

Effect of soil washing with only chelators or combining
heavy metal removal and phytoavailability: Field experi

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Citation Report

#	ARTICLE	IF	CITATIONS
1	Removal of mercury from marine sediments by the combined application of a biodegradable non-ionic surfactant and complexing agent in enhanced-electrokinetic treatment. <i>Electrochimica Acta</i> , 2016, 222, 1569-1577.	2.6	40
2	Efficiency of several leaching reagents on removal of Cu, Pb, Cd, and Zn from highly contaminated paddy soil. <i>Environmental Science and Pollution Research</i> , 2016, 23, 23271-23280.	2.7	18
3	Bioremediation of agricultural solid waste leachates with diverse species of Cu (II) and Cd (II) by periphyton. <i>Bioresource Technology</i> , 2016, 221, 214-221.	4.8	32
4	Removal of Cadmium from Contaminated Soils by Multiple Washing with Iron (III) Chloride. <i>Soil and Sediment Contamination</i> , 2016, 25, 624-636.	1.1	2
5	Humic substances as a washing agent for Cd-contaminated soils. <i>Chemosphere</i> , 2017, 181, 461-467.	4.2	79
6	A comparison of technologies for remediation of heavy metal contaminated soils. <i>Journal of Geochemical Exploration</i> , 2017, 182, 247-268.	1.5	877
7	Enhancing the soil heavy metals removal efficiency by adding HPMA and PBTCA along with plant washing agents. <i>Journal of Hazardous Materials</i> , 2017, 339, 33-42.	6.5	51
8	Remediation of Hg-contaminated marine sediments by simultaneous application of enhancing agents and microwave heating (MWH). <i>Chemical Engineering Journal</i> , 2017, 321, 1-10.	6.6	24
9	A combined process coupling phytoremediation and in situ flushing for removal of arsenic in contaminated soil. <i>Journal of Environmental Sciences</i> , 2017, 57, 104-109.	3.2	19
10	Electrochemical oxidation of thallium (I) in groundwater by employing single-chamber microbial fuel cells as renewable power sources. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 29454-29462.	3.8	21
11	Modeling and prediction of copper removal from aqueous solutions by nZVI/rGO magnetic nanocomposites using ANN-GA and ANN-PSO. <i>Scientific Reports</i> , 2017, 7, 18040.	1.6	82
12	Remediation of multiple heavy metal-contaminated soil through the combination of soil washing and in situ immobilization. <i>Science of the Total Environment</i> , 2018, 635, 92-99.	3.9	198
13	Advances in Remediation of Acid Agricultural Soils Contaminated by Heavy Metals in South China. , 2018, , 389-397.		1
14	Compound washing remediation and response surface analysis of lead-contaminated soil in mining area by fermentation broth and saponin. <i>Environmental Science and Pollution Research</i> , 2018, 25, 6899-6908.	2.7	4
15	Effect of soil washing with biodegradable chelators on the toxicity of residual metals and soil biological properties. <i>Science of the Total Environment</i> , 2018, 625, 1021-1029.	3.9	99
16	Study of factors involved in the gravimetric separation process to treat soil contaminated by municipal solid waste. <i>Journal of Environmental Management</i> , 2018, 209, 23-36.	3.8	5
17	Using poly-glutamic acid as soil-washing agent to remediate heavy metal-contaminated soils. <i>Environmental Science and Pollution Research</i> , 2018, 25, 5231-5242.	2.7	39
18	An overview of field-scale studies on remediation of soil contaminated with heavy metals and metalloids: Technical progress over the last decade. <i>Water Research</i> , 2018, 147, 440-460.	5.3	323

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19	Feasibility of Chinese cabbage (<i>Brassica bara</i>) and lettuce (<i>Lactuca sativa</i>) cultivation in heavily metals-contaminated soil after washing with biodegradable chelators. <i>Journal of Cleaner Production</i> , 2018, 197, 479-490.	4.6	44
20	Effect of mixed chelators of EDTA, GLDA, and citric acid on bioavailability of residual heavy metals in soils and soil properties. <i>Chemosphere</i> , 2018, 209, 776-782.	4.2	116
21	Two-stage multi-fraction first-order kinetic modeling for soil Cd extraction by EDTA. <i>Chemosphere</i> , 2018, 211, 1035-1042.	4.2	11
22	Feasibility of nanoscale zero-valent iron to enhance the removal efficiencies of heavy metals from polluted soils by organic acids. <i>Ecotoxicology and Environmental Safety</i> , 2018, 162, 464-473.	2.9	46
23	Removal of cadmium from a citrate-bearing solution by floatable micro-sized garlic peel. <i>RSC Advances</i> , 2018, 8, 28284-28292.	1.7	19
24	Effects of biodegradable chelator combination on potentially toxic metals leaching efficiency in agricultural soils. <i>Ecotoxicology and Environmental Safety</i> , 2019, 182, 109399.	2.9	42
25	Enhanced Phytoextraction for Co-contaminated Soil with Cd and Pb by Ryegrass (<i>Lolium perenne</i> L.). <i>Bulletin of Environmental Contamination and Toxicology</i> , 2019, 103, 147-154.	1.3	14
26	Assessment of phytoextraction using <i>Sedum plumbizincicola</i> and rice production in Cd-polluted acid paddy soils of south China: A field study. <i>Agriculture, Ecosystems and Environment</i> , 2019, 286, 106651.	2.5	38
27	Revitalization of Mixed Chelator-Washed Soil by Adding of Inorganic and Organic Amendments. <i>Water, Air, and Soil Pollution</i> , 2019, 230, 1.	1.1	9
28	Comparing chemical extraction and a piecewise function with diffusive gradients in thin films for accurate estimation of soil zinc bioavailability to <i>Sedum plumbizincicola</i> . <i>European Journal of Soil Science</i> , 2019, 70, 1141-1152.	1.8	6
29	Combining potassium chloride leaching with vertical electrokinetics to remediate cadmium-contaminated soils. <i>Environmental Geochemistry and Health</i> , 2019, 41, 2081-2091.	1.8	11
30	A Soluble Humic Substance for the Simultaneous Removal of Cadmium and Arsenic from Contaminated Soils. <i>International Journal of Environmental Research and Public Health</i> , 2019, 16, 4999.	1.2	19
31	Extraction of Cd and Pb from contaminated-paddy soil with EDTA, DTPA, citric acid and FeCl ₃ and effects on soil fertility. <i>Journal of Central South University</i> , 2019, 26, 2987-2997.	1.2	13
32	Potassium lignosulfonate as a washing agent for remediating lead and copper co-contaminated soils. <i>Science of the Total Environment</i> , 2019, 658, 836-842.	3.9	45
33	Remediation of cadmium, lead and zinc in contaminated soil with CETSA and MA/AA. <i>Journal of Hazardous Materials</i> , 2019, 366, 177-183.	6.5	46
34	Aluminum toxicity decreases the phytoextraction capability by cadmium/zinc hyperaccumulator <i>Sedum plumbizincicola</i> in acid soils. <i>Science of the Total Environment</i> , 2020, 711, 134591.	3.9	22
35	Recycling of Chemical Eluent and Soil Improvement After Leaching. <i>Bulletin of Environmental Contamination and Toxicology</i> , 2020, 104, 128-133.	1.3	3
36	Use of Soil Enzymes as Indicators for Contaminated Soil Monitoring and Sustainable Management. <i>Sustainability</i> , 2020, 12, 8209.	1.6	59

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37	Effect of soil washing on heavy metal removal and soil quality: A two-sided coin. <i>Ecotoxicology and Environmental Safety</i> , 2020, 203, 110981.	2.9	53
38	Remediation of a metal-contaminated soil by chemical washing and repeated phytoextraction: a field experiment. <i>International Journal of Phytoremediation</i> , 2021, 23, 1-8.	1.7	6
39	The Improvement Effects of Different Treatment Methods of Soil Wastewater Washing on Environmental Pollution. <i>Water (Switzerland)</i> , 2020, 12, 2329.	1.2	6
40	Optimization of Cadmium and Zinc Removal from Contaminated Soil by Surfactants Using Mixture Design and Central Composite Rotatable Design. <i>Water, Air, and Soil Pollution</i> , 2020, 231, 1.	1.1	5
41	Study of Catalysts's Influence on Photocatalysis/Photodegradation of Olive Oil Mill Wastewater. Determination of the Optimum Working Conditions. <i>Catalysts</i> , 2020, 10, 554.	1.6	4
42	The removal of Cu, Ni, and Zn in industrial soil by washing with EDTA-organic acids. <i>Arabian Journal of Chemistry</i> , 2020, 13, 5160-5170.	2.3	59
43	Effect of inorganic and organic amendments on maize biomass, heavy metals uptake and their availability in calcareous and acidic washed soil. <i>Environmental Technology and Innovation</i> , 2020, 19, 101038.	3.0	13
44	Response Surface Method Analysis on Electro-Enhanced Technique for Remediation of Cadmium Contaminated Soil. <i>Materials Science Forum</i> , 2020, 980, 502-511.	0.3	1
45	Characteristics and in situ remediation effects of heavy metal immobilizing bacteria on cadmium and nickel co-contaminated soil. <i>Ecotoxicology and Environmental Safety</i> , 2020, 192, 110294.	2.9	55
46	Simultaneous removal of multiple heavy metals from soil by washing with citric acid and ferric chloride. <i>RSC Advances</i> , 2020, 10, 7432-7442.	1.7	25
47	Amendment additions and their potential effect on soil geotechnical properties: A perspective review. <i>Critical Reviews in Environmental Science and Technology</i> , 2021, 51, 535-576.	6.6	2
48	Phytoremediation of abandoned mining areas for land restoration: Approaches and technology. , 2021, , 33-56.		2
49	Role of Biosurfactants in Agriculture and Soil Reclamation. , 2021, , 145-174.		0
50	Morphological transformation of heavy metals and their distribution in soil aggregates during biotransformation of livestock manure. <i>Biocatalysis and Agricultural Biotechnology</i> , 2021, 32, 101963.	1.5	8
51	Remediation of Metal/Metalloid-Polluted Soils: A Short Review. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 4134.	1.3	65
52	In situ cadmium removal from paddy soils by a reusable remediation device and its health risk assessment in rice. <i>Environmental Technology and Innovation</i> , 2021, 23, 101713.	3.0	6
53	Microbial investigations of new hydrogel-biochar composites as soil amendments for simultaneous nitrogen-use improvement and heavy metal immobilization. <i>Journal of Hazardous Materials</i> , 2022, 424, 127154.	6.5	11
54	Metabolism-mediated induction of zinc tolerance in <i>Brassica rapa</i> by <i>Burkholderia cepacia</i> CS2-1. <i>Journal of Microbiology</i> , 2017, 55, 955-965.	1.3	11

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55	Amelioration of heavy metal stress by endophytic <i>Bacillus amyloliquefaciens</i> RWL-1 in rice by regulating metabolic changes: potential for bacterial bioremediation. <i>Biochemical Journal</i> , 2019, 476, 3385-3400.	1.7	33
56	Remediation of heavy metal contamination of sediments and soils using ligand-coated dense nanoparticles. <i>PLoS ONE</i> , 2020, 15, e0239137.	1.1	6
57	Evaluation of the addition of immobilizing agents on selected physicochemical properties of soil contaminated with heavy metals. <i>Polish Journal of Soil Science</i> , 2018, 51, 59.	0.3	4
58	Recent advances in chemical methods for remediation of heavy metals contaminated soils: A Review. <i>Emergent Life Sciences Research</i> , 2018, 4, 45-50.	0.0	2
59	Dolomite and Compost Amendments Enhance Cu Phytostabilization and Increase Microbiota of the Leachates from a Cu-Contaminated Soil. <i>Agronomy</i> , 2020, 10, 719.	1.3	6
60	REMOVAL OF CADMIUM FROM CONTAMINATED SOIL USING IRON (III) OXIDE NANOPARTICLES STABILIZED WITH POLYACRYLIC ACID. <i>Journal of Environmental Engineering and Landscape Management</i> , 2018, 26, 98-106.	0.4	16
61	OPTIMIZATION OF EDTA ENHANCED SOIL WASHING ON MULTIPLE HEAVY METALS REMOVAL USING RESPONSE SURFACE METHODOLOGY. <i>Journal of Environmental Engineering and Landscape Management</i> , 2018, 26, 241-250.	0.4	4
62	Remediation Technology for Copper Contaminated Soil: A Review. <i>Asian Soil Research Journal</i> , 0, , 1-7.	0.0	16
63	New Approaches Regarding Remediation Techniques of Heavy Metal Contaminated Soils from Mining Areas. <i>Studia Universitatis Babeş-Bolyai Ambientum</i> , 2018, 63, 15-31.	0.0	0
64	Comparative study on washing effects of different washing agents and conditions on heavy metal contaminated soil. <i>Surfaces and Interfaces</i> , 2021, 27, 101563.	1.5	8
65	Remediation of iron oxide bound Pb and Pb-contaminated soils using a combination of acid washing agents and l-ascorbic acid. <i>RSC Advances</i> , 2020, 10, 37808-37817.	1.7	1
66	Bioremediation of Heavy Metal Contaminated Soils Originated from Iron Ore Mine by Bio-augmentation with Native Cyanobacteria. <i>Iranica Journal of Energy & Environment</i> , 2020, 11, .	0.2	5
67	Application of Soil Washing and Thermal Desorption for Sustainable Remediation and Reuse of Remediated Soil. <i>Sustainability</i> , 2021, 13, 12523.	1.6	10
68	Effect of Soil Washing with Ferric Chloride on Cadmium Removal and Soil Structure. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 10956.	1.3	3
69	Removal and magnetic recovery of heavy metals and pesticides from soil by layered double hydroxides modified biotite. <i>Chemical Engineering Journal</i> , 2022, 431, 134113.	6.6	26
70	Remediation of chromium contaminated soil by soil washing using EDTA and N-acetyl-L-cysteine as the chelating agents. <i>Progress in Organic Coatings</i> , 2022, 165, 106704.	1.9	15
71	The Phytoextraction by <i>Zea mays</i> of Residual Metals in Ethylenediaminetetraacetic Acid-Washed Soils. <i>Chemistry Africa</i> , 2022, 5, 395.	1.2	0
72	Combination of High-Efficiency Biodegradable Washing Agents for Simultaneous Removal of Cd, Pb and as from Smelting Soil with Complex Contamination and Risk Assessment. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0

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73	Ferric Chloride Amendment Reduces Phosphorus Losses from Flooded Soil Monoliths to Overlying Floodwater. <i>Canadian Journal of Soil Science</i> , 0, , .	0.5	1
74	Effect of different washing solutions on soil enzyme activity and microbial community in agricultural soil severely contaminated with cadmium. <i>Environmental Science and Pollution Research</i> , 2022, 29, 54641-54651.	2.7	13
75	Revitalization of Total Petroleum Hydrocarbon Contaminated Soil Remediated by Landfarming. <i>Toxics</i> , 2022, 10, 147.	1.6	2
76	Destabilization and exchange removal of arsenic in contaminated soils by washing: A new remediation strategy with high efficiency and low mineral loss. <i>Surfaces and Interfaces</i> , 2022, 29, 101805.	1.5	4
77	A critical review on EDTA washing in soil remediation for potentially toxic elements (PTEs) pollutants. <i>Reviews in Environmental Science and Biotechnology</i> , 2022, 21, 399-423.	3.9	12
78	Co-high-efficiency washing agents for simultaneous removal of Cd, Pb and As from smelting soil with risk assessment. <i>Chemosphere</i> , 2022, 300, 134581.	4.2	13
80	Washing Reagents for Remediating Heavy-Metal-Contaminated Soil: A Review. <i>Frontiers in Earth Science</i> , 2022, 10, .	0.8	7
81	A review for recent advances on soil washing remediation technologies. <i>Bulletin of Environmental Contamination and Toxicology</i> , 2022, 109, 651-658.	1.3	10
82	Reduction of cadmium bioavailability in paddy soil and its accumulation in brown rice by FeCl ₃ washing combined with biochar: A field study. <i>Science of the Total Environment</i> , 2022, 851, 158186.	3.9	5
83	Leaching and characterization studies of heavy metals in contaminated soil using sequenced reagents of oxalic acid, citric acid, and a copolymer of maleic and acrylic acid instead of ethylenediaminetetraacetic acid. <i>Environmental Science and Pollution Research</i> , 2023, 30, 6919-6934.	2.7	1
84	Immobilization of Cr(â...¥) in polluted soil using activated carbon fiber supported FeAl-LDH. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2022, 652, 129884.	2.3	9
85	Background level, occurrence, speciation, bioavailability, uptake detoxification mechanisms and management of Zn-polluted soils. , 2022, , 165-220.		0
86	A review on heavy metal and metalloid contamination of vegetables: addressing the global safe food security concern. <i>International Journal of Environmental Analytical Chemistry</i> , 0, , 1-22.	1.8	3
87	Potential mechanisms contributing to the high cadmium removal efficiency from contaminated soil by using effective microorganisms as novel electrolyte in electrokinetic remediation applications. <i>Environmental Research</i> , 2022, 215, 114239.	3.7	7
88	Remediation of Heavy Metal-Contaminated Soils with Soil Washing: A Review. <i>Sustainability</i> , 2022, 14, 13058.	1.6	18
89	Adsorption performance of layered double hydroxides for heavy metals removal in soil with the presence of microplastics. <i>Journal of Environmental Chemical Engineering</i> , 2022, 10, 108733.	3.3	11
90	Effective soil washing for Cu removal in industrial soil remediation. <i>Energy Sources, Part A: Recovery, Utilization and Environmental Effects</i> , 2022, 44, 10270-10284.	1.2	2
91	Study on the Remediation of Cadmium/Mercury Contaminated Soil by Leaching: Effectiveness, Conditions, and Ecological Risks. <i>Water, Air, and Soil Pollution</i> , 2023, 234, .	1.1	1

#	ARTICLE	IF	CITATIONS
92	Recycled biochar adsorption combined with CaCl ₂ washing to increase rice yields and decrease Cd levels in grains and paddy soils: A field study. <i>Science of the Total Environment</i> , 2023, 865, 161265.	3.9	0
93	Field experiments to assess the remediation efficiency of metal-contaminated soil by flushing with ferric chloride followed by applying amendments. <i>Science of the Total Environment</i> , 2023, 868, 161592.	3.9	1
94	Innovative Resource Recovery from Industrial Sites: A Critical Review. <i>Sustainability</i> , 2023, 15, 489.	1.6	1
95	Aqueous Recovery of Zinc and Lead from Coal Fly Ashes of a Colombian Thermoelectric Plant. <i>Ingenieria E Investigacion</i> , 2022, 43, e95364.	0.2	2
96	Remediation of Sb-Contaminated Soil by Low Molecular Weight Organic Acids Washing: Efficiencies and Mechanisms. <i>Sustainability</i> , 2023, 15, 4147.	1.6	3
97	Environmental remediation of Pb–Cd contaminated soil with organic phosphonic acids-saponin: Conditions, effectiveness, ecological risk and recovery. <i>Chemosphere</i> , 2023, 322, 138122.	4.2	3
103	Remediation Strategies of Cd Contaminated Soil in Mining Areas. <i>Environmental Science and Engineering</i> , 2023, , 257-272.	0.1	0
107	Current technologies for heavy metal removal from food and environmental resources. <i>Food Science and Biotechnology</i> , 0, , .	1.2	0