



ANALYSIS REPORT

Client:	EnviroFert Limited	Lab No:	1697825	CPV1
Contact:	EnviroFert Limited PO Box 12 Tuakau 2342	Date Received:	15-Dec-2016	
		Date Reported:	23-Dec-2016	
		Quote No:	61824	
		Order No:		
		Client Reference:	Finished Product Compost	
		Submitted By:	Elenka Nikoloff	

Sample Type: COMPOST, General

Sample Name:	Mature Compost	Guideline NZS 4454:2005*	BioGro Std 2009 Appendix A**
Lab Number:	1697825.1		
Water Extractable Results			
pH	pH Units	7.8	5.0 - 8.5
Electrical Conductivity (EC)	mS/cm	5.3	-
Nitrate-N	mg/L	9	-
Ammonium-N	mg/L	85	-
Phosphorus	mg/L	1	-
Potassium	mg/L	925	-
Sulphur	mg/L	447	-
Calcium	mg/L	150	-
Magnesium	mg/L	53	-
Sodium	mg/L	170	-
Total Analysis Results - Dry Weight Basis			
Organic Matter*	%	39.8	Greater than 25
Total Carbon*	%	23.1	-
Total Nitrogen*	%	1.42	Greater than 0.6 (if a contribution to plant nutrition is claimed)
C/N Ratio*		16.3	-
Dry Matter*	%	47.9	-
'Total' Phosphorus*	mg/kg	2,710	-
'Total' Phosphorus*	%	0.27	Greater than 0.1 (if a contribution to plant nutrition is claimed)
'Total' Sulphur*	mg/kg	6,700	-
'Total' Sulphur*	%	0.67	-
'Total' Potassium*	mg/kg	9,930	-
'Total' Potassium*	%	0.99	-
'Total' Calcium*	mg/kg	34,500	-
'Total' Calcium*	%	3.45	-
'Total' Magnesium*	mg/kg	4,290	-
'Total' Magnesium*	%	0.43	-
'Total' Sodium*	mg/kg	1,837	-
'Total' Sodium*	%	0.18	-
'Total' Iron*	mg/kg	11,700	-
'Total' Manganese*	mg/kg	470	-
'Total' Zinc*	mg/kg	198	Less than 600
'Total' Copper*	mg/kg	43	Less than 300



Sample Type: COMPOST, General				
Sample Name:		Mature Compost	Guideline NZS 4454:2005*	BioGro Std 2009 Appendix A**
Lab Number:		1697825.1		
'Total' Boron*	mg/kg	38	Less than 200	-
'Total' Chromium*	mg/kg	26	Less than 600	Less than 150
'Total' Arsenic*	mg/kg	22	Less than 20	Less than 20
'Total' Lead*	mg/kg	38	Less than 250	Less than 250
'Total' Nickel*	mg/kg	13.7	Less than 60	Less than 60
'Total' Mercury*	mg/kg	< 0.11	Less than 2	Less than 1
'Total' Cadmium*	mg/kg	0.31	Less than 3	Less than 1

* New Zealand Standard Composts, Soil Conditioners and Mulches: NZS 4454:2005, Table 3.1. Test results apply to the sample(s) submitted for analysis and do not necessarily imply that the product meets all the requirements of the standard. Note that the laboratory methods used for these test results may differ slightly to those referred to in the standard.

** Bio-Gro NZ Organic Standards 2009, Appendix A, Table A3: Limits for Heavy Metals in Soils and Composts: BioGro Standard for compost - ingredients other than household waste. Other limits apply for compost with ingredients including household waste.

Analyst's Comments

Sample 1 Comment:

Organic Matter Note: The relationship between carbon and organic matter varies according to organic matter type and soil type if soil is present in the product. Commonly used conversion factors range from 1.65 to 2.2 (Ref: NZS 445:2005). A Loss on Ignition (LOI) test may be requested if a more accurate organic matter value is required.

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: COMPOST, General			
Test	Method Description	Default Detection Limit	Sample No
Sample Registration*	Samples were registered according to instructions received.	-	1
Media & Compost Prep (Dry & Grind)*	Oven dried at 105°C for 24 hours and ground to pass through a 2.0mm screen.	-	1
'Total' Sulphur*	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	45 mg/kg	1
'Total' Sulphur*	Calculated from 'Total' Sulphur result for mg/kg (reported on a dry weight basis).	0.01 %	1
pH	1:1.5 (v/v) Water extraction followed by potentiometric pH determination.	0.1 pH Units	1
Electrical Conductivity	1:1.5 (v/v) Water extraction followed by potentiometric conductivity determination (25°C).	0.1 mS/cm	1
Nitrate-N	1:1.5 (v/v) Water extraction followed by Salicylate colorimetry.	1 mg/L	1
Ammonium-N	1:1.5 (v/v) Water extraction followed by Berthelot colorimetry.	1 mg/L	1
Phosphorus	1:1.5 (v/v) Water extraction followed by ICP-OES.	1 mg/L	1
Sulphur	1:1.5 (v/v) Water extraction followed by ICP-OES.	1 mg/L	1
Potassium	1:1.5 (v/v) Water extraction followed by ICP-OES.	1 mg/L	1
Calcium	1:1.5 (v/v) Water extraction followed by ICP-OES.	1 mg/L	1
Magnesium	1:1.5 (v/v) Water extraction followed by ICP-OES.	1 mg/L	1
Sodium	1:1.5 (v/v) Water extraction followed by ICP-OES.	1 mg/L	1
Total Carbon*	Sample dried and ground and analysed by Dumas combustion. Results expressed on a dry weight basis.	0.2 %	1
Total Nitrogen*	Sample dried and ground and analysed by Dumas combustion. Results expressed on a dry weight basis.	0.04 %	1
Organic Matter*	Dumas combustion. Organic Matter is 1.72 x Total Carbon.	0.2 %	1
Dry Matter*	Weight loss on drying at 105°C for 24 hours. Analysed at Hill Laboratories - 25 Te Aroha Street, Hamilton.	0.5 %	1
'Total' Phosphorus*	Calculated from 'Total' Phosphorus result for mg/kg (reported on a dry weight basis).	0.01 %	1

Sample Type: COMPOST, General			
Test	Method Description	Default Detection Limit	Sample No
'Total' Phosphorus*	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	65 mg/kg	1
'Total' Potassium*	Calculated from 'Total' Potassium result for mg/kg (reported on a dry weight basis).	0.01 %	1
'Total' Potassium*	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	70 mg/kg	1
'Total' Calcium*	Calculated from 'Total' Calcium result for mg/kg (reported on a dry weight basis).	0.01 %	1
'Total' Calcium*	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	100 mg/kg	1
'Total' Magnesium*	Calculated from 'Total' Magnesium result for mg/kg (reported on a dry weight basis).	0.01 %	1
'Total' Magnesium*	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	40 mg/kg	1
'Total' Sodium*	Calculated from 'Total' Sodium result for mg/kg (reported on a dry weight basis).	0.01 %	1
'Total' Sodium*	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	20 mg/kg	1
'Total' Iron*	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	40 mg/kg	1
'Total' Manganese*	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	3 mg/kg	1
'Total' Zinc*	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	4 mg/kg	1
'Total' Copper*	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	4 mg/kg	1
'Total' Boron*	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	6 mg/kg	1
'Total' Chromium*	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-MS. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	0.2 mg/kg	1

Sample Type: COMPOST, General			
Test	Method Description	Default Detection Limit	Sample No
'Total' Arsenic*	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-MS. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	0.2 mg/kg	1
'Total' Lead*	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-MS. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	0.04 mg/kg	1
'Total' Nickel*	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-MS. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	0.2 mg/kg	1
'Total' Mercury*	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-MS. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	0.10 mg/kg	1
'Total' Cadmium*	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-MS. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	0.02 mg/kg	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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Operations Support - Agriculture