



US COMPOSTING COUNCIL

Seal of Testing Assurance

COUNTRY GARDEN FARMS

Attn: Jacob Odegard
1201 S Grover Lane
Palmer, AK 99645

Phone: 907-903-6014

Product Name: **CGF-2022-01**

Sample Date: 9-Mar-22

Laboratory ID: C22-405

COMPOST TECHNICAL DATA SHEET

Laboratory: **SOILTEST farm consultants**; 2925 Driggs Dr.; Moses Lake, WA 98837; tel. 509-765-1622 fax. 509-765-0314

Compost Parameters	Reported as (units of measure)	Test Results	Test Results
Plant Nutrients:	% , weight basis	% , wet weight basis	% , dry weight basis
Nitrogen	Total N	0.7	1.30
Phosphorus	P ₂ O ₅	0.49	0.95
Potassium	K ₂ O	0.44	0.85
Calcium	Ca	0.64	1.24
Magnesium	Mg	0.42	0.82
Moisture Content	% , wet weight basis	48.3	
Organic Matter Content	% , dry weight basis	32.3	
pH	pH units	7.6	
Soluble Salts <i>(electrical conductivity EC_s)</i>	dS/m (mmhos/cm)	1.49	
Particle Size	% < 9.5 mm (¾ in.), dw basis	100.0	
Stability Indicator (<i>respirometry</i>)		Stability Rating	
CO ₂ Evolution	mg CO ₂ -C/g OM/day	0.3	Very Stable
	mg CO ₂ -C/g TS/day	0.2	
Maturity Indicator (bioassay)			
Percent Emergence	average % of control	93	
Relative Seedling Vigor	average % of control	100	
Select Pathogens	PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.32(a)	PASS	<i>Salmonella</i>
Trace Metals	PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.13, Tables 1 and 3.	PASS	<i>As, Cd, Cr, Cu, Pb, Hg,</i>
			<i>Mo, Ni, Se, Zn</i>

Participants in the US Composting Council's Seal of Testing Assurance Program have shown the commitment to test their compost products on a prescribed basis and provide this data, along with compost end use instructions, as a means to better serve the needs of their compost customers.

Date Received: **21-Mar-22**

Date Reported: **5-Apr-22**

Laboratory QA/QC: **Brent Thyssen, CPSSc**

brent@soiltestlab.com www.soiltestlab.com

Directions for Product Use:

NOTE: The USCC does not assess whether or not, or to what extent, these directions are sound, sufficient or otherwise appropriate. It is the participant's responsibility alone to ensure that they are.

Compost Ingredients:

This compost product has been sampled and tested as required by the Seal of Testing Assurance Program of the United States Composting Council (USCC), using certain methods from the "Test Methods for the Examination of Compost and Composting" manual. Test results are available upon request by calling _____ at Phone # _____. The USCC makes no warranties regarding this product or its contents, quality, or suitability for any particular use.

For additional information pertaining to compost use, the specific compost parameters tested for within the Seal of Testing Assurance Program, or the program in general, log on to the US Composting Council's TMECC web-site at <http://www.tmecc.org/sta/>.



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Plant Nutrients:	%, weight basis	%, wet weight basis	%, dry weight basis
Nitrogen	Total N	Not Reported	Not Reported
Phosphorus	P ₂ O ₅	Not Reported	Not Reported
Potassium	K ₂ O	Not Reported	Not Reported
Calcium	Ca	Not Reported	Not Reported
Magnesium	Mg	Not Reported	Not Reported
Moisture Content	%, wet weight basis	48.3	
Organic Matter Content	%, dry weight basis	32.3	
pH	pH units	7.6	
Soluble Salts <i>(electrical conductivity EC₅)</i>	dS/m (mmhos/cm)	1.49	
Particle Size	% < 9.5 mm (3/8 in.), dw basis	100	
<i>Stability Indicator (respirometry)</i>		<i>Stability Rating</i>	
CO ₂ Evolution	mg CO ₂ -C/g OM/day	0.3	Very Stable
	mg CO ₂ -C/g TS/day	0.2	
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Select Pathogens	PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.32(a)	PASS	<i>Salmonella</i>
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Laboratory QA/QC

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Client: COUNTRY GARDEN FARMS	Product: CGF-2022-01	Date Reported: 04/05/22
Attn: Jacob Odegard	Date Sampled: 03/09/22	Laboratory # C22-405
1201 S Grover Lane	Date Received: 03/21/22	Revised by Brent Thyssen, CPSSC
Palmer, AK 99645	Invoice #: C22-405	PO#:
907-903-6014		Amount: \$300.00

Nutrients

Method	As Received	Dry Wt.	Units	Low	Normal	High	Typical Range
Moisture	70 C	48	%	*****			15 to 40
Solids	70 C	52	%	*****			60 to 85
pH	1:5	7.6	NA	*****			5.5 to 8.5
E.C. (Sol. Salts)	1:5	0.77	1.49	*****			below 5.0
Total N	TMECC 04.02D	0.67	1.30	*****			1 to 5
Organic C	TMECC 04.01A	7.4	14.3	*****			18 to 45
Organic Matter	TMECC 05.07A	16.7	32.3	*****			40 to 60
Ash	550 C	35.0	67.7	*****			40 to 60
Ammonium -N	TMECC 05.02C	13	24	***			90 to 450
Nitrate-N	TMECC 04.02B	125	242	*****			50 to 250
Chloride	TMECC 04.12D	213	413	*****			500 to 5000
Sulfate-S	TMECC 04.12D	37	71	*****			
CaCO₃	TMECC 04.08A	24	46	*****			20 to 80
Phosphorous	TMECC 04.12B/04.14A	0.21	0.41	*****			
P₂O₅	calculation	0.49	0.95	*****			1 to 8
Potassium	TMECC 04.12B/04.14A	0.37	0.71	*****			
K₂O	calculation	0.44	0.85	*****			3 to 12
Calcium	TMECC 04.12B/04.14A	0.64	1.2	*****			0.5 to 10
Magnesium	TMECC 04.12B/04.14A	0.42	0.82	*****			0.05 to 0.7
Sodium	TMECC 04.12B/04.14A	0.03	0.07	*****			0.05 to 0.7
Sulfur	TMECC 04.12B/04.14A	0.12	0.23	*****			0.1 to 1.0
Boron	TMECC 04.12B/04.14A	1	3	*****			25 to 150
Zinc	TMECC 04.12B/04.14A	69	134	*****			100 to 600
Manganese	TMECC 04.12B/04.14A	278	538	*****			250 to 750
Copper	TMECC 04.12B/04.14A	21	41	***			100 to 500
Iron	TMECC 04.12B/04.14A	12545	24280	*****			1000 to 25000
C/N ratio			11	*****			18 to 24
C/P Ratio			35	*****			80 to 140
Aq Index			22	*****			3 to 10

Respiration & Stability

Method	Units	Low	Normal	High	Normal	
CO2 Evolution	TMECC 05.08	0.3	mg CO ₂ -C/g OM/day	**		1 to 7
	TMECC 05.08	0.2	mg CO ₂ -C/g TS/day	***		0.5 to 5
Stability Rating	Very Stable					

Client: COUNTRY GARDEN FARMS 1201 S Grover Lane Palmer, AK 99645 907-903-6014	Product: CGF-2022-01 Date Sampled: 03/09/22 Date Received: 03/21/22	Date Reported: 04/05/22 Laboratory # C22-405 Revised by Brent Thyssen, CPSSc
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Cucumber Bioassay

Method	Units	Low	Normal	Normal
Emergence TMECC 05.05A	93 %	*****	*****	80 to 100
Vigor TMECC 05.05A	100 %	*****	*****	85 to 100
Maturity Very Mature: safe for use in containers				

Pathogens

Method	Date Tested	units	3/21/2022	Low	Normal	High	Normal
Fecal Coliforms TMECC 07.01AB	Not Tested	MPN/g					Less than 1000
Salmonella TMECC 07.02A	ND	MPN/4g	PASS	*			Less than 3
ND = None Detected Fecal Coliforms MDL 4.5 MPN/g Salmonella MDL 1 MPN/4g							

EPA 503 Metals

Method	Dry Wt.	Units	Low	Normal	High	MDL	EPA Limit
Arsenic TMECC 04.12B/04.14A	7.3	mg/kg	*****			0.78	41
Cadmium TMECC 04.12B/04.14A	<MDL	mg/kg				0.42	39
Chromium TMECC 04.12B/04.14A	25.3	mg/kg				0.09	-
Cobalt TMECC 04.12B/04.14A	7.6	mg/kg	****			0.07	1200
Copper TMECC 04.12B/04.14A	40.6	mg/kg	****			0.13	1500
Mercury TMECC 04.12B/04.14A	0.04	mg/kg	****			0.004	17
Molybdenum TMECC 04.12B/04.14A	9.4	mg/kg	*****			0.05	75
Nickel TMECC 04.12B/04.14A	15.9	mg/kg	****			0.36	420
Lead TMECC 04.12B/04.14A	2.6	mg/kg	****			0.60	300
Selenium TMECC 04.12B/04.14A	<MDL	mg/kg				1.40	100
Zinc TMECC 04.12B/04.14A	134	mg/kg	****			0.27	2800
Metals Assay		PASS					

Particle Size Distribution TMECC 2.02 B & C

inches	mm	% Passing	Inerts	% by wt.
3	76.2	100		
2	50	100	Total Plastic	0.00
1	25	100	Film Plastic	0.00
3/4	19.1	100	Glass	0.00
5/8	16	100	Metal	0.00
1/2	12.5	100	Sharps	0.00
3/8	9.5	98		
1/4	6.3	93		

Sample was received, handled and tested in accordance with TMECC procedures



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DATE REC 21-Mar-22
 INVOICE # 21-Mar-22
 LAB # C22-405
 Date Reported: 04/05/22

NUTRIENT REPORT

SAMPLE I.D.: CGF-2022-01

	<u>%SOLIDS</u>		<u>%WATER</u>	
As Received:	51.67		48.33	

TOTAL ELEMENTS	-----100%DRY-----		----AS RECEIVED-----	
	%	lbs/ton	%	lbs/ton
TN	1.30	26.00	0.67	13.4
P	0.41	8.28	0.21	4.3
P205	0.95	19.05	0.49	9.8
K	0.71	14.14	0.37	7.3
K20	0.85	16.97	0.44	8.8
S	0.23	4.56	0.12	2.4
Ca	1.24	24.8	0.64	12.8
Mg	0.82	16.44	0.42	8.5
Na	0.07	1.34	0.03	0.7
C	14.30	286	7.4	148
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	mg/kg	lbs/ton	mg/kg	lbs/ton
Zn	134	0.27	69	0.14
Mn	538	1.08	278	0.56
Cu	41	0.08	21	0.04
Fe	24280	48.56	12545	25.1
B	3	0.01	1.50	0.00
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Nitrate N	242	0.48	125.0	0.25
Ammonium N	24	0.05	13	0.03
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C:N Ratio			11	
pH			7.6	
E.C.	1.49		0.77	



Client: COUNTRY GARDEN FARMS	Date Sampled: 03/09/22
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INTERPRETATION GUIDE	

SAFETY INTERPRETATIONS

Pathogens

Fecal coliform bacteria are present in the gut and fecal mater of warm-blooded animals. Their presence is used as an indicator of the presence of possible human pathogens. The heat generated during proper composting is lethal to fecal coliform and other human pathogens. A test value below 1,000 per gram of compost is considered generally safe for human contact. As the compost is stored or transported, the temperature is no longer lethal for coliform bacteria and there is the possibility for regrowth or contamination by birds or other animals.

Your compost was not tested for fecal coliform.

Salmonella is a human pathogenic bacteria and a good indicator of other human pathogens. It is regularly used to monitor the liklihood of human pathogen presence in biosolids.

Your compost was tested for salmonella bacteria and found to be: VERY SAFE

Heavy Metals

9 heavy metals were identified with maximum concentration limits for land application in biosolids by USEPA in 40 CFR Part 503.B. Ongoing applications to the land are prohibited if any metal concentration exceed the limits in Table 3 of Part 503.13.

If the bars on the "Heavy Metals" for your compost are within or below the "Normal" range, your compost is safe to use as a soil amendment.

COMPOST STABILITY AND MATURITY

Respiration

Respiration is the measurement of microbially generated CO2 from the compost when incubated at optimal temperature and moisture. It provides an indication of whether the composting process is complete and whether the compost is mature and ready for use. However, other factors may be limiting microbial activity (see C:N Ratio below)

Your Compost was rated as Very Stable: well cured, finished compost; no odors or plant toxicity

Maturity

Bioassay

Cucumbers are grown in a fixed blend of your compost and a commercial potting mix maintained at optimum moisture and temperature. Cucumbers are relatively insensitive to salinity, but very sensitive to ammonia, organic acids and herbicide residue. Emergence and Vigor are rated: results greater than 80% indicate that your compost is mature and/or contains no herbicide carryover. Very high salinity can also reduce assay results.

Your Compost Emergence % **93** Your Compost vigor % **100**

Total Nitrogen, Nitrate & Ammonium

Ammonia is produced as a gas in the early stages of composting. The ammonium is nitrified to nitrate as the compost matures. Ammonia is toxic to plants at relatively low concentrations but under moist conditions is converted to ammonium which is less toxic. Nitrate is not toxic, but does contribute to overall salinity if very high. The pH of the compost typically starts out low as organic acids are released, then increases as ammonia is produced, then settles back towards neutral (7.0) as ammonium is nitrified and the compost matures.

Your Compost Ammonium level was **24** Your Compost Ammonium:Nitrate ratio was **0**
Your Compost Ammonium:Total N ratio was **0.00** Your Compost pH was **7.6**

Considering all the factors above, your Compost is Very Mature: safe for use in containers

FERTILITY INTERPRETATIONS

C:N Ratio

The carbon to nitrogen ratio is important to determine 1) if the composting process is complete or simply stalled out because of lack of nitrogen and 2) whether the compost, when applied to the soil, will act as a source of nitrogen for the crop or become a sink causing the crops to starve for nitrogen.

Your C:N ratio was **11** **Your compost will tend to release available N for crop use.**

Ag Index

The Ag Index is the sum of nutrients N, P & K divided by the sum of non-nutrient salts Na & Cl. It provides an indication of whether your compost is a reasonable source of nutrients or primarily a source of organic matter for your soil.

Your Ag index was **22** **Your compost is a good source of nutrients and organic matter**

Electrical Conductivity/Salinity

Electrical Conductivity is a convenient way to evaluate the soluble salts or salinity of a compost. High salinity is damaging to plants.

The EC of your Compost was **1.5** **M. Low: generally safe to use directly as a topsoil**