

Zeolites Reduce the Transfer of Potentially Toxic Elements from Soil to Leafy Vegetables

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Table S1 Bioaccumulation factor for shoots (BAFs) and for roots (BAFr) calculated for spinach, lettuce and parsley grown on soil-zeolite mixtures in proportion of 0 (control), 50 zeolite/kg soil (5%) and 100 g zeolite/kg soil (10%) using the pseudo total (PT), bioavailable (BA) or water soluble (WS) PTE fractions from soil.

Dose	PT						WS						BA					
	BAFs			BAFr			BAFs			BAFr			BAFs			BAFr		
	0	5	10	0	5	10	0	5	10	0	5	10	0	5	10	0	5	10
Spinach																		
Cd	0.09	0.08	0.07	0.34	0.34	0.35	79.8	75.8	65.2	311	313	329	0.43	0.40	0.31	1.69	1.66	1.57
Cr	0.18	0.18	0.12	0.26	0.23	0.17	113	108	78.7	157	142	107	5.42	5.27	5.06	7.50	6.90	6.87
Co	0.02	0.02	0.01	0.17	0.11	0.02	15.0	13.3	10.3	142	89.6	13.2	0.32	0.30	0.28	2.99	1.99	0.36
Cu	0.12	0.12	0.10	0.32	0.26	0.11	31.8	30.7	26.5	86.0	70.3	27.2	0.40	0.35	0.31	1.07	0.81	0.32
Mn	0.03	0.02	0.02	0.14	0.11	0.09	127	132	140	598	634	601	0.74	0.59	0.55	3.49	2.81	2.37
Ni	0.09	0.09	0.07	0.70	0.55	0.09	43.7	37.0	26.1	354	219	35.1	1.07	0.93	0.87	8.70	5.47	1.17
Pb	0.01	0.01	0.01	0.28	0.20	0.03	19.2	18.2	16.6	739	600	100	0.05	0.04	0.03	1.75	1.34	0.21
Zn	0.50	0.38	0.26	0.34	0.27	0.20	284	242	226	193	168	168	3.67	3.01	2.12	2.5	2.09	1.58
Lettuce																		
Cd	0.34	0.30	0.26	1.02	0.95	0.33	306	271	247	932	868	311	1.66	1.43	1.18	5.05	4.6	1.48
Cr	0.26	0.24	0.15	1.51	0.94	0.21	158	150	100	928	580	133	7.57	7.32	6.43	44.4	28.0	8.57
Co	0.37	0.34	0.26	1.02	0.68	0.29	316	286	230	861	572	250	6.65	6.35	6.23	18.1	13.0	6.78
Cu	0.14	0.11	0.10	0.29	0.24	0.12	37.8	30.6	24.9	79	63.9	29.6	0.47	0.35	0.29	0.98	0.70	0.35
Mn	0.03	0.02	0.02	0.79	0.47	0.16	112	126	108	3490	2684	1120	0.65	0.56	0.43	20.4	12.0	4.42
Ni	0.74	0.81	0.60	1.88	2.08	0.72	375	323	234	947	833	281	9.21	8.07	7.79	23.3	20.8	9.38
Pb	0.06	0.05	0.03	0.89	0.71	0.04	168	141	86.4	2359	2144	135	0.40	0.31	0.18	5.58	4.77	0.28
Zn	0.08	0.06	0.04	1.16	0.73	0.13	47.7	36.9	34.8	665	460	111	0.62	0.46	0.33	8.60	5.71	1.05
Parsley																		
Cd	0.02	0.02	0.01	0.09	0.07	0.02	17.4	16.4	6.30	84.1	64.1	15.9	0.09	0.09	0.03	0.46	0.34	0.08
Cr	0.07	0.03	0.02	0.11	0.06	0.03	43.1	21.5	15.1	64.5	39.2	18.9	2.06	1.05	0.97	3.09	1.91	1.21
Co	0.01	0.01	0.01	0.05	0.03	0.01	8.90	7.90	5.10	40.0	24.9	7.5	0.19	0.18	0.14	0.84	0.55	0.20
Cu	0.12	0.09	0.09	0.21	0.17	0.10	33.2	25.0	22.8	56.3	45.0	24.2	0.41	0.29	0.27	0.70	0.52	0.28
Mn	0.02	0.02	0.01	0.07	0.05	0.02	94.4	95.8	94.3	329	288	107	0.55	0.42	0.37	1.92	1.28	0.42
Ni	0.24	0.27	0.18	0.43	0.44	0.26	120	107	69.3	218	175	100	2.95	2.68	2.31	5.35	4.37	3.33
Pb	0.01	0.01	0.01	0.08	0.05	0.04	35.4	31.2	25.7	221	145	119	0.08	0.07	0.05	0.52	0.32	0.25
Zn	0.09	0.06	0.04	0.15	0.11	0.08	50.9	35.1	31.0	84.5	67.9	64.8	0.66	0.44	0.29	1.09	0.84	0.61

Table S2. Transfer factors of PTEs for spinach, lettuce and parsley grown in soil-zeolite mixtures in control (0), 50 g zeolite/kg soil amendment (5%) and 100 g zeolite/kg soil amendment (10%).

TF	Spinach			Lettuce			Parsley		
	0	5	10	0	5	10	0	5	10
Cd	0.26	0.24	0.20	0.33	0.31	0.80	0.21	0.26	0.40
Cr	0.72	0.76	0.74	0.17	0.26	0.75	0.67	0.55	0.80
Co	0.11	0.15	0.78	0.37	0.50	0.92	0.22	0.32	0.68
Cu	0.37	0.44	0.97	0.48	0.48	0.84	0.59	0.56	0.94
Mn	0.21	0.21	0.23	0.03	0.05	0.10	0.29	0.33	0.88
Ni	0.12	0.17	0.74	0.40	0.39	0.83	0.55	0.61	0.69
Pb	0.03	0.03	0.17	0.07	0.07	0.64	0.16	0.22	0.22
Zn	1.47	1.44	1.34	0.07	0.08	0.31	0.60	0.52	0.48