

Table S1. Sample plan employed for the cannabis and soil samples in Bono Region.

Nsawkaw		Badu	
Cannabis Samples Code	Soil Samples Code	Cannabis Samples Code	Soil Samples Code
BAN(C1)	BAN(C1s)	BAN(Cb)	BAN(Cbs)
BAN(C2)	BAN(C2s)	BAN(Cc)	BAN(Ccs)
BAN(C3)	BAN(C3s)	BAN(Cd)	BAN(Cds)

BAN - Bono region; C – cluster; s - soil.

Table S2. Sample plan employed for the cannabis and soil samples in Eastern Region.

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Cannabis samples code	Soil samples code
EAS(C1)	EAS(C1s)
EAS(C2)	EAS(C2s)
EAS(C3)	EAS(C3s)
EAS(C4)	EAS(C4s)
EAS(C5)	EAS(C5s)
EAS(C6)	EAS(C6s)

BAN - Eastern region; C – cluster; s - soil.

Table S3. Microwave digestion operational parameters.

Step	Power (W)	Time (min)
1	100-300	0-5
2	0	6-7
3	300-600	8-13
4	0	14-19
5	600-800	20-21
6	0	22-23
7	800-1000	24-29
8	0	30-31
9	1000	32-37

Table S4. ICP-MS operational parameters.

Parameters	Conditions
RF Power	1 kW
Radio frequency	40 MHz
Carrier gas flow rate	0.64L/min
Plasma gas flow rate	15 L/min
Plasma observation	Radial
Pump uptake	1.5 ml/min

Table S5. Essential Elements Cannabis Sample Concentrations in ($\mu\text{g g}^{-1}$).

Sample Type	Sample Name	SAMPLE Code Name	Sample Number	Na	Mg	K	Ca	Mn	Fe	Cu	Zn
Cannabis	SEIZED SAMPLE/2017	10/FS2/17	Sample 1	335	9717	60537	33631	763	851	20	100
Cannabis	SEIZED SAMPLE/2019	39/FS2/19	Sample 2	127	12660	39777	45652	460	3335	40	186
Cannabis	SEIZED SAMPLE/2020	10/FS2/20	Sample 3	84	12939	47664	31696	2363	453	28	85
Cannabis	SEIZED SAMPLE/2020	11/FS2/20	Sample 4	127	11596	47351	40098	768	392	26	96
Cannabis	SEIZED SAMPLE/2019	22/FS2/19	Sample 5	N.D.	4303	34626	16493	284	270	9	37
Cannabis	SEIZED SAMPLE/2020	9/FS2/20	Sample 6	110	9961	51607	36916	494	378	16	70
Cannabis	SEIZED SAMPLE/2018	15/FS2/18	Sample 7	348	9567	39447	42080	645	732	24	139
Cannabis	SEIZED SAMPLE/2019	12/FS2/19	Sample 8	45	9715	34722	21095	339	351	40	107
Cannabis	SEIZED SAMPLE/2018	1/FS2/18	Sample 9	184	7537	35725	38995	551	1071	16	71
Cannabis	SEIZED SAMPLE/2019	9/FS2/19	Sample 10	91	8780	34964	40887	331	362	24	76
Cannabis	SEIZED SAMPLE/2019	23/FS2/19	Sample 11	61	8279	48298	36648	819	1245	35	118
Cannabis	SEIZED SAMPLE/2018	37/FS2/18	Sample 12	110	12211	47243	24860	653	544	73	197
Cannabis	SEIZED SAMPLE/2019	27/FS2/19	Sample 13	81	8577	33950	25695	350	711	31	98
Cannabis	SEIZED SAMPLE/2018	16/FS2/18	Sample 14	69	9374	34784	31773	475	1612	30	102

Cannabis	SEIZED SAMPLE/2019	44/FS2/19	Sample 15	126	8991	36245	16976	258	301	23	95
Cannabis	SEIZED SAMPLE/2019	17/FS2/19	Sample 16	109	9787	48410	39851	202	480	16	61
Cannabis	SEIZED SAMPLE/2017	42/FS2/17	Sample 17	20	8066	27579	25568	422	368	26	77
Cannabis	SEIZED SAMPLE/2019	13/FS2/19	Sample 18	186	8439	47166	13682	272	173	16	160
Cannabis	SEIZED SAMPLE/2018	20/FS2/18	Sample 19	80	6899	31863	20363	220	408	26	105
Cannabis	SEIZED SAMPLE/2019	46/FS2/19	Sample 20	55	7811	38835	20315	457	681	11	60
Cannabis	FARM 1	C3(BAN1)	Sample 21	18	4885	31983	19717	117	464	17	69
Cannabis	FARM 2	Cc(BAN2)	Sample 22	66	7524	54220	20760	151	295	22	62
Cannabis	FARM 1	C2(BAN1)	Sample 23	67	6724	54897	21801	124	548	15	43
Cannabis	SEIZED SAMPLE/2018	38/FS2/18	Sample 24	643	5743	26030	13862	183	357	11	161
Cannabis	FARM 3	C6(EAS1)	Sample 25	31	3469	27287	14700	108	131	10	38
Cannabis	FARM 1	CB(BAN1)	Sample 26	N.D.	2830	21893	10804	73	421	6	20
Cannabis	FARM 2	CD(BAN2)	Sample 27	56	7495	52831	28598	164	495	15	43
Cannabis	SEIZED SAMPLE/2019	14/FS2/19	Sample 28	101	5095	25500	10699	270	324	24	83
Cannabis	FARM 1	C1(BAN1)	Sample 29	44	7008	36358	21698	178	371	14	40
Cannabis	FARM 3	C5(EAS1)	Sample 30	42	4958	20772	15696	233	240	13	44
Cannabis	FARM 3	C4(EAS1)	Sample 31	19	7839	45355	33533	165	400	7	35
Cannabis	FARM 3	C1(EAS1)	Sample 32	90	7634	54588	35216	175	305	12	43
Cannabis	FARM 3	C3(EAS1)	Sample 33	41	7361	43748	28662	188	832	10	37
Cannabis	FARM 3	C2(EAS1)	Sample 34	176	7817	45611	35586	203	389	9	54

Table S6. Heavy Metals Cannabis Sample Concentrations in (ng g⁻¹).

Sample Type	Sample Name	SAMPLE Code Name	Sample Number	As	Cd	Pb	Hg
Cannabis	SEIZED SAMPLE/2017	10/FS2/17	Sample 1	210	34	235	N.D.
Cannabis	SEIZED SAMPLE/2019	39/FS2/19	Sample 2	79	61	473	N.D.
Cannabis	SEIZED SAMPLE/2020	10/FS2/20	Sample 3	29	61	86	N.D.
Cannabis	SEIZED SAMPLE/2020	11/FS2/20	Sample 4	34	41	115	N.D.
Cannabis	SEIZED SAMPLE/2019	22/FS2/19	Sample 5	75	26	146	N.D.
Cannabis	SEIZED SAMPLE/2020	9/FS2/20	Sample 6	40	20	124	N.D.
Cannabis	SEIZED SAMPLE/2018	15/FS2/18	Sample 7	64	29	651	N.D.
Cannabis	SEIZED SAMPLE/2019	12/FS2/19	Sample 8	23	14	100	N.D.
Cannabis	SEIZED SAMPLE/2018	1/FS2/18	Sample 9	134	48	357	N.D.
Cannabis	SEIZED SAMPLE/2019	9/FS2/19	Sample 10	48	44	123	N.D.
Cannabis	SEIZED SAMPLE/2019	23/FS2/19	Sample 11	242	181	854	N.D.
Cannabis	SEIZED SAMPLE/2018	37/FS2/18	Sample 12	53	52	159	N.D.
Cannabis	SEIZED SAMPLE/2019	27/FS2/19	Sample 13	65	33	234	N.D.
Cannabis	SEIZED SAMPLE/2018	16/FS2/18	Sample 14	111	92	429	N.D.
Cannabis	SEIZED SAMPLE/2019	44/FS2/19	Sample 15	8	3	11	N.D.
Cannabis	SEIZED SAMPLE/2019	17/FS2/19	Sample 16	69	9	204	N.D.
Cannabis	SEIZED SAMPLE/2017	42/FS2/17	Sample 17	42	20	124	N.D.
Cannabis	SEIZED SAMPLE/2019	13/FS2/19	Sample 18	20	34	16	N.D.
Cannabis	SEIZED SAMPLE/2018	20/FS2/18	Sample 19	37	17	144	N.D.
Cannabis	SEIZED SAMPLE/2019	46/FS2/19	Sample 20	61	12	158	N.D.
Cannabis	FARM 1	C3(BAN1)	Sample 21	N.D.	N.D.	260	N.D.
Cannabis	FARM 2	Cc(BAN2)	Sample 22	N.D.	N.D.	210	N.D.
Cannabis	FARM 1	C2(BAN1)	Sample 23	N.D.	N.D.	367	N.D.
Cannabis	SEIZED SAMPLE/2018	38/FS2/18	Sample 24	N.D.	N.D.	361	N.D.
Cannabis	FARM 3	C6(EAS1)	Sample 25	N.D.	N.D.	45	N.D.
Cannabis	FARM 1	CB(BAN1)	Sample 26	N.D.	N.D.	463	N.D.
Cannabis	FARM 2	CD(BAN2)	Sample 27	N.D.	N.D.	273	N.D.
Cannabis	SEIZED SAMPLE/2019	14/FS2/19	Sample 28	N.D.	N.D.	152	N.D.
Cannabis	FARM 1	C1(BAN1)	Sample 29	N.D.	N.D.	158	N.D.
Cannabis	FARM 3	C5(EAS1)	Sample 30	N.D.	N.D.	86	N.D.
Cannabis	FARM 3	C4(EAS1)	Sample 31	109	16	305	N.D.
Cannabis	FARM 3	C1(EAS1)	Sample 32	73	22	188	N.D.
Cannabis	FARM 3	C3(EAS1)	Sample 33	229	35	635	N.D.
Cannabis	FARM 3	C2(EAS1)	Sample 34	60	12	231	N.D.

Table S7. Soil Sample Concentrations in ($\mu\text{g g}^{-1}$), As and Pb (ng g^{-1}).

Sample Type	Sample Name	Sample Code Name	Sample Number	Na	Mg	K	Ca	Mn	Fe	Cu	Zn	As	Cd	Pb	Hg
soil	C1(BAN1)	FARM 1	Sample 1	75	582	2042	807	444	9572	11	13	7	N.D.	2646	N.D.
soil	C5(EAS1)	FARM 3	Sample 2	6	605	1614	610	297	7467	5	10	1	N.D.	5017	N.D.
soil	CB(BAN1)	FARM 1	Sample 3	25	351	921	672	298	14007	10	9	11	N.D.	2041	N.D.
soil	C4(EAS1)	FARM 3	Sample 4	9	729	1756	1277	356	6036	10	25	1	N.D.	3490	N.D.
soil	C1(EAS1)	FARM 3	Sample 5	0	548	1529	833	361	5060	8	18	1	N.D.	3086	N.D.
soil	C6(EAS1)	FARM 3	Sample 6	N.D.	503	1418	809	204	4984	5	12	1	N.D.	4389	N.D.
soil	Cc(BAN2)	FARM 2	Sample 7	36	398	1539	992	311	7764	9	10	7	N.D.	2005	N.D.
soil	C2(BAN1)	FARM 1	Sample 8	86	412	2033	649	315	12896	11	10	13	N.D.	3895	N.D.
soil	C2(EAS1)	FARM 3	Sample 9	N.D.	514	1390	876	221	5293	6	13	1	N.D.	2977	N.D.
soil	C3(EAS1)	FARM 3	Sample 10	N.D.	393	1337	400	211	4536	5	8	1	N.D.	3352	N.D.
soil	C3(BAN1)	FARM 1	Sample 11	80	545	1433	1254	421	10556	10	13	11	N.D.	2351	N.D.
soil	CD(BAN2)	FARM 2	Sample 12	54	522	1464	965	467	11712	13	15	11	N.D.	2351	N.D.