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Supplementary table 1: Mean concentration of the carbohydrate (simple sugars) composition of 70 Bambara groundnut landraces

Bambara groundnut landrace	D-Fructose	D-Galactose	Glucose	Manitol	Sorbitol	Myo-inositol	Sucrose	D-Maltose
BGN1	0.03	0.013	0.032	0.027	0.025	0.049	1.885	0.013
BGN2	0.019	0.012	0.026	0.025	0.015	0.034	1.808	0.014
BGN3	0.023	0.027	0.023	0.004	0.007	0.091	1.578	0.023
BGN4	0.033	0.018	0.035	0.031	0.076	0.085	3.355	0.013
BGN5	0.022	0.012	0.028	0.025	0.018	0.045	2.374	0.012
BGN6	0.051	0.015	0.043	0.029	0.048	0.061	2.711	0.011
BGN7	0.033	0.014	0.033	0.029	0.033	0.061	2.379	0.01
BGN8	0.029	0.014	0.03	0.027	0.029	0.066	2.129	0.009
BGN9	0.038	0.023	0.033	0.028	0.027	0.044	1.958	0.01
BGN10	0.039	0.016	0.04	0.028	0.059	0.095	3.675	0.024
BGN11	0.019	0.013	0.024	0.025	0.012	0.045	2.165	0.011
BGN12	0.052	0.019	0.043	0.028	0.049	0.063	2.477	0.01
BGN13	0.05	0.017	0.041	0.03	0.04	0.066	2.38	0.012
BGN14	0.034	0.014	0.034	0.029	0.03	0.05	2.501	0.012
BGN15	0.026	0.014	0.029	0.028	0.027	0.045	2.15	0.011
BGN16	0.053	0.015	0.034	0.03	0.04	0.069	2.411	0.012
BGN17	0.039	0.013	0.034	0.028	0.048	0.051	2.275	0.012
BGN18	0.053	0.016	0.033	0.03	0.04	0.058	2.071	0.012
BGN19	0.055	0.014	0.041	0.029	0.045	0.043	2.813	0.013
BGN20	0.061	0.018	0.039	0.035	0.053	0.058	2.203	0.011

Bambara groundnut landrace	D-Fructose	D-Galactose	Glucose	Manitol	Sorbitol	Myo-inositol	Sucrose	D-Maltose
BGN21	0.032	0.013	0.031	0.027	0.024	0.047	3.033	0.013
BGN22	0.066	0.034	0.049	0.037	0.065	0.081	3.185	0.018
BGN23	0.09	0.018	0.073	0.031	0.097	0.083	4.126	0.017
BGN24	0.068	0.018	0.043	0.026	0.043	0.071	3.557	0.019
BGN25	0.059	0.013	0.043	0.028	0.046	0.074	3.591	0.029
BGN26	0.05	0.015	0.046	0.026	0.056	0.062	3.588	0.05
BGN27	0.086	0.016	0.051	0.028	0.042	0.084	3.685	0.048
BGN28	0.049	0.019	0.044	0.028	0.048	0.099	3.065	0.035
BGN29	0.046	0.02	0.043	0.04	0.038	0.129	3.101	0.053
BGN30	0.026	0.012	0.029	0.024	0.022	0.051	2.196	0.024
BGN31	0.038	0.016	0.038	0.028	0.035	0.07	2.92	0.033
BGN32	0.026	0.013	0.029	0.025	0.05	0.049	2.28	0.029
BGN33	0.02	0.012	0.026	0.025	0.017	0.049	1.893	0.022
BGN34	0.017	0.012	0.021	0.025	0.017	0.044	1.245	0.018
BGN35	0.02	0.013	0.029	0.027	0.017	0.036	2.17	0.025
BGN36	0.042	0.015	0.038	0.029	0.015	0.079	3.146	0.024
BGN37	0.04	0.013	0.035	0.029	0.016	0.078	3.047	0.016
BGN38	0.028	0.013	0.031	0.027	0.009	0.054	2.665	0.014
BGN39	0.053	0.017	0.041	0.044	0.052	0.069	3.08	0.017
BGN40	0.026	0.013	0.03	0.028	0.014	0.052	2.361	0.013
BGN41	0.026	0.014	0.029	0.026	0.013	0.037	2.358	0.012
BGN42	0.039	0.014	0.037	0.027	0.018	0.064	3.398	0.034
BGN43	0.025	0.013	0.029	0.027	0.013	0.038	2.185	0.012
BGN44	0.029	0.012	0.029	0.026	0.015	0.058	2.463	0.014
BGN45	0.024	0.012	0.028	0.027	0.009	0.047	2.397	0.013
BGN46	0.061	0.014	0.038	0.03	0.017	0.081	3.374	0.015
BGN47	0.025	0.017	0.031	0.033	0.026	0.042	2.189	0.012

Bambara groundnut landrace	D-Fructose	D-Galactose	Glucose	Manitol	Sorbitol	Myo-inositol	Sucrose	D-Maltose
BGN48	0.031	0.013	0.032	0.029	0.018	0.064	3.066	0.017
BGN49	0.033	0.015	0.033	0.029	0.028	0.063	2.722	0.015
BGN50	0.034	0.013	0.031	0.028	0.014	0.078	2.864	0.017
BGN51	0.032	0.017	0.032	0.039	0.029	0.067	2.377	0.015
BGN52	0.037	0.015	0.035	0.03	0.019	0.071	3.149	0.017
BGN53	0.033	0.014	0.035	0.027	0.011	0.077	3.025	0.021
BGN54	0.074	0.014	0.042	0.028	0.049	0.115	3.039	0.021
BGN55	0.028	0.015	0.034	0.03	0.012	0.038	3.28	0.022
BGN56	0.039	0.014	0.035	0.028	0.015	0.083	3.258	0.017
BGN57	0.055	0.014	0.038	0.03	0.022	0.122	3.28	0.018
BGN58	0.031	0.014	0.032	0.029	0.013	0.072	1.769	0.019
BGN59	0.029	0.013	0.03	0.027	0.018	0.088	2.74	0.018
BGN60	0.058	0.014	0.041	0.028	0.038	0.124	3.53	0.025
BGN61	0.027	0.013	0.031	0.026	0.022	0.069	2.257	0.017
BGN62	0.034	0.014	0.036	0.027	0.015	0.073	3.351	0.021
BGN63	0.044	0.013	0.037	0.025	0.027	0.092	2.565	0.019
BGN64	0.036	0.014	0.035	0.027	0.02	0.067	3.026	0.022
BGN65	0.037	0.015	0.036	0.028	0.024	0.072	3.068	0.022
BGN66	0.027	0.013	0.031	0.027	0.014	0.066	2.988	0.022
BGN67	0.032	0.016	0.035	0.027	0.03	0.085	3.404	0.024
BGN68	0.031	0.013	0.032	0.028	0.017	0.055	2.949	0.018
BGN69	0.022	0.012	0.028	0.026	0.018	0.057	2.43	0.015
BGN70	0.03	0.013	0.031	0.028	0.022	0.053	3.04	0.019
Grand mean	**0.039**	**0.015**	**0.035**	**0.029**	**0.029**	**0.066**	**2.725**	**0.019**

Supplementary table 2: Mean concentration of the fatty acid composition of 70 Bambara groundnut landraces

Bambara groundnut landrace	C14	C16	C16:1	C17	C18	C18:1cis	C18:2cis	C20	C20:1 C18:3n3	C22	C22:1 C20:3n3	C22:2	C24
BGN 1	0.019	2.305	0.012	0.032	0.46	1.868	3.687	0.093	0.124	0.255	0.009	0.012	0.149
BGN 2	0.019	1.252	0.012	0.024	0.244	1.229	1.951	0.053	0.075	0.154	0.011	0.011	0.12
BGN 3	0.017	1.816	0.01	0.027	0.321	1.492	3.03	0.07	0.106	0.199	0.011	0.012	0.143
BGN 4	0.023	2.794	0.012	0.037	0.525	2.176	4.411	0.112	0.154	0.282	0.012	0.014	0.206
BGN 5	0.018	1.274	0.011	0.02	0.272	1.288	1.964	0.057	0.064	0.17	0.01	0.011	0.139
BGN 6	0.018	1.243	0.011	0.02	0.252	1.304	1.965	0.053	0.071	0.172	0.013	0.014	0.151
BGN 7	0.018	1.325	0.011	0.019	0.298	1.032	2.026	0.064	0.075	0.176	0.012	0.012	0.115
BGN 8	0.017	1.354	0.011	0.02	0.266	1.006	2.112	0.06	0.09	0.16	0.01	0.011	0.092
BGN 9	0.017	1.226	0.011	0.018	0.185	0.865	1.99	0.045	0.072	0.126	0.011	0.011	0.094
BGN 10	0.018	1.493	0.01	0.021	0.249	1.072	2.322	0.054	0.084	0.159	0.01	0.012	0.124
BGN 11	0.017	1.205	0.011	0.02	0.17	0.866	1.944	0.039	0.068	0.108	0.009	0.013	0.092
BGN 12	0.02	1.766	0.012	0.026	0.318	1.376	2.737	0.08	0.099	0.226	0.014	0.011	0.151
BGN 13	0.026	2.999	0.017	0.038	0.478	2.301	4.892	0.101	0.164	0.298	0.016	0.011	0.214
BGN 14	0.018	1.449	0.01	0.021	0.213	1.092	2.357	0.05	0.076	0.16	0.012	0.012	0.112
BGN 15	0.018	1.491	0.011	0.022	0.285	1.102	2.3	0.059	0.071	0.177	0.011	0.011	0.124
BGN 16	0.017	1.553	0.009	0.023	0.298	1.342	2.352	0.06	0.089	0.173	0.013	0.009	0.138
BGN 17	0.017	1.297	0.011	0.02	0.235	0.997	2.08	0.05	0.069	0.143	0.01	0.009	0.109
BGN 18	0.018	1.612	0.013	0.024	0.33	1.306	2.494	0.066	0.091	0.176	0.012	0.017	0.136
BGN 19	0.017	1.24	0.011	0.018	0.245	1.167	1.902	0.04	0.056	0.124	0.011	0.013	0.106
BGN 20	0.02	1.714	0.011	0.023	0.305	0.996	2.733	0.071	0.103	0.198	0.008	0.011	0.134
BGN 21	0.016	1.175	0.008	0.019	0.184	0.803	1.876	0.04	0.059	0.109	0.007	0.01	0.084
BGN 22	0.02	1.731	0.014	0.025	0.347	1.507	2.798	0.077	0.097	0.206	0.017	0.017	0.131
BGN 23	0.015	1.127	0.01	0.02	0.222	1.117	1.81	0.041	0.057	0.145	0.01	0.011	0.119
BGN 24	0.018	1.14	0.012	0.019	0.227	1.081	1.893	0.051	0.062	0.161	0.011	0.011	0.149
BGN 25	0.018	1.029	0.012	0.019	0.209	1.067	1.672	0.04	0.05	0.138	0.012	0.013	0.15
BGN 26	0.018	1.244	0.011	0.02	0.217	1.335	1.939	0.038	0.058	0.118	0.009	0.018	0.101

Bambara groundnut landrace	C14	C16	C16:1	C17	C18	C18:1cis	C18:2cis	C20	C20:1 C18:3n3	C22	C22:1 C20:3n3	C22:2	C24
BGN 27	0.016	1.225	0.011	0.022	0.226	1.103	2.094	0.047	0.074	0.164	0.013	0.013	0.159
BGN 28	0.019	1.304	0.013	0.021	0.281	1.272	1.988	0.052	0.073	0.151	0.015	0.011	0.105
BGN 29	0.02	1.524	0.011	0.022	0.311	1.088	2.372	0.076	0.084	0.222	0.011	0.018	0.13
BGN 30	0.018	1.099	0.012	0.018	0.157	0.741	1.736	0.037	0.062	0.119	0.009	0.172	0.078
BGN 31	0.019	1.531	0.015	0.022	0.317	1.427	2.403	0.068	0.093	0.174	0.017	0.014	0.125
BGN 32	0.018	1.191	0.01	0.02	0.206	0.921	1.991	0.045	0.067	0.129	0.007	0.011	0.071
BGN 33	0.016	1.279	0.014	0.019	0.251	0.901	1.972	0.051	0.068	0.156	0.01	0.012	0.099
BGN 34	0.017	1.395	0.01	0.02	0.265	0.918	2.125	0.055	0.081	0.165	0.008	0.012	0.109
BGN 35	0.019	1.294	0.009	0.019	0.186	0.944	2.025	0.042	0.081	0.134	0.011	0.012	0.085
BGN 36	0.017	1.247	0.009	0.019	0.186	0.944	1.993	0.037	0.072	0.118	0.008	0.009	0.09
BGN 37	0.023	1.272	0.009	0.019	0.242	0.873	1.925	0.049	0.066	0.143	0.009	0.011	0.102
BGN 38	0.016	1.231	0.009	0.017	0.173	0.856	2.034	0.036	0.076	0.114	0.008	0.009	0.09
BGN 39	0.019	1.585	0.011	0.022	0.259	1.084	2.489	0.059	0.087	0.163	0.008	0.052	0.094
BGN 40	0.026	1.332	0.009	0.02	0.23	0.98	2.115	0.043	0.077	0.121	0.008	0.024	0.081
BGN 41	0.018	1.317	0.009	0.02	0.239	1.223	2.039	0.042	0.063	0.135	0.008	0.025	0.094
BGN 42	0.019	1.679	0.015	0.023	0.274	1.719	2.645	0.051	0.082	0.164	0.019	0.023	0.136
BGN 43	0.017	1.255	0.009	0.021	0.214	1.019	1.972	0.042	0.066	0.123	0.008	0.022	0.073
BGN 44	0.017	1.132	0.01	0.017	0.197	0.781	1.72	0.041	0.071	0.115	0.008	0.016	0.07
BGN 45	0.016	0.958	0.008	0.017	0.175	0.825	1.468	0.033	0.049	0.09	0.009	0.016	0.065
BGN 46	0.017	1.094	0.009	0.018	0.177	0.777	1.737	0.037	0.06	0.102	0.009	0.017	0.079
BGN 47	0.018	1.549	0.011	0.023	0.271	1.187	2.632	0.064	0.098	0.185	0.01	0.028	0.109
BGN 48	0.019	1.279	0.011	0.019	0.21	0.916	1.961	0.048	0.072	0.119	0.01	0.02	0.082
BGN 49	0.017	1.137	0.009	0.018	0.178	0.86	1.838	0.038	0.062	0.109	0.009	0.02	0.077
BGN 50	0.016	1.202	0.009	0.018	0.226	1.04	1.931	0.043	0.069	0.129	0.008	0.019	0.09
BGN 51	0.019	1.443	0.014	0.021	0.227	1.122	2.282	0.049	0.073	0.138	0.008	0.012	0.088
BGN 52	0.023	1.943	0.023	0.024	0.38	1.614	2.976	0.085	0.115	0.209	0.01	0.018	0.136
BGN 53	0.016	0.956	0.008	0.016	0.144	0.75	1.584	0.031	0.058	0.099	0.007	0.011	0.073

Bambara groundnut landrace	C14	C16	C16:1	C17	C18	C18:1cis	C18:2cis	C20	C20:1 C18:3n3	C22	C22:1 C20:3n3	C22:2	C24
BGN 54	0.015	0.856	0.008	0.016	0.164	0.686	1.355	0.034	0.05	0.101	0.007	0.009	0.075
BGN 55	0.015	1.009	0.008	0.016	0.188	1.036	1.523	0.036	0.049	0.115	0.008	0.011	0.097
BGN 56	0.016	1.048	0.009	0.018	0.202	0.852	1.606	0.041	0.059	0.118	0.008	0.015	0.079
BGN 57	0.016	0.973	0.008	0.017	0.189	0.757	1.502	0.039	0.061	0.104	0.008	0.011	0.072
BGN 58	0.018	1.453	0.009	0.02	0.285	1.063	2.488	0.066	0.092	0.144	0.008	0.019	0.098
BGN 59	0.018	1.135	0.01	0.018	0.217	0.825	1.695	0.044	0.071	0.124	0.008	0.015	0.082
BGN 60	0.018	1.141	0.01	0.019	0.239	1.183	1.715	0.045	0.061	0.132	0.009	0.013	0.098
BGN 61	0.019	1.749	0.017	0.023	0.362	1.825	2.483	0.086	0.106	0.184	0.012	0.028	0.124
BGN 62	0.017	1.276	0.01	0.019	0.198	1.017	2.006	0.041	0.07	0.123	0.008	0.015	0.09
BGN 63	0.017	1.55	0.01	0.024	0.323	1.393	2.489	0.063	0.086	0.172	0.01	0.02	0.12
BGN 64	0.019	1.767	0.012	0.025	0.339	1.699	2.674	0.067	0.09	0.191	0.011	0.02	0.129
BGN 65	0.018	1.287	0.01	0.021	0.235	1.215	1.959	0.046	0.071	0.14	0.011	0.017	0.104
BGN 66	0.018	1.389	0.009	0.023	0.273	1.036	2.301	0.053	0.074	0.12	0.008	0.021	0.086
BGN 67	0.021	1.611	0.019	0.024	0.34	1.539	2.501	0.071	0.091	0.185	0.01	0.015	0.122
BGN 68	0.017	1.112	0.009	0.018	0.172	0.852	1.808	0.037	0.064	0.114	0.009	0.013	0.082
BGN 69	0.016	1.26	0.009	0.02	0.205	0.954	2.038	0.041	0.076	0.132	0.009	0.014	0.088
BGN 70	0.017	1.672	0.01	0.021	0.263	1.327	2.717	0.056	0.102	0.161	0.01	0.019	0.122
Grand mean	**0.018**	**1.394**	**0.011**	**0.021**	**0.253**	**1.141**	**2.202**	**0.053**	**0.079**	**0.041**	**0.002**	**0.019**	**0.09**

Supplementary table 3: Mean concentration (mg/g) of the amino acid composition of 70 Bambara groundnut landraces

Bambara groundnut landrace	Ala	Gly	Val	Leu	ILe	Pro	Met	Ser	Thr	Phe	Asp	Cys	Glu	Lys	His	Tyr	Tryp	Cyst
BGN 1	3.7	3.41	4.54	6.88	3.93	4.69	0.99	4.25	3.83	5.03	12.23	0.49	23.57	12.1	3.78	0.95	0.03	0.67
BGN 2	4.1	4.05	2.31	5.43	1.78	4.22	1.24	4.94	3.74	4.17	15.27	2.12	15.06	3.91	1.19	2.11	0.02	0.54
BGN 3	3.8	3.65	2.46	5.94	1.94	4.41	1.16	4.53	3.57	4.49	12.07	0.79	21.84	9.89	2.97	0.93	0.04	0.54

Bambara groundnut landrace	Ala	Gly	Val	Leu	ILe	Pro	Met	Ser	Thr	Phe	Asp	Cys	Glu	Lys	His	Tyr	Tryp	Cyst
BGN 4	4.4	3.89	5.31	7.96	4.56	5.22	1.22	4.83	4.19	6.03	13.58	0.55	25.64	13.8	4.51	1.23	0.02	0.76
BGN 5	3.9	3.48	4.62	7.24	3.94	4.9	0.98	4.23	3.46	4.94	12.19	0.49	23.08	11.7	3.6	1.04	0.02	0.57
BGN 6	4.6	4.17	5.86	8.54	5.02	5.82	1.37	5.19	4.25	6.76	14.37	0.74	26.67	13.6	4.85	1.19	0.02	0.81
BGN 7	4.9	4.54	5.76	9.02	4.29	5.8	1.23	5.42	4.49	6.37	13.99	0.47	25.99	14.4	4.63	1.06	0.02	0.68
BGN 8	3.6	3.31	4.57	6.89	3.82	4.63	1.07	4.52	3.66	5.39	11.59	0.35	21.78	12.7	4.09	1.13	0.02	0.8
BGN 9	4.2	4.09	5.49	8.09	4.57	5.63	1.11	5.28	4.32	6.53	13.46	0.33	25.3	14.7	4.81	1.51	0.02	0.76
BGN 10	4	3.54	4.98	7.57	3.99	4.92	1.11	4.74	4.1	5.74	12.21	0.28	24.18	13.4	4.29	1.18	0.02	0.73
BGN 11	3.6	3.28	4.47	7.33	3.95	5.12	0.95	4.91	4.31	5.76	12.2	0.36	23.67	13.1	4.15	1.13	0.02	0.73
BGN 12	4.2	4.04	5.3	8.3	4.53	5.29	1.25	4.76	4.58	6.05	11.93	0.5	23.39	13.3	4.57	1.33	0.02	0.83
BGN 13	4.9	4.13	6.22	9.19	5.31	5.69	1.64	5.54	4.82	7.12	14.27	0.42	24.78	15.5	5.29	1.67	0.02	0.94
BGN 14	6.6	6.31	8.41	11.9	7.29	7.42	2.64	7.53	6.02	10.3	17.55	0.73	34	21	8.28	2.44	0.04	1.12
BGN 15	3.3	3.32	1.93	5.16	1.55	3.98	0.88	4.04	2.94	3.77	10.58	0.7	19.66	8.58	2.48	0.78	0.04	0.43
BGN 16	5.5	5.36	6.87	10.1	5.94	6.3	1.86	6.18	5.17	7.87	14.76	0.42	27.02	17.3	6.21	1.78	0.03	0.88
BGN 17	3.6	3.31	4.68	7.31	4.03	4.84	1.07	4.38	3.99	5.61	11.81	0.28	23.15	12.5	4.11	1.08	0.02	0.55
BGN 18	4.1	3.65	5.24	8.61	4.8	5.35	1.05	5.22	4.46	6.34	13.57	0.33	25.3	14.4	4.81	1.35	0.02	0.72
BGN 19	6	6.22	7.58	11.5	6.67	6.88	2.39	6.8	6.02	9.26	16.5	0.67	32.47	20.1	7.66	2.39	0.02	1.37
BGN 20	4.8	4.9	6.28	9.75	5.59	6.11	1.61	5.83	4.72	7.53	13.91	0.38	27.83	16.2	5.9	1.74	0.02	0.7
BGN 21	4	3.8	5.27	7.83	4.46	5.01	1.22	4.93	4.26	6.2	12.89	0.33	24.44	14	4.56	1.26	0.02	0.64
BGN 22	3.2	3.26	1.88	5.04	1.47	3.8	0.86	3.85	2.85	3.56	10.17	0.79	18.78	7.38	2.49	0.87	0.06	0.42
BGN 23	4.4	4.06	5.29	8.07	4.51	5.33	1.31	4.84	4.22	6	12.65	0.34	24.09	13.1	4.26	1.19	0.02	0.64
BGN 24	5	4.8	6.18	8.91	5.47	5.82	1.67	5.74	4.85	7.37	15.05	0.36	27.01	16.8	5.73	1.58	0.03	0.79
BGN 25	4.1	3.93	4.83	7.33	4.22	4.7	1.29	4.72	4.02	5.69	12.36	0.3	21.87	13.4	4.39	1.25	0.01	0.63
BGN 26	4.6	4.95	3.03	7.01	2.38	5.57	1.47	5.77	5.06	5.71	15.11	1.81	26.38	12.6	3.72	1.71	0.06	0.65
BGN 27	3.5	3.52	2.03	5.34	1.61	4.05	0.98	4.24	3.17	3.97	11.13	0.84	19.84	8.45	2.69	1.08	0.05	0.4
BGN 28	3.7	3.84	2.26	5.65	1.77	4.5	1.07	4.65	3.58	4.32	12.16	1.04	21.76	9.44	3	1.17	0.06	0.44
BGN 29	3.2	3.26	1.83	4.86	1.43	3.77	0.81	3.95	2.8	3.43	10.87	0.79	19.11	7.24	2.45	0.9	0.04	0.39
BGN 30	3.2	3.24	1.91	4.8	1.47	3.77	0.78	3.88	2.98	3.37	10.4	0.71	19.31	7.66	2.37	0.79	0.03	0.4

Bambara groundnut landrace	Ala	Gly	Val	Leu	ILe	Pro	Met	Ser	Thr	Phe	Asp	Cys	Glu	Lys	His	Tyr	Tryp	Cyst
BGN 31	3.9	3.71	4.76	7.19	4.21	4.78	1.3	4.65	3.84	5.77	11.91	0.3	23.18	13.6	4.54	1.25	0.02	0.78
BGN 32	5.2	5.27	6.32	9.21	5.48	5.84	1.67	5.88	4.92	7.42	14.45	0.42	27.05	16.5	6	1.74	0.02	0.89
BGN 33	3.4	3.39	2.02	5.13	1.58	3.99	0.81	4.26	3.17	3.76	11.1	0.74	20.44	7.69	2.59	0.87	0.04	0.42
BGN 34	2.9	2.86	1.69	4.45	1.29	3.4	0.76	3.61	2.64	3.11	9.92	0.66	18.01	6.57	2.39	0.84	0.04	0.38
BGN 35	6.9	6.95	8.43	11.3	7.31	7.41	2.76	7.26	5.61	9.95	17.62	0.79	32.19	21.3	8.16	2.66	0.02	1.19
BGN 36	3.4	3.54	2.11	5.38	1.64	4.05	1	4.34	3.38	4.03	11.83	0.85	20.91	7.93	2.89	1.06	0.04	0.43
BGN 37	3.2	3.16	1.82	4.96	1.44	3.68	0.86	4	2.92	3.59	10.38	0.81	19.17	6.92	2.43	0.87	0.03	0.37
BGN 38	3.5	3.6	1.97	5.31	1.52	3.97	0.92	4.22	3.11	3.77	11.36	0.81	20.71	7.29	2.74	1	0.03	0.43
BGN 39	2.9	3.08	1.64	4.45	1.26	3.31	0.8	3.58	2.69	3.11	10.15	0.81	18.2	6.61	2.39	0.81	0.03	0.38
BGN 40	2.7	2.73	1.56	4.26	1.21	3.19	0.73	3.36	2.49	2.95	9.58	0.58	17.07	5.79	2.11	0.75	0.04	0.3
BGN 41	3.1	3.09	1.87	4.91	1.45	3.69	0.8	3.92	2.95	3.53	10.46	0.67	19.72	7	2.45	0.84	0.03	0.37
BGN 42	6.3	6.75	4.61	9.36	3.7	6.88	2.07	8.41	7.47	8.45	20.3	2.75	34.55	17.8	5.62	2.64	0.05	0.83
BGN 43	3.9	3.92	2.39	5.86	1.87	4.62	1.03	4.74	3.94	4.58	12.76	0.91	23.21	10.4	3.18	1.17	0.04	0.46
BGN 44	3.4	3.53	2.11	5.4	1.63	4.08	0.92	4.37	3.36	4.1	11.97	0.8	21.63	7.96	2.85	1.01	0.03	0.36
BGN 45	3.7	3.86	2.33	5.75	1.82	4.41	1	4.79	3.82	4.54	12.76	1	22.68	8.89	3.19	1.17	0.04	0.46
BGN 46	6.7	6.98	4.62	9.2	3.65	7	2.02	8.28	7.22	8.59	19.53	2.81	34.19	18.3	5.55	2.63	0.08	0.69
BGN 47	5.6	5.88	3.57	8.06	2.75	6.04	1.45	7.37	5.94	6.69	17.29	1.86	30.69	14.2	4.4	2.03	0.07	0.56
BGN 48	3.9	4.19	2.4	5.9	1.82	4.45	1.06	4.99	3.91	4.71	13.8	0.89	24.43	9.68	3.36	1.24	0.04	0.39
BGN 49	4.2	4.15	2.2	5.56	1.73	4.39	1.11	5.21	3.48	4.21	15.33	1.92	14.26	4.91	1.36	2.1	0.03	0.5
BGN 50	4.7	4.37	5.39	7.32	4.53	4.95	1.49	5.59	5.9	6.57	17.31	0.73	21.27	12.7	3.45	2.08	0.02	0.49
BGN 51	6.3	6.28	6.76	8.61	5.67	5.93	2.06	7.38	8.42	8.97	21.22	1.58	21.94	21.2	5.59	3.22	0.02	0.63
BGN 52	3.6	3.32	1.93	5.17	1.51	3.64	1.11	4.34	3.12	3.77	12.59	1.7	11.66	4.5	1.6	1.98	0.03	0.51
BGN 53	4.8	4.44	2.61	6.05	1.93	4.83	1.47	5.77	3.97	5.08	17.03	2.3	16.38	7.26	2.02	2.44	0.05	0.53
BGN 54	2.7	1.34	1.4	3.68	1.07	2.54	0.78	3.89	2.53	3.16	12.31	1.18	13.65	5.09	1.58	1.71	0.03	0.55
BGN 55	2.6	2.14	1.27	3.36	0.94	2.76	0.77	3.14	2.31	2.34	9.9	1.34	12.21	4.07	1.22	1.3	0.03	0.74
BGN 56	6.1	6.11	6.83	9.16	6.01	6.19	2.46	7.96	8.25	9.74	22.54	1.33	22.89	24.8	6.71	3.5	0.02	1.21
BGN 57	7	7.2	7.57	10.5	6.73	6.6	2.9	9.19	9.47	11.1	24.95	1.98	25.48	27.8	8.42	4.31	0.02	1.76

Bambara groundnut landrace	Ala	Gly	Val	Leu	ILe	Pro	Met	Ser	Thr	Phe	Asp	Cys	Glu	Lys	His	Tyr	Tryp	Cyst
BGN 58	5.2	5.53	6.53	8.59	5.75	5.34	2.21	7.1	7.62	11.6	20.51	1.18	20.6	18.6	5.44	3	0.02	1
BGN 59	6.2	5.95	7.16	9.63	6.36	5.96	2.52	7.89	7.79	9.92	22.56	1.18	26.07	21.4	6.51	3.67	0.02	1.34
BGN 60	5.3	5.5	6.25	8.41	5.85	5.5	2.28	6.82	7.17	8.76	20.79	1.05	23.24	17.1	5.15	3.18	0.02	0.98
BGN 61	3.8	3.57	2.09	5.39	1.67	4.07	1.13	4.56	3.03	3.95	13.52	1.65	12.47	4.2	1.44	1.91	0.02	0.4
BGN 62	3.7	3.57	2.07	5.21	1.61	3.94	1.31	4.61	3.23	4.33	13.82	1.64	13.22	3.64	1.34	2.01	0.02	0.32
BGN 63	3.4	3.45	1.82	4.72	1.42	3.9	1.11	4.37	2.83	3.83	13.17	1.57	11.97	4.08	1.38	1.88	0.02	0.3
BGN 64	5	5.48	2.98	6.67	2.37	4.76	1.81	5.94	4.37	6.16	18.19	3.4	17.91	4.95	2.11	3.18	0.04	0.38
BGN 65	3.3	3.27	1.58	4.4	1.2	3.8	0.93	4.07	2.49	2.94	12.01	1.69	11.21	5.15	1.36	1.6	0.02	0.37
BGN 66	6.7	7	7.4	9.57	6.62	6.22	2.31	8.48	8.87	10.8	24.54	1.41	23.71	25	7.11	3.49	0.01	0.81
BGN 67	5.4	5.4	2.98	6.73	2.26	5.36	1.7	6.44	4.5	5.63	19.11	3.48	19.58	6.71	1.91	3.04	0.05	0.56
BGN 68	3.5	3.46	1.64	4.67	1.22	3.88	1	4.1	2.49	3.16	12.47	1.47	11.09	4.48	1.25	1.61	0.02	0.32
BGN 69	3.5	3.53	1.73	4.72	1.28	3.93	1.09	4.3	2.68	3.48	12.95	1.56	11.91	4.87	1.48	1.7	0.05	0.37
BGN 70	7	8.28	4.55	8.58	3.59	6.26	2.86	9.23	6.65	9.04	26.84	5.73	26.6	21.9	4.44	4.72	0.12	1.5
Grand mean	4.35	4.3	3.98	7.01	3.33	4.90	1.38	5.32	4.41	5.80	14.45	1.12	21.92	11.87	3.82	1.744	0.03	0.65

Ala, alanine; Gly, glycine; Val, valine; Leu, leucine; Ile, isoleucine; Pro, proline; Met, methionine; Ser, serine; Thr, threonine; Phe, phenylalanine; Asp, aspartic acid; Cys, cysteine; Glu, glutamic acid; Lys, lysine; His, histidine; Tyr, tyrosine; Tryp, tryptophan; Cyst, cystine

Supplementary table 4: Mean concentration of the mineral composition of 70 Bambara groundnut landraces

Bambara groundnut landrace	P (%)	K (%)	C (%)	Mg (%)	Na (mg/kg)	Fe (mg/kg)	Cu (mg/kg)	Zn (mg/kg)	Mn (mg/kg)
BGN 1	0.29	1.22	0.04	0.16	35	38.68	5.19	24.62	16.11
BGN 2	0.19	1.36	0.05	0.19	42	29.64	4.6	20.74	19.18
BGN 3	0.38	1.4	0.05	0.17	69	33.94	6.11	25.7	16.58
BGN 4	0.34	1.5	0.05	0.19	47	35.2	5.61	25.44	17.54
BGN 5	0.24	1.22	0.04	0.17	45	27.24	3.92	22.02	19.17
BGN 6	0.26	1.25	0.04	0.16	43	26.06	4.31	23.38	17.42

Bambara groundnut landrace	P (%)	K (%)	C (%)	Mg (%)	Na (mg/kg)	Fe (mg/kg)	Cu (mg/kg)	Zn (mg/kg)	Mn (mg/kg)
BGN 7	0.27	1.46	0.05	0.18	34	30.76	4.19	23.72	19.9
BGN 8	0.29	1.46	0.04	0.18	34	30.62	4.46	22.98	18.37
BGN 9	0.34	1.4	0.04	0.17	46	38.64	5.07	24.6	13.37
BGN 10	0.32	1.26	0.05	0.16	39	38.46	5.48	22.34	14.95
BGN 11	0.38	1.38	0.05	0.17	38	33.64	5.58	23.72	15.5
BGN 12	0.28	1.38	0.04	0.17	34	34.8	5.2	22.16	13.46
BGN 13	0.3	1.41	0.04	0.17	41	30.62	5.19	22.52	16.9
BGN 14	0.32	1.35	0.04	0.16	31	29.76	4.98	22.34	13.61
BGN 15	0.3	1.4	0.06	0.17	30	30.38	4.97	22.32	17.06
BGN 16	0.34	1.53	0.05	0.18	55	30.46	5.44	25.54	17.56
BGN 17	0.32	1.38	0.05	0.18	33	30.2	5.27	25.32	16.68
BGN 18	0.31	1.52	0.05	0.19	37	31.68	5.62	25.68	15.74
BGN 19	0.32	1.47	0.05	0.17	48	36.98	5.25	27.88	14.25
BGN 20	0.32	1.32	0.05	0.17	43	40.18	7.58	24.86	14.2
BGN 21	0.33	1.39	0.06	0.17	35	36.38	5.46	25.06	16.45
BGN 22	0.28	1.42	0.05	0.18	36	36.04	5.11	23.92	20.42
BGN 23	0.27	1.34	0.03	0.18	40	31.96	4.33	22.64	17.6
BGN 24	0.24	1.29	0.03	0.17	34	30.82	4.28	23.84	18.08
BGN 25	0.23	1.33	0.04	0.17	52	29.78	4.07	21.62	18.92
BGN 26	0.35	1.69	0.04	0.19	46	34.48	5.52	31.36	11.92
BGN 27	0.32	1.3	0.03	0.17	39	29.14	4.6	25.38	15.7
BGN 28	0.25	1.34	0.04	0.18	35	33.2	6.02	26.6	25.7
BGN 29	0.28	1.42	0.04	0.17	42	31.78	5.4	22.5	14.38
BGN 30	0.3	1.3	0.06	0.16	62	54.76	6.44	25.42	18.23
BGN 31	0.25	1.38	0.04	0.17	31	32.64	5.93	25.5	23.52
BGN 32	0.26	1.35	0.04	0.17	32	32.5	4.8	22.18	12.41
BGN 33	0.24	1.47	0.04	0.18	39	30.34	4.71	20.34	14.15

Bambara groundnut landrace	P (%)	K (%)	C (%)	Mg (%)	Na (mg/kg)	Fe (mg/kg)	Cu (mg/kg)	Zn (mg/kg)	Mn (mg/kg)
BGN 34	0.23	1.46	0.04	0.18	36	30.56	4.53	19.5	15.01
BGN 35	0.28	1.42	0.04	0.17	44	33.28	5.87	21.86	13.09
BGN 36	0.28	1.35	0.05	0.17	37	37.46	5.47	20.78	13.45
BGN 37	0.25	1.48	0.04	0.18	34	28.98	4.53	19.26	14.98
BGN 38	0.27	1.43	0.05	0.17	36	33.26	5.81	22.04	12.92
BGN 39	0.26	1.44	0.04	0.17	42	38.22	6.17	22.02	13.98
BGN 40	0.27	1.49	0.04	0.18	58	39.58	4.61	20.52	14.79
BGN 41	0.25	1.45	0.04	0.18	39	30.46	4.96	23.48	17.33
BGN 42	0.23	1.32	0.03	0.16	33	28.46	5.06	25.18	31.38
BGN 43	0.26	1.38	0.04	0.17	41	31.68	4.92	20.32	16.52
BGN 44	0.27	1.4	0.04	0.17	33	32.62	5.36	20.92	14.58
BGN 45	0.29	1.53	0.05	0.18	38	32.72	5.33	23.42	16.62
BGN 46	0.31	1.4	0.05	0.17	39	28.62	5.11	23.1	14.71
BGN 47	0.26	1.37	0.04	0.17	54	59.62	5.02	20.54	13.81
BGN 48	0.34	1.48	0.04	0.18	37	31.52	5.32	23.32	13.44
BGN 49	0.33	1.39	0.04	0.18	29	33.46	5.46	22.72	12.77
BGN 50	0.28	1.55	0.04	0.19	50	48.66	5.03	23.42	16.78
BGN 51	0.28	1.41	0.04	0.17	37	32.84	5.1	21.84	14.62
BGN 52	0.3	1.5	0.04	0.18	38	33.7	5.26	23.38	19.24
BGN 53	0.3	1.25	0.04	0.16	35	29.44	5.04	21.62	15.17
BGN 54	0.3	1.3	0.05	0.16	33	37.96	5.48	20.78	15.03
BGN 55	0.57	2.13	0.08	0.22	56	35.1	4.19	34.26	7.09
BGN 56	0.33	1.49	0.04	0.18	33	27.46	4.48	22.12	15.15
BGN 57	0.32	1.47	0.05	0.18	36	32.02	5.48	25.08	16.94
BGN 58	0.31	1.35	0.05	0.18	32	29.5	5.06	22.5	13.85
BGN 59	0.29	1.47	0.04	0.17	43	39.12	4.62	20.06	14.14
BGN 60	0.21	1.4	0.04	0.18	36	29.94	5.23	23.22	26.9

Bambara groundnut landrace	P (%)	K (%)	C (%)	Mg (%)	Na (mg/kg)	Fe (mg/kg)	Cu (mg/kg)	Zn (mg/kg)	Mn (mg/kg)
BGN 61	0.23	1.3	0.04	0.16	18	42.08	5.76	24.64	38.86
BGN 62	0.3	1.39	0.04	0.17	22	31.36	5.01	21.74	14.47
BGN 63	0.28	1.42	0.05	0.18	30	28.74	4.84	22.08	20.28
BGN 64	0.23	1.35	0.04	0.17	22	30.28	5.25	23.7	24.3
BGN 65	0.25	1.32	0.04	0.16	26	30.48	5.32	23.52	22.92
BGN 66	0.33	1.37	0.05	0.17	23	24.74	5.19	22.6	11.92
BGN 67	0.22	1.34	0.04	0.16	21	27.56	4.98	23.38	29.54
BGN 68	0.28	1.32	0.04	0.17	32	32.52	4.96	20.62	12.72
BGN 69	0.31	1.32	0.04	0.17	16	29.9	5.4	20.9	11.91
BGN 70	0.35	1.31	0.05	0.16	25	38.68	5.97	22.44	14.64
Grand mean	**0.29**	**1.40**	**0.04**	**0.17**	**0.38**	**0.33**	**0.05**	**0.23**	**0.17**

Supplementary table 5: Mean concentration of the proximate composition of 70 Bambara groundnut landraces

Bambara groundnut landrace	Acid detergent fibre (%)	Neutral detergent fibre (%)	Moisture (%)	Ash (%)	Crude protein (%)	Total fat (%)	Gross energy (MJ/kg)
BGN 1	2.99	16.52	7.98	3.35	17.50	6.94	17.87
BGN 2	7.89	23.68	10.58	3.73	17.99	6.45	17.75
BGN 3	2.16	32.93	6.03	2.20	18.87	6.2	17.82
BGN 4	2.10	26.00	11.03	3.36	16.95	6.94	17.69
BGN 5	7.45	32.53	10.74	2.40	16.53	6.54	17.76
BGN 6	8.10	24.35	10.61	3.80	17.44	7.11	17.73
BGN 7	7.52	33.96	3.50	1.90	17.18	6.15	17.72
BGN 8	12.47	12.33	12.40	1.40	18.71	5.39	17.68
BGN 9	13.16	22.57	15.90	4.50	17.30	5.96	17.41
BGN 10	13.38	19.67	10.36	4.09	18.26	6.1	17.65

Bambara groundnut landrace	Acid detergent fibre (%)	Neutral detergent fibre (%)	Moisture (%)	Ash (%)	Crude protein (%)	Total fat (%)	Gross energy (MJ/kg)
BGN 11	4.09	17.11	10.10	3.24	18.23	7.89	17.71
BGN 12	4.08	19.29	9.96	3.21	19.27	7.22	17.74
BGN 13	7.14	13.51	10.21	3.33	17.90	5.15	17.79
BGN 14	4.10	19.30	10.03	3.42	17.90	6.84	17.41
BGN 15	4.19	19.60	7.70	4.30	19.17	6.91	17.77
BGN 16	4.52	27.98	10.15	2.50	36.87	6.58	17.73
BGN 17	5.90	15.63	9.78	2.76	18.46	6.9	17.84
BGN 18	16.71	11.40	10.34	1.54	18.11	6.73	17.92
BGN 19	16.73	18.91	10.42	3.56	19.59	6.88	17.61
BGN 20	16.28	20.01	10.57	3.99	20.27	6.1	17.47
BGN 21	5.75	27.35	10.51	3.89	20.39	6.23	17.66
BGN 22	5.92	19.87	14.12	2.89	19.17	7.77	17.68
BGN 23	5.77	30.90	8.23	4.80	17.97	6.70	17.95
BGN 24	5.77	19.89	11.49	4.34	21.41	7.01	17.65
BGN 25	5.99	33.85	11.41	4.32	18.15	6.03	17.64
BGN 26	5.96	17.24	12.22	2.24	21.16	6.28	17.35
BGN 27	5.91	24.42	11.80	4.19	21.45	5.78	17.48
BGN 28	6.05	18.20	11.03	3.16	22.22	6.04	17.65
BGN 29	5.92	15.98	11.47	4.60	22.75	7.16	17.65
BGN 30	5.95	13.52	13.27	3.95	16.44	4.13	17.79
BGN 31	0.80	21.27	10.63	3.36	19.18	7.21	17.85
BGN 32	5.55	14.68	10.65	4.12	18.28	5.92	17.54
BGN 33	1.18	21.42	13.54	3.20	17.76	6.74	17.67
BGN 34	1.73	22.50	10.21	5.81	17.30	6.94	17.91
BGN 35	1.63	24.36	10.46	1.81	17.85	6.32	17.15
BGN 36	2.32	14.90	11.81	1.81	18.36	6.12	17.54
BGN 37	10.19	13.50	10.47	3.64	18.67	6.13	17.67

Bambara groundnut landrace	Acid detergent fibre (%)	Neutral detergent fibre (%)	Moisture (%)	Ash (%)	Crude protein (%)	Total fat (%)	Gross energy (MJ/kg)
BGN 38	4.60	65.09	11.17	1.05	17.25	5.81	17.91
BGN 39	1.40	17.98	12.12	0.28	17.48	7.44	17.15
BGN 40	18.61	13.92	10.78	4.63	21.45	5.58	17.64
BGN 41	10.87	28.02	13.15	3.66	17.30	6.54	17.41
BGN 42	9.44	27.20	13.13	1.98	19.04	6.37	17.91
BGN 43	10.87	30.28	13.70	2.12	18.56	6.26	17.50
BGN 44	10.29	26.81	11.16	3.44	17.62	7.74	17.87
BGN 45	10.68	20.03	13.34	3.29	22.52	7.12	17.72
BGN 46	11.93	20.52	7.67	1.01	18.67	6.64	17.66
BGN 47	10.34	15.36	8.80	4.19	21.84	5.10	17.56
BGN 48	9.47	16.11	11.08	3.56	17.06	8.84	17.68
BGN 49	10.37	16.23	11.81	2.03	16.74	6.62	18.31
BGN 50	8.56	24.85	12.77	3.11	16.90	5.68	17.33
BGN 51	12.95	12.60	14.20	4.34	18.68	6.49	17.59
BGN 52	15.21	16.37	15.14	3.59	17.87	4.14	17.54
BGN 53	16.36	15.71	13.09	3.25	22.24	4.75	17.62
BGN 54	13.58	15.22	9.71	2.21	18.44	5.84	17.66
BGN 55	12.25	12.67	8.92	3.60	17.74	6.24	17.52
BGN 56	10.52	16.08	11.58	1.25	18.36	6.53	17.42
BGN 57	14.59	20.92	5.24	4.57	17.83	6.74	17.53
BGN 58	13.82	14.92	11.68	1.36	17.69	8.05	17.52
BGN 59	13.35	20.97	11.82	3.60	19.04	6.29	17.57
BGN 60	13.41	17.91	10.06	3.57	18.14	6.74	17.72
BGN 61	14.43	24.79	13.16	1.70	20.19	4.28	17.10
BGN 62	16.57	14.32	10.27	3.92	17.43	5.72	17.53
BGN 63	14.14	10.52	8.99	2.13	23.78	5.61	17.50
BGN 64	12.88	27.10	7.25	1.42	17.10	7.13	17.79

Bambara groundnut landrace	Acid detergent fibre (%)	Neutral detergent fibre (%)	Moisture (%)	Ash (%)	Crude protein (%)	Total fat (%)	Gross energy (MJ/kg)
BGN 65	12.30	16.22	13.62	3.39	19.50	6.23	17.44
BGN 66	16.07	29.83	14.38	3.27	18.76	7.00	17.33
BGN 67	16.01	23.06	11.15	3.65	22.51	3.90	17.63
BGN 68	11.59	13.05	11.67	3.48	22.80	5.19	17.61
BGN 69	16.11	21.94	12.74	2.97	22.43	5.71	17.47
BGN 70	15.37	16.60	10.14	3.64	20.18	6.40	17.80
Grand mean	**9.32**	**20.92**	**10.96**	**3.16**	**19.20**	**6.34**	**17.63**