

# Hill Laboratories

R J Hill Laboratories Limited



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## ANALYSIS RESULTS

**Client:** P V Weber Wools Ltd  
**Address:** Kawakawa Road  
FEILDING  
New Zealand

**Laboratory No.:** 581419/1  
**Registered:** 6-Dec-2008  
**Reported:** 15-Dec-2008  
**Order No.:**  
**Submitted By:** P V Weber Wools Ltd  
**Client Ref:**

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**Client Phone:** 06 323 9550

**Sample Name:** Compost  
**Sample Type:** COMPOST, General (C10)

Analysis	Level Found	Medium Range	Low	Medium	High
pH	9.4				
Electrical Conductivity (mS/cm)	10.5				
Nitrate-N (mg/L)	25				
Ammonium-N (mg/L)	29				
Phosphorus (mg/L)	95				
Sulphur (mg/L)	187				
Potassium (mg/L)	3450				
Calcium (mg/L)	48				
Magnesium (mg/L)	34				
Sodium (mg/L)	296				
Total Carbon (%)	34.1				
Total Nitrogen (%)	5.06				
C/N Ratio	6.7				
Organic Matter (%)	58.8				
Dry Matter (%)	93.9				
'Total' Phosphorus (mg/kg)	6130				
'Total' Sulphur (mg/kg)	7370				
'Total' Potassium (mg/kg)	30700				
'Total' Calcium (mg/kg)	12300				
'Total' Magnesium (mg/kg)	4560				
'Total' Sodium (mg/kg)	2540				
'Total' Iron (mg/kg)	4890				
'Total' Manganese (mg/kg)	487				
'Total' Zinc (mg/kg)	156				
'Total' Copper (mg/kg)	20				
'Total' Boron (mg/kg)	10				
'Total' Chromium (mg/kg)	5.2				
'Total' Arsenic (mg/kg)	2.4				
'Total' Lead (mg/kg)	3.05				
'Total' Nickel (mg/kg)	3.9				
'Total' Mercury (mg/kg)	0.02				
'Total' Cadmium (mg/kg)	0.24				

The above nutrient graph compares the levels found with reference interpretation levels. NOTE: It is important that the correct sample type be assigned, and that the recommended sampling procedure has been followed. R J Hill Laboratories Limited does not accept any responsibility for the resulting use of this information.

Submitter: P V Weber Wools Ltd, Kawakawa Road, FEILDING, New Zealand (Ph: 06 323 9550)

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### Laboratory Comments

#### Analysis Comments

Normal range levels for each nutrient have not been printed on this report. Composts are made from a variety of materials and subsequently have no medium nutrient ranges. Please contact the Laboratory for more information.

#### Reporting Units.

% = g/100g = g analyte/100g compost  
mg/kg = ppm = mg analyte/kg compost

Note 1: mg/kg x 0.0001 = %

Note 2: To calculate results to a fresh weight basis:

Result (dry matter basis) x (Dry Matter % / 100) = Result (fresh weight basis)

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 4454:2005).

End of Laboratory Comments

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The following table gives a brief description of the analysis methods for this job. The COV (coefficient of variation) gives a measure of precision and is sometimes referred to as the Relative Standard Deviation, ie the standard deviation expressed as a percentage of the absolute value.

For further details and explanations, please contact the laboratory.  
These samples were collected by yourselves (or your agent) and analysed as received at this laboratory.

Analyte	Method	COV(%)
<b>Soil and Plant</b>		
Total Nitrogen*, Total Carbon*	Sample dried and ground and analysed by Dumas combustion. Results expressed on a dry weight basis.	5
Compost Prep (Dry and Grind)*	Oven dried at 103°C overnight and ground to pass through a 2.0 mm screen. Tests performed on a dry matter basis.	-
Phosphorus, Sulphur, Potassium, Calcium, Magnesium, Sodium	1:1.5 (v/v) Water extraction followed by ICP-OES.	6
Organic Matter*	Dumas combustion. Organic Matter is 1.72 x Total Carbon.	5
'Total' Cadmium*, 'Total' Chromium*, 'Total' Arsenic*, 'Total' Lead*, 'Total' Nickel*, '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.	-
'Total' Phosphorus, 'Total' Potassium*, 'Total' Sulphur*, 'Total' Calcium*, 'Total' Magnesium*, 'Total' Sodium*, 'Total' Iron*, 'Total' Manganese*, 'Total' Zinc*, 'Total' Copper*, '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.	-
pH	1:1.5 (v/v) Water extraction followed by potentiometric pH determination.	4
Dry Matter*	Weight loss on drying at 105 °C for 24 hours.	-
Sample Registration*	Samples were collected by yourselves and analysed as received in the laboratory.	-
Ammonium-N	1:1.5 (v/v) Water extraction followed by Berthelot colorimetry.	15
Nitrate-N	1:1.5 (v/v) Water extraction followed by Salicylate colorimetry.	-
Electrical Conductivity	1:1.5 (v/v) Water extraction followed by potentiometric conductivity determination (25°C).	1

\* Indicates a non-accredited test.



This laboratory is accredited by International Accreditation New Zealand. The tests reported herein have been performed in accordance with its terms of accreditation, with the exception of tests indicated above. Accreditation also does not apply to comments and interpretations, i.e. the 'Normal Range' levels and the subsequent bar graph. This report may not be reproduced, except in full, without the written consent of the signatory.

**Signatory:**

Wendy Homewood  
Quality Assurance Officer