

Table S2. Soil chemical species concentrations in the O- and A-horizon composite samples

Site	NO ₃ -N	TN	P	Fe	Ca	TC	OC	IC
1	7.5	0.63	8	68.5	11240	7.36	5.72	1.63
2	2.0	0.93	4	7.6	14900	12.71	8.155	4.56
3	2.0	0.70	3	19.7	12160	10.99	5.87	5.11
4	4.0	0.41	40	30.0	7260	4.42	4.21	0.21
5	1.5	0.42	104	96.0	6340	4.42	4.42	0.00
6	0.5	0.11	17	20.7	4660	1.42	1.15	0.28
7	1.0	0.27	73	110.0	6460	2.95	2.43	0.52
8	4.5	0.71	4	11.6	10740	9.92	6.53	3.39
9	2.5	1.11	7	68.5	6000	15.89	9.88	6.01
10	2.0	0.59	6	59.0	6480	6.38	6.38	0.00
11	14.5	1.19	7	60.5	60.5	12.42	12.36	0.06
12	1.0	0.31	7	10.6	6220	3.05	3.05	0.00
13	5.5	0.27	71	90.5	7500	3.49	2.41	1.08
14	1.0	0.29	98	53.5	6760	3.10	2.80	0.30
15	3.0	0.36	112	46.0	6180	4.22	4.13	0.09
16	10.5	0.30	16	78.0	5680	3.36	2.97	0.39
17	8.5	0.64	4	16.8	5220	7.68	6.20	1.48
18	12.5	1.62	5	21.6	10400	18.73	14.66	4.07
19	0.5	0.215	2	27.5	10060	5.62	1.765	3.85
20	2.0	0.76	3	61.5	10640	14.06	6.96	7.10
21	9.0	0.30	73	18.9	8900	3.46	3.04	0.42
22	0.5	0.02	3	4.5	3700	1.16	0.11	1.05

NO₃-N, P, Fe, and Ca represent nitrate-nitrogen, phosphorus, iron, and calcium (mg kg⁻¹). TN, TC, OC, and IC represent total nitrogen, total carbon, organic carbon, and inorganic carbon (%).

Table S2 (continued)

Site	NO ₃ -N	TN	P	Fe	Ca	TC	OC	IC
23	1.0	0.36	104	63.5	9800	5.12	3.66	1.46
24	0.5	0.11	76	43.0	8120	3.42	1.24	2.18
25	12.0	1.66	110	72.5	8300	17.15	17.10	0.05
26	21.0	1.36	8	74.0	11220	13.97	12.26	1.71
27	2.0	0.14	2	16.6	9800	5.51	0.94	4.57
28	10.5	0.83	4	17.1	12280	10.95	7.21	3.74
29	3.5	0.58	12	72.0	7700	6.05	6.05	0.00
30	8.0	2.05	7	113.5	10820	24.82	18.88	5.94
31	26.5	1.08	54	103.5	11060	12.51	10.80	1.71
32	1.0	0.11	83	55.0	4760	1.30	1.06	0.24
33	0.5	0.03	9	17.9	2940	0.28	0.23	0.05
34	0.5	0.31	113	53.0	9760	5.72	3.37	2.35
35	6.5	0.39	112	49.5	8080	5.78	3.47	2.32
36	7.5	0.62	104	45.0	3700	5.33	5.28	0.06
37	22.0	0.58	15	21.4	10680	8.10	5.17	2.93
38	4.0	0.32	3	19.0	9220	4.24	2.51	1.74
39	2.5	0.25	10	38.5	6140	2.67	2.67	0.00
40	24.0	1.56	8	98.5	11860	18.65	14.65	4.00
41	1.5	0.30	5	13.9	6260	3.15	3.15	0.00
42	0.5	0.21	93	26.5	6920	2.75	2.54	0.21
43	2.0	0.26	89	70.0	8640	4.79	2.11	2.68
44	5.0	0.19	37	20.1	10440	4.01	1.55	2.46

NO₃-N, P, Fe, and Ca represent nitrate-nitrogen, phosphorus, iron, and calcium (mg kg⁻¹). TN, TC, OC, and IC represent total nitrogen, total carbon, organic carbon, and inorganic carbon (%).

Table S2 (continued)

Site	NO ₃ -N	TN	P	Fe	Ca	TC	OC	IC
45	0.5	0.16	56	32.5	10440	2.61	1.10	1.51
46	6.0	0.43	111	77.0	6580	4.56	4.49	0.07
47	4.0	0.65	5	9.8	11640	9.89	7.06	2.82
48	7.5	0.40	3	18.4	6880	4.64	3.26	1.38
49	1.0	0.26	4	22.1	5560	2.67	2.67	0.00
50	1.0	0.16	8	17.9	4620	1.68	1.68	0.00
51	1.5	0.235	4	48.0	4820	2.385	2.385	0.00
52	1.5	0.37	112	47.0	5520	3.65	3.44	0.21
53	0.5	0.15	98	86.0	4280	1.51	1.36	0.15
54	0.5	0.43	121	60.0	6440	4.87	3.97	0.89
55	2.5	0.29	105	72.0	5380	2.91	2.75	0.17
56	13.0	0.71	7	41.5	10600	9.72	6.89	2.83
57	6.5	0.89	5	14.3	11680	10.64	7.90	2.74
58	7.5	0.48	8	39.5	9300	5.02	4.39	0.63
59	1.0	0.24	8	53.5	4940	2.49	2.49	0.00
60	1.0	0.28	12	38.5	5280	2.86	2.86	0.00
61	2.5	0.08	5	8.0	5200	1.36	0.77	0.59
62	4.0	0.21	66	49.5	6120	2.01	2.01	0.00
63	7.5	0.74	4	42.5	11060	10.21	6.83	3.38

NO₃-N, P, Fe, and Ca represent nitrate-nitrogen, phosphorus, iron, and calcium (mg kg⁻¹). TN, TC, OC, and IC represent total nitrogen, total carbon, organic carbon, and inorganic carbon (%).