



Soil Foodweb Institute

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Soil Foodweb Analysis

Kachana Station
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 Plants: Pasture
 Sample Received: Ongoing
 Invoice Number:

Report Sent: 06/09/2005

Organism Biomass Data

Sample #	Unique ID	Dry Weight of 1 gram Fresh Material	Active Bacterial Biomass (µg/g)	Total Bacterial Biomass (µg/g)	Active Fungal Biomass (µg/g)	Total Fungal Biomass (µg/g)	Hyphal Diameter (µm)	Protozoa			Total Nematode Numbers #/g	Percent Mycorrhizal Colonization of Root
								Flagellates	Amoebae	Ciliates		
1822	Fire 10/10/02	1.00	8.10	98.7	6.74	89.8	2.5	14	428	0	0.01	NR
2895	Fire 23/07/03	0.99	9.14	52.1	8.30	214	3	1'534	1'361	14	0.08	5.00
3239	Fire 15/10/03	1.00	9.38	236	17.4	145	2.5	14	278	6	0.09	0.00
4435	Fire 30/07/04	1.00	17.9	116	19.0	97.3	2.5	57'626	1'866	0	0.14	40%
5805	Fire 18/08/05	1.00	22.8	134	37.6	569	2.5	28	77	6	0.14	NR
1823	Animal 10/10/02	0.99	7.74	103	12.1	86.6	2.5	172	2'794	0	0.12	NR
2896	Animal 23/07/03	1.00	20.5	49.6	21.8	206	3	46	139	0	0.00	0.00
3240	Animal 15/10/03	1.00	10.7	253	9.83	93.3	2.5	43	462	6	0.13	0.00
4436	Animal 30/07/04	1.00	12.6	86.8	19.4	66.2	2.5	462'682	1'359	1'359	0.80	7%
5806	Animal 18/08/05	1.00	15.4	252	16.2	293	2.5	58	77	6	0.04	NR
1824	Rest 10/10/02	1.00	6.81	138	4.77	62.2	2.5	46	278	0	0.08	NR
2897	Rest 23/07/03	0.99	8.23	50.5	6.88	264	3	28	462	0	0.04	0.00
3241	Rest 15/10/03	1.00	9.26	241	4.77	58.7	2.5	140	2'786	0	0.15	0.00
4437	Rest 30/07/04	1.00	15.9	76.8	10.8	49.7	2.0	46'199	0	14	0.58	0%
5807	Rest 18/08/05	1.00	8.33	138	5.88	320	2.5	283	32	0	0.04	NR
Bold Means Low												
	Desired Range	0.45 - 0.85	1 - 5	175 - 300	1 - 5	175 - 300	(A)	5000 +	5000 +	50 - 100	10 - 20	40% - 80%

(A) Hyphal diameter of 2.0 indicates mostly actinobacteria hyphae, 2.5 indicates community is mainly ascomycete, typical soil fungi for grasslands, diameters of 3.0 or higher indicate community is dominated by highly beneficial fungi, a Basidiomycete community.

Season, moisture, soil and organic matter must be considered in determining optimal foodweb structure.

If sample information, such as pesticide, fertilizer, tillage, irrigation are not included on the submission form, sender's locale is used.

One report is sent to the mailing address on the submission form.

All submissions receive free 15 minute consultation, call 02 6622 5150

Organism Ratios

Sample #	Unique ID	Total Fungal To Total Bacterial Biomass	Active to Total Fungal Biomass	Active to Total Bacterial Biomass	Active Fungal to Active Bacterial Biomass	Plant Available N Supply from Predators (lbs/acre)	Root-Feeding Nematode Presence
1822	Fire 10/10/02	0.91	0.08	0.08	0.83	< 5	None detected
2895	Fire 23/07/03	4.11	0.04	0.18	0.91	< 20	None detected
3239	Fire 15/10/03	0.61	0.12	0.04	1.85	<25	Spiral
4435	Fire 30/07/04	0.84	0.20	0.15	1.06	100-150	None detected
5805	Fire 18/08/05	4.25	0.066	0.171	1.64	<5	None detected
1823	Animal 10/10/02	0.84	0.14	0.08	1.57	< 30	None detected
2896	Animal 23/07/03	4.15	0.11	0.41	1.06	< 20	None detected
3240	Animal 15/10/03	0.37	0.11	0.04	0.92	<25	None detected
4436	Animal 30/07/04	0.76	0.29	0.15	1.54	300+	None detected
5806	Animal 18/08/05	1.16	0.055	0.061	1.06	<5	None detected
1824	Rest 10/10/02	0.45	0.08	0.05	0.70	< 10	None detected
2897	Rest 23/07/03	5.22	0.03	0.16	0.84	< 20	None detected
3241	Rest 15/10/03	0.24	0.08	0.04	0.52	<25	None detected
4437	Rest 30/07/04	0.65	0.22	0.21	0.68	100-150	None detected
5807	Rest 18/08/05	2.33	0.018	0.061	0.71	<5	None detected
Desired Range		*(1)	*(2)	*(2)	*(3)	*(4)	*(5)

- (1) Brassica: 0.2-0.5; Row crops: 0.6 to 1.2; Early successional grass: 0.5-0.75; Late successional grass: 0.8 to 1.5; Berries, shrubs, vines: 2-5; Deciduous Trees: 5-10; Conifer: 10-100.
- (2) Warm spring, early summer: 0.25 to 0.95; Early spring, late winter & mid-summer: 0.10 to 0.15; Fall rain: 0.15 to 0.20; Drought/frozen soil/heavy metal/many pesticides: 0.05 or lower. Values greater than indicated mean the organisms are recovering from a negative impact. Values lower mean organisms are not recovering and help is needed, typically addition of their food resource is required.
- (3) Generally 1:1 results in good soil aggregate structure in crop soil; 2 to 5 for deciduous trees; 5 for conifers. Values above 1:1 mean soil pH may be decreasing, values less than 1:1 means pH increasing. Anaerobic conditions generally will result in extremely low soil pH.
- (4) Based on release of N from protozoan and nematode consumption of bacteria and fungi (see Ingham et al. 1985). Often protozoa and nematodes compete for food resources. When one is high, the other may be low. Also, if predator numbers are high, the prey may have low numbers.
- (5) Identification to genus.

