




13611 B Street • Omaha, Nebraska 68144-3693 • (402) 334-7770 • FAX (402) 334-9121 • www.midwestlabs.com

Lab #	8604380	Report of Analysis		Report Number: 19-080-4113																																																																																																																																																																
Account: 43761	COMPOST TECHNOLOGIES LLC COMPOST TECHNOLOGIES LLC 48414 COUNTY RD B CENTER CO 81125		 Robert Ferris Account Manager 402-829-9871																																																																																																																																																																	
Date Sampled: Date Received: Sample ID:	2019-03-18 1-4 Middle				Compost Technologies COMPOST																																																																																																																																																															
Total content, lbs per ton (as rec'd)																																																																																																																																																																				
<table border="1"> <thead> <tr> <th></th> <th></th> <th>Analysis (as rec'd)</th> <th>Analysis (dry weight)</th> <th></th> </tr> </thead> <tbody> <tr> <td colspan="5">NUTRIENTS</td> </tr> <tr> <td colspan="5">Nitrogen</td> </tr> <tr> <td>Total Nitrogen</td> <td>%</td> <td>1.14</td> <td>1.52</td> <td>22.8</td> </tr> <tr> <td>Organic Nitrogen</td> <td>%</td> <td>0.99</td> <td>1.33</td> <td>19.9</td> </tr> <tr> <td>Ammonium Nitrogen</td> <td>%</td> <td>0.117</td> <td>0.156</td> <td>2.3</td> </tr> <tr> <td>Nitrate Nitrogen</td> <td>%</td> <td>0.03</td> <td>0.04</td> <td>0.6</td> </tr> <tr> <td colspan="5">Major and Secondary Nutrients</td> </tr> <tr> <td>Phosphorus</td> <td>%</td> <td>0.56</td> <td>0.75</td> <td>11.2</td> </tr> <tr> <td>Phosphorus as P2O5</td> <td>%</td> <td>1.28</td> <td>1.71</td> <td>25.6</td> </tr> <tr> <td>Potassium</td> <td>%</td> <td>1.65</td> <td>2.21</td> <td>33.0</td> </tr> <tr> <td>Potassium as K2O</td> <td>%</td> <td>1.99</td> <td>2.66</td> <td>39.8</td> </tr> <tr> <td>Sulfur</td> <td>%</td> <td>0.76</td> <td>1.02</td> <td>15.2</td> </tr> <tr> <td>Calcium</td> <td>%</td> <td>2.95</td> <td>3.94</td> <td>59.0</td> </tr> <tr> <td>Magnesium</td> <td>%</td> <td>0.80</td> <td>1.07</td> <td>16.0</td> </tr> <tr> <td>Sodium</td> <td>%</td> <td>0.440</td> <td>0.588</td> <td>8.8</td> </tr> <tr> <td colspan="5">Micronutrients</td> </tr> <tr> <td>Zinc</td> <td>ppm</td> <td>230</td> <td>307</td> <td>0.5</td> </tr> <tr> <td>Iron</td> <td>ppm</td> <td>20900</td> <td>27941</td> <td>41.8</td> </tr> <tr> <td>Manganese</td> <td>ppm</td> <td>506</td> <td>676</td> <td>1.0</td> </tr> <tr> <td>Copper</td> <td>ppm</td> <td>58.9</td> <td>79</td> <td>0.1</td> </tr> <tr> <td>Boron</td> <td>ppm</td> <td>< 100</td> <td>----</td> <td>----</td> </tr> <tr> <td colspan="5">OTHER PROPERTIES</td> </tr> <tr> <td>Moisture</td> <td>%</td> <td colspan="2">25.20</td> <td></td> </tr> <tr> <td>Total Solids</td> <td>%</td> <td>74.80</td> <td></td> <td>1496.0</td> </tr> <tr> <td>Organic Matter</td> <td>%</td> <td>20.80</td> <td>27.81</td> <td>416.0</td> </tr> <tr> <td>Ash</td> <td>%</td> <td>53.80</td> <td>71.93</td> <td>1076.0</td> </tr> <tr> <td>C:N Ratio</td> <td></td> <td colspan="2">8 : 1</td> <td></td> </tr> <tr> <td>Total Carbon</td> <td>%</td> <td>9.51</td> <td>12.71</td> <td></td> </tr> <tr> <td>Chloride</td> <td>%</td> <td>0.46</td> <td>0.61</td> <td></td> </tr> <tr> <td>pH</td> <td></td> <td colspan="2">7.7</td> <td></td> </tr> <tr> <td>Conductivity 1:5 (Soluble Salts)</td> <td>mS/cm</td> <td colspan="2">11.9</td> <td></td> </tr> </tbody> </table>							Analysis (as rec'd)	Analysis (dry weight)		NUTRIENTS					Nitrogen					Total Nitrogen	%	1.14	1.52	22.8	Organic Nitrogen	%	0.99	1.33	19.9	Ammonium Nitrogen	%	0.117	0.156	2.3	Nitrate Nitrogen	%	0.03	0.04	0.6	Major and Secondary Nutrients					Phosphorus	%	0.56	0.75	11.2	Phosphorus as P2O5	%	1.28	1.71	25.6	Potassium	%	1.65	2.21	33.0	Potassium as K2O	%	1.99	2.66	39.8	Sulfur	%	0.76	1.02	15.2	Calcium	%	2.95	3.94	59.0	Magnesium	%	0.80	1.07	16.0	Sodium	%	0.440	0.588	8.8	Micronutrients					Zinc	ppm	230	307	0.5	Iron	ppm	20900	27941	41.8	Manganese	ppm	506	676	1.0	Copper	ppm	58.9	79	0.1	Boron	ppm	< 100	----	----	OTHER PROPERTIES					Moisture	%	25.20			Total Solids	%	74.80		1496.0	Organic Matter	%	20.80	27.81	416.0	Ash	%	53.80	71.93	1076.0	C:N Ratio		8 : 1			Total Carbon	%	9.51	12.71		Chloride	%	0.46	0.61		pH		7.7			Conductivity 1:5 (Soluble Salts)	mS/cm	11.9		
		Analysis (as rec'd)	Analysis (dry weight)																																																																																																																																																																	
NUTRIENTS																																																																																																																																																																				
Nitrogen																																																																																																																																																																				
Total Nitrogen	%	1.14	1.52	22.8																																																																																																																																																																
Organic Nitrogen	%	0.99	1.33	19.9																																																																																																																																																																
Ammonium Nitrogen	%	0.117	0.156	2.3																																																																																																																																																																
Nitrate Nitrogen	%	0.03	0.04	0.6																																																																																																																																																																
Major and Secondary Nutrients																																																																																																																																																																				
Phosphorus	%	0.56	0.75	11.2																																																																																																																																																																
Phosphorus as P2O5	%	1.28	1.71	25.6																																																																																																																																																																
Potassium	%	1.65	2.21	33.0																																																																																																																																																																
Potassium as K2O	%	1.99	2.66	39.8																																																																																																																																																																
Sulfur	%	0.76	1.02	15.2																																																																																																																																																																
Calcium	%	2.95	3.94	59.0																																																																																																																																																																
Magnesium	%	0.80	1.07	16.0																																																																																																																																																																
Sodium	%	0.440	0.588	8.8																																																																																																																																																																
Micronutrients																																																																																																																																																																				
Zinc	ppm	230	307	0.5																																																																																																																																																																
Iron	ppm	20900	27941	41.8																																																																																																																																																																
Manganese	ppm	506	676	1.0																																																																																																																																																																
Copper	ppm	58.9	79	0.1																																																																																																																																																																
Boron	ppm	< 100	----	----																																																																																																																																																																
OTHER PROPERTIES																																																																																																																																																																				
Moisture	%	25.20																																																																																																																																																																		
Total Solids	%	74.80		1496.0																																																																																																																																																																
Organic Matter	%	20.80	27.81	416.0																																																																																																																																																																
Ash	%	53.80	71.93	1076.0																																																																																																																																																																
C:N Ratio		8 : 1																																																																																																																																																																		
Total Carbon	%	9.51	12.71																																																																																																																																																																	
Chloride	%	0.46	0.61																																																																																																																																																																	
pH		7.7																																																																																																																																																																		
Conductivity 1:5 (Soluble Salts)	mS/cm	11.9																																																																																																																																																																		

Our reports and letters are for the exclusive and confidential use of our clients and may not be reproduced in whole or in part, nor may any reference be made to the work, the results, or the company in any advertising, news release, or other public announcements without obtaining our prior written authorization.

Compost Results Interpretations

Page 1

Report #:

19-080-4113

DATE RECEIVED:

2019-03-18

Organic Matter %

20.80 As Received

27.81 Dry Weight

Greater than 20% indicates a desirable range for compost on a dry weight basis.

Compost is a significant source of Organic Matter, which is an important supplier of carbon. Organic Matter improves soil and plant efficiency by improving soil physical properties, providing a source of energy to beneficial organisms, and enhancing the reservoir of soil nutrients.

C/N Ratio

8.3:1

20-30 indicates an ideal range for the initial compost process.

10-20 indicates an ideal range for a finished compost.

All organic matter is made up of substantial amounts of carbon with lesser amounts of nitrogen. The balance of these two elements is called the Carbon/Nitrogen Ratio. For the best performance, the compost pile requires the correct proportion of carbon for energy and nitrogen for protein production. If the C:N ratio is too high (excess carbon) decomposition slows down. If the C:N ratio is too low (excess Nitrogen) the compost pile could be difficult to manage.

Moisture %

25.20

<35% = Indicates overly dry compost

>55% = Indicates overly wet compost

Moisture Percent is the measure of water present in the compost and expressed as a percentage of total weight. Moisture present affects handling and transport. Overly dry will be light and dusty while overly wet will be heavy and clumpy. A desirable moisture content of finished compost will range between 40 to 50%.

Compost Results Interpretations

Page 2

Report #:

19-080-4113

DATE RECEIVED:

2019-03-18

Conductivity or Soluble Salts measures the conductance of electrical current in a liquid compost slurry. Excessive soluble salt content in a compost can prevent or delay seed germination and proper root growth. Conductivity analysis is done on a 1:5 basis.

Conductivity 1:5	
11.9	
Conductivity Level	Interpretation
Greater than 10	Very High nutrient content. Use for Ag Applications
5 - 10	High nutrient content. Use for Ag Applications
3 - 5	Higher than desirable for salt sensitive plants, some loss of vigor
0.6 - 3	Desirable range for most plants
0.3 - 0.6	Ideal range for greenhouse growth media
0.0 - 0.3	Very Low: Indicates very low nutrient status: plants may show deficiencies.

Compost Results Interpretations
Page 3

Report #: 19-080-4113
DATE RECEIVED: 2019-03-18

pH Value
7.7

0 to 14 scale with 6 to 8 as normal pH levels for compost
A pH in the 6 to 8 pH range indicates a more mature compost

pH measures the acidity or alkalinity of the compost, and is a measurement of the hydrogen ion activity of a soil or compost on a logarithmic scale. The pH scale ranges from 0 to 14 and 7 indicates a neutral pH. Growing media with a higher pH or pH greater than 7 can benefit from a compost that has a more acidic pH or pH below 7. This type of application will possibly lower the soil pH making the soil more conducive to plants that thrive in a more acidic soil condition.

Nutrient Index (Ag Index)
4.9

The Nutrient Index normally runs between 1 and 10.

The Nutrient Index is obtained by dividing the total nutrients (N,P,K) by the amount of salt (Sodium and Chloride). The higher the Nutrient Index the less chance of having a toxic buildup of Sodium (salt) in the soil.

AG INDEX CHART										
<i>salt injury possible</i>	<i>use on soils with excellent drainage characteristics, good water quality and low salts</i>				<i>you may use on soils with poor drainage, poor water quality, or high salts</i>					<i>for all soils</i>
1	2	3	4	5	6	7	8	9	10	> 10

Nutrients (N+P205+K20)
5.90 Average Nutrient Content Dry Weight <2 = Low, >5 = High
1-1.5-2 Rating As Received

The most commonly used compost data is the amount of Nitrogen, Phosphate, and Potash (abbreviated as N,P,K) present and the information is similar to that found in common fertilizers. If a compost result has the rating 1-2-2 it means that the compost has 1% Nitrogen, 2% Phosphate and 2% Potash. Most compost tests will have a average nutrient level (N+P+K) of < 5%.