

## Compost or Manure Analysis

### Sustainable Soil Management with the Mikhail Balance System

FILE NO : 2408186622

LANDTASIA ORGANIC FARMS P/L  
PO BOX 116

BUNGENDORE, NSW 2621

SAMPLE ID : 50037

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CLIENT ID : LAN055

PHONE : 02 6238 0565

REFERENCE :

REFERENCE PHONE :

ANALYSIS REQUIRED : Total, Available  
& CEC

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## Analysis

| ITEM | unit | RESULT |
|------|------|--------|
|------|------|--------|

### Basic Measures:

|                                   |     |       |      |
|-----------------------------------|-----|-------|------|
| pH (1:5 Water)                    |     |       | 8.04 |
| pH (1:5 0.01M CaCl <sub>2</sub> ) |     |       | 7.64 |
| Electrical Conductivity           | EC  | μS/cm | 1690 |
| TOTAL SOLUBLE SALT                | TSS | ppm   | 5577 |

### Major Nutrients:

|                  |   |      | (Major Nutrients in percentages) |         |
|------------------|---|------|----------------------------------|---------|
| TOTAL NITROGEN   | N | kg/t | 15.2                             | 1.517 % |
| TOTAL PHOSPHORUS | P | kg/t | 3                                | 0.296 % |
| TOTAL POTASSIUM  | K | kg/t | 12.6                             | 1.26 %  |
| TOTAL SULPHUR    | S | kg/t | 1.9                              | 0.187 % |

### Total Cations:

|                 |    |   |        |
|-----------------|----|---|--------|
| TOTAL CALCIUM   | Ca | % | 1.85   |
| TOTAL MAGNESIUM | Mg | % | 0.365  |
| TOTAL SODIUM    | Na | % | 0.0652 |

### Trace Minerals:

|                  |    |     |      |
|------------------|----|-----|------|
| TOTAL COPPER     | Cu | ppm | 30.5 |
| TOTAL ZINC       | Zn | ppm | 141  |
| TOTAL IRON       | Fe | ppm | 9210 |
| TOTAL MANGANESE  | Mn | ppm | 446  |
| TOTAL COBALT     | Co | ppm | 6.36 |
| TOTAL MOLYBDENUM | Mo | ppm | 1.79 |
| TOTAL BORON      | B  | ppm | 27.1 |

### Carbon Content:

|                       |     |   |        |
|-----------------------|-----|---|--------|
| TOTAL ORGANIC MATTER  |     | % | 49.5   |
| TOTAL ORGANIC CARBON  |     | % | 24.736 |
| CARBON NITROGEN RATIO | C:N |   | 16.3   |
| MOISTURE CONTENT      | MC  | % | 45.5   |

## Microbial Analysis

| ITEM | UNIT | RESULT | % of Total Active Bacteria |
|------|------|--------|----------------------------|
|------|------|--------|----------------------------|

|                                |       |       |         |
|--------------------------------|-------|-------|---------|
| ACTIVE LACTIC ACID BACTERIA    |       | 1,000 | 23.81 % |
| Active Fungi                   | cfu/g | 1,000 |         |
| Cellulose Utilisers            | cfu/g | 1,000 |         |
| TOTAL ACTIVE FUNGI             | cfu/g | 2,000 | 47.62 % |
| ACTIVE YEASTS                  | cfu/g | 100   | 2.38 %  |
| ACTIVE ACTINOMYCETES           | cfu/g | 1,000 | 23.81 % |
| ACTIVE PHOTOSYNTHETIC BACTERIA | cfu/g | 100   | 2.38 %  |
| Total Active Population:       | cfu/g | 4,200 |         |

See notes on Biology Management (page 3).

*No bacterial colonies were detected on the culture media, if the result is 1000 cfu/g for Lactic Acid Bacteria and Actinomycetes or 100 cfu/g for Yeast, Fungi, Cellulose and Photosynthetic Bacteria.*

ppm = parts per million = milligrams per kilogram  
1 % = 10,000 ppm

cfu/g = colony forming unit per gram of material

## Plant Available Nutrients

| ITEM                 |    | unit | RESULT |
|----------------------|----|------|--------|
| AVAILABLE CALCIUM    | Ca | ppm  | 9000   |
| AVAILABLE MAGNESIUM  | Mg | ppm  | 2208   |
| AVAILABLE SODIUM     | Na | ppm  | 648.6  |
|                      |    |      |        |
| AVAILABLE NITROGEN   | N  | ppm  | 14.1   |
| AVAILABLE PHOSPHORUS | P  | ppm  | 609    |
| AVAILABLE POTASSIUM  | K  | ppm  | 8229   |
| AVAILABLE SULPHUR    | S  | ppm  | 78.4   |
|                      |    |      |        |
| AVAILABLE COPPER     | Cu | ppm  | 10.2   |
| AVAILABLE ZINC       | Zn | ppm  | 107    |
| AVAILABLE IRON       | Fe | ppm  | 45     |
| AVAILABLE MANGANESE  | Mn | ppm  | 242    |
| AVAILABLE COBALT     | Co | ppm  | 1.97   |
| AVAILABLE MOLYBDENUM | Mo | ppm  | 1.32   |
| AVAILABLE BORON      | B  | ppm  | 4.58   |

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)

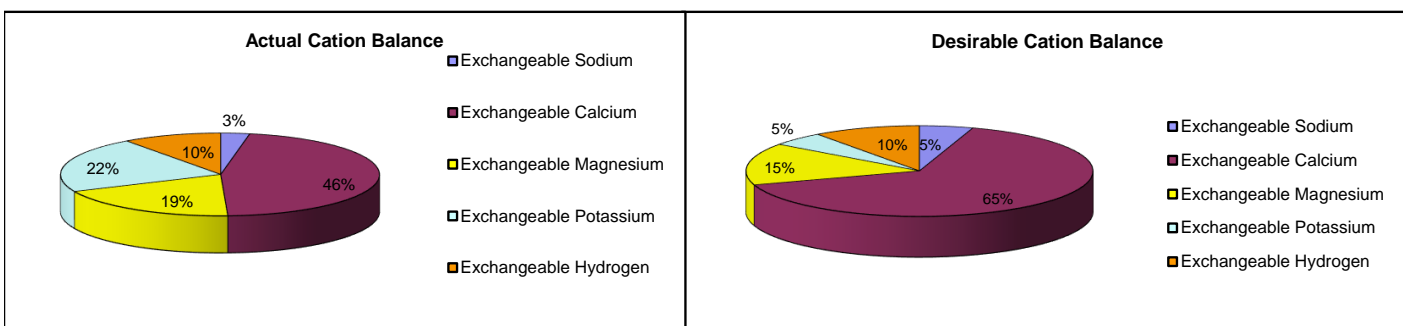
1 % = 10,000 ppm

### Exchangeable Cations

| EXCHANGEABLE CATIONS       |                       | RESULTS                    |
|----------------------------|-----------------------|----------------------------|
| CALCIUM                    | Ca meq/100g of sample | 36.21                      |
| MAGNESIUM                  | Mg meq/100g of sample | 14.80                      |
| SODIUM                     | Na meq/100g of sample | 2.27                       |
| POTASSIUM                  | K meq/100g of sample  | 16.98                      |
| HYDROGEN                   | H meq/100g of sample  | 7.81                       |
| ADJ. EXCH. HYDROGEN        | H meq/100g of sample  | 0                          |
| CATION EXCHANGE CAPACITY   |                       | CEC meq/100g of sample     |
| ADJUSTED CEC               |                       | Adj.CEC meq/100g of sample |
| SATURATION BASE PERCENTAGE |                       | BSP                        |
|                            |                       | 92                         |

meq = milliequivalent

| EXCHANGEABLE CATION BALANCE | % OF ADJUSTED CEC | DESIRABLE |
|-----------------------------|-------------------|-----------|
| CALCIUM PERCENTAGE          | 51.54             | 65-70%    |
| MAGNESIUM PERCENTAGE        | 21.06             | 12-15%    |
| SODIUM PERCENTAGE           | 3.23              | 0.5-5%    |
| POTASSIUM PERCENTAGE        | 24.17             | 3-5%      |
| ADJ. HYDROGEN PERCENTAGE    | 0                 | <20%      |
| CALCIUM / MAGNESIUM RATIO   | Ca/Mg             | 2 - 4     |



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

|                      |                       |           |                 |                       |  |
|----------------------|-----------------------|-----------|-----------------|-----------------------|--|
| GYPSUM REQUIREMENT   | 6.8 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 method of E.H. Mikhail (1981) |
| Available Iron & Manganese                         | 12C2   |
| Available Boron                                    | Method 6B3   |
| Total Organic Carbon                               | Acid digestion   |
| Total Phosphorus, Calcium, Magnesium               |  |

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.