

Compost Analysis

Sustainable Soil Management with the Mikhail Balance System

<p>FILE NO : 2006152409</p> <p>LANDTASIA ORGANIC FARMS P/L PO BOX 116</p> <p>BUNGENDORE, NSW 2621</p> <p>SAMPLE ID : 50018</p>	<p>DATE ISSUED : 10/06/2020</p> <p>DATE RECEIVED : 3/06/2020</p> <p>CLIENT ID : LAN055</p> <p>PHONE : 02 6238 0565</p> <p>REFERENCE :</p> <p>REFERENCE PHONE :</p>
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Microbial Analysis

ITEM	unit	RESULT	% of Total Active Bacteria
ACTIVE LACTIC ACID BACTERIA		180,000	35.21 %
Active Fungi	cfu/g	300,000	
Cellulose Utilisers	cfu/g	30,000	
TOTAL ACTIVE FUNGI	cfu/g	330,000	64.55 %
ACTIVE YEASTS	cfu/g	100	0.02 %
ACTIVE ACTINOMYCETES	cfu/g	1,000	0.20 %
ACTIVE PHOTOSYNTHETIC BACTERIA	cfu/g	100	0.02 %
Total Active Population:	cfu/g	511,200	

Notes: See notes on Biology Management (page 3).
 ppm = parts per million = milligrams per kilogram
 1 % = 10,000 ppm

cfu/g = colony forming unit per gram of material

Notes on Biology Management

The first thing to remember is that SWEP results are for ACTIVE micro-organisms only. This means only those that will immediately grow under ideal conditions (generally about 7-10% of total soil biomass). This allows us to analyse samples year round, since the microbes that are active in spring will still be present in summer or winter, but at very reduced levels of activity. Given the ideal conditions in our cultures, they will spring back to life and grow much more quickly than others.

Active Indicator Organisms

Photosynthetic bacteria like *Rhodospseudomonas spp* and *Bradyrhizobium spp* require only sunlight, carbon dioxide and mineral nutrients to survive. They are important in recycling organic matter, particularly compounds that are difficult to break down - such as pesticide and petrochemical residues. They are also important for synthesis of bio-active compounds that are known to stimulate plant growth.

Yeasts such as *Saccaromyces spp*, *Debaryomyces spp*, *Torulopsis spp* and *Rhodotrula spp* synthesise plant growth substances from amino acids and sugars that are produced by photosynthetic bacteria. These substances also promote the growth of Lactic acid bacteria and Actinomycetes.

Lactic acid bacteria such as *Lactobacillus spp*, *Leuconostoc spp*, *Lactococcus spp* and *Pediococcus spp* produce Lactic Acid from sugars and carbohydrates. Lactic acid is a strong bio-suppressive compound that helps control harmful micro-organisms. This effect, together with other trace nutrients produced by members of this group, is particularly beneficial to the growth of Photosynthetic bacteria and Yeasts.

Actinomycetes such as *Actinomyces spp* and *Streptomyces spp* produce antibiotic compounds that are effective suppressants of pathogenic organisms. They have also been shown to produce plant hormones - especially when treated with kelp extracts.

Fungi such as *Aspergillus spp*, *Penecillium spp*, *Mucor spp* and *Rhizopus spp* have many beneficial effects on plant growth. These include the production of enzymes, antibiotics and various growth regulators. They are also important in the conversion of organic matter to humic substances. Some of the less complex compounds produced from this process are also important food sources for some bacteria.

Cellulose Utilisers like *Trichoderma spp* require only minerals and cellulose for growth. These fungi break down plant remains into organic materials that are beneficial to other micro-organisms such as Protozoa.