

NUMERICAL DATA

Removal of soil polycyclic aromatic hydrocarbons derived from biomass fly ash by plants and organic amendments (2018)

Table 1. Initial polycyclic aromatic hydrocarbon (PAH) contents ($\mu\text{g}/\text{kg}$ dry weight) in experimental treatments.

Treatment	LMW PAHs	MMW PAHs	HMW PAHs	Total PAHs
A	745.4	371.5	484.8	1601.7
CA	750.1	376.7	477.3	1604.0
VA	739.2	387.4	493.8	1611.4
PA	730.8	417.8	526.6	1675.2
PCA	732.9	369.1	480.0	1582.0
PVA	725.8	401.0	483.3	1610.1

All values represent means ($n = 4$). There were no significant differences ($P < 0.05$) in initial PAH contents between the treatments: A – ash-soil; CA – compost-ash-soil; VA – vermicompost-ash-soil; PA – planted ash-soil; PCA – planted compost-ash-soil; PVA – planted vermicompost-ash-soil; LMW PAHs – low molecular weight PAHs; MMW PAHs – medium molecular weight PAHs; HMW PAHs – high molecular weight PAHs; total PAHs – the sum of all 16 individual PAHs.

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Table 1: Yield of maize roots and shoots, polycyclic aromatic hydrocarbon (PAH) concentration in roots and PAH removal by roots.

Treatment	Root (g/pot DW)	Shoot (g/pot DW)	Total PAHs in roots (μg PAH/kg roots DW)	Plant PAH removal (%)
PS	15.8 ^b	106.9 ^a	nd	nd
PC	22.4 ^a	111.5 ^a	nd	nd
PV	22.1 ^a	105.5 ^a	nd	nd
PA	15.5 ^b	109.5 ^a	83.8 ^b	0.02 ^b
PCA	22.7 ^a	105.1 ^a	143.9 ^a	0.04 ^a
PVA	22.8^b	106.0^a	161.2^a	0.04^a

nd – not detected (individual PAHs were lower than the detection limit in the range between 1.8–5.6 $\mu\text{g}/\text{kg}$ dry weight (DW)). All values represent means ($n = 4$). Different lower case letters within the same column indicate significant differences ($P < 0.05$) between the treatments: PS – planted soil (control for plants); PC – planted compost-soil; PV – planted vermicompost-soil; PA – planted ash-soil; PCA – planted compost-ash-soil; PVA – planted vermicompost-ash-soil

Floristic surveys of hydrocarbon-polluted sites in some Cameroonian cities (Central Africa) (2018)

Table 1: Relative frequency of some taxa in the hydrocarbon-polluted sites. NB: The values for control sites are in brackets.

Families	Plant species	Relative frequency (%)									
		Douala		Kribi		Limbe		Yaounde		Means	
Poaceae	<i>Eleusine indica</i>	64	(33)	80	(29)	8	(16)	86	(14)	78.7	(23)
	<i>Cynodon dactylon</i>	47	(33)	36	(0)	6	(33)	64	(28)	54	(32.5)
	<i>Acroceras zizanioides</i>	26	(11)	26	(0)	0	(0)	29	(14)	20.2	(12.75)
	<i>Axonopus compressus</i>	21	(0)	30	(0)	0	(0)	21	(29)	18	(14.75)
	<i>Panicum maximum</i>	10	(83)	24	(57)	0	(0)	86	(0)	30	(35)
Amaranthaceae	<i>Alternanthera sessilis</i>	51	(50)	13	(0)	4	(66)	64	(0)	43.5	(29)
	<i>Cyathula prostrata</i>	33	(16)	31	(71)	1	(66)	21	(0)	25	(38.25)
	<i>Amaranthus esculentus</i>	0	(0)	5	(29)	0	(0)	57	(57)	15.5	(21.5)
Asteraceae	<i>Vernonia cinerea</i>	16	(0)	24	(29)	5	(33)	21	(0)	28.7	(15.5)
	<i>Bidens pilosa</i>	0	(0)	0	(0)	0	(0)	14	(0)	3.5	(0)
	<i>Mimosa pudica</i>	13	(0)	0	(43)	1	(33)	50	(71)	19.5	(36.75)
	<i>Eclipta prostrata</i>	27	(33)	15	(57)	8	(33)	14	(0)	16	(30.75)
	<i>Synedrella nodiflora</i>	0	(0)	0	(29)	5	(33)	7	(0)	15.2	(15.5)
Euphorbiaceae	<i>Phyllanthus amarus</i>	23	(17)	26	(28)	4	(66)	21	(0)	29	(27.75)
	<i>Euphorbia hirta</i>	4	(0)	15	(57)	6	(66)	14	(0)	25.5	(30.75)
Cyperaceae	<i>Cyperus esculentus</i>	11	(16)	31	(45)	2	(50)	29	(0)	23.5	(27.75)
	<i>Cyperus alternifolius</i>	1	(50)	28	(12)	0	(0)	0	(0)	7.25	(15.5)
Capparaceae	<i>Cleome ciliata</i>	31	(33)	35	(43)	5	(83)	29	(0)	37.2	(39.75)
Commelinaceae	<i>Commelina benghalensis</i>	26	(16)	26	(14)	6	(50)	43	(42)	41	(30.5)
Acanthaceae	<i>Asystasia gangetica</i>	22	(50)	15	(0)	6	(66)	29	(29)	32	(36.25)

Source: https://www.researchgate.net/publication/323560742_Floristic_surveys_of_hydrocarbon-polluted_sites_in_some_Cameroonian_cities_Central_Africa

Dissipation and phytoremediation of polycyclic aromatic hydrocarbons in freshly spiked and long-term field-contaminated soils (2017)

Table 1: Concentrations of PAHs in field-contaminated soils after 10-months plant cultivation.

PAHs (rings)	Anthrosols						Phaeozems					
	Initial (μgkg^{-1})		Unplanted ($\mu\text{g kg}^{-1}$)		Initial ($\mu\text{g kg}^{-1}$)		Unplanted ($\mu\text{g kg}^{-1}$)		Initial ($\mu\text{g kg}^{-1}$)		Unplanted ($\mu\text{g kg}^{-1}$)	
Nap (2)	N.D.		N.D.		N.D.		729	± 16 a	665	± 50 b	682	± 20 b
Ace (3)	32 \pm 2 a		11 \pm 2 b		9 \pm 9 b		335	± 18 a	326	± 9 ab	295	± 20 b
Flu (3)	30 \pm 4 a		19 \pm 6 ab		8 \pm 9 b		322	± 12 a	308	± 4 a	245	± 41 b
Phe (3)	487	± 32 a	407	± 39 a	42	± 10 a	3140	± 121 a	294	± 134 ab	285	± 47 b
					6				9		4	
Ant (3)	15 \pm 3 a		16 \pm 9 a		13 \pm 8 a		441	± 17 a	406	± 26 ab	366	± 40 b
FluA (4)	1924 \pm 94 a		176	± 52 b	16	± 19 b	3325	± 178 a	323	± 13 a	335	± 132 a
			4		97				6		9	
Pyr (4)	1511 \pm 11 a		138	± 52 b	13	± 12 b	2615	± 126 a	252	± 41 a	262	± 69 a
			4		29				6		9	
BaA (4)	1038 \pm 12 a		916	± 15 b	86	± 7 c	1990	± 23 a	197	± 48 a	193	± 75 a
					5				8		1	
Chry (4)	902	± 4 a	920	± 63 a	85	± 35 a	2093	± 31 ab	204	± 78 b	217	± 53 a
					9				7		3	
BbF (5)	1161 \pm 7 a		107	± 3 b	10	± 7 c	1743	± 7 a	170	± 13 a	172	± 79 a
			4		05				6		2	
BkF (5)	503	± 18 a	466	± 5 b	43	± 7 b	868	± 26 a	846	± 6 a	887	± 46 a
					9							
BaP (5)	936	± 24 a	898	± 10 a	82	± 32 b	1902	± 23 ab	177	± 14 b	194	± 98 a
					3				2		4	
DBA (5)	21 \pm 2 a		16 \pm 1 b		13 \pm 1 b		30	± 3 b	27	± 1 b	35	± 1 a
BP (6)	1073 \pm 34 a		544	± 8 b	54	± 60 b	939	± 26 a	872	± 72 a	934	± 75 a
					6							
IP (6)	845	± 17 b	980	± 51 a	83	± 54 b	1233	± 20 b	133	± 63 b	144	± 77 a
					8				5		6	
Total	10,478 \pm 198 a		941	± 286 b	88	± 78 c	21,705	± 459 a	20,997	± 456 a	21,501	± 425 a

Mean of three replicates (\pm standard deviation). N.D. means not detected. Within a row, values followed by different letters are significantly different for each soil according to a Turkey's test ($p < 0.05$)

Table 1: Concentrations of PAHs in plant shoots and roots for field-contaminated soils.

PAHs (rings)	Anthrosols				Phaeozems			
	Shoot ($\mu\text{g kg}^{-1}$)		Root ($\mu\text{g kg}^{-1}$)		Shoot ($\mu\text{g kg}^{-1}$)		Root ($\mu\text{g kg}^{-1}$)	
Nap (2)	47 \pm 4 Ab		154	\pm 46 Aa	48 \pm 13 Ab		133	\pm 13 Aa
Ace (3)	N.D.		4	\pm 4 A	N.D.		5	\pm 4 A
Flu (3)	23 \pm 7 Aa		72	\pm 36 Aa	14 \pm 2 Ab		24	\pm 4 Ba
Phe (3)	349	\pm 74 Aa	566	\pm 179 Aa	180 \pm 26 Ba		220	\pm 27 Ba
Ant (3)		26 \pm 4 Ab	172	\pm 36 Aa	14 \pm 3 Ba		22	\pm 19 Ba
FluA (4)	225	\pm 7 Aa	210	\pm 29 Aa	115 \pm 18 Ba		143	\pm 12 Ba
Pyr (4)	203	\pm 9 Aa	226	\pm 14 Aa	127 \pm 10 Bb		159	\pm 7 Ba
BaA (4)	125	\pm 13 Ab	286	\pm 36 Aa	67 \pm 15 Bb		126	\pm 2 Ba
Chry (4)		7 \pm 5 Ab	41	\pm 14 Aa	1 \pm 0 Ab		61	\pm 12 Aa
BbF (5)		18 \pm 5 Ab	153	\pm 24 Aa	5 \pm 4 Bb		80	\pm 7 Ba
BkF (5)		9 \pm 2 Ab	48	\pm 10 Aa	6 \pm 1 Ab		36	\pm 6 Aa
BaP (5)		3 \pm 3 Ab	44	\pm 15 Aa	2 \pm 1 Ab		63	\pm 14 Aa
DBA (5)	N.D.		1	\pm 1 A	N.D.		3	\pm 1 A
BP (6)		N.D.	85	\pm 8 A	N.D.		47	\pm 1 B
IP (6)		N.D.	26	\pm 10 A	N.D.		92	\pm 70 A
Total		1035 \pm 64 Ab	2086	\pm 407 Aa	578 \pm 88 Bb		1212	\pm 112 Ba

Mean of three replicates (\pm standard deviation). N.D. means not detected. Within a row, values followed by different uppercase and lowercase letters are significantly different for same organ of different soils and for different organs of same soil, respectively, according to a Turkey's test ($p < 0.05$)

Source: <https://link.springer.com/article/10.1007/s11356-017-8459-x>