

## Compost or Manure Analysis

### Sustainable Soil Management with the Mikhail Balance System

<b>FILE NO :</b> 2108162533	<b>DATE ISSUED :</b> 16/08/2021
LANDTASIA ORGANIC FARMS P/L PO BOX 116  BUNGENDORE, NSW 2621	<b>DATE RECEIVED :</b> 6/08/2021
<b>SAMPLE ID :</b> 50024	<b>CLIENT ID :</b> LAN055
	<b>PHONE :</b> 02 6238 0565
	<b>REFERENCE :</b>
	<b>REFERENCE PHONE :</b>
	<b>ANALYSIS REQUIRED :</b> Total, Available & CEC

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## Analysis

ITEM	unit	RESULT
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### Basic Measures:

pH (1:5 Water)			7.72
pH (1:5 0.01M CaCl <sub>2</sub> )			7.22
Electrical Conductivity	EC	μS/cm	1100
TOTAL SOLUBLE SALT	TSS	ppm	3630

### Major Nutrients:

TOTAL NITROGEN	N	kg/t	11.8	(Major Nutrients in percentages)	1.18 %
TOTAL PHOSPHORUS	P	kg/t	2.9		0.291 %
TOTAL POTASSIUM	K	kg/t	8.4		0.837 %
TOTAL SULPHUR	S	kg/t	1.7		0.168 %

### Total Cations:

TOTAL CALCIUM	Ca	%	1.66
TOTAL MAGNESIUM	Mg	%	0.395
TOTAL SODIUM	Na	%	0.0571

### Trace Minerals:

TOTAL COPPER	Cu	ppm	29.2
TOTAL ZINC	Zn	ppm	119
TOTAL IRON	Fe	%	1.1
TOTAL MANGANESE	Mn	ppm	386
TOTAL COBALT	Co	ppm	4.28
TOTAL MOLYBDENUM	Mo	ppm	1.03
TOTAL BORON	B	ppm	21.1

### Carbon Content:

TOTAL ORGANIC MATTER		%	32.6
TOTAL ORGANIC CARBON		%	16.3
CARBON NITROGEN RATIO	C:N		13.8
MOISTURE CONTENT	MC	%	55

**Plant Available Nutrients**

ITEM		unit	RESULT
AVAILABLE CALCIUM	Ca	ppm	6240
AVAILABLE MAGNESIUM	Mg	ppm	1440
AVAILABLE SODIUM	Na	ppm	558.9
AVAILABLE NITROGEN	N	ppm	109
AVAILABLE PHOSPHORUS	P	ppm	449
AVAILABLE POTASSIUM	K	ppm	4953
AVAILABLE SULPHUR	S	ppm	102
AVAILABLE COPPER	Cu	ppm	9.68
AVAILABLE ZINC	Zn	ppm	82.2
AVAILABLE IRON	Fe	ppm	41
AVAILABLE MANGANESE	Mn	ppm	189
AVAILABLE COBALT	Co	ppm	1.52
AVAILABLE MOLYBDENUM	Mo	ppm	0.917
AVAILABLE BORON	B	ppm	4.13

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

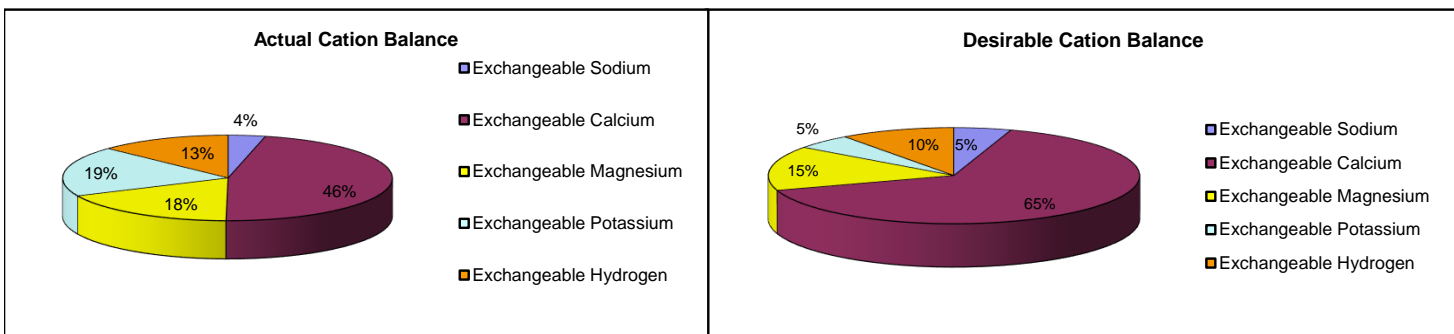
ppm (parts per million) = mg/L (milligram per litre) = mg/kg (milligram per kilogram)  
1 % = 10,000 ppm

### Exchangeable Cations

EXCHANGEABLE CATIONS			RESULTS
CALCIUM	Ca	meq/100g of sample	25.43
MAGNESIUM	Mg	meq/100g of sample	9.78
SODIUM	Na	meq/100g of sample	1.98
POTASSIUM	K	meq/100g of sample	10.35
HYDROGEN	H	meq/100g of sample	7.06
ADJ. EXCH. HYDROGEN	H	meq/100g of sample	0
CATION EXCHANGE CAPACITY	CEC	meq/100g of sample	54.6
ADJUSTED CEC	Adj.CEC	meq/100g of sample	47.54
SATURATION BASE PERCENTAGE	BSP		89

meq = milliequivalent

EXCHANGEABLE CATION BALANCE		% OF ADJUSTED CEC	DESIRABLE
CALCIUM PERCENTAGE		53.49	65-70%
MAGNESIUM PERCENTAGE		20.57	12-15%
SODIUM PERCENTAGE	ESP	4.16	0.5-5%
POTASSIUM PERCENTAGE		21.77	3-5%
ADJ. HYDROGEN PERCENTAGE		0	<20%
CALCIUM / MAGNESIUM RATIO	Ca/Mg	2.60	2 - 4



**CATION BALANCE AMENDMENTS** *(For optimum effectiveness on application)*

GYPSUM REQUIREMENT	4.2 kg/m <sup>3</sup>		
LIME REQUIREMENT	0.0 kg/m <sup>3</sup>		
DOLOMITE REQUIREMENT	0.0 kg/m <sup>3</sup>		
MAGNESIUM SULPHATE	0.0 kg/m <sup>3</sup>	<b>OR</b>	MAGNESIUM OXIDE 0.0 kg/m <sup>3</sup>

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

## ANALYTICAL METHODS

Items	Methods
pH (1:5 Water)	4A1
pH (1:5 CaCl <sub>2</sub> )	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, Molybdenum	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 study of the Barium chloride-

AQIS Approved Quarantine Site.

Victorian DPI accreditation to receive samples from PIZ and PCN infested zones.

**Disclaimer:** All results and/or recommendations in this report are made in good faith and are based on past and ongoing research by SWEP Pty Ltd. However, limitations such as the vagaries of climatic conditions mean that we cannot guarantee production of any crop by the use of this test and associated recommendations, and cannot be held responsible for any results obtained.