


SOIL CONTROL LAB

42 HANGAR WAY
WATSONVILLE
CALIFORNIA
95076
USA

Account #: 5040016-1/1-12802
Group: Apr25A #14
Reporting Date: April 18, 2025

Toilet Equity
167 1/2 Little Park Rd
Grand Junction, CO 81507
Attn: Kaitlin Pettit

Date Received: 01 Apr. 25
Sample Identification: Compost Sample #1
Sample ID #: 5040016 - 1/1

Nutrients				Stability Indicator:			
	Dry wt.	As Rcvd.	units	CO2 Evolution		Respirometry	
Total Nitrogen:	2.4	0.58	%	mg CO ₂ -C/g OM/day		0.78	
Ammonia (NH ₄ -N):	300	73	mg/kg	mg CO ₂ -C/g TS/day		0.70	
Nitrate (NO ₃ -N):	2200	540	mg/kg	<i>Stability Rating</i>		<i>very stable</i>	
Org. Nitrogen (Org.-N):	2.2	0.52	%	Maturity Indicator: Cucumber Bioassay			
Phosphorus (as P ₂ O ₅):	1.3	0.31	%	Compost:Vermiculite (v:v)		1:2	
Phosphorus (P):	5700	1400	mg/kg	Emergence (%)		100	
Potassium (as K ₂ O):	1.1	0.28	%	Seedling Vigor (%)		100	
Potassium (K):	9500	2300	mg/kg	<i>Description of Plants</i>		<i>healthy</i>	
Calcium (Ca):	1.4	0.34	%	Pathogens			
Magnesium (Mg):	0.32	0.076	%	Fecal Coliform	19	MPN/g	<i>pass</i>
Sulfate (SO ₄ -S):	790	190	mg/kg	Salmonella	< 3	MPN/4g	<i>pass</i>
Boron (Total B):	12	3.0	mg/kg	Date Tested: 01 Apr. 25			
Moisture:	0	76.0	%	Physical Contaminants**			
Sodium (Na):	0.56	0.14	%	Total Plastic		% by dry wt	
Chloride (Cl):	0.83	0.20	%	Film Plastic		< 0.1	
pH Value:	NA	5.23	unit	Glass		< 0.1	
Bulk Density:	6.7	28	lb/cu ft	Metal		< 0.1	
Carbonates (CaCO ₃):	< 0.1	< 0.1	lb/ton	Sharps		ND	
Conductivity (EC5):	13	NA	mmhos/cm	Total		< 0.5	
Organic Matter:	89.1	21.4	%	Size Distribution			
Organic Carbon:	48.0	11.0	%	MM		% by weight	
Ash:	10.9	2.6	%	> 50		0.0	
C/N Ratio	20	20	ratio	25 to 50		0.0	
AgIndex	3	3	ratio	16 to 25		0.0	
Metals				9.5 to 16		0.0	
Aluminum (Al):	320	-	mg/kg	6.3 to 9.5		7.3	
Arsenic (As):	< 1.0	41	mg/kg	4.0 to 6.3		7.7	
Cadmium (Cd):	< 1.0	39	mg/kg	2.0 to 4.0		20.7	
Chromium (Cr):	3.3	-	mg/kg	< 2.0		64.3	
Cobalt (Co):	< 1.0	-	mg/kg	**Greater than 4mm in size (Sharps greater than 2mm)			
Copper (Cu):	12	1500	mg/kg	Analyst: Assaf Sadeh			
Iron (Fe):	550	-	mg/kg				
Lead (Pb):	1.9	300	mg/kg				
Manganese (Mn):	71	-	mg/kg				
Mercury (Hg):	< 1.0	17	mg/kg				
Molybdenum (Mo):	2.1	75	mg/kg				
Nickel (Ni):	2.6	420	mg/kg				
Selenium (Se):	< 1.0	100	mg/kg				
Zinc (Zn):	82	2800	mg/kg				

*Sample was received and handled in accordance with TMECC procedures.

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 1/1 5040016

INTERPRETATION:

Is Your Compost Stable?

Respiration Rate
 0.78 mg CO₂-C/
 g OM/day

+++
< Stable > < Moderately Unstable> < Unstable > < High For Mulch

Is Your Compost Mature?

Ammonia/NitrateN ratio
 0.14 Ratio

++
VeryMature> < Mature > < Immature

Ammonia N ppm
 300 mg/kg
 dry wt.

+++++
VeryMature> < Mature > < Immature

Nitrate N ppm
 2200 mg/kg
 dry wt.

+++++
< Immature > < Mature

Cucumber Emergence
 100.0 percent

+++++
< Immature > < Mature

Is Your Compost Safe Regarding Health?

Fecal Coliform
 < 1000 MPN/g dry wt.

+++++
< Safe > < High Fecal Coliform

Salmonella Bulk Density :
 Less than 3 /4g dry wt.

+++++
<Safe (none detected) > < High Salmonella Count(> 3 per 4 grams)

Metals US EPA 503
 Pass dry wt.

+++++
<All Metals Pass > < One or more Metals Fail

Does Your Compost Provide Nutrients or Organic Matter?

Nutrients (N+P2O5+K2O)
 4.8 Percent
 dry wt.

+++++
<Low > < Average > < High Nutrient Content

AgIndex (Nutrients / Sodium and Chloride Salts) $((N+P2O5+K2O) / (Na + Cl))$
 3.48147809 Ratio

+++++
Na & Cl > < Nutrient and Sodium and Chloride Provider > < Nutrient Provider

Plant Available Nitrogen (PAN) Estimated release for first season
 2 lbs/ton
 wet wt.

+++++
Low Nitrogen Provider> < Average Nitrogen Provider > <High Nitrogen Provider

C/N Ratio
 20 Ratio

+++++
< Nitrogen Release > < N-Neutral > < N-Demand> < High Nitrogen Demand

Soluble Available Nutrients & Salts (EC5 w/w dw)
 13 mmhos/cm
 dry wt.

+++++
SloRelease> < Average Nutrient Release Rate > <High Available Nutrients

Lime Content (CaCO₃)
 0 Lbs/ton
 dry wt.

+
< Low > < Average > < High Lime Content (as CaCO ₃)

What are the physical properties of your compost?

Percent Ash
 10.9 Percent
 dry wt.

+++++
< High Organic Matter > < Average > < High Ash Content

Sieve Size % > 6.3 MM (0.25")
 7.3 Percent
 dry wt.

+++++
All Uses > < Size May Restrict Uses for Potting mix and Golf Courses

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INTERPRETATION:

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Is Your Compost Stable?

Respiration Rate

0.78 Low: Good for all uses mg CO₂-C/g OM/day

The respiration rate is a measurement of the biodegradation rate of the organic matter in the sample (as received). The respiration rate is determined by measuring the rate at which CO₂ is released under optimized moisture and temperature conditions.

Is Your Compost Mature?

Ammonia:NitrateN ratio

0.14 very mature

Ammonia N ppm

300 mature

Nitrate N ppm

2200 mature

Composting to stabilize carbon can occur at such a rapid rate that sometimes phytotoxins remain in the compost and must be neutralized before using in high concentrations or in high-end uses. This step is called curing. Typically ammonia is in excess with the break-down of organic materials resulting in an increase in pH. This combination results in a loss of volatile ammonia (it smells). Once this toxic ammonia has been reduced and the pH drops, the microbes convert the ammonia to nitrates. A low ammonia + high nitrate score is indicative of a mature compost, however there are many exceptions. For example, a compost with a low pH (<7) will retain ammonia, while a compost with high lime content can lose ammonia before the organic fraction becomes stable. Composts must first be stable before curing indicators apply.

Cucumber Bioassay

100.0 Percent

Cucumbers are chosen for this test because they are salt tolerant and very sensitive to ammonia and organic acid toxicity. Therefore, we can germinate seeds in high concentrations of compost to measure phytotoxic effects without soluble salts being the limiting factor. Values above 80% for both percent emergence and vigor are indicative of a well-cured compost. Exceptions include very high salts that affect the cucumbers, excessive concentrations of nitrates and other nutrients that will be in range when formulated to make a growing media.

Is Your Compost Safe Regarding Health?

Fecal Coliform

< 1000 / g dry wt.

Fecal coliforms can survive in both aerobic and anaerobic conditions and is common in all initial compost piles. Most human pathogens occur from fecal matter and all fecal matter is loaded in fecal coliforms. Therefore fecal coliforms are used as an indicator to determine if the chosen method for pathogen reduction (heat for compost) has met the requirements of sufficient temperature, time and mixing. If the fecal coliforms are reduced to below 1000 per gram dry wt. it is assumed all other pathogens are eliminated. Potential problems are that fecal coliform can regrow during the curing phase or during shipping. This is because the conditions are now more favorable for growth than during the composting process.

Salmonella Bacteria

Less than 3 / 4g dry wt.

Salmonella is not only another indicator organism but also a toxic microbe. It has been used in the case of biosolids industry to determine adequate pathogen reduction.

Metals

Pass

The ten heavy metals listed in the EPA 503 regulations are chosen to determine if compost can be applied to ag land and handled without toxic effects. Most high concentrations of heavy metals are derived from woodwaste feedstock such as chrome-arsenic treated or lead painted demolition wood. Biosolids are rarely a problem.

Does Your Compost Provide Nutrients or Organic Matter?

Nutrients (N+P₂O₅+K₂O)

4.8 Average nutrient content

This value is the sum of the primary nutrients Nitrogen, Phosphorus and Potassium. Reported units are consistent with those found on fertilizer formulations. A sum greater than 5 is indicative of a compost with high nutrient content, and best used to supply nutrients to a receiving soil. A sum below 2 indicates low nutrient content, and is best-used to improve soil structure via the addition of organic matter. Most compost falls between 2 and 5.

