

CUSTOMER INFORMATION			
Name:	Everest Holmes	Grower Name:	National Bamboo
Email:	NA	Field/Pile/Lagoon ID:	GROZOME
Phone:	803-351-8520	Product Type:	Biological
Bill To:	National Bamboo	Primary Feedstock(s):	NA

Test ID/Product Name	GROZOME- 2025	Report Date	9/19/2025
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Species Summary			Functions of Interest		
Number of Microbes and Viruses		3,948	Oxygen Availability		
Fungal to Bacterial Ratio		1 to 3.03	High Oxygen Environment	68%	High
Ectomycorrhizal to Arbuscular Ratio		8.77 to 1	Carbon Cycling		
Bacteria and Fungi			Organic Carbon Breakdown	54%	Medium
Total Bacterial Species and Percentage	2554	64.7%	Methanogenesis	21%	Low
Anaerobic Bacteria Species	324	8.2%	Nitrogen Cycling		
Aerobic Bacterial Species	1040	26.3%	Denitrification	99%	Very High
Unclassified Metabolism Species	1190	30.1%	Nitrification	98%	Very High
Total Fungal Species and Percentage	1151	29.15%	Nitrogen Fixation	51%	Medium
Anaerobic Fungal Species	3	0.08%	Organic Nitrogen Breakdown	50%	Medium
Aerobic Fungal Species	32	0.81%	Nutrient Cycling		
Unclassified Metabolism Species	1116	28.27%	Phosphorus Mobilization	85%	Very High
Viruses and Pathogens			Potassium Solubilization	48%	Medium
Total Virus Species and Percentage	1	0.02%	Sulfur Oxidation	90%	Very High
Pathogens Percentage - Top 100	0	0%	Sulfur Reduction	58%	Medium
Key Metabolic Functions			Calcium Transport	90%	Very High
Facultative Anaerobic Organisms	151	3.8%	Iron Acquisition	78%	High
Obligate Anaerobic Organisms	25	0.6%	Other Plant Growth Promoting Functions		
Microaerophilic Organisms	56	1.4%	Plant Stress Adaptation	74%	Medium

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Top 200 Bacteria Species Identified			
AE = Aerobic AN = Anaerobic OA = Obligate Aerobic ON = Obligate Anaerobic F = Facultative MA = Microaerophilic			
1	Mycolicibacterium morioakaense	1.683%	
2	Archangium violaceum	1.012% AE	
3	Mycolicibacterium hassiacum	0.858%	
4	Thermobispora bisporea	0.512% AE	
5	Thermomonospora curvata	0.463% AE	
6	Mycolicibacterium phlei	0.394%	
7	Sphaerobacter thermophilus	0.382% OA	
8	Mycolicibacterium smegmatis	0.378%	
9	Rhodoplanes sp.	0.370% AE	
10	Sorangium cellulosum	0.361% AE	
11	Streptomyces sp.	0.325% AE	
12	Luteitalea sp.	0.313%	
13	Protaetia sp.	0.278%	
14	Pedococcus dokdonensis	0.255%	
15	Microbispora hainanensis	0.252% OA	
16	Sandaracinus amylolyticus	0.246% OA	
17	Capillimicrobium parvum	0.245%	
18	Rhodopseudomonas palustris	0.244% F	
19	Piscinibacter gummiphilus	0.242% F	
20	Reyranella sp.	0.235% MA	
21	Luteitalea pratensis	0.231%	
22	Dermatobacter hominis	0.231%	
23	Actinomariniticola tropica	0.210%	
24	Hyphomicrobium sp.	0.206% AE	
25	Urbifossella limnaea	0.204%	
26	Devosia sp.	0.184% OA	
27	Conexibacter woesei	0.184% AE	
28	Iamia sp.	0.182% OA	
29	Gemmatispora kalamazooensis	0.182%	
30	Pedococcus sp.	0.179%	
31	Ilumatobacter sp.	0.173% OA	
32	Caldimonas thermodepolymerans	0.172% AE	
33	Mycolicibacterium goodii	0.166%	
34	Nannocystis punicea	0.162%	
35	Pseudoxanthomonas suwonensis	0.159% OA	
36	Pseudolabrys taiwanensis	0.156%	
37	Pseudorhodoplanes sinuspersici	0.152%	
38	Frigoriglobus tundricola	0.151%	
39	Priestia megaterium	0.146%	
40	Nostocoides sp.	0.145%	
41	Baekduia alba	0.144%	
42	Aquihabitans sp.	0.144%	
43	Polyangium aurulentum	0.140%	
44	Conexibacter sp.	0.140% AE	
45	Aquihabitans sp.	0.139%	
46	Ramlibacter tataouinensis	0.138% AE	
47	Legionella pneumophila	0.137% MA	
48	Devosia sp.	0.137% OA	
49	Variovorax paradoxus	0.136% AE	
50	Pseudoxanthomonas mexicana	0.134% OA	
51	Iamia majanohamensis	0.134% OA	
52	Miltoncostaea marina	0.132%	
53	Nocardioideis anomalus	0.131% OA	
54	Enhydrobacter sp.	0.131% F	
55	Baekduia soli	0.131%	
56	Labilithrix luteola	0.129% AE	
57	Archangium gephyra	0.127% AE	
58	Miltoncostaea oceani	0.124%	
59	Gemmata obscuriglobus	0.123% AE	
60	Streptomyces thermoviolaceus	0.120% AE	
61	Limnoglobus roseus	0.115%	
62	Rubrivivax gelatinosus	0.114% F	
63	Roseomonas fluvialis	0.114% AE	
64	Pseudofrankia inefficax	0.111%	
65	Lacunisphaera limnophila	0.110%	
66	Hyphomicrobium nitrivorans	0.110% AE	
67	Hypericibacter adhaerens	0.110%	
68	Aquihabitans daechungensis	0.110%	
69	Ilumatobacter coccineus	0.107% OA	
70	Chelatococcus daeguensis	0.106% OA	
71	Pimelobacter simplex	0.103% AE	
72	Bradyrhizobium erythrophlei	0.103% AE	
73	Pseudolabrys sp.	0.102%	
74	Aquisphaera giovannonii	0.102%	
75	Aquicella siphonis	0.099% MA	
76	Paraconexibacter antarcticus	0.097%	
77	Hyphomicrobium sp.	0.097% AE	
78	Microbispora maris	0.096% OA	
79	Chelatococcus sp.	0.096% OA	
80	Rubrivivax sp.	0.092% F	
81	Usitabacter rugosus	0.091%	
82	Tautonia plasticadhaerens	0.091%	
83	Pseudonocardia sp.	0.091% AE	
84	Piscinibacter sp.	0.091% F	
85	Opitutus sp.	0.091%	
86	Dactylosporangium sp.	0.091% OA	
87	Paraconexibacter sp.	0.090%	
88	Cellulomonas palmitytica	0.087% AE	
89	Microbacterium cremeum	0.085% AE	
90	Haliangium ochraceum	0.085% OA	
91	Stappia sp.	0.084% AE	
92	Nocardioideis sp.	0.084% OA	
93	Hyphomicrobium denitrificans	0.081% AE	
94	Rhizobacter sp.	0.080% OA	
95	Mycobacterium sp.	0.080% AE	
96	Microvirga sp.	0.080% OA	
97	Lysobacter soli	0.080% OA	
98	Cystobacter fuscus	0.080% AE	
99	Agromyces flavus	0.080% AE	
100	Nocardioideis sp.	0.079% OA	

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Top 200 Bacteria Species (cont'd)				
AE = Aerobic AN = Anaerobic F = Facultative AMF= Arbuscular Mycorrhizal ECM = Ectomycorrhizal				
101	Devosia sp.	0.079% OA	151	Stella humosa 0.060% AE
102	Burkholderia multivorans	0.079% AE	152	Anaeromyxobacter sp. 0.060%
103	Microvirga sp.	0.078% OA	153	Neobacillus sp. 0.059%
104	Chondromyces crocatus	0.077% OA	154	Mesorhizobium sp. 0.059% OA
105	Thermobacillus composti	0.076% AE	155	Sulfurifustis variabilis 0.058% MA
106	Nocardioides sp.	0.076% OA	156	Streptomyces canus 0.058% AE
107	Microvirga lotononidis	0.076% OA	157	Nocardioides ungokensis 0.058% OA
108	Anaeromyxobacter oryzae	0.076%	158	Nocardioides sp. 0.058% OA
109	Microbacterium sp.	0.074% AE	159	Bradyrhizobium sp. 0.058% AE
110	Paludisphaera borealis	0.073%	160	Bradyrhizobium priorisuperbiae 0.058% AE
111	Usitatibacter palustris	0.072%	161	Aquabacterium sp. 0.058% AE
112	Bradyrhizobium sp.	0.072% AE	162	Alsobacter sp. 0.058%
113	Nocardioides okcheonensis	0.071% OA	163	Agromyces aureus 0.058% AE
114	Microvirga sp.	0.071% OA	164	Sinorhizobium fredii 0.057% AE
115	Nordella sp.	0.070%	165	Shinella zoogloeoides 0.057% OA
116	Dactylosporangium sp.	0.070% OA	166	Roseiflexus sp. 0.057% F
117	Cupriavidus pauculus	0.070% AE	167	Nonomuraea phyllanthi 0.057% AE
118	Catellatospora sp.	0.070% OA	168	Knoellia locipacati 0.057% OA
119	Nocardioides sp.	0.069% OA	169	Saccharopolyspora gregorii 0.056% OA
120	Microvirga terrae	0.069% OA	170	Bradyrhizobium sp. 0.056% AE
121	Microbacterium sp.	0.069% AE	171	Agromyces sp. 0.056% AE
122	Dactylosporangium aurantiacum	0.069% OA	172	Xanthobacter dioxanivorans 0.055% AE
123	Nonomuraea glycinis	0.068% AE	173	Tahibacter sp. 0.055% AE
124	Nocardioides sp.	0.068% OA	174	Planctomyces sp. 0.055%
125	Nocardioides renjunii	0.068% OA	175	Nonomuraea fuscioseae 0.055% AE
126	Variibacter gotjawalensis	0.066%	176	Nocardioides sp. 0.055% OA
127	Tistrella mobilis	0.066% AE	177	Myxococcus stipitatus 0.055% AE
128	Thermoleophilum album	0.066% AE	178	Microbacterium sp. 0.055% AE
129	Phytohabitans suffusus	0.066% OA	179	Methylocaldum szegediense 0.055% AE
130	Planctomyces sp.	0.065%	180	Kitasatospora purpeofusca 0.055% OA
131	Microvirga ossetica	0.065% OA	181	Kaistia sp. 0.055% OA
132	Bradyrhizobium sediminis	0.065% AE	182	Dokdonella koreensis 0.055% OA
133	Streptomyces venezuelae	0.064% AE	183	Bradyrhizobium sp. 0.055% AE
134	Pseudomonas aeruginosa	0.064% AE	184	Terricaulis silvestris 0.054%
135	Phenyllobacterium zucineum	0.064% AE	185	Peribacillus asahii 0.054%
136	Nonomuraea coxensis	0.064% AE	186	Nonomuraea sp. 0.054% AE
137	Mesorhizobium sp.	0.064% OA	187	Microbacterium atlanticum 0.054% AE
138	Cellulomonas fimi	0.064% AE	188	Methylococcus capsulatus 0.054% AE
139	Aquibium microcysteis	0.064%	189	Kaustia mangrovi 0.054%
140	Singulisphaera sp.	0.063% MA	190	Gemmata sp. 0.054% AE
141	Dactylosporangium sp.	0.063% OA	191	Gemmata massiliana 0.054% AE
142	Salinarimonas sp.	0.062% F	192	Cupriavidus taiwanensis 0.054% AE
143	Roseibium sp.	0.062% AE	193	Caulifigura coniformis 0.054%
144	Parafrankia sp.	0.062%	194	Actinomadura madurae 0.054% AE
145	Agromyces sp.	0.062% AE	195	Terrabacter sp. 0.053% OA
146	Actinoallomurus sp.	0.062% OA	196	Starkeya sp. 0.053% AE
147	Steroidobacter denitrificans	0.061% OA	197	Sphingopyxis sp. 0.053% AE
148	Pseudonocardia dioxanivorans	0.061% AE	198	Phycoccus sp. 0.053% OA
149	Nocardia asteroides	0.061% AE	199	Nonomuraea gerenzanensis 0.053% AE
150	Ferrovibrio terrae	0.061%	200	Methyloligella sp. 0.053%

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AE = Aerobic AN = Anaerobic F = Facultative AMF= Arbuscular Mycorrhizal ECM = Ectomycorrhizal			
1	Botryosphaeria dothidea	1.612%	
2	Saccharomyces pastorianus	1.247% F	
3	Podosphaera leucotricha	0.563%	
4	Fusarium oxysporum	0.467% F	
5	Sporisorium sorghi	0.438% AE	
6	Rhizopus arrhizus	0.426%	
7	Cantharellus lutescens	0.404% ECM	
8	Irineochytrium annulatum	0.220%	
9	Fusarium subglutinans	0.194% F	
10	Metschnikowia pulcherrima	0.154%	
11	Rhizopus microsporus	0.141%	
12	Pleurostoma richardsiae	0.137%	
13	Alternaria alternata	0.132%	
14	Colletotrichum falcatum	0.123% AE	
15	Apiotrichum porosum	0.121%	
16	Cutaneotrichosporon dermatis	0.119%	
17	Aspergillus unguis	0.115% AE	
18	Schizophyllum commune	0.112%	
19	Aspergillus flavus	0.105% AE	
20	Cantharellus cibarius	0.098% ECM	
21	Thermomyces lanuginosus	0.093%	
22	Rhodotorula toruloides	0.087%	
23	Corynespora cassicola	0.084%	
24	Malassezia furfur	0.080% F	
25	Clavaria fumosa	0.078%	
26	Thermochaetoides dissita	0.073%	
27	Lasiodiplodia theobromae	0.069%	
28	Colletotrichum truncatum	0.059% AE	
29	Cutaneotrichosporon mucoides	0.055%	
30	Penicillium discolor	0.052% AE	
31	Podosphaera cerasi	0.049%	
32	Macrophoma phaseolina	0.049%	
33	Beauveria bassiana	0.047%	
34	Ophiostoma fasciatum	0.044%	
35	Aspergillus sydowii	0.044% AE	
36	Fusarium solani	0.043% F	
37	Clonostachys rosea	0.042%	
38	Fragosphaeria purpurea	0.040%	
39	Actinomortierella wolfii	0.039%	
40	Amauroascus niger	0.037%	
41	Golovinomyces magnicellulatus	0.035%	
42	Trichoderma longibrachiatum	0.034% AE	
43	Torulaspora delbrueckii	0.034% F	
44	Rhodotorula graminis	0.033%	
45	Diaporthe helianthi	0.033%	
46	Nigrospora sphaerica	0.032%	
47	Aureobasidium melanogenum	0.032%	
48	Verticillium dahliae	0.029%	
49	Rhodotorula babjevae	0.029%	
50	Coemansia erecta	0.029%	
51	Pleurotus eryngii	0.028%	
52	Cercophora sp.	0.028%	
53	Cantharellus appalachiensis	0.027% ECM	
54	Calonectria ilicicola	0.027%	
55	Rhizoctonia solani	0.024% AE	
56	Mrakia gelida	0.024%	
57	Blastocladiella emersonii	0.024%	
58	Trichoderma harzianum	0.023% AE	
59	Komagataella pastoris	0.023% AE	
60	Hericium erinaceus	0.023%	
61	Cercophora newfieldiana	0.023%	
62	Rhodotorula mucilaginosa	0.022%	
63	Rhodotorula kratochvilovae	0.022%	
64	Flavoplaça marina	0.022%	
65	Cystofilobasidium infirmominiatum	0.022%	
66	Auricularia cornea	0.022%	
67	Pseudozyma flocculosa	0.021%	
68	Hortaea werneckii	0.021%	
69	Gaeumannomyces tritici	0.021%	
70	Mycena galericulata	0.020%	
71	Tremella fuciformis	0.019%	
72	Sporothrix schenckii	0.019%	
73	Microbotryum violaceum	0.019%	
74	Friedmanniomyces endolithicus	0.019%	
75	Cutaneotrichosporon cutaneum	0.019%	
76	Aspergillus fumigatus	0.019% AE	
77	Rhodotorula glutinis	0.018%	
78	Hansfordia pulvinata	0.017%	
79	Cordyceps javanica	0.017%	
80	Tolypocladium inflatum	0.016%	
81	Puccinia arachidis	0.016% AE	
82	Penicillium janthinellum	0.016% AE	
83	Parastagonospora avenae	0.016%	
84	Ophiostoma ips	0.016%	
85	Neofusicoccum laricinum	0.016%	
86	Nakataea oryzae	0.016%	
87	Mortierella alpina	0.016%	
88	Hyaloraphidium curvatum	0.016%	
89	Ganoderma lucidum	0.016%	
90	Cystofilobasidium macerans	0.016%	
91	Trametes hirsuta	0.015%	
92	Puccinia graminis	0.015% AE	
93	Melampsora pinitorqua	0.015%	
94	Aspergillus latus	0.015% AE	
95	Xanthoria parietina	0.014%	
96	Tilletiopsis washingtonensis	0.014%	
97	Saitozyma podzolica	0.014%	
98	Raffaelea ambrosiae	0.014%	
99	Leptographium radiaticola	0.014%	
100	Dipodascopsis tothii	0.014%	

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AE = Aerobic AN = Anaerobic F = Facultative AMF= Arbuscular Mycorrhizal ECM = Ectomycorrhizal				
101	Colletotrichum graminicola	0.014% AE	151 Trichoglossum hirsutum	0.010%
102	Byssothecium circinans	0.014%	152 Trametes versicolor	0.010%
103	Allomyces macrogynus	0.014%	153 Staphylotrichum tortipilum	0.010%
104	Verticillium albo-atrum	0.013%	154 Sporothrix cf.	0.010%
105	Vanrija albida	0.013%	155 Sporothrix brunneoviolacea	0.010%
106	Trichosporon ovoides	0.013%	156 Sarocladium strictum	0.010%
107	Sporothrix inflata	0.013%	157 Polyrhizophydium stewartii	0.010%
108	Rhodotorula paludigena	0.013%	158 Phanerochaete sordida	0.010%
109	Purpureocillium lilacinum	0.013% F	159 Ophioceras dolichostomum	0.010%
110	Puccinia striiformis	0.013% AE	160 Nigrospora chinensis	0.010%
111	Lasiosphaeria ovina	0.013%	161 Neurospora tetraspora	0.010% AE
112	Cryphonectria parasitica	0.013%	162 Mycena sanguinolenta	0.010%
113	Coniochaeta hoffmannii	0.013%	163 Metarhizium acridum	0.010%
114	Caulochytrium protostelioides	0.013%	164 Malassezia slooffiae	0.010% F
115	Allomyces javanicus	0.013%	165 Leptographium lundbergii	0.010%
116	Trichosporon inkin	0.012%	166 Harringtonia lauricola	0.010%
117	Tolypocladium album	0.012%	167 Graphilbum cf.	0.010%
118	Tilletia indica	0.012%	168 Elsinoe fawcettii	0.010%
119	Tilletia horrida	0.012%	169 Elaticomyces elasticus	0.010%
120	Rosellinia necatrix	0.012%	170 Diaporthe citri	0.010%
121	Rhodotorula diobovata	0.012%	171 Cladochytrium tenue	0.010%
122	Plectosphaerella cucumerina	0.012%	172 Ceratocystis fimbriata	0.010%
123	Ganoderma boninense	0.012%	173 Ceratocystiopsis minuta	0.010%
124	Diplodia mutila	0.012%	174 Apiotrichum loubieri	0.010%
125	Diatrype stigma	0.012%	175 Achaetomium macrosporum	0.010%
126	Auricularia subglabra	0.012%	176 Zopfochytrium polystomum	0.009%
127	Apiotrichum laibachii	0.012%	177 Trichothecium roseum	0.009%
128	Vanrija humicola	0.011%	178 Trichosporon sp.	0.009%
129	Trichosporon coremiiforme	0.011%	179 Trametes sanguinea	0.009%
130	Thermothielavioides terrestris	0.011% AE	180 Rhodotorula sphaerocarpa	0.009%
131	Thelonectria discophora	0.011%	181 Rhodospiridiobolus fluvialis	0.009%
132	Pseudohalonectria lignicola	0.011%	182 Raffaelea deltoideospora	0.009%
133	Parathielavia hyrcaniae	0.011%	183 Nemaniasia serpens	0.009%
134	Ophiostoma quercus	0.011%	184 Mycena olivaceomarginata	0.009%
135	Ophiostoma populinum	0.011%	185 Magnaporthiopsis incrustans	0.009%
136	Neonectria neomacrospora	0.011%	186 Hypoxylon rubiginosum	0.009%
137	Malassezia obtusa	0.011% F	187 Hypoxylon rickii	0.009%
138	Graphilbum fragrans	0.011%	188 Exophiala spinifera	0.009%
139	Dryadomyces sulphureus	0.011%	189 Eutypa lata	0.009%
140	Cystofilobasidium bisporidii	0.011%	190 Didymella exigua	0.009%
141	Cordyceps fumosorosea	0.011%	191 Cystofilobasidium ferigula	0.009%
142	Cordyceps farinosa	0.011%	192 Cordyceps sp.	0.009%
143	Colletotrichum higginsianum	0.011% AE	193 Coprinellus micaceus	0.009%
144	Colletotrichum coccodes	0.011% AE	194 Coemansia javaensis	0.009%
145	Cladosporium cladosporioides	0.011%	195 Claviceps purpurea	0.009%
146	Biscogniauxia mediterranea	0.011%	196 Chaetomium globosum	0.009%
147	Amorphotheca resinae	0.011%	197 Ceratocystiopsis sp.	0.009%
148	Allomyces arbusculus	0.011%	198 Ceratobasidium theobromae	0.009%
149	Vanrija pseudolonga	0.010%	199 Barbatosphaeria neglecta	0.009%
150	Trichosporon asahii	0.010%	200 Aureobasidium pullulans	0.009%