

# Muhammad Riaz

## List of Publications by Year in descending order

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123  
papers

4,399  
citations

117453

34  
h-index

133063

59  
g-index

125  
all docs

125  
docs citations

125  
times ranked

4228  
citing authors

#	ARTICLE	IF	CITATIONS
1	Biochar soil amendment on alleviation of drought and salt stress in plants: a critical review. <i>Environmental Science and Pollution Research</i> , 2017, 24, 12700-12712.	2.7	352
2	Arbuscular mycorrhizal fungi-induced mitigation of heavy metal phytotoxicity in metal contaminated soils: A critical review. <i>Journal of Hazardous Materials</i> , 2021, 402, 123919.	6.5	266
3	Advances in microbe-assisted reclamation of heavy metal contaminated soils over the last decade: A review. <i>Journal of Environmental Management</i> , 2017, 198, 132-143.	3.8	178
4	Combined ability of chromium (Cr) tolerant plant growth promoting bacteria (PGPB) and salicylic acid (SA) in attenuation of chromium stress in maize plants. <i>Plant Physiology and Biochemistry</i> , 2016, 108, 456-467.	2.8	158
5	Biochar improves phosphorus use efficiency of organic-inorganic fertilizers, maize-wheat productivity and soil quality in a low fertility alkaline soil. <i>Field Crops Research</i> , 2017, 214, 25-37.	2.3	153
6	Influence of phosphorus on copper phytoextraction via modulating cellular organelles in two jute ( <i>Corchorus capsularis</i> L.) varieties grown in a copper mining soil of Hubei Province, China. <i>Chemosphere</i> , 2020, 248, 126032.	4.2	137
7	Cadmium uptake and translocation: selenium and silicon roles in Cd detoxification for the production of low Cd crops: a critical review. <i>Chemosphere</i> , 2021, 273, 129690.	4.2	116
8	Sugarcane bagasse-derived biochar reduces the cadmium and chromium bioavailability to mash bean and enhances the microbial activity in contaminated soil. <i>Journal of Soils and Sediments</i> , 2018, 18, 874-886.	1.5	114
9	A review of biochar-based sorbents for separation of heavy metals from water. <i>International Journal of Phytoremediation</i> , 2020, 22, 111-126.	1.7	110
10	Role of iron-lysine on morpho-physiological traits and combating chromium toxicity in rapeseed ( <i>Brassica napus</i> L.) plants irrigated with different levels of tannery wastewater. <i>Plant Physiology and Biochemistry</i> , 2020, 155, 70-84.	2.8	96
11	Arsenic in a groundwater environment in Bangladesh: Occurrence and mobilization. <i>Journal of Environmental Management</i> , 2020, 262, 110318.	3.8	96
12	Application of abscisic acid and 6-benzylaminopurine modulated morpho-physiological and antioxidative defense responses of tomato ( <i>Solanum lycopersicum</i> L.) by minimizing cobalt uptake. <i>Chemosphere</i> , 2021, 263, 128169.	4.2	88
13	<i>Proteus mirabilis</i> alleviates zinc toxicity by preventing oxidative stress in maize ( <i>Zea mays</i> ) plants. <i>Ecotoxicology and Environmental Safety</i> , 2014, 110, 143-152.	2.9	84
14	Copper-resistant bacteria reduces oxidative stress and uptake of copper in lentil plants: potential for bacterial bioremediation. <i>Environmental Science and Pollution Research</i> , 2016, 23, 220-233.	2.7	83
15	Molybdenum Supply Alleviates the Cadmium Toxicity in Fragrant Rice by Modulating Oxidative Stress and Antioxidant Gene Expression. <i>Biomolecules</i> , 2020, 10, 1582.	1.8	74
16	Estimation and characterization of gaseous pollutant emissions from agricultural crop residue combustion in industrial and household sectors of Pakistan. <i>Atmospheric Environment</i> , 2014, 84, 189-197.	1.9	73
17	Biochar increases nitrogen use efficiency of maize by relieving aluminum toxicity and improving soil quality in acidic soil. <i>Ecotoxicology and Environmental Safety</i> , 2020, 196, 110531.	2.9	73
18	Fresh and composted industrial sludge restore soil functions in surface soil of degraded agricultural land. <i>Science of the Total Environment</i> , 2018, 619-620, 517-527.	3.9	70

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19	Sphagnum Mosses - Masters of Efficient N-Uptake while Avoiding Intoxication. PLoS ONE, 2014, 9, e79991.	1.1	69
20	Boron supply alleviates cadmium toxicity in rice ( <i>Oryza sativa</i> L.) by enhancing cadmium adsorption on cell wall and triggering antioxidant defense system in roots. Chemosphere, 2021, 266, 128938.	4.2	68
21	Foliar application of ascorbic acid enhances salinity stress tolerance in barley ( <i>Hordeum vulgare</i> L.) through modulation of morpho-physio-biochemical attributes, ions uptake, osmo-protectants and stress response genes expression. Saudi Journal of Biological Sciences, 2021, 28, 4276-4290.	1.8	67
22	Application of co-composted farm manure and biochar increased the wheat growth and decreased cadmium accumulation in plants under different water regimes. Chemosphere, 2020, 246, 125809.	4.2	65
23	Isolating, screening and applying chromium reducing bacteria to promote growth and yield of okra ( <i>Hibiscus esculentus</i> L.) in chromium contaminated soils. Ecotoxicology and Environmental Safety, 2015, 114, 343-349.	2.9	63
24	Adsorption and thermodynamic mechanisms of manganese removal from aqueous media by biowaste-derived biochars. Journal of Molecular Liquids, 2018, 266, 373-380.	2.3	62
25	Co-inoculation integrated with P-enriched compost improved nodulation and growth of Chickpea ( <i>Cicer arietinum</i> L.) under irrigated and rainfed farming systems. Biology and Fertility of Soils, 2014, 50, 1-12.	2.3	58
26	Effects of nanoparticles on trace element uptake and toxicity in plants: A review. Ecotoxicology and Environmental Safety, 2021, 221, 112437.	2.9	57
27	Environmental Stress and Secondary Metabolites in Plants. , 2018, , 153-167.		56
28	PGPR with varied ACC-deaminase activity induced different growth and yield response in maize ( <i>Zea mays</i> L.) under drought stress. Ecotoxicology and Environmental Safety, 2021, 221, 112437.	1.4	55
29	Ameliorating the Drought Stress for Wheat Growth through Application of ACC-Deaminase Containing Rhizobacteria along with Biogas Slurry. Sustainability, 2020, 12, 6022.	1.6	48
30	Associative interplay of plant growth promoting rhizobacteria ( <i>Pseudomonas aeruginosa</i> QS40) with nitrogen fertilizers improves sunflower ( <i>Helianthus annuus</i> L.) productivity and fertility of aridisol. Applied Soil Ecology, 2016, 108, 238-247.	2.1	45
31	Boron reduces aluminum deposition in alkali-soluble pectin and cytoplasm to release aluminum toxicity. Journal of Hazardous Materials, 2021, 401, 123388.	6.5	44
32	Two-year study of biochar: Achieving excellent capability of potassium supply via alter clay mineral composition and potassium-dissolving bacteria activity. Science of the Total Environment, 2020, 717, 137286.	3.9	43
33	Investigating the effect of biochar on the potential of increasing cotton yield, potassium efficiency and soil environment. Ecotoxicology and Environmental Safety, 2019, 182, 109451.	2.9	41
34	Interactive role of zinc and iron lysine on <i>Spinacia oleracea</i> L. growth, photosynthesis and antioxidant capacity irrigated with tannery wastewater. Physiology and Molecular Biology of Plants, 2020, 26, 2435-2452.	1.4	41
35	Nitrogen-enriched compost application combined with plant growth-promoting rhizobacteria (PGPR) improves seed quality and nutrient use efficiency of sunflower. Journal of Plant Nutrition and Soil Science, 2017, 180, 464-473.	1.1	40
36	Enhancing phosphorus availability, soil organic carbon, maize productivity and farm profitability through biochar and organic-inorganic fertilizers in an irrigated maize agroecosystem under semi-arid climate. Soil Use and Management, 2021, 37, 104-119.	2.6	39

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37	Biochar-N fertilizer interaction increases N utilization efficiency by modifying soil C/N component under N fertilizer deep placement modes. <i>Chemosphere</i> , 2022, 286, 131594.	4.2	39
38	Corn-cob-derived biochar decelerates mineralization of native and added organic matter (AOM) in organic matter depleted alkaline soil. <i>Geoderma</i> , 2017, 294, 19-28.	2.3	37
39	Integration of poultry manure and phosphate solubilizing bacteria improved availability of Ca bound P in calcareous soils. <i>3 Biotech</i> , 2019, 9, 368.	1.1	35
40	Major Constraints for Global Rice Production. , 2019, , 1-22.		35
41	Higher biochar rate strongly reduced decomposition of soil organic matter to enhance C and N sequestration in nutrient-poor alkaline calcareous soil. <i>Journal of Soils and Sediments</i> , 2021, 21, 148-162.	1.5	35
42	Variations in morphological and physiological traits of wheat regulated by chromium species in long-term tannery effluent irrigated soils. <i>Chemosphere</i> , 2019, 222, 891-903.	4.2	33
43	Lead toxicity induced phytotoxic effects on mung bean can be relegated by lead tolerant <i>Bacillus subtilis</i> (PbRB3). <i>Chemosphere</i> , 2019, 234, 70-80.	4.2	33
44	A Comprehensive Review on Rice Responses and Tolerance to Salt Stress. , 2019, , 133-158.		33
45	The aluminum tolerance and detoxification mechanisms in plants; recent advances and prospects. <i>Critical Reviews in Environmental Science and Technology</i> , 2022, 52, 1491-1527.	6.6	31
46	Spatial distribution of pollutant emissions from crop residue burning in the Punjab and Sindh provinces of Pakistan: uncertainties and challenges. <i>Environmental Science and Pollution Research</i> , 2015, 22, 16475-16491.	2.7	30
47	Interaction of compost additives with phosphate solubilizing rhizobacteria improved maize production and soil biochemical properties under dryland agriculture. <i>Soil and Tillage Research</i> , 2017, 174, 70-80.	2.6	27
48	Boron-toxicity induced changes in cell wall components, boron forms, and antioxidant defense system in rice seedlings. <i>Ecotoxicology and Environmental Safety</i> , 2021, 216, 112192.	2.9	27
49	Spatial and temporal trends in nitrate concentrations in the River Derwent, North Yorkshire, and its need for NVZ status. <i>Science of the Total Environment</i> , 2010, 408, 702-712.	3.9	26
50	Four-year biochar study: Positive response of acidic soil microenvironment and citrus growth to biochar under potassium deficiency conditions. <i>Science of the Total Environment</i> , 2022, 813, 152515.	3.9	25
51	Phosphorus-Mobilizing Rhizobacterial Strain <i>Bacillus cereus</i> GS6 Improves Symbiotic Efficiency of Soybean on an Aridisol Amended with Phosphorus-Enriched Compost. <i>Pedosphere</i> , 2017, 27, 1049-1061.	2.1	24
52	Developing the first halophytic turfgrasses for the urban landscape from native Arabian desert grass. <i>Environmental Science and Pollution Research</i> , 2020, 27, 39702-39716.	2.7	23
53	Molybdenum supply increases root system growth of winter wheat by enhancing nitric oxide accumulation and expression of NRT genes. <i>Plant and Soil</i> , 2021, 459, 235-248.	1.8	23
54	Suppressing photorespiration for the improvement in photosynthesis and crop yields: A review on the role of S-allantoin as a nitrogen source. <i>Journal of Environmental Management</i> , 2019, 237, 644-651.	3.8	19

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55	Ameliorative Capability of Plant Growth Promoting Rhizobacteria (PGPR) and Arbuscular Mycorrhizal Fungi (AMF) Against Salt Stress in Plant. , 2019, , 409-448.		19
56	Advances in Rice Research for Abiotic Stress Tolerance. , 2019, , 585-614.		19
57	Boron application mitigates Cd toxicity in leaves of rice by subcellular distribution, cell wall adsorption and antioxidant system. Ecotoxicology and Environmental Safety, 2021, 222, 112540.	2.9	19
58	Varied effects of untreated textile wastewater onto soil carbon mineralization and associated biochemical properties of a dryland agricultural soil. Journal of Environmental Management, 2016, 183, 530-540.	3.8	18
59	Contrasting effects of untreated textile wastewater onto the soil available nitrogen-phosphorus and enzymatic activities in aridisol. Environmental Monitoring and Assessment, 2016, 188, 102.	1.3	18
60	Spatio-temporal variations of shallow and deep well groundwater nitrate concentrations along the Indus River floodplain aquifer in Pakistan. Environmental Pollution, 2019, 253, 384-392.	3.7	18
61	Wattle fencing improved soil aggregate stability, organic carbon stocks and biochemical quality by restoring highly eroded mountain region soil. Journal of Environmental Management, 2021, 288, 112489.	3.8	18
62	Foliar application of silica sol alleviates boron toxicity in rice ( <i>Oryza sativa</i> ) seedlings. Journal of Hazardous Materials, 2022, 423, 127175.	6.5	18
63	The importance of ammonium mobility in nitrogen-impacted unfertilized grasslands: A critical reassessment. Environmental Pollution, 2009, 157, 1287-1293.	3.7	17
64	Extent and causes of 3D spatial variations in potential N mineralization and the risk of ammonium and nitrate leaching from an N-impacted permanent grassland near York, UK. Environmental Pollution, 2008, 156, 1075-1082.	3.7	16
65	Effects of cropping system and fertilization regime on soil phosphorus are mediated by rhizosphere-microbial processes in a semi-arid agroecosystem. Journal of Environmental Management, 2020, 271, 111033.	3.8	15
66	N-Fertilizer (Urea) Enhances the Phytoextraction of Cadmium through <i>Solanum nigrum</i> L.. International Journal of Environmental Research and Public Health, 2020, 17, 3850.	1.2	15
67	Improving Plant Phosphorus (P) Acquisition by Phosphate-Solubilizing Bacteria. , 2017, , 513-556.		14
68	Evaluating the Effects of Biochar with Farmyard Manure under Optimal Mineral Fertilizing on Tomato Growth, Soil Organic C and Biochemical Quality in a Low Fertility Soil. Sustainability, 2021, 13, 2652.	1.6	13
69	Biochar; a Remedy for Climate Change. , 2020, , 151-171.		13
70	Abandoned agriculture soil can be recultivated by promoting biological phosphorus fertility when amended with nano-rock phosphate and suitable bacterial inoculant. Ecotoxicology and Environmental Safety, 2022, 234, 113385.	2.9	13
71	Carbon mineralization in response to nitrogen and litter addition in surface and subsoils in an agroecosystem. Archives of Agronomy and Soil Science, 2016, 62, 1285-1292.	1.3	12
72	Controls on accumulation and soil solution partitioning of heavy metals across upland sites in United Kingdom (UK). Journal of Environmental Management, 2018, 222, 260-267.	3.8	12

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73	Nitrogen induced DOC and heavy metals leaching: Effects of nitrogen forms, deposition loads and liming. <i>Environmental Pollution</i> , 2020, 265, 114981.	3.7	12
74	How the cells were injured and the secondary metabolites in the shikimate pathway were changed by boron deficiency in trifoliolate orange root. <i>Plant Physiology and Biochemistry</i> , 2020, 151, 630-639.	2.8	12
75	The Role of Non-Enzymatic Antioxidants in Improving Abiotic Stress Tolerance in Plants. , 2019, , 129-144.		12
76	Genome Engineering Technology for Durable Disease Resistance: Recent Progress and Future Outlooks for Sustainable Agriculture. <i>Frontiers in Plant Science</i> , 2022, 13, 860281.	1.7	12
77	Sugarcane waste straw biochar and its effects on calcareous soil and agronomic traits of okra. <i>Arabian Journal of Geosciences</i> , 2018, 11, 1.	0.6	11
78	The Oxidative Damage and Morphological Changes of Sugar Beet ( <i>Beta vulgaris</i> L.) Leaves at Seedlings Stage Exposed to Boron Deficiency in Hydroponics. <i>Sugar Tech</i> , 2022, 24, 532-541.	0.9	11
79	What controls the nitrate flush when air dried soils are rewetted?. <i>Chemistry and Ecology</i> , 2008, 24, 259-267.	0.6	10
80	Recent Advances in Arsenic Accumulation in Rice. , 2019, , 385-398.		10
81	Diverse feedstockâ€™s biochars as supplementary K fertilizer improves maize productivity, soil organic C and KUE under semiarid climate. <i>Soil and Tillage Research</i> , 2021, 211, 105015.	2.6	10
82	Seasonal Variations in Litter Layersâ€™ Characteristics Control Microbial Respiration and Microbial Carbon Utilization Under Mature Pine, Cedar, and Beech Forest Stands in the Eastern Mediterranean Karstic Ecosystems. <i>Microbial Ecology</i> , 2022, 84, 153-167.	1.4	10
83	Transcriptome analysis reveals the molecular mechanism of boron deficiency tolerance in leaves of boron-efficient <i>Beta vulgaris</i> seedlings. <i>Plant Physiology and Biochemistry</i> , 2021, 168, 294-304.	2.8	10
84	Alleviation of Abiotic Stress in Medicinal Plants by PGPR. <i>Soil Biology</i> , 2015, , 135-166.	0.6	9
85	Sandy Soil Amended with Clay Soil: Effect of Clay Soil Properties on Soil Respiration, Microbial Biomass, and Water Extractable Organic C. <i>Journal of Soil Science and Plant Nutrition</i> , 2020, 20, 2465-2470.	1.7	9
86	Proline metabolism and biosynthesis behave differently in response to boron-deficiency and toxicity in <i>Brassica napus</i> . <i>Plant Physiology and Biochemistry</i> , 2021, 167, 529-540.	2.8	9
87	Biochar and leguminous cover crops as an alternative to summer fallowing for soil organic carbon and nutrient management in the wheat-maize-wheat cropping system under semiarid climate. <i>Journal of Soils and Sediments</i> , 2021, 21, 1395-1407.	1.5	9
88	Effects of Potassium Sulfate on Adaptability of Sugarcane Cultivars to Salt Stress under Hydroponic Conditions. <i>Journal of Plant Nutrition</i> , 2015, 38, 2126-2138.	0.9	8
89	Low C/N ratio raw textile wastewater reduced labile C and enhanced organic-inorganic N and enzymatic activities in a semiarid alkaline soil. <i>Environmental Science and Pollution Research</i> , 2017, 24, 3456-3469.	2.7	8
90	Alternative and Non-conventional Soil and Crop Management Strategies for Increasing Water Use Efficiency. , 2020, , 323-338.		8

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91	Controls on inorganic N species transformations and potential leaching in freely drained sub-soils of heavily N-impacted acid grassland. <i>Biogeochemistry</i> , 2009, 92, 263-279.	1.7	7
92	Litter effects on ammonium dynamics in an acid soil under grassland. <i>Geoderma</i> , 2010, 159, 198-208.	2.3	7
93	Seasonal variations of soil phosphorus and associated fertility indicators in wastewater-irrigated urban aridisol. <i>Chemosphere</i> , 2020, 239, 124725.	4.2	7
94	Fomesafen drift affects morphophysiology of sugar beet. <i>Chemosphere</i> , 2022, 287, 132073.	4.2	7
95	Effects of soil fluoride pollution on wheat growth and biomass production, leaf injury index, powdery mildew infestation and trace metal uptake. <i>Environmental Pollution</i> , 2022, 298, 118820.	3.7	7
96	How important is plant litter to the regulation of mineral-N leaching to streams in winter? An observations-led experimental approach. <i>Soil Use and Management</i> , 2011, 27, 10-17.	2.6	6
97	How much does NH <sub>4</sub> -N contribute to mineral-N losses in N-impacted acid soils under grassland in the UK? A microcosm study. <i>Chemistry and Ecology</i> , 2012, 28, 25-36.	0.6	6
98	Performance of Hybrid Wheat Cultivars Facing Deficit Irrigation under Semi-Arid Climate in Pakistan. <i>Agronomy</i> , 2021, 11, 1976.	1.3	6
99	Biocontrol of economically important weed species through endophytic fungi isolated from <i>Parthenium hysterophorus</i> (Family: Asteraceae). <i>Egyptian Journal of Biological Pest Control</i> , 2020, 30, .	0.8	6
100	An exploration of how litter controls drainage water DIN, DON and DOC dynamics in freely draining acid grassland soils. <i>Biogeochemistry</i> , 2012, 107, 165-185.	1.7	5
101	Biochar: an eco-friendly approach to improve wheat yield and associated soil properties on sustainable basis. <i>Pakistan Journal of Botany</i> , 2019, 51, .	0.2	5
102	Biochar and microbes for sustainable soil quality management. , 2022, , 289-311.		5
103	Distinct uptake and accumulation profiles of triclosan in youdonger ( <i>Brassica campestris</i> subsp.) Tj ETQq1 1 0.784314 rgBT /Overlock <i>Chemosphere</i> , 2022, 288, 132651.	4.2	4
104	Application of Biochar for the Mitigation of Abiotic Stress-Induced Damages in Plants. , 2019, , 285-304.		4
105	Increasing media pH contribute to the absorption of boron via roots to promote the growth of citrus. <i>Plant Physiology and Biochemistry</i> , 2022, 178, 116-124.	2.8	4
106	Pioneer plant <i>Phalaris arundinacea</i> and earthworms promote initial soil structure formation despite strong alluvial dynamics in a semi-controlled field experiment. <i>Catena</i> , 2019, 180, 41-54.	2.2	3
107	Seasonality of deaths with respect to age and cause in Achnital District Pakistan. <i>PLoS ONE</i> , 2019, 14, e0225994.	1.1	3
108	Migration of Chlorine in Plant-Soil-Leaching System and Its Effects on the Yield and Fruit Quality of Sweet Orange. <i>Frontiers in Plant Science</i> , 2021, 12, 744843.	1.7	3



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109	Genome wide analysis of DWARF27 genes in soybean and functional characterization of GmD27c reveals eminent role of strigolactones in rhizobia interaction and nodulation in Glycine max. Molecular Biology Reports, 2022, 49, 5405-5417.	1.0	3
110	Effects of anthropogenic nitrogen deposition on soil nitrogen mineralization and immobilization in grassland soil under semiarid climatic conditions. Environmental Monitoring and Assessment, 2018, 190, 490.	1.3	2
111	Abiotic Stress-Induced Oxidative Stress in Rice. , 2019, , 489-504.		2
112	Chemical Priming for Multiple Stress Tolerance. , 2019, , 385-415.		2
113	Climate-Smart Agriculture: Assessment and Adaptation Strategies in Changing Climate. , 2020, , 351-377.		2
114	Biotechnological Tools in the Remediation of Cadmium Toxicity. , 2019, , 497-520.		1
115	Concentrating Mill Wastes are the Source of Pollution of Human Environment and Natural Ecosystems with Heavy Metals: A Case Study in Primorsky Krai, Russian Federation. Journal of Chemistry, 2020, 2020, 1-12.	0.9	1
116	Changes in Leaf Structure and Chemical Compositions Investigated by FTIR Are Correlated with Different Low Potassium Adaptation of Two Cotton Genotypes. Agronomy, 2020, 10, 479.	1.3	1
117	Genomics in understanding bioremediation of inorganic pollutants. , 2021, , 397-410.		1
118	Physio-morphological and biochemical mechanism of nitrogen use efficiency in sugarcane (Saccharum) Tj ETQq0 0 0 rgBT /Overlock 10 T 16, 332-343.	1.0	1
119	Biochar: An Adsorbent to Remediate Environmental Pollutants. , 2021, , 1-26.		1
120	Seed Pretreatment as a Means to Achieve Pathogen Control. , 2019, , 363-371.		1
121	Carbon Sequestration in Alkaline Soils. Sustainable Agriculture Reviews, 2019, , 149-167.	0.6	1
122	How Stable Are Soils for the Determination of Available N?. Communications in Soil Science and Plant Analysis, 2011, 42, 896-904.	0.6	0
123	Addition of Clayey Soil to Sandy Soil Increases Sorption of Water-Extractable Organic C But Also Its Release. Journal of Soil Science and Plant Nutrition, 0, , 1.	1.7	0