



Colorado Analytical
Laboratories, Inc. **LABORATORY ANALYSIS REPORT**

REPORT TO: PATRICK T. MCKAY

LAB NO: 25408

BILL TO: AGRICULTURAL WASTE SOLUTIONS
8520 DELAVAN AVE
AUSTIN TX 78717

DATE RCVD: 8/28/08

REPORTED: 9/18/08

PROJECT:

PO NO.:

SAMPLE ID: MIDNIGHT LANE SAMPLE

MATRIX: COMPOST

SAMPLE DATE: 8/27/08

TMECC
METHOD

PARTICLE SIZE:

02.02-B

SCREEN SIZE(mm)	PERCENT RETAINED:	PERCENT PASSING:
2	0.0	100.0
1"	0.0	100.0
5/8"	0.0	100.0
3/8"	0.9	99.1
1/4"	7.1	92.0
4.0 mm	12.1	80.0
2.0 mm	27.0	53.0
<2.0 MM	53.0	0.0

COLORADO ANALYTICAL LABORATORY IS AN APPROVED TESTING FACILITY FOR THE US COMPOSTING COUNCIL'S SEAL OF TESTING ASSURANCE PROGRAM. SEE THE US COMPOSTING COUNCIL'S WEB SITE AT WWW.COMPOSTINGCOUNCIL.ORG FOR MORE INFORMATION.

TMECC = "TEST METHODS FOR THE EXAMINATION OF COMPOSTING AND COMPOST"; US COMPOSTING COUNCIL; AUG 2001; W.H. THOMPSON



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CARBON TO NITROGEN RATIO - **Your Value: 17** **Lab No. 25408.00**

Desirable Range: Initial Value 25-40:1 (ideal 30:1) Final Value 21:1 (or less)

The initial carbon to nitrogen ratio is essential information for feedstock preparation, where the data are used to calculate feedstock blending ratios to obtain an initial C:N ratio in the range of 25-40:1, ideally 30:1 for most feedstock blends. Under controlled conditions the C:N ratio in the compost can be an indicator of stability, but to be of value as an indicator, the initial C:N ratio must be at or near the ideal of 30:1, finished compost C:N drops to below 21:1, while phosphorus (P) levels must remain adequate to assure decomposition of any cellulosic material that may be present in the feedstock. The C:N ratio in compost is not a stand-alone indicator of stability or maturity, so other indicators must be considered such as respirometry, pH, bulk density, reduction of organic matter, and self-heating.

CARBON TO PHOSPHORUS RATIO - **Your Value: 207** **Lab No. 25408.00**

Desirable Range: Initial Value 100-140:1 Final Value 85-90:1

As composting progresses, microbial activity decreases organic carbon content by converting it and other compounds into CO₂ and H₂O.

Research Suggests—A high initial C:P ratio of greater than 140:1 for composting feedstocks indicates that the phosphorus content is very low and suggests that the bulk of the compost feedstock is high in carbon, such as woody material, paper pulp, refined paper, rayon or other materials high in cellulose and/or lignin. A low C:P ratio causes the composting process to proceed slowly and inefficiently. The rate and efficiency of composting is improved with the addition of phosphorus to reach an initial C:P ratio of 100:1 to 140:1. Feedstocks known to have a high phosphorus content include household waste, vegetable trimmings, biosolids, yard debris and manures such as poultry litter.

AMMONIUM TO NITRATE RATIO - **Your Value: 3.4** **Lab No. 25408.00**

Water-Soluble Nitrogen Concentrations—The Ammonia-N:Nitrate-N ratio has little value and should not be considered a valid Group B parameter to establish a Compost Maturity Index Rating for composts with very low concentrations of both Ammonia-N and Nitrate-N (including Nitrite-N), i.e., when their sum is less than approximately 75 to 100 mg kg⁻¹ dw.

As composting progresses, ammonia is oxidized (transformed) to nitrate as microbial activity converts organic carbon and other compounds into CO₂ and H₂O. During later stages of the composting process as stability increases and the compost matures, nitrate often becomes the dominant form of water-soluble nitrogen.

Information concerning the ammonium to nitrate ratio as an indicator of maturity for different feedstock blends and throughout the composting process is being sought to develop an interpretation statement.

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AGRICULTURAL INDEX –**Your Value: 3.0****Lab No. 25408.00**

An *AgIndex* above ten indicates that high levels of Na and Cl are not limiting factors, while the primary nutrients, i.e., N, P₂O₅ and K₂O, may be the principal factors. A compost with an *AgIndex* between two and ten requires more thorough interpretation of compost to be applied. An *AgIndex* of two to five is acceptable for applications on highly permeable soils (sandy) with good water quality and low salt concentrations. An *AgIndex* value above five is acceptable for application on soils with poor drainage and/or poor water quality, or high Cl₂ (>50 mg kg⁻¹) and/or Na (>150 mg kg⁻¹) concentrations.

The interactions of edaphic, climatic and management factors, (e.g., soil physical, chemical and biological characteristics, soil water chemistry, crop rotation scheme, quantity and frequency of compost applications, etc.), influence the ultimate impact of applying a high sodium and/or chloride compost to the soil.

It is suggested that composts with an *AgIndex* below two may cause salt injury to a susceptible crop.

Ag Index Values:

<u>Result</u>	<u>Interpretation</u>
0-2	Probable Salt Injury.
2-5	Apply on soils with excellent drainage, low salts and good water quality.
5-10	Apply on soils with poor drainage poor water quality or high salts.
>10	For all soils.

STABILITY INDEX –**Your Value: 0.78****Lab No. 25408.00**

The compost stability index is based upon the results of respiration monitoring to measure the relative level of microbial activity in a sample. The level of microbial activity is determined using results of respiration monitoring; however, the index (below) assumed optimized moisture, temperature and nutrient status that favor microbial activity, and insignificant concentrations of toxins and other compounds that inhibit microbial respiration.

<u>CO₂-C Result</u>	<u>Interpretation</u>
1(very stable)	Well cured, finished compost. No continued decomposition No Odors No Potential for VFA phytotoxicity and odor
2-4(stable)	Moderately well cured compost Odor production not likely Limited potential for VFA phytotoxicity and odor Minimal to no impact on soil carbon and nitrogen dynamics