Soil Food Web Assessment

Uoma Earthcare

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Client: Kimmo Englund

Company:

Sample type: Vermicompost

Plants present:

Desired plants:

Sample received: 17.2.2022

Sample observed: 18.2.2022

Observer: Kimmo Englund

Fungal-to-bacterial (F:B): **5,63**

High! Suitable for woody crops.

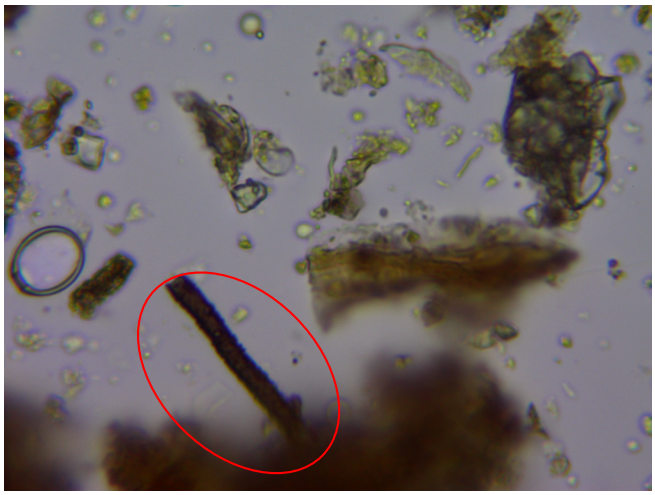
Organism group	Est. total / g	Std. Dev. (% of mean)	Notes
Beneficial organisms:			
Decomposers			
Fungi	934 µg	569 (61%)	Very high fungal biomass. Relatively high uncertainty due to a few large fungal aggregates observed.
Bacteria	166 µg	44 (26%)	Moderate biomass and low standard deviation. Good!
Actinobacteria	0.2 µg	0.4 (224%)	High uncertainty due to few observations.
Predators			
Protozoa			
Flagellates	32608	34102 (105%)	Only a few observations, hence high std. dev. Ok.
Amoebae	97824	36457 (37%)	Several observed, low std. dev. Good!
Nematodes			
Bacterial-feeding	0		None observed. Increase recommended.
Fungal-feeding	0		None observed. Increase recommended.
Predatory	0		None observed. Increase recommended.
Detrimental organisms:			
Disease-causing fungi			
Oomycetes	0	0 (0%)	None observed. Good!
Anaerobic protozoa			
Ciliates	24456	36457 (149%)	A few observed, std. dev. high. No cause for concern as aerobic protozoa numbers are high.
Nematodes			
Root-feeding	0		None observed. Good!

Comments:
Plenty of biology and diversity in this sample! There is also plenty of organic matter and the colour of the sample in solution is a dark brown, indicating that wanted organic acids like humic acid are present. Fungal biomass is very high, close to 1000 µg/g. Fungal diversity is also high. Bacterial biomass is at a moderate level, over 135 µg/g. This is explained by high levels of protozoa, which also help explain the high F:B of the sample.

Plenty of aerobic protozoa, flagellates and amoebae, were observed. This means that nutrient cycling is happening and bacterial populations are being kept in balance. Diversity among protozoa is high. The three ciliates observed might indicate low oxygen conditions. However, the large amount of aerobic protozoa means that that shouldn't cause worry.

Nematodes were not observed. Their addition would improve nutrient cycling. Especially fungal-feeding nematodes would be beneficial, as they would cycle the large amount of nutrients locked in fungi for plants to use.

Photos


A fungus, 400x.


An amoeba, 400x