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## BIOLOGY REPORT

Client: <u>Two Brothers Farm</u> Sample name: <u>Field 1</u> Sample type: <u>soil</u> Date observed: <u>01/14/22</u> Plants desired: tomatoes

Type of organisms	Target range for mid- successional vegetables	Sample results	Notes			
BENEFICIAL ORGA	NISMS					
Fungi (ug/g)	101 - 1012	72	Low: The fungi biomass is below the minimum recommended level for mid-successional vegetables.			
Standard Deviation		28	Distribution of the target organisms was patchy, greater variability than desired.			
Bacteria (ug/g)	135 - 1350	243	Good: The number of bacteria is within the target range.			
Standard Deviat	ion	22	Distribution of the target organisms in the sample was uniform; variation was small.			

F:B ratio	0.6 - 0.9	0.3	The F:B ratio is low. Increase fungal biomass or reduce bacterial biomass, and check predators to assess balance.
Actinobacteria (ug/g)	1 - 10	3.2	The actinobacterial biomass is within the
			expected range.
Standard Deviat	ion	0.3	Distribution of the target organisms in the sample was uniform; variation was small.
	> = 0.000		
Total Protozoa (#/g)	>50,000	72,455	Good: The number of beneficial protozoa is above the minimum requirement.
Standard Deviation		18,680	Distribution of organisms was somewhat uneven, resulting in an acceptable degree of variation.
<pre>Flagellate (#/g)</pre>	(see Total Protozoa)	26,674	
Standard Deviation		12,455	
		I	
Amoebae (#/g)	(see Total Protozoa)	45,781	
Standard Deviat	ion	9,730	
Nematodes:		1	
Bacterial- feeding (#/g)	200	205	Good: Minimum numbers met. Bacterial-feeding nematodes help to release nutrients from bacteria to the plants.
Fungal-feeding (#/g)	100	0	None detected: Fungal- feeding nematodes help to release nutrients from fungal hyphae to the plants.

Predatory (#/g)	0	0	None detected: Predatory nematodes help reduce root- feeding nematode numbers.		
DETRIMENTAL ORG	ANISMS				
Oomycetes - disease- causing fungi (ug/g)	0	0	None detected: No disease-causing fungi were observed in the sample. Great!		
Standard Deviat	ion	0	Distribution of the target organisms in the sample was uniform; variation was small.		
Ciliates -	0	33,423	Ciliates were detected,		
anaerobic	Ŭ	557125	but the sample is not		
protozoa (#/g)			necessarily anaerobic, especially if flagellates and amoebae were present in high numbers.		
Standard Deviation		45,767	Few target organism were present and variability was very high. Precision is very low.		
Root-feeding nematodes (#/g)	0	0	None detected: No root- feeding nematodes were observed. Great!		
ADDITIONAL COMMENTS: Sample is sandy, gray-colored soil with low aggregation.					