


Woods End Laboratories, Inc.
 290 Belgrade Road P.O. Box 297
 Mount Vernon, ME 04352/USA
 207-293-2457 FAX: 207-293-2488 www.woodsendlab.org

Account: 2191
 · Brian Pugh
 · City of Fayetteville SWRD Compost Div.
 · 1560 Happy Hollow Road
 · Fayetteville AR 72701

Code: Matrix Project: n/a
 Date Received : 07/31/2007
 Date Reported : 08/14/2007
 Lab ID Number : 6962.0
 Quality Checked : 

COMPOSITION ANALYSIS

Sample Identification: Compost: Yardwaste

VARIABLE MEASURED	Unit	dry basis	as is basis	Notations †
DENSITY	lbs·ft ³	-	38	1028 lbs/yd ³
Total Solids	%	100.0	46.9	938 lbs/ton
Moisture	%	0.0	53.1	127 gals/ton
Water Holding Capacity <i>est.</i>)	% as is	154	61	146 gals/ton
Inert and Oversize Matter	% as is	~	5.6	111.6 lbs/ton
pH (sat. paste, H ₂ O)	-logH ⁺	~	8.07	Med High
Free Carbonates (CO ₃)	Rating	~	3	V High
Organic Matter	%	47.0	22.1	441 lbs/ton
Conductivity (salinity)	dS ·m ⁻¹	~	2.1	Med Low
Carbon:Nitrogen (C:N) Ratio	w:w	14.1	14.1	Med Low
Seedling Response Assay, Percent of Control.....				
Cress Emergence	% of total	~	95	No Inhibition
Cress Biomass	% of Control	~	82	Good
Solita CO ₂ Rate		~	7.54	Low
Solita NH ₃ Rate		~	4.44	Slight

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†For explanation of data, see Woods End Laboratories, Inc. Interpretation Sheet

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MINERALS ANALYSIS

Sample Identification: Compost: Yardwaste

VARIABLE MEASURED	Unit	dry basis	as is basis	pounds/ton <i>as is</i>
..... Total Mineral Nutrients				
Total Nitrogen	%	1.800	0.844	16.9
Organic-Nitrogen	%	1.786	0.837	16.7
Phosphorus (P)	%	0.226	0.106	2.1
Potassium (K)	%	0.709	0.333	6.7
Sodium (Na)	%	<0.010	<0.005	0.1
Calcium (Ca)	%	6.516	3.056	61.1
Magnesium (Mg)	%	0.325	0.152	3.0
..... Soluble Nutrients				
Ammonium-N (NH ₄ -N)	ppm	< 1	< 0	-
Nitrate-N	ppm	143	67	0.1

Notes: ppm = mg/kg < = less than MLD (minimum level of detection); nd = none detected
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METALS ANALYSIS

Sample Identification: Compost: Yardwaste

VARIABLE MEASURED	Unit	dry basis	as is basis†	pounds/ton <i>as is</i>
Copper (Cu)	mg·kg ⁻¹	24.2	11.3	<0.1
Manganese (Mn)	mg·kg ⁻¹	1156.6	542.4	VH
Iron (Fe)	mg·kg ⁻¹	6974.0	3270.8	6.5
Zinc (Zn)	mg·kg ⁻¹	61.7	28.9	<0.1
Lead (Pb)	mg·kg ⁻¹	93.5	-	-
Chromium (Cr)	mg·kg ⁻¹	43.1	-	-
Cadmium (Cd)	mg·kg ⁻¹	0.8	-	-
Nickel (Ni)	mg·kg ⁻¹	18.7	-	-
..... BACTERIOLOGIC ANALYSIS				
Fecal coliform EPA503	MPN per g	47	-	-
<i>E. coli</i> mod.EPA503	MPN per g	47	-	-

Notes: mg·kg⁻¹ = ppm (parts per million); MPN = most probable number

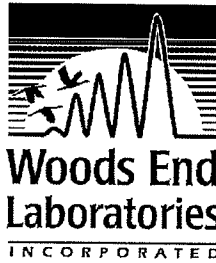
< signifies less than MLD (minimum level of detection) for the particular factor tested

† = EPA reporting requires dry basis only

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Herbicide Content

BioAssay



PO Box 297 -
Mt Vernon MAINE 04352
207-293-2 457 fx 293-2488

Customer:

2191
Brian Pugh
City of Fayetteville, Arkansas
1560 Happy Hollow Rd.
Fayetteville, AR 72701

Date entered: August 14, 2007

Sample Description	Lab ID	% Sample in Medium ^a	Observed Effect on Red Clover ^b		Rating as Clopyralid Equivalents, in Medium As Diluted and Tested ▶		
			<i>alu</i>	<i>ps</i>	<i>0</i>	<i>alu</i>	<i>ps</i>
Compost: Yardwaste07	6962.0	50	n	sl	na	<3	3-10
					na	na	na
					na	na	na
					na	na	na
					na	na	na
					na	na	na
					na	na	na

Observed Effect Key:	KEY	Description	Notation
Initials denote visual symptom	n = 0	none = no symptoms observed	Estimated level of herbicide effect as though it is auxinic clopyralid at ppb level of the diluted medium
	sl = 1	Slight = slight leaf curl, first observed level	
^a - % sample in medium based on diluting to proper conductivity	s-m = 1.5	Slight-Mod - less than a moderate effect	
	m = 2.0	Moderate leaf curl - very noticeable	
	msv = 2.5	Mod-Severe - less than a severe effect	
	sv = 3.0	Severe = pronounced leaf curl and distortion	
	ex = 4	Extreme - close to total inhibition	

▶ Disclaimer re Clopyralid Equivalents

Estimated Concentration in Source Material (before dilution in medium)
(ppb - based on known minimum level of detection)**

** level of estimated clopyralid is based on calibration assays with this auxinic herbicide. The herbicide has not been directly analysed. Any other auxinic herbicide may have caused a similar effect but at other concentration.

Lab ID	Effects	0	alu	ps	MEAN	Stdev ⚡
Lab 6962.0	<		6	14	6.0	5.7
					nd	nd
					nd	nd
					nd	nd

If MLD note shows "<" it means the lowest value is beneath detectability

⚡ Standard Deviation is plus/minus value for range of possibility

SCORE CARD RSAP Program

Date Entered 14-Aug-07

Enter Sample Description Compost: Yardwast 0 6962.0 VERS 6.8

(2) TYPE: Garden Compost don't touch yellow Fill in Blue

Test Parameter	Accepted Range	TEST Entry	Weighted Score	Test Parameter	Accepted Range	TEST Entry	Weighted Score
DENSITY, #/cu yd	600 - 1200	1028		Phosphorus	0.1 - 1.0 %	0.226	4
Moisture, % of WHC	35 - 85	87		Potassium	0.1 - 2.0 %	0.709	4
Organic Matter % dry	20 - 75	47		4 Calcium	0.5 - 10 %	6.516	
Total-Nitrogen, % dry	1.0 - 4.0	1.8		4 Magnesium	0.1 - 1.0%	0.325	
C:N ratio	10 - 25	14.1		4 Sodium	< 1/2 K	0	4
CARBONATE	1 - 3	3		<i>Trace Elements</i>			
pH, as is	5.5 - 8.0	8.07		1 Copper	< 350* ppm	24.2	4
EC, as is	1 - 15	2.1		4 Manganese	< 1,000 ppm	1156.6	
SOLVITA -- CO2	6 - 8	8		4 Iron	< 12,000 ppm	6974	
SOLVITA -- NH3	5	4		1 Zinc	< 500	61.7	4
AMMONIA ppm, dry	< 300	0		<i>Other:</i>			
NITRATE, ppm, dry	100 - 1500	143		4 Herbicide BioAssay	< 10ppb Equivalent	6	4
7-d Cress Weight	> 70% of control	82		2 Fecal Coliform	<1000	47	4
				E. coli	<100	47	
TOTALS		RANK=	32	10	7	28	
	out of a Possible		40		out of a Possible	28	
	subtotal		80%		subtotal	100%	
Grand Total	Garden Compost				Total RANK=	60	
Grand Possible					out of a Possible	68	
	Array Strength =	121%			Score	88.2%	

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APPLICATION RATE COMPUTATION

Nutrient Managing Max Allowed Rates**	Sample Lab No. 6962.0	Postive Score?	N-Factor	Compost applied as :	Values Found :	N	P2O5	K2O
						1.80	0.52	0.85
Appl Rate Guideline for spreading composts	Nutrient Compost	no	0.12	TON / ACRE = lbs / 100 sq ft	n/a n/a	Max-N 150	Rate / a / Lbs n/a	n/a
	Garden Compost	yes	0.12	TON / ACRE = lbs / 100 sq ft	32 147	125	155	255
	Topsoil Compost	no	0.12	TON / ACRE = lbs / 100 sq ft	n/a n/a	100	n/a	n/a
Bacteria Condition: Okay	(OTHER) n/a							
	<u>N Release Factor</u>	<u>Units</u>	<u>N-Fac</u>					
	Solvita Stability is	8	0.12					

CO2-Respiration is

Notes:

Max rate in Lbs / acre Based on accepted nitrogen rates for a) Corn, b) vegetables and c) hay

All rates corrected for expected soil release without consideration of previous N-fertilizer

N-release factor corrected for Solvita maturity assuming more N release for more active materials

N-Tie Up Warning ()** Compost may be too carbonaceous to release nitrogen in this season

P* Excess Warning. IF phosphorus appl rates are > 250 lb/a total P205 consider reducing compost rate by:

n/a

Correction Tables Used in Nutrient Plan

	If Soil OM% is :	N- compensation is in lb/acre
	1	20
	2	40
Woods End assumes this value ---->	3	60
	4	80
	6	120
	8	160

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						1.80	0.52	0.85
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	Garden Compost	yes	0.12	TON / ACRE = lbs / 100 sq ft	32 147	125	155	255
	Topsoil Compost	no	0.12	TON / ACRE = lbs / 100 sq ft	n/a n/a	100	n/a	n/a
Bacteria Condition: Okay	(OTHER) n/a							
	<u>N Release Factor</u>	<u>Units</u>	<u>N-Fac</u>					
	Solvita Stability is	8	0.12					

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N-release factor corrected for Solvita maturity assuming more N release for more active materials

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COMPOST-MATRIX® SCORE CARD

Date Entered: 14-Aug-07

Enter Sample Description: **Compost: Yardwaste** 6962.0

Other ID # 2191

DATA ENTRY SHEET

Fill in Yellow

TMECC Parameter	Expected Range	TEST Entry	TMECC Parameter	Expected Range	TEST Entry
Total Moisture, as is	10 - 95%	53.1	Phosphorus, % dry	0.2 - 4.0	0.226
DENSITY, #/cu yd	800 - 1600	1028	Potassium, % dry	0.4 - 6.0	0.709
Inerts, > 1/4", dry basis	>1	5.6	Calcium, % dry	0.2 - 8.0	6.516
Est Water Capacity, as is	SEE REPORT ->	61	Magnesium, % dry	0.1 - 2.0	0.325
Moisture, % of WHC	20 - 90	87	Sodium, % dry	0.1 - 2.0	0
Organic Matter % dry	10 - 80	47	<i>Trace Elements</i>		
Total-Nitrogen, % dry	0.2 - 3.0	1.8	Copper, ppm dry	30 - 600	24.2
C:N ratio	6 - 200	14.1	Manganese, ppm dry	50 - 400	1156.6
CARBONATE reaction	1 - 3	3	Iron, ppm dry	1,000 - 12,000	6974
pH, as is, sat. paste	4.0 - 9.0	8.07	Zinc, ppm dry	20 - 500	61.7
EC, as is, sat. paste	1 - 30	2.1	<i>Other:</i>		
SOLVITA - CO2	1 - 8	8	Herbicide BioAssay	< 40ppb Equivalent	6
SOLVITA - NH3	1 - 5	4	Fecal Coliform MPN	<1000	47
AMMONIUM ppm, dry	0 - 9,000 ppm	0	E. coli	<100	47
NITRATE, ppm, dry	0 - 4,000 ppm	143			
Plant Performance	10 - 120 %	82			

MULTI-ARRAY ANALYSIS - COMPOST MATRIX RANKING PROTOCOL Woods End Laboratory

[Best fit of the compost test data to specific use categories, and rate-application analysis]

Woods End Research Laboratory		Solvita Process® Test Ranking		14-Aug-07		SCORE CARD	
Sample is: Compost: Yardwast 6962.0						Vers. 6.8	
Grand Rankings by Category:	Use Groups:	SCORE: Level	RANK Order	GROWERS CHOICE	Round Score for Worst Case	RANK Order	Alternate Pass?
1	Nutrient Compost	60.0%	None	n/a	60.0%	2	no
2	Garden Compost	88.2%	1	Best Choice	90.0%	1	yes
3	Topsoil Compost	60.7%	None	n/a	60.0%	2	no
4	Seed Starter	53.1%	None	n/a	50.0%	5	no
5	Container Mix	57.8%	None	n/a	60.0%	2	no
6	Mulch Compost	42.5%	None	n/a	40.0%	6	no

Choose top two categories for best use computations and rate guidelines

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Moisture, % of WHC	20 - 90	87	Sodium, % dry	0.1 - 2.0	0
Organic Matter % dry	10 - 80	47	<i>Trace Elements</i>		
Total-Nitrogen, % dry	0.2 - 3.0	1.8	Copper, ppm dry	30 - 600	24.2
C:N ratio	6 - 200	14.1	Manganese, ppm dry	50 - 400	1156.6
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AMMONIUM ppm, dry	0 - 9,000 ppm	0	E. coli	<100	47
NITRATE, ppm, dry	0 - 4,000 ppm	143			
Plant Performance	10 - 120 %	82			