



# Foodweb Analysis

## Report prepared for:

Western Soil Conservation Dist  
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Report Sent: 10/17/2008  
 Sample#: 01-106341 | Submission:01-019144  
 Unique ID: 1-08  
 Plant: Alfalfa  
 Invoice Number: 103957  
 Sample Received: 10/9/2008

For interpretation of this report please contact:  
 Local Advisor: or regional lab  
 Soil Foodweb Oregon  
 info@oregonfoodweb.  
 (541) 752-5066  
**Consulting fees may apply**

Organism Biomass Data	Dry Weight	Active Bacterial (µg/g)	Total Bacterial (µg/g)	Active Fungal (µg/g)	Total Fungal (µg/g)	Hyphal Diameter (µm)
<b>Results</b>	<b>0.90</b>	29.4	1013	2.09	116	2.8
<b>Comments</b>	Too Dry	Above range	Above range	In range	Below range	
<b>Expected Range</b>	Low	1	175	1	175	
	High	0.85	5	300	5	300

	Protozoa (Numbers/g)			Total Nematodes #/g	Mycorrhizal Colonization (%)	
	Flagellates	Amoebae	Ciliates		ENDO	ECTO
<b>Results</b>	<b>513</b>	5143	85	<b>1.76</b>	Not Ordered	Not Ordered
<b>Comments</b>	Low	High	Good	Low		
<b>Expected Range</b>	Low	5000	5000	10	40%	40%
	High		100	20	80%	80%

Organism Biomass Ratios	Total Fungal to Tot.Bacterial	Active to Total Fungal	Active to Total Bacterial	Active Fungal to Act.Bacterial	Plant Available N Supply (lbs/ac)
<b>Results</b>	<b>0.11</b>	<b>0.02</b>	<b>0.03</b>	<b>0.07</b>	50-75
<b>Comments</b>	Low	Low	Low	Low	
<b>Expected Range</b>	Low	0.15	0.15	0.75	
	High	1.5	0.2	1.5	

<b>Nematode detail (# per gram or # per mL)</b> Classified by type and identified to genus. (If section is blank, no nematodes identified.)		
<b>Bacterial Feeders</b>		
Acrobeles		0.16
Cephalobus		0.11
Panagrolaimus		0.24
Rhabditidae		0.13
<b>Fungal/Root Feeders</b>		
Aphelenchoides	Foliar nematode	0.11
Aphelenchus		0.68
Ditylenchus	Stem & Bulb nematode	0.03
<b>Root Feeders</b>		
Helicotylenchus	Spiral nematode	0.03
Pratylenchus	Lesion nematode	0.05
Tylenchorhynchus	Stunt nematode	0.05

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Dry Weight: Add organic matter to improve soil biology, build soil structure, increase water holding capacity.

Active Bacteria: Bacterial activity above expected levels; Bacterial biomass will increase as long as nutrients are available

Total Bacteria: Higher than normal bacterial biomass suggests high bacterial species diversity

Active Fungi: Filamentous fungal activity and diversity in normal range

Total Fungi: Need to improve total fungal biomass; increase fungal foods in the initial starting materials and find inoculum from good humus to improve fungal diversity. Add fungal compost (1 to 5 tons/ ac or more), or multiple applications of 20 gal/ ac fungal compost tea as soil drench.

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, low diversity, root feeders present. Need to add beneficial nematodes, improve conditions to allow their survival.

Mycorrhizal Col.:

TF/TB: Too bacterial- dominated for alfalfa. 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; add bacterial foods.

AF/AB: Soil is bacterial dominated, and becoming more bacterial; addition of fungal foods might help improve balance

Nitrogen Supply: 1.7 tons of yield possible if all biology is functioning

Interpretation Comments:

Actinobacteria Biomass = 1.84 ug/g  
Fairly good fungal diversity; hyphae diameter from 2.0 to 5.0 um.