Supplementary Materials

Table S1. Conditions used for atomic absorption

Cations	Wavelength (nm)	Concentration range (mg/L)	Salt used	Suppliers
Na	330.2	2 - 2000	NaCl (99 - 100.5%)	Sigma-Aldrich
K	769.9	0.05 - 3.8	KCl (99 - 100.5%)	Riedel-dehaën-Sigma Aldrich
K	404.4	7 - 200	KCl (99 - 100.5%)	Riedel-dehaën-Sigma Aldrich
Mg	285.2	0.5 - 4	$MgCl_2.6H_2O$ (99 - 101%)	Sigma-Aldrich Laborchemikalien GmbH
Ca	422.7	0.1 - 4.5	$CaCl_2$ (95%)	Scharlan Chimie S. A.
Cu	324.8	0.1 - 4	$CuCl_2.2H_2O$	DAEJUNG reagents chemicals
Fe	248.3	0.3 - 5	$FeCl_3$ (99%)	BDH Laboratory supplier
Ni	232	0.2 - 1.5	$(CH_3COO)_2Ni.4H_2O$ (98%)	BDH Laboratory supplier
Cr	357.9	0.1 - 4.1	$CrCl_3.6H_2O$ (93%)	BDH Laboratory supplier
Zn	213.9	0.06 - 0.2	$(CH_3COO)_2Zn.2H_2O$ (99%)	Riedel-dehaën Sigma Aldrich
Pb	217	0.34 - 6.9	$(CH_3COO)_2Pb.3H_2O$ (99.5%)	E. Merch, Germany
Cd	228.8	0.26 - 2	$Cd(NO_3)_2.4H_2O$ (99%)	BDH Laboratory supplier

DOI: https://doi.org/10.37256/acbr.2220232451

Table S2. Electrical conductivity of lake deposits in western highlands agro-ecological area, Cameroon

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Bamenda	Black	Sample 1	Average	0.0000215	11.71	41.2666667	64.6333333	79.4333333	85.4666667	99.9	106.233333						
			Std. Dev.	5.1962E-07	0.1014 8892	0.2886 7513	0.1154 7005	0.5507 5705	0.7571 8778	4.6808 119	1.2858 201						
		Sample 2	Average	0.0000215	8.7866 6667	34.066 6667	44.133 3333	68.466 6667	80.766 6667	87.7	98.666 6667	101.63 3333	100.43 3333				
			Std. Dev.	5.1962E-07	0.0568 6241	0.2516 6115	0.2309 4011	0.6110 1009	1.1015 1411	1.3076 6968	1.4047 5383	0.2516 6115	0.3055 0505				
		Sample 3	Average	0.0000215	11.41	41.166 6667	55.866 6667	78.666 6667	91.266 6667	100.1	105.4						
			Std. Dev.	5.1962E-07	0.07	0.2516 6115	0.5507 5705	0.5507 5705	1.0016 5705	1.0440 6667	0.6244 998						
		Sample 4	Average	0.0000215	9.7533 3333	38.033 3333	58.8	72.9	87.2	98	103.6						
			Std. Dev.	5.1962E-07	0.0929 1573	0.6027 7138	0.3464 1016	0.7	0.2645 7513	0.6928 2032	0.2645 7513						
Bafoussam	Black	Sample 1	Average	0.0000215	12.97	48.566 6667	73.633 3333	87.966 6667	97.133 3333	111.13 3333	116.13 3333						
			Std. Dev.	5.1962E-07	0.1044 0307	0.3055 0505	0.8326 664	1.0785 7931	3.0005 555	4.5368 8586	1.2662 2799						
		Sample 2	Average	0.0000215	9.9066 6667	39.8	61.333 3333	78	93.066 6667	103.13 3333	111.73 3333	118.7	123.53 3333				
			Std. Dev.	5.1962E-07	0.0680 6859	0.3	0.4509 2498	0.8717 7979	1.1590 2258	1.5567 0592	0.6658 3281	2.6962 9375	1.4011 8997				
		Sample 3	Average	0.0000215	9.0566 6667	34.966 6667	53.733 3333	66.966 6667	83.2	95.2	108.76 6667	111.26 6667					
			Std. Dev.	5.1962E-07	0.1040 833	0.1527 5252	0.5507 5705	0.1527 5252	2.3811 7618	0.3605 5513	1.3868 6262	0.7637 6262					
		Sample 4	Average	0.0000215	10.563 333	40.566 6667	62.2	81.833 3333	93.866 6667	104.93 3333	101.53 3333						
			Std. Dev.	5.1962E-07	0.1101 5141	0.2516 6115	0.4	0.9291 5732	1.0016 6528	1.2013 8809	0.4725 8156						
		Sample 5	Average	0.0000215	9.7433 3333	37.566 6667	58.166 6667	73.466 6667	78.133 3333	89.266 6667	106.46 6667	114.63 3333					
			Std. Dev.	5.1962E-07	0.1078 5793	0.1527 5252	0.2516 6115	0.3214 5503	0.7234 1781	0.7637 6262	0.4163 332	0.4041 4519					
		Sample 6	Average	0.0000215	9.06	35.566 6667	54.466 6667	69.233 3333	83.133 3333	89.8	102.6	107.93 3333					
			Std. Dev.	5.1962E-07	0.1997 4984	0.9073 7717	0.8020 6667	0.5686 2407	1.0503 9675	3.1240 9987	1.1789 8261	0.8020 8063					
		Sample 7	Average	0.0000215	11.106 6667	40.7	62.466 6667	79.6	91.233 3333	102.26 6667	105.66 6667						
			Std. Dev.	5.1962E-07	0.1001 6653	0.3	0.4163 332	0.7211 1026	0.5131 6014	1.8770 5443	1.3051 1813						
Mbouda	Black	Sample 1	Average	0.0000215	11.473 3333	41.633 332	64.033 3333	80	92.1	101.56 6667	106.8						
			Std. Dev.	5.1962E-07	0.1305 1181	0.4163 332	0.3511 8846	0.5291 5026	0.8544 0037	0.6110 1009	0.1						
		Sample 2	Average	0.0000215	10.15	38.366 6667	60.1	76.7	90.566 6667	100.5	108.8						
			Std. Dev.	5.1962E-07	0.3304 5423	0.1527 5252	1.1	0.4582 5757	0.5131 6014	0.8888 1944	0.4582 5757						

Table S3. Electrical conductivity of lake deposits in humid forests agro-ecological area, Cameroon

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Yaoundé	Black	Sample 1	Average	0.0000 215	9.0833 3333	36.566 66667	56.266 66667	73.8	88.233 3333	93.833 3333	110.2	115.93 3333	115.6				
			Std. Dev.	5.1962 E-07	0.0321 455	0.4725 8156	0.1527 5252	0.3605 5513	0.9814 9546	0.1527 5252	2.4433 5834	0.4509 2498	0.7211 1026				
		Sample 2	Average	0.0000 215	9.9766 6667	36.166 6667	56.166 6667	71.666 6667	84.266 6667	89.566 6667	97.233 3333	100.67 8357					
			Std. Dev.	5.1962 E-07	0.1755 9423	0.3511 8846	0.2516 6115	0.7571 8778	0.7023 7692	0.6658 3281	0.4725 8156	0.3787 5244					
	White	Sample 3	Average	0.0000 215	13.343 3333	49.466 6667	73.766 6667	88.733 6667	100.33 3333	105.26 3333	109.76 6667	112.1					
			Std. Dev.	5.1962 E-07	0.1484 3692	0.2886 7513	0.4041 4519	0.7023 7692	1.1150 4858	1.0692 6766	0.4509 2498	0.7937 2539					
		Sample 4	Average	0.0000 215	14.03	49.833 3333	75.633 3333	95.966 6667	108.43 3333	116.56 6667	121.36 6667	125.5					
			Std. Dev.	5.1962 E-07	0.05	0.2886 7513	0.9073 7717	0.8020 8063	0.1527 5252	0.1527 5252	0.9504 385	0.6					
Douala	Black	Sample 1	Average	0.0000 215	8.2733 3333	32.633 3333	51.366 6667	66.966 6667	79.566 6667	88.533 3333	99.033 3333	106.26 6667	108.43 3333				
			Std. Dev.	5.1962 E-07	0.0450 925	0.2081 666	0.4041 4519	0.4932 8829	0.5507 5705	1.4011 8997	0.8144 5278	0.4618 8022	0.5507 5705				
	White	Sample 2	Average	0.0000 215	13.39	49.533 3333	73.066 3333	89.2	100.96 6667	100.8	107.76 6667	108.26 6667					
			Std. Dev.	5.1962 E-07	0.03	0.3785 9389	0.1154 7005	0.3605 5513	2.5146 239	1.6703 2931	0.5507 5705	0.6658 3281					
		Sample 3	Average	0.0000 215	13.603 3333	49.533 3333	73.266 6667	91.8	103.36 6667	107.3	111.56 6667	115.63 3333					
			Std. Dev.	5.1962 E-07	0.0378 5939	0.6658 3281	0.4932 8829	0.3	0.5773 5027	0.1	1.5885 0034	2.5794 0562					

Table S4. Electrical conductivity of lake deposits in Soudano-Sahelian agro-ecological area, Cameroon

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Garoua	Black	Sample 1	Average	0.0000215	14.0133333	51.8333333	76.06666667	95	104.5	113.833333	116.1	118.2					
			Std. Dev.	5.1962E-07	0.07234178	0.40414519	0.32145503	0.34641016	0.7	1.85562209	0.45825757	0.5					
		Sample 2	Average	0.0000215	13.5033333	49.3666667	66.9333333	86.9333333	97.6	105.363333	105.366667	105.933333					
			Std. Dev.	5.1962E-07	0.17672955	0.25166115	0.70237692	2.97377426	0.43588989	3.70045042	0.70237692	0.61101009					
Pitoa	White	Sample 1	Average	0.0000215	14.1666667	52	75.9333333	92.6666667	105.266667	112.333333	115.366667	117.133333					
			Std. Dev.	5.1962E-07	0.05686241	0.3	1.27410099	0.15275252	1.51437556	2.76103845	1.48436294	0.83864971					

Table S5. Electrical conductivity of lake deposits in derived savannah agro-ecological area, Nigeria

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Abuja	Black	Sample 1	Average	0.0000215	6.63	26.2333333	40.5333333	52.3333333	62.0333333	67	71						
			Std. Dev.	5.1962E-07	0.08	0.20816666	0.15275252	1.0408 33	0.50332333	0.8	0.1						
		Sample 2	Average	0.0000215	12.76	48.7	74.8	94.5	109.4	119.933333	127.5						
			Std. Dev.	5.1962E-07	0.09539392	0.43588989	0.45825757	0.36055513	0.55677644	0.90737717	2.22710575						
	White	Sample 3	Average	0.0000215	12.79	46.7	74.8	95.1333333	111.366667	121.833333	128.5						
			Std. Dev.	5.1962E-07	0.08185353	0.51961524	0.55677644	0.41633332	0.15275252	2.12210587	0.96436508						
		Sample 4	Average	0.0000215	12.74	49.9333333	75.8333333	94.7333333	112.4	123.6	126.1						
			Std. Dev.	5.1962E-07	0.09539392	0.92915732	0.30550505	0.46188022	0.9539392	2.68514432	0.9539392						

Table S6. Electrical conductivity of evaporites of plant-based ash filtrates in Soudano-Sahelian agro-ecological area, Cameroon

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Garoua & Pitoa	Black	Sample 1	Average	0.000 0215	13.09 33333	56.33 33333	92.6	122.4 66667	149	170.9 33333	189.1 66667	204.3 33333	218.6 66667	226	230.6 66667		
			Std. Dev.	5.196 E-07	0.035 11885	0.208 1666	0.173 20508	0.450 92498	0.7	1.159 02258	0.602 77138	0.577 35027	2.516 61148	2.645 75131	0.577 35027		
		Sample 2	Average	0.000 0215	13.50 66667	54.6	90	116.2 33333	145.4	167.0 66667	184.1 66667	192.8	200.8 66667	213.3 33333	207.3 33333	239.3 33333	241
			Std. Dev.	5.196 E-07	0.076 37626	0.519 61524	1.126 94277	0.709 45989	0.754 98344	0.923 76043	0.404 14519	0.7	2.759 22694	0.577 35027	1.527 52523	1.527 52523	2
	White	Sample 3	Average	0.000 0215	13.37	56.26 66667	89.56 66667	119.8 66667	156.1 33333	173.0 66667	187.0 66667	198.8 66667	195.7	203			
			Std. Dev.	5.196 E-07	0.165 22712	3.247 04994	0.503 3223	0.416 3332	2.103 1721	1.331 66562	1.266 22799	0.945 16313	1.473 09199	2			
		Sample 4	Average	0.000 0215	13.48 33333	53.66 66667	89.3	118.3 33333	138.4 33333	161.4 33333	174.8 33333	190.5 33333	200.6	210.3 33333	213	217	
			Std. Dev.	5.196 E-07	0.127 4101	0.901 84995	1.3	0.568 62407	1.001 66528	1.006 64459	1.154 70054	0.945 16313	2.622 97541	2.309 40108	1	2.645 75131	

Table S7. Electrical conductivity of plant-based ashes in western highlands agro-ecological area, Cameroon

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Bamenda	White	Sample 1	Average	0.000 0215	12.57	50.53 33333	82.6	110.6	143.4 66667	157.3	175.9 66667	189.8 66667	203	207.3 33333			
			Std. Dev.	5.196 E-07	0.088 88194	0.461 88022	0.721 11026	1.311 4877	0.776 74535	1.757 83958	0.832 6664	2.722 74371	1	2.309 40108			
	Green	Sample 2	Average	0.000 0215	12.82 33333	62.23 33333	83.7	112.6 66667	125.9	145.6	167.6 66667	191.3 33333	199	200.9			
			Std. Dev.	5.196 E-07	0.153 0795	1.115 04858	0.692 82032	0.568 62407	1.385 64065	0.964 36508	1.750 23808	1.530 795	2	2.151 74348			
	Black	Sample 3	Average	0.000 0215	11.85 33333		76.43 33333	98.46 66667		114.9 33333	115.2 33333						
			Std. Dev.	5.196 E-07	0.097 12535		0.850 49005	0.602 77138		1.514 37556	1.050 39675						

Table S8. pH of lake deposits in western highlands agro-ecological area, Cameroon

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Bamenda	Black	Sample 1	Average	6.4	10.54	10.303 3333	10.206 6667	10.153 3333	10.133 3333	10.11	10.063 3333						
			Std. Dev.	0.072 11103	0.01	0.0152 7525	0.0404 1452	0.0208 1666	0.0115 4701	0.01	0.028 86751						
		Sample 2	Average	6.4	10.48	10.04	10.193 3333	10.18	10.103 3333	9.94	9.976 6667	9.9433 3333	10.02				
			Std. Dev.	0.072 11103	0.01	0.01	0.0305 5505	0.052 91503	0.011 54701	0.017 32051	0.025 16611	0.20 81666	0.01				
		Sample 3	Average	6.4	10.253 3333	10.24	10.186 6667	10.06	10.076 6667	9.95	9.96						
			Std. Dev.	0.072 11103	0.064 29101	0.01	0.0152 7525	0.017 32051	0.015 27525	0.026 4571	0.017 32051						
		Sample 4	Average	6.4	10.266 6667	10.39	10.066 6667	10	10.093 3333	10.05	10.043 3333						
			Std. Dev.	0.072 11103	0.055 07571	0.017 32051	0.0057 735	0.036 05551	0.005 7735	0.036 05551	0.015 27525						
Bafoussam	Black	Sample 1	Average	6.4	10.53	10.283 3333	10.103 3333	10.11 3333	10.11 6667	10.07 6667	10						
			Std. Dev.	0.072 11103	0.01	0.020 81666	0.011 54701	0.015 27525	0.005 7735	0.023 09401	0.026 45751						
		Sample 2	Average	6.4	10.41 66667	10.28 66667	10.23 66667	10.09 66667	10.08 3333	9.96	9.993 3333	9.543 3333	9.583 3333				
			Std. Dev.	0.072 11103	0.032 1455	0.015 27525	0.015 27525	0.015 27525	0.015 27525	0.017 32051	0.023 09401	0.047 25816	0.015 27525				
		Sample 3	Average	6.4	10.69	10.52 6667	10.38 3333	10.33	10.23 66667	10.12 33333	10.08 33333	10.02 33333					
			Std. Dev.	0.072 11103	0.01	0.005 7735	0.015 27525	0.02	0.015 27525	0.005 7735	0.020 81666	0.015 27525					
		Sample 4	Average	6.4	10.61 33333	10.36	10.27	10.18 66667	10.08 66667	10.06 66667	10.09 66667						
			Std. Dev.	0.072 11103	0.011 54701	0.05	0.01	0.030 5505	0.015 27525	0.011 54701	0.015 27525						
		Sample 5	Average	6.4	10.47	10.00 6667	10.17 6667	10.13	10.11 6667	10.16	9.973 33333	9.95					
			Std. Dev.	0.072 11103	0.026 45751	0.035 11885	0.032 1455	0.01	0.005 7735	0.017 32051	0.011 54701	0.01					
		Sample 6	Average	6.4	10.66 6667	10.40 3333	10.31 3333	10.20 3333	10.16 6667	10.13 6667	10.07 3333	10.07 6667					
			Std. Dev.	0.072 11103	0.025 16611	0.020 81666	0.020 81666	0.005 7735	0.005 7735	0.005 7735	0.011 54701	0.015 27525					
		Sample 7	Average	6.4	10.47	10.24 66667	10.21 3333	10.06 3333	10.06 3333	10.02	10.07 6667						
			Std. Dev.	0.072 11103	0.01	0.015 27525	0.015 27525	0.050 33223	0.015 27525	0.02	0.005 7735						
Mbouda	Black	Sample 1	Average	6.4	10.35 66667	10.26 3333	10.10 3333	10.07 3333	10.01 66667	10.06	10.00 66667						
			Std. Dev.	0.072 11103	0.023 09401	0.005 7735	0.005 7735	0.011 54701	0.005 7735	0.02	0.011 54701						
		Sample 2	Average	6.4	10.56 33333	10.34 66667	10.22 66667	10.15 33333	10.11 33333	10.07 66667	10.05 33333						
			Std. Dev.	0.072 11103	0.005 7735	0.0351 1885	0.0152 7525	0.005 7735	0.020 81666	0.005 7735	0.015 27525						

Table S9. pH of lake deposits in humid forests agro-ecological area, Cameroon

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Yaoundé	Black	Sample 1	Average	6.4	10.51	10.373 3333	10.106 6667	10.153 3333	10.116 6667	10.113 3333	9.97	10.006 6667	10.04				
			Std. Dev.	0.072 11103	0.01	0.0152 7525	0.0404 1452	0.037 85939	0.015 27525	0.011 54701	0.01	0.011 54701	0.02				
		Sample 2	Average	6.4	10.53 6667	10.26	10.176 6667	10.113 3333	10.093 3333	10.093 3333	10.043 3333						
			Std. Dev.	0.072 11103	0.005 7735	0.05	0.0115 4701	0.015 27525	0.011 54701	0.011 54701	0.025 16611						
	White	Sample 3	Average	6.4	10.446 6667	10.203 3333	10.123 3333	10.06	9.9566 6667	10.08	10.163 3333	9.89					
			Std. Dev.	0.072 11103	0.005 7735	0.0251 6611	0.005 7735	0.017 7692	0.035 11885	0.01	0.015 27525	0.026 45751					
		Sample 4	Average	6.4	10.183 3333	10.18	10.16	10.09	9.88	10.016 6667	9.846 66667	9.89					
			Std. Dev.	0.072 11103	0.005 7735	0.01	0.04	0.01	0.03	0.005 7735	0.115 90226	0.01					
Douala	Black	Sample 1	Average	6.4	10.44	10.36	10.186 6667	9.983 33333	10.17 33333	10.196 6667	10.08	10.16 3333	10.076 6667				
			Std. Dev.	0.072 11103	0.026 45751	0.01	0.0351 1885	0.011 54701	0.005 7735	0.020 81666	0.01	0.015 27525	0.005 7735				
	White	Sample 2	Average	6.4	10.44	10.233 3333	10.09	10.053 3333	10.023 3333	10.053 3333	10.106 6667	10.24					
			Std. Dev.	0.072 11103	0.05	0.005 7735	0.0173 2051	0.011 54701	0.020 81666	0.030 5505	0.020 81666	0.078 1025					
		Sample 3	Average	6.4	10.623 3333	10.283 3333	10.163 3333	10.15	9.9	10.096 6667	10.13	10.28					
			Std. Dev.	0.072 11103	0.025 16611	0.0208 1666	0.0152 7525	0.01	0.01	0.020 81666	0.01	0.026 45751					

Table S10. pH of lake deposits in Soudano-Sahelian agro-ecological area, Cameroon

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Garoua	White	Sample 1	Average	6.4	10373 3333	10.246 6667	10.136 6667	10.01	10.046 6667	9.83	10.186 6667	10.266 6667					
			Std. Dev.	0.072 11103	0.020 81666	0.005 7735	0.005 7735	0.017 32051	0.015 27525	0.026 45751	0.015 27525	0.011 54701					
		Sample 2	Average	6.4	10.463 3333	10.28	10.233 3333	10.09	10.03	10.12	10.236 6667	10.263 3333					
			Std. Dev.	0.072 11103	0.050 3323	0.0173 2051	0.0208 1666	0.01	0.02	0.01	0.023 09401	0.005 7735					
Pitoa	White	Sample 1	Average	6.4	10.416 6667	10.29	10.176 6667	10.07	10.103 3333	10.063 3333	10.18	10.296 6667					
			Std. Dev.	0.072 11103	0.005 7735	0.01	0.005 7735	0.01	0.020 81666	0.035 11885	0.01	0.005 7735					

Table S11. pH of lake deposits in derived savannah agro-ecological area, Nigeria

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Abuja	Black	Sample 1	Average	6.4	10.51	10.393 3333	10.26	10.223 3333	10.223 3333	10.21	10.203 3333						
			Std. Dev.	0.072 11103	0.02	0.0288 6751	0.02	0.015 27525	0.011 54701	0.01	0.011 54701						
	White	Sample 2	Average	6.4	10.65	10.606 6667	10.536 6667	10.52	10.516 6667	10.473 3333	10.326 6667						
			Std. Dev.	0.072 11103	0.045 82576	0.0152 7525	0.0115 4701	0.02	0.005 7735	0.011 54701	0.040 41452						
		Sample 3	Average	6.4	10.776 6667	10.753 3333	10.666 6667	10.61	10.49	10.54	10.343 66667						
			Std. Dev.	0.072 11103	0.011 54701	0.005 7735	0.005 7735	0.01	0.017 32051	0.02	0.005 7735						
		Sample 4	Average	6.4	10.86	10.776 6667	10.65	10.523 3333	10.47	10.41	10.30 6667						
			Std. Dev.	0.072 11103	0.026 45751	0.0152 7525	0.01	0.020 8166	0.01	0.026 45751	0.030 5505						

Table S12. pH of evaporites of plant-based ash filtrates in Soudano-Sahelian agro-ecological area, Cameroon

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Garoua & Pitoa	Black	Sample 1	Average	6.4	11.05	10.92	10.863 3333	10.983 3333	10.956 6667	11.023 3333	11.15	11.08	11.116 6667	11.13 33333	11.16		
			Std. Dev.	0.072 11103	0.017 32051	0.04	0.0152 7525	0.030 5505	0.050 33223	0.047 25816	0.01	0.01	0.015 27525	0.023 09401	0.01		
		Sample 2	Average	6.4	10.853 3333	10.973 3333	10.96	10.94	10.91 3333	11.05	11.02 3333	11.03	11.02	11.02 6667	10.803 3333	10.726 6667	10.936 6667
			Std. Dev.	0.072 11103	0.015 27525	0.0288 6751	0.04	0.017 32051	0.020 81666	0.026 45751	0.040 41452	0.043 58899	0.02	0.025 1611	0.015 27525	0.097 12535	0.005 7735
	White	Sample 3	Average	6.4	10.85 33333	11.016 6667	11	10.95 33333	11.03 66667	11.10 66667	11.16 33333	11.16 33333	11.09 33333	11.09 66667			
			Std. Dev.	0.072 11103	0.028 86751	0.0208 1666	0.0435 8899	0.015 27525	0.011 54701	0.015 27525	0.005 7735	0.005 7735	0.015 27525	0.015 27525			
		Sample 4	Average	6.4	10.74 66667	10.716 66667	10.716 66667	10.85 33333	10.88 66667	10.93 6667	10.74	10.81 66667	10.80 66667	10.82 66667	10.88 66667	10.91	
			Std. Dev.	0.072 11103	0.015 27525	0.0057 735	0.0208 1666	0.037 85939	0.025 16611	0.015 27525	0.02	0.015 27525	0.011 54701	0.025 1611	0.011 54701	0.017 32051	

Table S13. pH of plant-based ashes in western highlands agro-ecological area, Cameroon

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Bamenda	White	Sample 1	Average	6.4	11.32 3333	11.616 6667	11.713 3333	11.77	11.74	11.68	11.84	11.87	11.85 6667	11.77			
			Std. Dev.	0.072 11103	0.011 54701	0.0321 455	0.0461 8802	0.017 32051	0.02	0.03	0.03	0.036 05551	0.011 54701	0.036 05551			
	Green	Sample 2	Average	6.4	12.69 66667	13.55 66667	13.773 3333	13.96	13.95 66667	14.11	14.23 3333	14.40 66667	14.45	14.22 33333			
			Std. Dev.	0.072 11103	0.020 81666	0.0230 9401	0.0115 4701	0.026 45751	0.102 14369	0.036 05551	0.005 41452	0.015 7735	0.01	0.035 1185			
	Black	Sample 3	Average	6.4	12.28		13.256 6667	13.58		13.86 33333	13.95 33333						
			Std. Dev.	0.072 11103	0.01		0.0230 9401	0.055 67764		0.070 94599	0.020 81666						

Table S14. Turbidity of Lake deposits in western highlands agro-ecological area, Cameroon

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Bamenda	Black	Sample 1	Average	0.59	35.533 3333		185.33 3333	272	380.33 3333	479.33 3333	496.66 6667						
			Std. Dev.		3.2395 4729		13.485 795	1	1.154 0054	1.154 0054	0.5773 5027						
		Sample 2	Average	0.59	105		149.5		200		222.33 3333	232.75	130.33 3333				
			Std. Dev.		3.6878 1778		8.2401 4563		1		3.2145 5025	8.6554 4145	0.5773 5027				
		Sample 3	Average	0.59	63.366 6667	200.33 333	367.66 6667	350.33 3332	588.5	631.44 4444	612.66 6667						
			Std. Dev.		9.9636 8406	2.8867 5135	3.7859 389	3.7859 389	19.735 7544	23.817 5939	5.6862 407						
		Sample 4	Average	0.59	105	187	278		322	352.66 6667	249.66 6667						
			Std. Dev.		7.1639 7326	1	8.1853 5277		1	0.5773 5027	1.1547 0054						
Bafoussam	Black	Sample 1	Average	0.59	32.855 5556	59.066 6667	94.288 8889	108.33 3333	216.66 6667	225.66 3333	275						
			Std. Dev.		4.3151 2199	2.8005 9517	6.7272 6624	0.5773 5027	3.7859 389	8.3846 9708	16.822 6038						
		Sample 2	Average	0.59	71.033 3333	17.27	43.663 3333		39.466 6667		54.966 6667	68.333 3333	63.333 3333				
			Std. Dev.		1.8339 3929	0.2688 8659	0.6806 8593		0.0577 3503		0.3214 5503	0.2081 666	0.2886 7513				
		Sample 3	Average	0.59	46.383 3333	85.85	80.366 6667	85.233 6667		72.933 3333	127.33 3333	129.88 8889					
			Std. Dev.		1.9620 5674	0.6363 961	2.1079 2157	0.0577 3503		5.7099 3287	0.5163 9778	4.8591 2658					
		Sample 4	Average	0.59	40.566 6667		73.783 3333		121.33 3333	149	127.66 6667						
			Std. Dev.		7.8530 6734		4.0116 9125		1.1547 0054	6.0827 6253	2.3094 0108						
		Sample 5	Average	0.59	60.922 2222	117.66 6667	127.83 3333	162.83 3333	225	222.5		222.66 6667					
			Std. Dev.		3.9002 4928	3.0550 5046	6.8532 2309	6.0470 3784	1	17.717 2233		2.0816 66					
		Sample 6	Average	0.59	50.566 6667		37.8		48.533 3333	35.433 3333		30.333 3333					
			Std. Dev.		3.4428 6702		4.4108 956		1.9347 6958	0.1527 5252		0.7505 5535					
		Sample 7	Average	0.59	62.4	226	268.33 3333	370	557	632.66 6667	619.83 3333						
			Std. Dev.		2.3220 6804	3.6055 5128	1.5275 2523	8.8881 9442	3.6055 5128	18.009 2569	7.2502 8735						
Mbouda	Black	Sample 1	Average	0.59	63.366 6667	182	380.33 3333	582.66 667	592.2	613.25	572.5						
			Std. Dev.		4.4511 2345	8.5440 0375	2.3094 0108	3.0550 5046	10.256 7051	4.9916 5971	15.416 4414						
		Sample 2	Average	0.59	73.066 6667	90.266 6667	83.3	97.333 3333	97.716 6667	109	133						
			Std. Dev.		0.7094 5989	5.6888 7804	1.0583 0052	3.5557 4652	8.8485 9688	1.7320 5081	3.4641 0162						

Table S15. Turbidity of Lake deposits in humid forests agro-ecological area, Cameroon

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Yaoundé	Black	Sample 1	Average	0.59	88.7	63.2	30.2		74.433 3333		68.266 6667	70.666 6667	58.066 6667				
			Std. Dev.		1.0440 3065	0.2645 7513	0.4358 8989		5.7769 6575		0.0577 3503	0.7637 6262	0.4926 1209				
		Sample 2	Average	0.59	81.433 3333	59.333 3333	87.2	102.33 3333	107.66 6667	187	179.33 3333						
			Std. Dev.		0.4932 8829	0.5507 5705	0.7	0.5773 5027	0.5773 5027	2.6457 5131	0.5773 5027						
	White	Sample 3	Average	0.59	10.121 6667	15.75	82.683 3333	83.6	140	121.66 6667	167.16 6667	171.66 6667					
			Std. Dev.		2.6741 6093	5.1618 795	5.9057 3168	7.0125 6016	2.6457 5131	0.5773 5027	5.4191 0202	0.5773 5027					
		Sample 4	Average	0.59	7.57	8.0133 3333	36.516 6667	45.4	59.9	47.866 6667	59.6	54.233 3333					
			Std. Dev.		1.7560 467	0.5401 2344	2.8701 3356	1.1269 4277	3.6403 2966	1.0263 2029	59.6	1.2662 2799					
Douala	Black	Sample 1	Average	0.59	87.616 6667	79.3	40.8		45.9		40.2	44.466 6667	50.166 6667				
			Std. Dev.		1.2155 9313	1.0440 3065	1.6456 0019		0.2645 7513		0.1	0.3785 9383	0.6429 1005				
	White	Sample 2	Average	0.59	10.541 1111	69.233 3333	74.233 3333	83.033 3333	81.2	82.733 3333	84.4	83.833 3333					
			Std. Dev.		1.7133 844	1.1015 1411	0.8082 9038	1.6502 5251	3.7169 8803	3.4961 884	3.9153 5439	5.1231 5007					
		Sample 3	Average	0.59	9.8587 5	30.8	39.166 6667	91.833 3333	90.433 3333	87.1	123.66 6667	125					
			Std. Dev.		0.8141 1543	0.2645 7513	1.7060 676	0.2081 666	0.1527 5252	1.5716 2336	3.0550 5046	1					

Table S16. Turbidity of lake deposits in Soudano-Sahelian agro-ecological area, Cameroon

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Garoua	White	Sample 1	Average	0.59	12.413 3333	25.033 3333	58.75	71.566 6667	52.433 3333	65.6	77.633 3333	80.466 6667					
			Std. Dev.		1.3430 9593	0.3511 8846	7.4066 8617	1.4468 3563	1.9347 6958	3.6510 2725	0.3214 5503	2.4583 1921					
		Sample 2	Average	0.59	11.141 6667	16.48	37.933 3333	55.566 6667	58.3	57.966 6667	51.183 3333	41.733 3333					
			Std. Dev.		2.3162 6783	0.7040 5966	8.2269 4759	0.9712 5349	3.3722 3961	1.2503 3329	2.3827 8548	0.9373 7221					
Pitoa	White	Sample 1	Average	0.59	2.2466 6667	7.9133 3333	16.21	36	25.166 6667	37.766 6667	41.433 3333	25.2	40.066 6667				
			Std. Dev.		0.0450 925	0.3106 9814	0.1493 3185	3.9127 9951	0.2886 7513	0.8020 8063	3.5393 0313	0.6082 7625	0.4041 4519				

Table S17. Turbidity of derived savannah agro-ecological area, Nigeria

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Abuja	Black	Sample 1	Average	0.59	36.766 6667	5.4633 3333	11.066 6667	23.8	7.27	12.073 3333	27.733 3333						
			Std. Dev.		1.9655 364	0.1301 2814	11.066 6667	0.6082 7652	0.8487 6381	0.4052 5712	0.1527 5252						
		Sample 2	Average	0.59	15.541 4286	7.8733 3333	16.363 3333	15.02	14.786 6667	27.733 3333	27.533 3333						
			Std. Dev.		1.4997 7141	0.2281 0816	0.1446 8356	1.1121 6006	0.8134 6993	0.5033 223	0.1154 7005						
	White	Sample 3	Average	0.59	19.693 3333	12.21	56.583 3333	9.1033 3333	36.016 6667	34.1	32.066 6667						
			Std. Dev.		2.1030 6126	2.6286 8789	0.9239 4084	2.2805 3356	4.0975 1957	1.4730 9199	0.2309 4011						
		Sample 4	Average	0.59	16.851 6667	5.46	40.6	12.516 6667	22.623 3333	20.646 6667	21.158 3333						
			Std. Dev.		0.4005 7043	0.1352 7749	0.4	1.6927 0001	4.7087 6912	3.3784 8881	2.4402 8687						

Table S18. Turbidity of lake deposits in Soudano-Sahelian agro-ecological area, Cameroon

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Garoua & Pitoa	Black	Sample 1	Average	0.59	11.81	43.78	16.2	6.24	13.02	26.1	22.966 6667	23.95	20.39	29.466 6667	27.283 3333		
			Std. Dev.		0.4776 6097	7.5090 39	1.7242 7376	1.5972 7894	0.0282 8427	0.1	3.2470 4994	0.6363 961	1.5751 5079	1.3809 4171	2.9795 4135		
		Sample 2	Average	0.59	2.8866 6667	6.5966 6667	3.06		8.6633 3333		4.4433 3333	4.454	5.14	3.98	4.1266 6667	4.35	5.1333 3333
			Std. Dev.		0.2055 075	0.1747 379	0.6880 407		0.0929 1573		0.3729 1643	0.9163 4964	0.0264 5751	0.0360 5551	0.0378 5939	0.0608 2763	0.1530 795
	White	Sample 3	Average	0.59	5.6383 3333	11.64	20.445	13.723 33333	10.206 66667	10.14	8.1983 33333	10.893 33333	9.7				
			Std. Dev.		1.1039 4595	0.4521 0618	0.6774 5849	0.6757 465	0.6957 2504	1.1326 5176	0.8781 8943	0.0416 3332	1.5154 3613				
		Sample 4	Average	0.59	4.1916 6667	3.0383 3333	6.71	11.91	7.8466 6667	7.28	6.4666 6667	8.895	9.0366 6667	9.2466 6667			
			Std. Dev.		1.0975 8675	0.3423 1077	1.7291 1538	0.4881 5981	0.3601 8514	0.5542 5626	1.3379 1878	1.2150 8436	0.8376 9525	0.8008 9533			

Table S19. Turbidity of plant-based ashes in western highlands agro-ecological area, Cameroon

Locality	Colour	Sample		0% (Water)	1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Bamenda	White	Sample 1	Average	0.59	1.0433 3333		0.8166 6667	2.0366 6667	2.7616 6667	2.46	2.7633 3333	2.7433 3333	2.0366 6667				
			Std. Dev.		0.1184 6237		0.0230 9401	0.6123 9965	0.2730 1404	0.2605 7628	0.1342 8825	0.1159 0226	0.1908 7518				
	Green	Sample 2	Average	0.59	6.555	6.02	5.7666 6667	4.6533 3333	5.8466 6667	10.626 6667	27.933 3333	22.043 3333	60.1	112.55			
			Std. Dev.		1.4525 3916	0.3218 6954	1.3109 2842	0.0450 925	0.3208 3225	0.8796 2113	0.0577 3503	3.4969 4629	0.1	1.1547 0054			
	Black	Sample 3	Average	0.59	4.5066 6667		34.316 6667	30.666 6667		7.0866 6667	10.27						
			Std. Dev.		0.4712 0413		1.0816 6538	0.8082 9038		0.0503 3223	0.2981 6103						

Table S20. Solubility of lake deposits in western highlands agro-ecological area, Cameroon

Locality	Colour	Sample		1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Bamenda	Black	Sample 1	Average	0.6171 2701	3.3461 689	6.2511 9445	8.5347 176	9.6083 1229	12.202 8896	12.609 2278						
			Std. Dev.	0.0622 139	0.0624 8215	0.0537 3155	0.1462 1942	0.1145 0358	0.0610 6398	2.5763 4781						
		Sample 2	Average	0.5314 0986	2.6054 8642	4.2198 6631	6.5106 7344	7.9957 8197	8.9107 5688	10.969 692	11.154 3218	10.980 4194				
			Std. Dev.	0.0233 2041	0.0117 2246	0.5991 2562	0.0223 1965	0.1104 0634	0.0161 0954	0.3408 7162	0.1680 1387	0.0352 58				
		Sample 3	Average	0.6929 5077	3.4120 2889	5.7269 6459	8.4253 6399	10.800 0341	12.889 118	13.213 6764						
			Std. Dev.	0.0273 4972	0.0053 7653	0.5484 054	0.0218 5121	0.1002 7936	0.0306 9047	0.0787 7102						
		Sample 4	Average	0.5694 103	2.9865 869	5.0569 0439	6.9131 8898	8.9384 8421	10.566 5945	10.742 9954						
			Std. Dev.	0.0288 1782	0.0308 4971	0.2670 5961	0.0235 969	0.0440 0392	0.0216 7451	0.0791 5704						
Bafoussam	Black	Sample 1	Average	0.8522 5933	4.1254 7991	7.4086 8121	9.1850 7723	12.709 2407	13.780 0727	14.303 8699						
			Std. Dev.	0.0223 9767	0.0023 7761	0.1878 0576	0.0798 3616	0.0673 7843	0.0748 2669	0.7851 2843						
		Sample 2	Average	0.6038 3228	3.1602 8673	5.5260 3019	7.5236 6889	9.2129 1822	11.423 1258	13.120 317	14.011 6021	15.309 4023				
			Std. Dev.	0.0411 6587	0.0195 7766	0.0374 9835	0.0332 6323	0.5669 2261	0.0914 6894	0.0750 0582	0.2080 1228	0.2960 2863				
		Sample 3	Average	0.5031 0164	2.6126 4744	4.4847 7515	5.9664 0099	7.6496 8542	9.2776 777	10.534 9607	11.916 3505					
			Std. Dev.	0.0523 6756	0.0803 4762	0.0729 1549	0.2493 7832	0.0143 349	0.0740 8415	0.1614 6686	0.2492 1076					
		Sample 4	Average	0.6373 0597	3.4125 6157	5.7992 2057	8.1475 3996	10.180 1484	12.106 2217	12.390 1352						
			Std. Dev.	0.0579 9433	0.0362 5814	0.2222 5931	0.0296 671	0.0870 1149	0.2549 1073	1.9872 833						
		Sample 5	Average	0.5850 0622	2.8708 5798	5.1358 9953	7.0235 4815	7.3745 7682	9.1115 5041	12.461 626	12.025 6781					
			Std. Dev.	0.0378 7033	0.0223 4509	0.0874 2815	0.1083 812	0.0539 7462	0.2507 2576	0.0248 0654	0.0360 3029					
		Sample 6	Average	0.5106 9454	2.6212 3566	4.6547 4166	6.5086 3031	8.3700 7279	9.0227 5133	11.722 0297	11.014 4851					
			Std. Dev.	0.0727 2122	0.0614 9968	0.3987 0913	0.0766 5541	0.2352 6515	0.0698 7272	0.0841 7983	0.0905 3378					
		Sample 7	Average	0.7183 3038	3.4418 5506	6.1866 2962	8.5096 153	10.775 0773	12.403 8489	12.633 1301						
			Std. Dev.	0.0413 9879	0.0301 8332	0.1875 6537	0.0157 0444	0.0673 8794	0.0282 5266	1.2755 8424						
Mbouda	Black	Sample 1	Average	0.7001 5766	3.5877 5542	6.2261 2874	8.6339 8643	10.808 7246	12.776 3553	13.922 0295						
			Std. Dev.	0.0382 0335	0.0271 5429	0.0516 594	0.0225 4659	0.1549 7646	0.0135 1786	0.1459 9271						
		Sample 2	Average	0.6025 773	2.9703 7531	5.2202 6823	7.3078 6219	9.2453 9158	10.904 0816	11.940 7114						
			Std. Dev.	0.0195 36	1.2329 2027	0.0340 732	0.0121 1346	0.0699 5822	0.0398 1928	0.3985 7856						

Table S21. Solubility of lake deposits in humid forests agro-ecological area, Cameroon

Locality	Colour	Sample		1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Yaoundé	Black	Sample 1	Average	0.5376159	2.8109 1875	4.8260 9183	6.6657 6882	8.5167 9043	9.2803 2284	11.824 3454	12.684 2585	12.894 7138				
			Std. Dev.	0.0259 1046	0.0105 7717	0.1589 3577	0.0124 5513	0.1085 1191	0.0153 1018	0.1516 5292	0.0613 9146	0.0675 1428				
		Sample 2	Average	0.5814 8811	2.8805 0159	5.1501 1593	7.0905 6744	9.2112 8639	10.438 976	10.241 758						
			Std. Dev.	0.0771 8374	0.0033 4544	0.0573 7599	0.0421 6179	0.0725 3288	0.4269 3123	0.0891 4235						
	White	Sample 3	Average	0.8812 5312	4.3142 2568	7.6225 8667	10.395 6506	13.276 823	14.726 7029	16.090 05	17.220 1994					
			Std. Dev.	0.0237 384	0.0298 4805	0.0629 2449	0.0858 6344	0.1575 8079	0.3255 8163	0.1095 3214	0.0579 9794					
		Sample 4	Average	0.8752 4581		7.7728 4157	10.798 3992	13.174 4758	15.786 4335	17.410 7645	17.707 5692					
			Std. Dev.	0.0307 9523		0.0820 7931	0.0371 37	0.5572 1987	0.0521 061	0.1470 6917	1.0601 7222					
Douala	Black	Sample 1	Average	0.4204 6501	2.3407 154	4.3829 5259	5.9373 6519	7.6071 7833	8.7972 9927	11.060 0619	11.410 8599	11.743 4367				
			Std. Dev.	0.0650 0398	0.1266 4589	0.1535 5343	0.0433 3922	0.0665 2798	0.0254 2879	0.0999 4354	0.0298 2044	0.0213 717				
	White	Sample 2	Average	0.8755 8872	4.4321 8208	7.5595 2056	10.651 2028	13.191 8788	13.283 8441	15.575 4101	15.781 4136					
			Std. Dev.	0.0335 0346	0.0402 8758	0.1489 8014	0.0743 1127	0.0868 2345	0.0237 5722	0.2189 9419	0.1169 9346					
		Sample 3	Average	0.7661 144	4.3472 948	7.4283 1338	10.379 0014	13.079 0568	14.641 8444	15.911 2373	17.468 1781					
			Std. Dev.	0.0736 5936	0.0460 3052	0.1309 163	0.1275 6323	0.0510 1013	0.2168 7403	0.0330 5202	0.1371 3209					

Table S22. Solubility of lake deposits in Soudano-Sahelian agro-ecological area, Cameroon

Locality	Colour	Sample		1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Garoua	White	Sample 1	Average	0.8717 6898	4.5428 0665	7.8802 0617	11.043 2296	13.366 0897	15.662 2229	17.029 9565	18.014 1445					
			Std. Dev.	0.0595 0623	0.0137 3499	0.1122 4265	0.1294 2512	0.1380 6249	0.0649 2257	0.0849 4113	0.0629 8038					
		Sample 2	Average	0.7706 3297	4.4678 3416	7.5949 9503	10.581 0731	13.053 4918	15.225 866	15.634 5678	15.817 6943					
			Std. Dev.	0.0765 0441	0.0655 8239	0.2337 0561	0.0417 4139	0.1843 6575	0.0508 9326	0.2066 7156	0.0864 2373					
	White	Sample 3	Average	0.8564 3932	4.6613 0957	7.7589 3466	10.937 2399	13.748 6244	15.652 5086	16.641 7319	18.117 9867	19.203 106				
			Std. Dev.	0.0419 6179	0.0400 2313	0.0701 1345	0.0610 576	0.0497 5744	0.0396 5512	0.3213 9112	0.1722 2669	0.5077 4716				

Table S23. Solubility of lake deposits in derived savannah agro-ecological area, Nigeria

Locality	Colour	Sample		1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Abuja	Black	Sample 1	Average	0.2300 031	1.8496 1138	2.2776 9024	4.5740 0399	5.6404 4373	6.4526 4064	6.6169 2692						
			Std. Dev.	0.0181 9388	0.3164 3589	0.0608 522	0.0990 744	0.0677 7136	0.0821 8097	0.1643 5594						
		Sample 2	Average	0.8516 8485	4.4384 1821	7.9362 4392	11.024 4011	13.621 2727	16.603 5817	19.121 65						
			Std. Dev.	0.0200 5319	0.0329 5838	0.1500 7181	0.0268 8934	0.3380 0434	0.1397 7809	0.0984 1661						
	White	Sample 3	Average	0.8921 4124	4.6136 3253	7.9185 8406	10.947 2555	14.081 7254	16.587 6698	18.221 6931						
			Std. Dev.	0.0336 8371	0.1358 4762	0.1041 085	0.0314 8372	0.1624 8984	0.0840 6346	0.3601 4679						
		Sample 4	Average	0.8699 4132	4.4931 5625	7.8576 33	10.747 944	13.976 5183	16.211 8152	16.497 5965						
			Std. Dev.	0.0563 2448	0.0214 5122	0.0734 5213	0.0684 917	0.0859 0415	0.4771 2241	0.1272 6586						

Table S24. Insoluble index of evaporites of plant-based ash filtrates in Soudano-Sahelian agro-ecological area, Cameroon

Locality	Colour	Sample		1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Garoua & Pitoa	Black	Sample 1	Average	0.858 83925	4.714 51638	7.884 83657	11.20 25052	14.05 11424	16.46 15173	19.07 06123	21.65 97404	23.53 20984	24.63 27507	26.03 93864		
			Std. Dev.	0.019 44094	0.119 6304	0.180 24255	0.105 55384	0.549 97309	0.170 39007	0.088 64118	0.702 12343	0.274 69887	0.267 57721	0.245 70331		
		Sample 2	Average	0.854 86060	4.366 90410	7.755 66155	10.48 11128	13.63 07552	15.89 54074	18.14 60166	19.64 51995	20.81 22495	22.73 78147	21.87 38420	27.01 28773	27.88 52021
			Std. Dev.	0.037 44830	0.025 07272	0.082 82965	0.101 93464	0.187 13738	0.078 36646	0.189 51873	0.045 70370	0.334 20244	0.219 26063	0.221 28707	0.264 20887	0.213 01624
	White	Sample 3	Average	0.835 15956	4.588 39435	7.932 56036	11.19 93116	13.93 60787	17.09 30077	18.81 82291	20.79 14433	20.86 77938	22.13 11213			
			Std. Dev.	0.044 26917	0.056 31279	0.174 53899	0.085 77353	0.207 19139	0.056 58994	0.422 68403	0.487 91246	0.104 26407	0.154 63850			
		Sample 4	Average	0.836 80741	4.443 98593	7.834 91019	11.05 49879	13.06 471	15.95 22191	16.63 12200	18.80 28805	20.52 18098	21.94 42011	23.00 37821	23.73 11792	
			Std. Dev.	0.077 25782	0.101 9156	0.004 33469	0.208 57146	0.121 19870	0.029 61579	0.176 05089	0.088 26513	0.157 52962	0.117 78194	0.377 09806	0.101 35967	

Table S25. Insoluble index of plant-based ashes in western highlands agro-ecological area, Cameroon

Locality	Colour	Sample		1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Bamenda	White	Sample 1	Average	0.762 38366	3.938 27098	7.062 63043	9.329 09553	12.92 84079	14.54 43589	17.07 81680	18.90 93293	21.06 11942	20.91 66477			
			Std. Dev.	0.043 05692	0.125 37799	0.359 67063	0.039 77160	0.317 88278	0.271 82100	0.347 16934	1.319 75329	1.521 86546	0.271 62416			
	Green	Sample 2	Average	0.681 23091	3.667 07614	6.135 12978	10.07 22507	10.28 46583	12.82 79733	14.14 21216	14.58 83151	14.34 09877	16.11 39389			
			Std. Dev.	0.060 28840	0.051 74325	0.041 44332	0.169 55297	0.467 10436	1.052 36377	0.742 54845	0.748 33740	0.380 28465	0.298 51111			
	Black	Sample 3	Average	0.540 90124		6.446 56651	7.943 31220		9.008 67349	9.139 33244						
			Std. Dev.	0.088 15854		0.187 66009	0.483 11855		0.100 58593	0.087 41429						

Table S26. Insoluble index of lake deposits in western highlands agro-ecological area, Cameroon

Locality	Colour	Sample		1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Bamenda	Black	Sample 1	Average	41.91 40947		23.94 18524	45.24 02	58.56 96	49.79 29696	63.08 66623						
			Std. Dev.	4.120 51378		1.256 58713	2.462 98264	3.129 75468	6.008 10238	2.348 36748						
		Sample 2	Average	53.70 05409	53.15 59072	52.75 83391	52.46 32488	57.69 01586	57.54 76839	58.61 4711	67.21 54228	78.26 77699				
			Std. Dev.	1.378 74079	1.987 34647	3.466 54801	3.132 95764	2.653 78364	1.290 36544	0.394 68251	4.167 08978	4.261 83545				
		Sample 3	Average	26.33 48012	27.54 88998	32.97 91281	41.90 3602	37.73 10119	37.74 65797	40.04 77058						
			Std. Dev.	4.571 6014	3.987 36484	1.235 83683	2.897 34243	0.480 22949	0.056 44112	3.121 6784						
		Sample 4	Average	40.39 34388	47.05 26125	52.39 78916		52.06 26485	56.11 82612	59.21 68806						
			Std. Dev.	5.383 044	3.846 38736	2.792 32978		1.672 98354	0.714 67664	0.569 13182						
Bafoussam	Black	Sample 1	Average	25.88 00837		23.65 00538	24.86 50536	25.70 86888		40.46 11897						
			Std. Dev.	3.218 65114		1.396 07449	2.345 32455	0.382 91081		3.725 35364						
		Sample 2	Average	43.37 11755	36.84 82624	43.69 14698	43.15 74317	55.75 53315	59.05 01875	46.68 42783	51.55 52143	53.46 01708				
			Std. Dev.	3.200 62431	3.746 47364	2.383 46465	3.721 41224	1.369 5402	2.653 43636	3.970 31921	3.634 5356	1.830 06322				
		Sample 3	Average	42.88 52543		51.19 57652	52.91 79838		60.04 37491	58.21 72838	60.09 86442					
			Std. Dev.	0.588 66053		0.741 65532	1.846 34647		2.605 3551	0.769 51044	1.536 3645					
		Sample 4	Average	34.93 23337		39.39 107		40.24 52905	44.03 24366	50.07 82086						
			Std. Dev.	1.463 73546		2.246 43707		2.098 48824	1.744 05413	5.671 76696						
		Sample 5	Average	39.73 37896	43.07 78655	45.03 81778	49.27 05732	48.38 3987	48.95 77675	53.28 14524	53.78 69287					
			Std. Dev.	1.345 34364	3.428 16449	2.276 75814	1.303 86306	2.690 83434	2.387 36545	3.267 1342	2.512 21597					
		Sample 6	Average	46.86 28414		46.59 08006		52.78 76511	50.57 45291	52.53 28596	54.95 35628					
			Std. Dev.	1.575 03468		1.831 36324		2.846 34526	1.987 64427	1.384 74874	3.426 64547					
		Sample 7	Average	25.50 88176	39.20 85632	35.04 73724	39.39 35889	35.73 22114	51.106 2054							
			Std. Dev.	1.996 17593	2.647 36537	0.377 7235	0.987 35465	2.738 46465	3.189 97455							
Mbouda	Black	Sample 1	Average	30.21 42676	33.64 99263	39.21 35799		36.93 57718	45.86 30752	44.25 43381						
			Std. Dev.	5.422 59201	2.690 74756	3.286 9918		4.153 80732	5.761 51567	2.195 80981						
		Sample 2	Average	32.66 36077	40.94 09198	44.25 66159	42.06 55648	45.92 57459	49.25 33622	51.17 08617						
			Std. Dev.	0.867 08632	2.898 63526	0.479 4721	1.863 43738	3.914 10228	2.430 8006	2.0200 7708						

Table S27. Insoluble index of lake deposits in humid forests agro-ecological area, Cameroon

Locality	Colour	Sample		1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Yaoundé	Black	Sample 1	Average	39.69 84285	44.33 77892	48.00 76639	48.90 33332	51.64 52116	54.72 14762	58.175 6775	58.82 59886	58.10 16725				
			Std. Dev.	2.057 52027	3.846 47483	2.758 72732	3.088 98365	3.886 63188	3.908 73254	4.1914 3196	1.652 34026	3.386 75731				
		Sample 2	Average	36.32 88101		44.63 48299	44.91 48083	44.29 51323	49.19 27152	48.982 5413						
			Std. Dev.	2.270 59284		1.298 0746	2.346 57653	3.890 84645	4.583 7123	2.6343 6274						
		Sample 3	Average	11.56 08234	23.17 83419	19.21 13172	19.80 9976	19.33 56402		20.142 5206	26.60 26483					
			Std. Dev.	2.334 55424	3.980 65343	2.909 99241	3.367 46785	2.643 21013		3.0198 3647	2.836 43544					
		Sample 4	Average	12.46 95369	11.96 63974	15.74 89906	12.73 82683	13.56 78808		20.346 0125	24.51 88429					
			Std. Dev.	3.690 75075	2.908 64537	1.004 16784	2.764 53728	3.908 76345		3.0304 7026	4.639 73279					
Douala	Black	Sample 1	Average	49.39 6495	52.90 00538	54.75 22576	51.80 94013	57.56 1021	62.31 41287	62.387 4252	63.44 68725	64.40 04502				
			Std. Dev.	3.639 87977	3.894 87436	1.296 52876	2.890 84646	3.782 44135	3.890 46353	1.3635 5431	2.271 02145	0.730 10284				
	White	Sample 2	Average	13.34 53048		13.35 51938		11.80 08075	18.30 78024	20.438 2994	37.41 19227					
			Std. Dev.	1.104 89654		0.908 67188		1.908 76454	2.134 56754	1.6620 2017	1.040 09638					
		Sample 3	Average	18.06 91685		21.08 71457	21.23 861	28.53 03834		29.912 2851	33.18 6067					
			Std. Dev.	4.671 74857		3.900 69085	3.908 73526	2.907 35343		4.8762 4364	3.543 82636					

Table S28. Insoluble index of lake deposits in Soudano-Sahelian agro-ecological area, Cameroon

Locality	Colour	Sample		1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Garoua	Black	Sample 1	Average	6.094 86666		10.68 80887	10.45 09718	15.55 67123	14.57 66791	28.864 3994	30.93 86598					
			Std. Dev.	2.040 81422		3.052 18505	3.675 43213	4.005 70025	3.876 54435	2.6775 4324	4.530 43122					
		Sample 2	Average	25.91 05109	28.96 87148	22.97 00155	29.30 28821	20.47 67814	17.28 09711	29.439 9375	31.84 61339					
			Std. Dev.	2.777 33908	3.189 26337	0.888 21478	1.987 53426	3.614 60729	0.987 65244	1.7357 3654	3.980 000063					
Pitoa	White	Sample 3	Average	21.31 28497		13.75 04086	17.67 09445	12.45 70536	23.14 7831	31.432 7774	39.17 14178	39.59 97841				
			Std. Dev.	3.985 75868		3.485 81903	4.908 56456	3.285 52513	3.980 58676	4.3279 0386						

Table S29. Insoluble index of lake deposits in derived savannah agro-ecological area, Nigeria

Locality	Colour	Sample		1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Abuja	Black	Sample 1	Average	62.18 86912		75.76 25835		83.08 08356	91.21 86704	85.200 1485						
			Std. Dev.	2.787 74907		2.666 02306		3.084 64765	3.260 98365	2.4754 9659						
		Sample 2	Average	11.04 3789	14.87 29474	12.11 54052		11.58 28561	12.46 08032	12.637 0865						
			Std. Dev.	0.769 70005	2.898 74566	1.456 68888		1.790 73545	2.916 13369	0.3619 8018						
	White	Sample 3	Average	8.902 1152	11.71 01842	12.92 19643		13.48 33907	12.37 1861	15.034 2256						
			Std. Dev.	1.094 76656	2.746 5739	1.838 95765		3.100 31211	0.266 56708	1.5085 075						
		Sample 4	Average	13.65 51904		11.99 29657		11.42 09178	12.43 34273	14.817 5885	13.34 53048					
			Std. Dev.	2.705 72626		1.087 67025		1.167 75639	0.957 56429	1.4537 2655	1.104 89654					

Table S30. Insoluble index of evaporites of plant-based ash filtrates in Soudano-Sahelian agro-ecological area, Cameroon

Locality	Colour	Sample		1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Garoua & Pitoa	Black	Sample 1	Average	9.901 24062	10.85 03404	11.78 24749	11.67 35555	11.02 03123	13.23 30364	12.14 95481	15.62 42858	17.72 634	18.25 90867	18.89 26674		
			Std. Dev.	1.930 09003	0.394 30258	0.543 82647	0.390 87565	0.987 65457	1.672 06951	1.439 86566	1.350 84441	0.675 24374	0.198 20699	0.687 65713		
		Sample 2	Average	8.893 06407		9.476 66971	10.72 92273	11.39 55177	13.30 07917	14.121 5133	15.95 23766	20.35 56135	24.32 51472	17.05 00235	20.64 74621	
			Std. Dev.	1.532 31083		1.4014 85514	1.534 76986	1.813 8534	1.987 57464	2.811 40242	3.072 27823	1.568 42747	1.783 52789	2.164 5783	2.189 74564	
	White	Sample 3	Average	4.965 38096	11.85 6687	9.811 09977	12.02 11787	13.42 00448	19.36 3259	18.630 894	21.37 28704	21.70 31336	26.13 8968			
			Std. Dev.	0.065 25437	0.179 73656	0.983 5575	0.675 43548	0.876 34566	0.988 64454	0.7091 7631	0.017 96283	1.453 83637	1.609 922			
		Sample 4	Average	9.431 12818	9.635 79294	10.94 72095	10.26 09378	8.849 14841	11.40 88301	16.219 5733	20.08 132	20.14 73238	24.28 60966	28.59 25976	28.92 74873	
			Std. Dev.	1.123 78384	1.246 57837	0.018 90796	1.078 97455	0.108 45739	0.887 64544	1.0272 5529	0.891 04053	0.004 63696	1.883 81964	2.846 37465	1.947 35476	

Table S31. Insoluble index of plant-based ashes in western highlands agro-ecological area, Cameroon

Locality	Colour	Sample		1%	5%	9%	13%	17%	21%	25%	29%	33%	37%	41%	45%	49%
Bamenda	White	Sample 1	Average	24.78 22286		35.00 59544	32.41 80122	46.75 86304	37.93 33348	50.197 9389	55.50 02616	49.39 85738	51.35 60297			
			Std. Dev.	7.394 29214		2.214 89128	2.564 54638	3.546 29676	3.908 45546	4.6544 2808	2.908 75538	3.699 31339	1.956 37452			
	Green	Sample 2	Average	26.32 77198	33.58 69733	35.14 48341	36.18 56366	42.29 59505	41.99 59773	52.537 6567	52.68 1267	70.25 94278	59.74 00855			
			Std. Dev.	3.410 94062	2.987 54735	3.985 64638	2.947 46387	3.097 56478	2.986 45737	6.9049 1597	1.513 48182	5.405 86462	2.591 85489			
	Black	Sample 3	Average	38.92 98444		43.76 81987	51.02 86218		56.39 16507	65.846 8119						
			Std. Dev.	2.073 78228		2.128 47656	3.957 65738		1.985 64783	3.0068 9654						