Special Issue

Research Progress in Biochar and Microbial Remediation for Heavy Metal Agricultural Soil

Message from the Guest Editors

Biochar (BC) is a carbon product that is synthesized via the pyrolysis of biological materials in the absence of oxygen. BC is a porous material with a large sorption surface area containing many functional groups. These features allow BC to be used as a soil conditioner that increases the organic carbon content, regulates the pH, and retains water in the soil. Biochar reduces the mobility of heavy metals in the soil, as well as the uptake and accumulation of these metals in plant biomass. The aim of this Special Issue is to provide insight into methods of improving the structural and physicochemical properties of BC and enhance its potential in the microbial remediation and phytoremediation of metal-contaminated soils. Also of relevance are the effects of BC on plant growth, soil microorganism activity, and diversity, and the stability of heavy metals and their distribution between exchangeable, reducible, oxidisable and residual fractions, as well as the possible hazards associated with BC application in agricultural soils.

Guest Editors

Dr. Małgorzata Majewska

Department of Industrial and Environmental Microbiology, Institute of Biological Sciences, Faculty of Biology and Biotechnology, Maria Curie-Sklodowska University, Akademicka 19, 20-033 Lublin, Poland

Dr. Agnieszka Hanaka

Department of Plant Physiology and Biophysics, Institute of Biological Sciences, Faculty of Biology and Biotechnology, Maria Curie-Sklodowska University, Akademicka 19, 20-033 Lublin, Poland

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Agronomy
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
agronomy@mdpi.com

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Editor-in-Chief

Prof. Dr. Leslie A. Weston
Gulbali Centre for Agriculture, Water and Environment Research, Charles Sturt University, Wagga Wagga, NSW 2678, Australia

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