Levels' and subsequent graphs.

Analyst's Comments

The Available Nitrogen (kg/ha) test above assumes the sample is taken to a 15 cm depth. If the depth is 7.5 cm, then the level above should be divided by two.

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SUMMARY OF METHODS

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

Sample Type: Soil

Test	Method Description	Default Detection Limit	Samples
Sample Registration*	Samples were registered according to instructions received.	-	1
Soil Prep (Dry & Grind)*	Air dried at 35 - 40°C overnight (residual moisture typically 4%) and crushed to pass through a 2mm screen.	-	1
pH	1:2 (v/v) soil:water slurry followed by potentiometric determination of pH.	0.1 pH Units	1
Olsen Phosphorus	Olsen extraction followed by Molybdenum Blue colorimetry.	1 mg/L	1
Sulphate Sulphur	0.02M Potassium phosphate extraction followed by Ion Chromatography.	1 mg/kg	1
Potassium (MAF)	1M Neutral ammonium acetate extraction followed by ICP-OES.	1 MAF units	1
Calcium (MAF)	1M Neutral ammonium acetate extraction followed by ICP-OES.	1 MAF units	1
Magnesium (MAF)	1M Neutral ammonium acetate extraction followed by ICP-OES.	1 MAF units	1
Sodium (MAF)	1M Neutral ammonium acetate extraction followed by ICP-OES.	2 MAF units	1
Available Nitrogen*	Determined by NIR, calibration based on Available N by Anaerobic incubation followed by extraction using 2M KCl followed by Berthelot colorimetry. (Calculation based on 15cm depth sample).	1 mg/L	1
Anaerobically Mineralisable N*	As for Available Nitrogen but reported as µg/g.	5 µg/g	1
Potassium	1M Neutral ammonium acetate extraction followed by ICP-OES.	0.01 me/100g	1
Calcium	1M Neutral ammonium acetate extraction followed by ICP-OES.	0.5 me/100g	1
Magnesium	1M Neutral ammonium acetate extraction followed by ICP-OES.	0.04 me/100g	1
Sodium	1M Neutral ammonium acetate extraction followed by ICP-OES.	0.05 me/100g	1
Potassium (Sat)	1M Neutral ammonium acetate extraction followed by ICP-OES.	0.1 %BS	1
Calcium (Sat)	1M Neutral ammonium acetate extraction followed by ICP-OES.	1 %BS	1
Magnesium (Sat)	1M Neutral ammonium acetate extraction followed by ICP-OES.	0.2 %BS	1
Sodium (Sat)	1M Neutral ammonium acetate extraction followed by ICP-OES.	0.1 %BS	1
CEC	Summation of extractable cations (K, Ca, Mg, Na) and extractable acidity.	2 me/100g	1
Total Base Saturation	Calculated from Extractable Cations and Cation Exchange Capacity.	5 %	1
Volume Weight	The weight/volume ratio of dried, ground soil.	0.01 g/mL	1

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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Fiona Calvert NZCS
Client Services Manager - Agriculture Division