Compost or Manure Analysis

Sustainable Soil Management with the Mikhail Balance System

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FILE NO : 2511193509

LANDTASIA ORGANIC FARMS P/L
PO BOX 116

BUNGENDORE, NSW 2621

CLIENT ID : LAN055
PHONE : 02 6238 0565
REFERENCE :
REFERENCE PHONE :

SAMPLE ID : 50045

ANALYSIS REQUIRED : Total, Available & CEC

CONTENTS:

Analysis by APAL
PO BOX 155, WELLAND SA 5007
U3/11 Ridley Street, HINDMARSH SA 5007

Web: www.apal.com.au
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P.O. Box 583 Noble Park VIC 3174

Analysis

ITEM		unit	RESULT	
Basic Measures:				
pH (1:5 Water)			**8.43**	
pH (1:5 0.01M $CaCl_2$)			**8.03**	
Electrical Conductivity	EC	µS/cm	**929**	
TOTAL SOLUBLE SALT	TSS	ppm	**3066**	
Major Nutrients:				(Major Nutrients in percentages)
TOTAL NITROGEN	N	kg/t	**11.8**	**1.18 %**
TOTAL PHOSPHORUS	P	kg/t	**2**	**0.1955 %**
TOTAL POTASSIUM	K	kg/t	**7.9**	**0.7886 %**
TOTAL SULPHUR	S	kg/t	**1.3**	**0.134 %**
Total Cations:				
TOTAL CALCIUM	Ca	%	**1.6388**	
TOTAL MAGNESIUM	Mg	%	**0.346**	
TOTAL SODIUM	Na	%	**0.0631**	
Trace Minerals:				
TOTAL COPPER	Cu	ppm	**23.7**	
TOTAL ZINC	Zn	ppm	**98.8**	
TOTAL IRON	Fe	ppm	**10749**	
TOTAL MANGANESE	Mn	ppm	**454**	
TOTAL COBALT	Co	ppm	**4.98**	
TOTAL MOLYBDENUM	Mo	ppm	**0.569**	
TOTAL BORON	B	ppm	**20.5**	
Carbon Content:				
TOTAL ORGANIC MATTER		%	**46.2**	
TOTAL ORGANIC CARBON		%	**23.1**	
CARBON NITROGEN RATIO	C:N		**19.6**	
MOISTURE CONTENT	MC	%	**47.1**	

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Plant Available Nutrients

ITEM		unit	RESULT
AVAILABLE CALCIUM	Ca	ppm	**6988**
AVAILABLE MAGNESIUM	Mg	ppm	**1251.6**
AVAILABLE SODIUM	Na	ppm	**324.3**
AVAILABLE NITROGEN	N	ppm	**0.3**
AVAILABLE PHOSPHORUS	P	ppm	**220.2**
AVAILABLE POTASSIUM	K	ppm	**3825.9**
AVAILABLE SULPHUR	S	ppm	**49.5**
AVAILABLE COPPER	Cu	ppm	**0.96**
AVAILABLE ZINC	Zn	ppm	**19.29**
AVAILABLE IRON	Fe	ppm	**54.7**
AVAILABLE MANGANESE	Mn	ppm	**5.12**
AVAILABLE COBALT	Co	ppm	**1.41**
AVAILABLE MOLYBDENUM	Mo	ppm	**0.59**
AVAILABLE BORON	B	ppm	**3.91**

Notes: These results represent the proportion of the Total nutrients (page 2) that will be immediately available for plant uptake.

ppm (parts per million) = mg/L (milligram per litre) = mg/kg (milligram per kilogram)
1 % = 10,000 ppm

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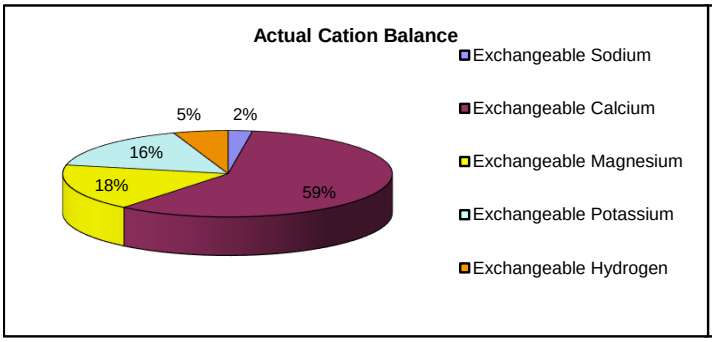
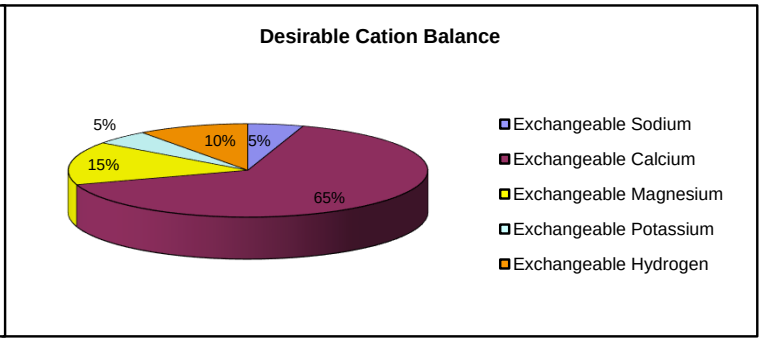
Exchangeable Cations

EXCHANGEABLE CATIONS			RESULTS
CALCIUM	Ca	meq/100g of sample	28.91
MAGNESIUM	Mg	meq/100g of sample	8.63
SODIUM	Na	meq/100g of sample	1.17
POTASSIUM	K	meq/100g of sample	8.12
HYDROGEN	H	meq/100g of sample	2.64
ADJ. EXCH. HYDROGEN	H	meq/100g of sample	0
CATION EXCHANGE CAPACITY	CEC	meq/100g of sample	49.47
ADJUSTED CEC	Adj.CEC	meq/100g of sample	46.83
SATURATION BASE PERCENTAGE	BSP		96

meq = milliequivalent

EXCHANGEABLE CATION BALANCE		% OF ADJUSTED CEC	DESIRABLE
CALCIUM PERCENTAGE		61.73	65-70%
MAGNESIUM PERCENTAGE		18.43	12-15%
SODIUM PERCENTAGE	ESP	2.50	0.5-5%
POTASSIUM PERCENTAGE		17.34	3-5%
ADJ. HYDROGEN PERCENTAGE		0	<20%
CALCIUM / MAGNESIUM RATIO	Ca/Mg	3.35	2 - 4





CATION BALANCE AMENDMENTS

(For optimum effectiveness on application)

GYPSUM REQUIREMENT	2.6 kg/m^3			
LIME REQUIREMENT	0.0 kg/m^3			
DOLOMITE REQUIREMENT	0.0 kg/m^3			
MAGNESIUM SULPHATE	0.0 kg/m^3	**OR**	MAGNESIUM OXIDE	0.0 kg/m^3

NB. The effectiveness of the compost may be improved by mixing in the suggested materials (above) prior to application.

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ANALYTICAL METHODS

Items	Methods
pH (1:5 Water)	4A1
pH (1:5 CaCl2)	4B1
Electrical conductivity (1:5 Water)	3A1
Total Soluble Salts	Calculation from Electrical conductivity
Total Nitrogen	Dumas method, 7A5
Total Calcium, Magnesium, Sodium, Potassium	Acid digestion, ICPAES
Total Phosphorus, Sulphur, Copper, Zinc, Boron	Acid digestion, ICPAES
Total Iron, Manganese, Cobalt, Molbydenum	Acid digestion, ICPAES
Exchangeable Calcium, Magnesium, Sodium, Potassium	15D3 or 15A1
Exchangeable Hydrogen	Barium Chloride-Triethanolamine method*
Available Nitrogen	Copper-cadmium reductor column at a pH of 8.0
Available Phosphorus	Olsen extractable, 9C2a
Available Sulphur	KCl 40, 10D1
Available Copper, Zinc, & Cobalt	EDTA, 12B1
Available Molybdenum	Ammonium Oxalate-Oxalic acid-di-iso propyl ether
Available Iron & Manganese	method of E.H. Mikhail (1981)
Available Boron	12C2
Total Organic Carbon	Method 6B3
Total Phosphorus, Calcium, Magnesium	Acid digestion

NB. For available Iron and Manganese, SWEP uses the method developed by E.H. Mikhail (1980) due to the tendency for the standard EDTA method to produce erroneously high results.

For numbered test methods:
Rayment, G.E. & Lyons, D.J. (2011). Soil Chemical Methods - Australasia. CSIRO Publishing, 150 Oxford Street, Collingwood Vic 3066, Australia.

*Peech, M., Cowan, R.L. & Baker, J.H. (1962). Soil Science Society American Procedures, A critical studyof the Barium chloride - Triethanolamine and ammonium acetate methods for determining exchangeable Hydrogen of soils.

AQIS Approved Quarantine Site.
Victorian DPI acccreditation to receive samples from PIZ and PCN infested zones.

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