



Soil and Plant Laboratory, Inc.

www.soilandplantlaboratory.com

352 Mathew Street
Santa Clara, CA 95050
408-727-0330 phone
408-727-5125 fax

SANTA CLARA OFFICE

February 28, 2005

Lab No.

EXAMPLE

RE: COMPOSTED GREENWASTE AMENDMENT

The following pertains to analysis of the compost sample received 4/1 that was identified as being collected 3/31.

The compost was noted to have a dark brown color and mild musty odor. No recognizable leaf or non-decomposable contaminants were found in the 2-liter sample examined. The compost appeared to be made up of about equal portions of small wood pieces and organic components having a soil-like consistency. Total element makeup is consistent with usual findings except for sulfur being higher and iron a little higher. A fair amount of nitrate has accumulated and there is a good level of ammoniac nitrogen with 96% of the nitrogen in the organic form. This type of nitrogen balance is typical for the curing stage suggesting adequate maturity for landscape use.

The estimated carbon to nitrogen ratio at 20.7 is favorably low and reflects a moderate nitrogen surplus that can contribute to the plants needs. Reaction is slightly alkaline and with lime content low this is normal for adequately mature compost. Use of this is not expected to significantly alter pH of the soil being amended.

The actual amount of organic matter present at 231 pounds per cubic yard is in a fairly good range. Organic content on a percentage of weight basis is in the normal range for this type of compost. Particle size data show hardly any of the material in excess of 1/2-inch and 88% passing the 6.35-mm (1/4-inch) sieve. About 66% passes the 2.38-mm (about 1/8 inch) and the amount of finest material is favorably low. Texture of the compost would efficiently improve structure of a wide range of soil types.

Total sodium, copper and zinc are safely low. Soluble sodium and boron also remain at their normal comfortably low levels. Chloride is moderately higher than last found but not so high that it places any restriction on the typical rate of use.

Nothing in the chemistry of the compost would restrict its rate of use with that typically being about 1/3 volume of the soil to be amended. This is based primarily on organic content of the compost. This rate is equivalent to 6 cubic yards per 1000 square feet for blending with 6 inches of soil. The salinity increase from this would be 2.8 dS/m and if salinity of the amended soil exceeds 4.0, then the initial irrigation should be particularly thorough. The nutrient potassium accounts for about half of the salinity level with sodium representing a favorably low 12%.



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The actual amount of organic matter added at this rate would be 1385 pounds per 1000 square feet. This would increase the organic content of a sandy loam soil by 4.6% on a dry weight basis. The surplus nitrogen in the compost would provide an organic nitrogen reserve of up to 15 pounds per 1000 square feet. Assuming a 15% mineralization rate during the first year this would provide 2.3 pounds available nitrogen and this may satisfy about 25% of the requirement for rapidly growing plants.

When used at this rate the high nutrient content of the compost would insure correcting any degree of deficiency of nitrogen, phosphorous, potassium, zinc and manganese. There would be moderate enhancement of available calcium, magnesium and iron. The potentially available iron level is moderate so there should be some continuing contribution to iron nutrition if soil pH is adjusted into the slightly acidic range.

The attached table shows what nutrients are present in total amounts as well as what portion is immediately available. For convenience this is expressed both on a cubic yard basis and also as weight of nutrient and organic matter per as received ton of compost. Further release from the organic complex will continue to contribute to the plants needs for many of the nutrients.

JIM WEST

Fax 4 pages and mail



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Example

COMPOST EVALUATION
 (A91)

Santa Clara Office
 Lab No.
 COMPOST

Sample Rec'd: 4/1/04

TOTAL NUTRIENT LEVELS

Sample #	Percent								Parts Per Million					Sample Description	Log Number
	N	P	K	Ca	Mg	Na	S		Cu	Zn	Mn	Fe	B		
1	1.21	0.22	0.90	1.64	0.59	0.08	0.44		74	156	498	16350	46	GREENWASTE COMPOST	1.0004-A2116 23 4

AVAILABLE NUTRIENT LEVELS

Sample #	Half Sat%/TEC	pH/Qual Lime	pH/Qual ECe	Parts Per Million								Parts Dry Soil					Sat Ext		Sat Ext meq/l		-dilute acid Fe %
				NO ₃ N	NH ₄ N	PO ₄ P	K	Ca	Mg	Cu	Zn	Mn	Fe	B ppm	SO ₄	Na As %	Cl % of ECe	As % of ECe			
1	85 559	8.5 Low	7.0	48	379	393	8407	4704	1770	9.6	62	154	210	0.50	6.5	9.5	42.5	0.226			
				2.5	3.8	9.6	0.5	1.4	0.9	2.2	2.5	0.8		2.2	12.3	55.2					

PHYSICAL PROPERTIES

Sample #	-----Fraction of Sample Passing 1/2 Inch Screen-----															
	-----As Received-----								-----Values Based upon dry weight-----							
	Wt Retained	Percent	Bulk Density	Moisture	Water Fraction	Dry Matter	Organic Fraction	Mineral Fraction	Organic	9.51	6.35	4.75	2.38	1.00	0.50	Est. C/N Ratio
	1"	1/2"	lbs/yd ³	%	lbs/yd ³	lbs/yd ³	lbs/yd ³	lbs/yd ³	%	mm	mm	mm	mm	mm	mm	
1	0.2	2.5	948	46.0	436	512	231	281	45.1	95.9	88.0	82.5	65.9	41.9	20.7	20.7

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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EXAMPLE

COMPOST EVALUATION
(A91)

Santa Clara Office
Lab No. 50148
COMPOST

Sample Rec'd: 4/1/04

Sample 1 - GREENWASTE COMPOST

Log Number 04-A2116

ELEMENT OF INTEREST	AMOUNT PER CUBIC YARD		AMOUNT PER TON, As Rec'd at 46.0% Moisture		AVAILABLE % OF TOTAL
	TOTAL	AVAILABLE	TOTAL	AVAILABLE	
Nitrogen	6.19 lbs	0.22 lbs	13.07 lbs	0.46 lbs	3.53
Phosphorus	1.12 lbs	0.20 lbs	2.35 lbs	0.42 lbs	18.01
Potassium	4.61 lbs	4.30 lbs	9.72 lbs	9.08 lbs	93.42
Calcium	8.40 lbs	2.41 lbs	17.71 lbs	5.08 lbs	28.68
Magnesium	3.00 lbs	0.91 lbs	6.33 lbs	1.91 lbs	30.21
Sulfur	2.25 lbs	0.09 lbs	4.75 lbs	0.18 lbs	3.85
Copper	0.61 ozs	0.08 ozs	1.28 ozs	0.17 ozs	13.0
Zinc	1.28 ozs	0.51 ozs	2.70 ozs	1.07 ozs	39.7
Manganese	4.08 ozs	1.26 ozs	8.61 ozs	2.66 ozs	30.9
Iron	134. ozs	1.72 ozs	282.5 ozs	3.63 ozs	1.28
Boron	0.38 ozs	0.0070 ozs	0.80 ozs	0.0147 ozs	1.83
Organic Matter	231. lbs		487. 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.