



# Soil and Plant Laboratory, Inc.

www.soilandplantlaboratory.com

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 408-727-0330 phone  
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Transform Compost Systems  
 211 33119 South Fraser Way  
 Abbotsford BC V2S 2B1 Canada, 1 1

COMPOST EVALUATION  
 (A91)

Santa Clara Office  
 Lab No. 06-233-0003  
 Worm Castings

Samples Taken: Samples Rec'd: 8/21/06

## TOTAL NUTRIENT LEVELS

Sam ple #	Percent							Parts Per Million						Sample Description	Log Number
	N	P	K	Ca	Mg	Na	S	Cu	Zn	Mn	Fe	B			
50998	2.27	0.60	1.33	5.56	0.46	0.30	0.76	100	277	259	3060	18	Finished Products	0.9806-G3365 SC-40	
															8/25/06

## AVAILABLE NUTRIENT LEVELS

Sam ple #	Half Sat%	pH/ Qual	Parts Per Million							Parts Dry Soil					Sat Ext		Sat Ext meq/l		-dilute- acid   Fe %
			NO <sub>3</sub> N	NH <sub>4</sub> N	PO <sub>4</sub> P	K	Ca	Mg	Cu	Zn	Mn	Fe	B	SO <sub>4</sub>	Na As %	Cl As %	of of ECe		
50998	238	6.9	6.4	1216	15	927	12721	6764	2750	17.8	105	38	79	0.24	26.2	13.3	19.2	0.040	
	659	High		2.6		3.2	8.1	0.6	1.8	2.1	3.3	0.5	0.3	0.8	8.7	18.9	27.3		

## PHYSICAL PROPERTIES

Sam ple #	Fraction of Sample Passing 1/2 Inch Screen										Values Based upon dry weight						
	Wt Percent Retained	Bulk Density	Moisture %	Water Fraction	Dry Matter	Organic Fraction	Mineral Fraction	Organic %	percent passing	Est. C/N Ratio	Est.	Est.	Est.	Est.	Est.	Est.	
50998	0.0	0.0	826	69.9	577	249	182	67	73.2	95.2	95.2	94.4	92.7	68.6	29.0	17.9	

Salinity (ECe (dS/m at 25 deg.C.)) by sat ext method. Available Major Nutrients by sodium chloride extraction. Phosphorus by sodium bicarbonate extraction. Micronutrients by DTPA extraction. Interpretation guide below each element (1.0=predicted sufficiency level for average fertility requiring crops). TEC(listed below Half Sat)=Est. Total Exchangeable Cations (meq/kg) Total Nutrient values expressed as element in oven dried sample ground to 40 mesh. Total N (corrected for moisture content) is determined on as received sample. N=nitrogen, P=phosphorus, K=potassium Ca=calcium, Mg=magnesium, Na=sodium, S=sulfur, Cl=chloride, Cu=copper, Zn=zinc, Mn=manganese, Fe=iron and B=boron.



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Worm Castings

Samples Taken:                      Samples Rec'd: 8/21/06

Sample 50998 - Finished Products              Log Number 06-G3365

ELEMENT OF INTEREST	AMOUNT PER CUBIC YARD		AMOUNT PER TON, As Rec'd at 69.9% Moisture		AVAILABLE % OF TOTAL
	TOTAL	AVAILABLE	TOTAL	AVAILABLE	
Nitrogen	5.64 lbs	0.31 lbs	13.67 lbs	0.74 lbs	5.42
Phosphorus	1.50 lbs	0.23 lbs	3.63 lbs	0.56 lbs	15.37
Potassium	3.31 lbs	3.16 lbs	8.01 lbs	7.66 lbs	95.65
Calcium	13.82 lbs	1.68 lbs	33.47 lbs	4.07 lbs	12.17
Magnesium	1.13 lbs	0.68 lbs	2.74 lbs	1.66 lbs	60.45
Sulfur	1.89 lbs	0.48 lbs	4.58 lbs	1.15 lbs	25.18
Copper	0.40 ozs	0.07 ozs	0.96 ozs	0.17 ozs	17.8
Zinc	1.10 ozs	0.42 ozs	2.67 ozs	1.01 ozs	37.9
Manganese	1.03 ozs	0.15 ozs	2.49 ozs	0.37 ozs	14.6
Iron	12.2 ozs	0.32 ozs	29.47 ozs	0.76 ozs	2.59
Boron	0.07 ozs	0.0045 ozs	0.17 ozs	0.0110 ozs	6.31
Organic Matter	182. lbs		441. lbs		

The above results reflect only the fraction smaller than 1/2 inch. If a substantial portion of this sample is larger than 1/2 inch, the above values should be adjusted accordingly if further screening is not intended. The coarse fractions will react much slower with the soil and not have significant impact upon soil nutrition over the short term.



**Soil Foodweb Canada Ltd**

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**Compost Foodweb Analysis**

Transform Compost Systems  
 John Paul  
 201-33230 Old Yale Rd.  
 Abbotsford, B.C. V2J 2J5  
 Fax: (604) 504-5666  
 john@transformcompost.com  
 Plants: shrubs

Sample Received: 5/11/2005 Report Sent: 5/17/2005  
 Invoice Number: Not Yet Determined

**Organism Biomass Data**

Sample #	Unique ID	Dry Weight of 1 gram Fresh Material	Active Bacterial Biomass (µg/g)	Total Bacterial Biomass (µg/g)	Active Fungal Biomass (µg/g)	Total Fungal Biomass (µg/g)	Hyphal Diameter (µm)	Protozoa			Total Nematode Numbers #/g
								Flagellates	Amoebae	Ciliates	
60	Transform	<b>0.26</b>	238	1,775	94	1,896	2.50	220,362	121,200	10,621	396

**Bold**

Means Low

Desired Range	0.45 - 0.85	15 - 25	100 - 3000	15 - 25	100 - 300	(A)	10000 +	10000 +	50 - 100	20 - 30
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Immature compost can have activity ranging from 10 to 100%. Mature compost should have activity between 2 to 10%.  
 Fungal activity and biomass depends greatly on the plant being grown. Desired range given here is for a 1:1 compost.  
 A - Hyphal diameter of 2.0 indicates mostly actinomycete hyphae, 2.5 indicates community is mainly ascomycete, typical soil fungi for grasslands, diameters of 3.0 or higher indicate community is dominated by highly beneficial fungi, a Basidiomycete community.  
 Season, moisture, soil and organic matter must be considered in determining optimal foodweb structure.  
 If sample information, such as pesticide, fertilizer tillage, irrigation are not included on the submission form, sender's locale is used.  
 One report is sent to the mailing address on the submission form.

0060, age ?, compost from separated dairy solids, reached ? for ? days, turned ? times, water added: False ? times, for shrubs plant, Smell: none. Notes:

Sample	Assay	Tech	Notes
60	T.F.	cdg	Diameter range 1-3um.
61	T.F.	cdg	Diameter range 1-2.5um. Some hyphae covered in bacteria.
60	Protozoa	cdg	Good diversity.
61	Protozoa	cdg	Good diversity

### Organism Ratios

Sample #	Unique ID	Total Fungal To Total Bacterial Biomass	Active to Total Fungal Biomass	Active to Total Bacterial Biomass	Active Fungal to Active Bacterial Biomass	Plant Available N Supply from Predators (lbs/acre)	Root-Feeding Nematode Presence
60	Transform	1.07	0.05	0.13	0.40	300+	

### Nematodes per Gram of Compost

	60
<b>Bacterial Feeders</b>	
Butlerius	9.224
Cuticularia	18.448
Mononchoides	
Plectus	3.690
Rhabditidae	59.034
<b>Fungal/Root Feeders</b>	
Aphelenchoides Foliar nematoc	9.224
Merlinius	1.845
<b>Root Feeders</b>	
Pratylenchus Lesion nemat	1.845

Desired Range	*(1)	*(2)	*(2)	*(3)	*(4)	*(5)
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(1) For the following plants, Grass:0.5-1.5; Berries, Shrubs, grape: 2-5; Deciduous Trees: 5-10; Conifer: 10-100.

(2) Active organisms in mature compost should be below 0.10. Compost is not mature, i.e., not stable, if greater than 0.10.

(3) For annuals, ratio should be 1 or less, for perennials, ratio should be 2 or greater.

(4) Based on release of N from protozoan and nematode consumption of bacteria and fungi. Often protozoa and nematodes compete for food resources. When one is high, the other may be low. Also, if predator numbers are high, the prey may have low numbers

(5) Identification to genus.



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August 11th, 2005

Transform Compost Systems  
Abbotsford, BC

Re: Soil Biology Lab Report Interpretation and Recommendations

Please attach this page to your soil, compost or compost tea lab report. When comparing your test results with desired target level on your report, we observed the following:

**Bacteria**

Active Bacteria - over 10 times the desired level  
Total Bacteria: Top end of desired range  
Comments: Excellent bacteria levels and likely superb diversity

**Fungi**

Active Fungi - Close to 4 times desired levels  
Total Fungi - over 6 times desired levels. Usually vermicomposts are more bacterial than fungal however this material is well balanced. This is important because it is the fungi that are usually lacking in growing systems due to the effect of tillage and chemicals. This makes this material an excellent candidate for high quality commercial compost teas and extracts across the country especially in area where plant pathogens are a challenge.

**Protozoa**

Flagellates- Excellent      Amoebae- Excellent      Ciliates - Excellent  
and in balance with the other groups. No indication of problem anaerobic activity  
Comments: These exceptional levels of protozoa together with the fabulous levels of bacteria will promote excellent nitrogen cycling capacity to any growing system encountered.

**Nematodes**

Bacterial Feeding Nematodes - present in striking abundance  
Fungal Feeding Nematodes - present; but low in number  
Fungal / Root Feeding Nematodes - present  
Root Feeders: Present in significant numbers. Keep an eye on these but should diminish by following recommendations  
General Predator Nematodes - None present. Put these in an you will really have something special and valuable.