Anaheim Office
September 16, 2019
Report 19-248-0028

Zanker Landscape Materials
675 Los Esteros Road
San Jose, CA 95134

Attn: Beto Ochoa

RE: Horticultural Blend processed on 9/5/19

The first sheet is the actual test data and the second sheet is a calculated table showing the percent of each required nutrient that is now readily available compared to the total present. Further decomposition of the organic fraction will release many of these nutrients as available for plant utilization. The third sheet evaluates the potential rate limiting factors in the top table and in this case, there are no chemical characteristics that would limit the rate to less than normally employed for amendments. The bottom table on that sheet uses an example rate of 41% that is based on the amount of organic matter generally required to amend soils of low organic content. At the example rate, the degree to which the compost would satisfy the immediate requirement for each required nutrient is indicated.

Approximately 89% of the amendment passes the 6.4 mm (1/4 inch) screen and 60% passes the 2.36 mm (about 1/8 inch). The amount of very fine material present indicates this material will have some potential for issues with dustiness at the low as-received moisture level. Actual organic matter content is moderate at 239 pounds per cubic yard. Organic content at 23.4% is low for an amendment material.

The carbon to nitrogen ratio at 50.0 is not sufficient to meet the anticipated decomposition requirement and there will be a consumption of nitrogen as the microbes break down the less resistant organic matter. To ensure that this does not compete with the plants for nitrogen this could be dealt with at the time of use by simultaneously incorporating Ureaform 38-0-0 (27% water insoluble nitrogen) at a rate of 1 pound per cubic yard of amendment. This controlled release product should offset the requirement of the amendment but the planting should still be on a regular nitrogen fertilization program.

At the example rate of 41% volume this amendment would provide a favorable amount of organic matter to benefit soil structure and satisfy the organic matter need for most soil types. At this rate the amendment would also provide a significant nutrient contribution of immediately available nitrogen, potassium, magnesium and sulfate. These contributions at the example rate are noted on the last page. This volume rate is equivalent to 7.6 cubic yards per 1000 square feet for blending to 6 inches depth. This would be adding 1816 pounds organic matter, which would increase organic content of a sandy loam soil by about 5.9% on a dry weight basis.

Reaction is slightly acidic at a pH of 6.5. Salinity and soluble levels of sodium, chloride and boron are safely low for use at the recommended rate.

The table that follows the data page shows what nutrients are present in total amounts as well as what portion is immediately available. For convenience these results are expressed both on a cubic yard basis and as weight of nutrient and organic matter per as-received ton of Horticultural Blend. Further release from the organic complex will continue to help satisfy plant needs for many of the nutrients.

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If we can be of any further assistance, please feel free to contact us.

Annmarie Lucchesi
alucchesi@waypointanalytical.com

Emailed 5 Pages: beto@zankerrecycling.com

Waypoint ANALYTICAL

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COMPOST / AMENDMENT EVALUATION

Send To :	Project :	
Zanker Landscape Materials 675 Los Esteros Road San Jose CA 95134	Zanker Horticultural Blend	Report Number : **19-248-0028** Customer Number : 01002 Date printed : 09/11/2019 Date received : 09/05/2019 Page : 1 of 3 Lab Number : 75248

Sample Id : **Zanker Horticultural Blend**

Nutrient	Total - Dry Weight	Extractable - Dry Weight	Saturation Extract	Sufficiency Factor
Nitrogen (N)	0.28 %	255 ppm		2.4
NH_4-N		243 ppm		
NO_3-N		12 ppm		
Phosphorus (P)	0.08 %	86 ppm		1.3
Phosphorus (P_2O_5)	0.18 %	197 ppm		
Potassium (K)	0.12 %	1746 ppm	2.1 meq/L	4.9
Potassium (K_2O)	0.15 %	2113 ppm		
Calcium (Ca)	2.25 %	2185 ppm	5.3 meq/L	0.5
Magnesium (Mg)	1.31 %	1065 ppm	2.7 meq/L	1.8
Sodium (Na)	0.06 %		7.4 meq/L	
Sulfur (S)	0.11 %			
Sulfate (SO_4)			9.8 meq/L	3.3
Chloride (Cl)			4.7 meq/L	
Copper (Cu)	44.7 ppm	0.8 ppm		0.2
Zinc (Zn)	48.1 ppm	2 ppm		0.1
Manganese (Mn)	354 ppm	28 ppm		1.0
Iron (Fe)	24900 ppm	21 ppm		0.2
Dilute Acid Fe		0.18 %		
Boron (B)	26.5 ppm		0.30 ppm	1.0

Test	Result
pH (sat paste)	6.5 s.u.
% Half Sat.	54
TEC	264 meq/kg
Qualitative Lime	Low
Salinity (EC of sat ext.)	1.7 dS/m
SAR (Sodium adsorption ratio)	3.68
Sodium as % of ECe	39 %
Bulk Density - Dry	1021 lbs/yd³
Bulk Density - As Received	1180 lbs/yd³
Moisture - As Received	13.5 %
Organic	23.4 %
Weight of organic / yd³	239 lbs/yd³
Weight of mineral / yd³	782 lbs/yd³
C/N Ratio	50.0

Gradation	
Wt Percent Retained 1"	0.0 %
Wt Percent Retained 1/2"	0.0 %

Fraction Passing 1/2 inch Screen - Dry Weight Basis	
Screen Opening	% Passing
Passing 9.5mm	97.8 %
Passing 6.4mm (1/4")	88.6 %
Passing 4.75mm	79.2 %
Passing 2.36mm	59.5 %
Passing 1.00mm	43.1 %
Passing 0.50mm	29.8 %

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NUTRIENT SUMMARY

Test	Amount Per Cubic Yard				Amount Per Ton, As Rec'd				Available as a % Of Total
	Total		Available		Total		Available		
Nitrogen	2.86	lbs	0.26	lbs	4.84	lbs	0.44	lbs	9
Phosphorus (P)	0.8	lbs	0.09	lbs	1.36	lbs	0.15	lbs	11
Phosphorus (P_2O_5)	1.83	lbs	0.2	lbs	3.11	lbs	0.34	lbs	11
Potassium (K)	1.21	lbs	1.78	lbs	2.05	lbs	3.02	lbs	147
Potassium (K_2O)	1.47	lbs	2.16	lbs	2.48	lbs	3.65	lbs	147
Calcium	22.97	lbs	2.23	lbs	38.92	lbs	3.78	lbs	10
Magnesium	13.42	lbs	1.09	lbs	22.74	lbs	1.84	lbs	8
Sulfur	1.11	lbs	0.17	lbs	1.87	lbs	0.29	lbs	16
Copper	0.73	ozs	0.01	ozs	1.24	ozs	0.02	ozs	2
Zinc	0.79	ozs	0.03	ozs	1.33	ozs	0.04	ozs	3
Manganese	5.78	ozs	0.46	ozs	9.8	ozs	0.78	ozs	8
Iron	406.77	ozs	0.34	ozs	689.23	ozs	0.58	ozs	0
Boron	0.43	ozs	0.01	ozs	0.73	ozs	0.01	ozs	1
Organic Matter	239	lbs			405	lbs			

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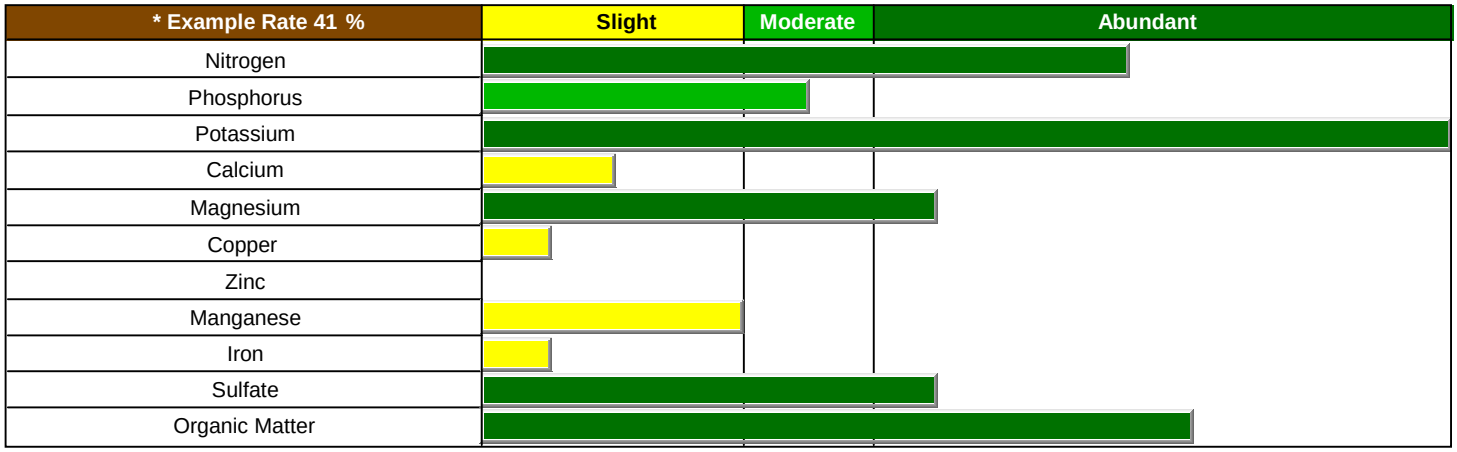
POTENTIAL RATE LIMIT FACTORS

Test	% Volume rate limit	Cubic yard amendment per 1000 sf to 6"							
		1	2	3	4	5	6	7	8
		Volume % amendment blend with sandy loam							
		5	11	16	22	27	32	38	43
EC sat. ext.	No Limit								
Sodium sol.	No Limit								
Chloride sol.	No Limit								
Boron sol.	No Limit								
NH_4-N	No Limit								
Available									
Nitrogen	No Limit								
PO_4P	No Limit								
Copper	No Limit								
Zinc	No Limit								

Rate limit estimates based on amending a non-problematic sandy loam

RELATIVE IMMEDIATE NUTRIENT AND ORGANIC VALUE



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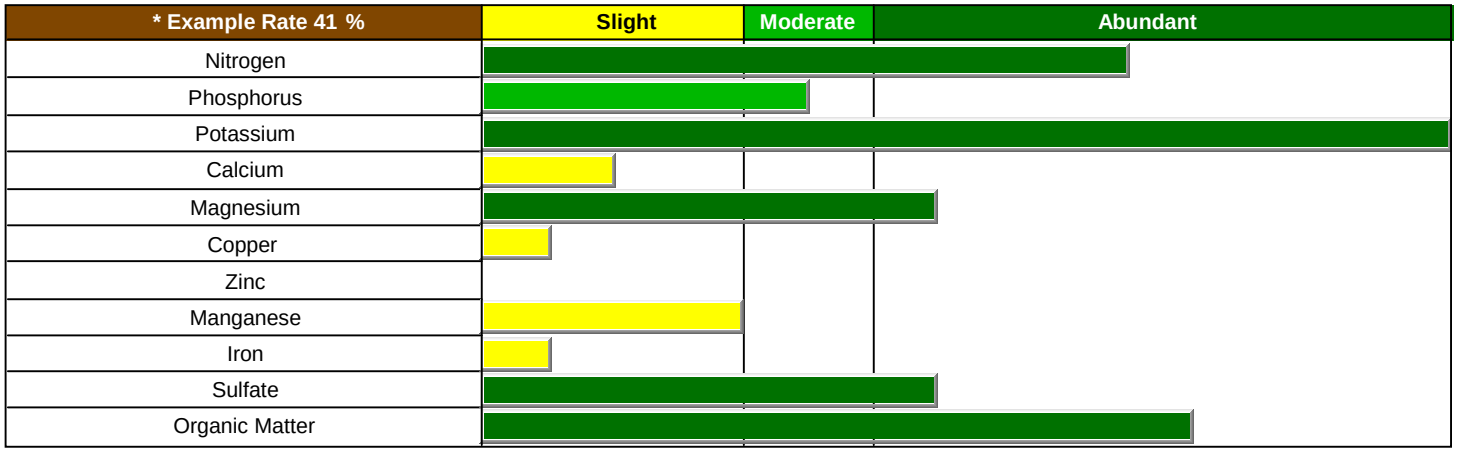

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