



Foodweb Analysis Soil

Report prepared for:

None
 Kalen Hartel
 309 11TH ST SE
 Watford City, ND 58854-7711

Report Sent: 8/27/2009
 Sample#: 01-107740 | Submission:01-019757
 Unique ID: Field 1
 Plant: Wheat

Invoice Number: 4227
 Sample Received: 8/19/2009

khartel@ruggedwest.com

For interpretation of this report please contact:
 Soil Foodweb Oregon
info@oregonfoodweb.com
 (541) 752-5066
Consulting fees may apply

Organism Biomass Data	Dry Weight	Active Bacteria (µg/g)	Total Bacteria (µg/g)	Active Fungi (µg/g)	Total Fungi (µg/g)	Hyphal Diameter (µm)	Nematode detail (# per gram or # per mL) Classified by type and identified to genus. (If section is blank, no nematodes identified.)		
Results	0.80	11.8	940	9.71	440	2.85	Bacterial Feeders	0.52	
Comments	In Good Range	In range	Above range	Below range	Above range		Acrobeles		0.03
Expected Range	Low	10	150	10	150		Cephalobus		0.18
	High	0.85	25	25	300		Cervidellus		0.03
							Heterocephalobus		0.12
							Panagrolaimus		0.06
							Plectus		0.09
							Fungal Feeders	0.15	
							Eudorylaimus		0.09
							Microdorylaimus		0.06
							Fungal/Root Feeders	1.50	
							Aphelenchoides	Foliar nematode	0.37
							Aphelenchus		0.24
							Ditylenchus	Stem & Bulb nematode	0.86
							Filenchus		0.03
							Root Feeders	0.06	
							Meloidogyne	Root-Knot nematode	0.06
Organism Biomass Ratios	Total Fungi to Tot.Bacteria	Active to Total Fungi	Active to Total Bacteria	Active Fungi to Act.Bacteria	Plant Available N Supply (lbs/ac)	Actino Bacteria (µg/g)			
Results	0.47	0.02	0.01	0.83	100-150	6.20			
Comments	Low	Low	Low	Good					
Expected Range	Low	0.1	0.1	0.75					
	High	1.5	0.15	1.5					

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- Dry Weight: Check plant requirements, but moisture appears to be fine
- Active Bacteria: Aerobic bacterial activity in normal range for this plant, in this soil type
- Total Bacteria: Higher than normal bacterial biomass suggests high bacterial species diversity
- Active Fungi: Need to improve active biomass; Add 2 to 4 gal/ ac of liquid humic acids, or 5 to 10 tons/ ac fungal compost or woody mulch, or 20 gal/ ac fungal compost tea
- Total Fungi: Fungal biomass and diversity above typical range for this plant group, in this soil
- Hyphal Diameter: Good balance of disease suppressive and normal soil fungi
- Protozoa: Low flagellate numbers suggest lack of species diversity. Nutrient cycling will be limited. Need inoculum of protozoa to build populations, restore missing species.
- Total Nematodes: Low numbers, OK diversity. Need to add both beneficial nematodes and improve growth conditions.
- Mycorrhizal Col.:
- TF/TB: Too bacterial- dominated for wheat. Will lack disease suppression, nutrient retention, ability to build soil structure. Need to improve beneficial fungi to balance bacterial biomass.
- AF/TF: Low activity; need to add fungal foods to encourage fungi
- AB/TB: Low activity relative to total biomass
- AF/AB: Soil is bacterial dominated, and becoming more bacterial; addition of fungal foods might help maintain balance

Interpretation Comments:

Actinobacteria Biomass = 6.20 ug/g
Good fungal diversity, hyphal diameters 2 to 6 um.