

Table 7. The mean and standard deviations of selected physical properties, total basic and acidic cations, total N, P, C and C:N ratios and the anaerobic N mineralisation index for the soil of the Brooklands grassland and the 2, 8 and 13 year old *E. grandis* plantations, during winter and summer.

			Brooklands Grassland				2 year old <i>E. grandis</i> plantation				8 year old <i>E. grandis</i> plantation				13 year old <i>E. grandis</i> plantation			
			Winter		Summer		Winter		Summer		Winter		Summer		Winter		Summer	
		Units	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Clay	soil	%	32.15	1.00			40.75	0.64			47.21	1.95			34.24	0.61		
Silt	soil	%	45.81	1.47			39.02	3.16			42.04	2.97			37.78	4.25		
Sand	soil	%	22.05	1.42			20.24	0.98			10.75	2.94			27.98	4.09		
Water content	soil	%	12.18	2.86	27.47	7.31	8.19	2.33	13.61	3.55	12.41	4.67	13.32	2.51	4.85	4.01	7.95	5.13
Soil pH	soil		5.59	0.14	5.49	0.13	5.20	0.09	5.28	0.10	4.71	0.06	4.89	0.05	4.72	0.14	4.63	0.11
BASIC CATIONS																		
Na ⁺	soil total	mg kg ⁻¹	238	81	140	15	194	25	251	84	371	272	186	31	183	68	242	79
Na ⁺	soil exch	mg kg ⁻¹	28	10	28	7	32	10	35	8	34	1	33	10	37	5	38	4
Mg ²⁺	soil total	mg kg ⁻¹	1138	534	1067	180	1249	210	1775	98	3602	4406	1678	177	1303	292	1580	31
Mg ²⁺	soil exch	mg kg ⁻¹	117	18	96	12	143	33	162	18	86	14	83	17	193	41	168	14
K ⁺	soil total	mg kg ⁻¹	2627	365	4306	364	3306	409	4970	210	2499	159	4549	2687	2916	738	3689	742
K ⁺	soil exch	mg kg ⁻¹	125	12	79	11	96	53	106	19	46	8	39	15	58	6	61	8
Ca ²⁺	soil total	mg kg ⁻¹	424	13	403	72	683	353	1006	262	229	34	280	71	533	303	635	246
Ca ²⁺	soil exch	mg kg ⁻¹	302	22	222	25	313	119	385	173	160	24	145	18	324	39	255	60
Sum of exch Ca ²⁺ , Mg ²⁺ , K ⁺	soil exch	mg kg ⁻¹	545	40	397	41	552	133	653	176	291	39	267	42	575	63	484	52
ACIDIC CATIONS																		
Mn ²⁺	soil total	mg kg ⁻¹	102	30	90	37	157	26	208	5	117	41	121	90	156	50	176	32
Mn ²⁺	soil exch	mg kg ⁻¹	4.10	1.74	2.14	0.36	6.68	0.52	7.54	1.65	3.93	2.47	3.70	3.05	8.36	4.88	5.36	2.36
Fe ³⁺	soil total	mg kg ⁻¹	13767	820	6383	1800	25400	10170	26008	5160	21470	7390	27153	21946	16287	954	19743	14683
Fe ³⁺	soil exch	mg kg ⁻¹	2.99	1.10	2.66	0.35	2.48	0.16	3.29	1.12	3.14	0.56	2.62	0.22	3.69	1.00	3.73	1.40
Al ³⁺	soil total	mg kg ⁻¹	25360	3485	19987	10913	39647	16735	52200	1400	42840	14980	66920	43640	27867	4774	42683	19043
Al ³⁺	soil exch	mg kg ⁻¹	89	13	157	30	178	24	142	56	513	9	513	33	291	115	382	185
Exchangeable acidity	soil exch	cmol(+)/kg ⁻¹	0.38	0.03	0.69	0.10	0.89	0.10	0.68	0.24	2.14	0.05	2.03	0.11	1.28	0.40	1.62	0.60
Aluminium saturation	soil exch	%	17.53	6.46	39.06	3.21	28.65	10.30	27.35	5.60	66.67	2.28	75.65	1.12	40.19	16.49	55.16	10.12
Ca:Al ratio	soil exch		3.4	1.6	1.4	0.8	1.8	5.0	2.7	3.1	0.3	2.6	0.3	0.5	1.1	0.3	0.7	0.3
TOTAL N, P, C																		
N	soil total	%	0.37	0.02	0.07	0.03	0.08	0.08	0.08	0.04	0.03	0.03	0.10	0.04	0.63	0.06	0.14	0.04
P	soil total	%	0.01	0.00	0.02	0.01	0.03	0.01	0.02	0.01	0.02	0.01	0.04	0.01	0.02	0.02	0.02	0.01
C	soil total	%	1.73	0.15	1.11	0.08	1.74	0.17	1.57	0.31	1.84	0.29	1.49	0.21	2.24	0.25	1.89	0.32
C:N ratio	soil total		56	24	20	13	17	9	22	9	43	23	15	4	25	9	14	2
Anaerobic N min index	soil	(µg N g ⁻¹ dry soil day ⁻¹)	4.67	6.04	6.71	5.76	10.61	3.90	1.83	4.43	17.22	8.23	17.25	9.70	5.81	5.58	1.94	4.49