Special Issue

Integrating Biochar and Biostimulants in Crop Improvement: Mechanisms, Applications, and Future Directions

Message from the Guest Editors

Biochar and biostimulants are gaining global attention as innovative tools for improving agricultural productivity while ensuring environmental sustainability. Biochar possesses unique physical and chemical properties that allow it to enhance soil fertility, mitigate biotic and abiotic stresses, increase carbon sequestration, and promote plant development. Biostimulants, including humic acids, amino acids, microbial inoculants, and natural extracts, stimulate plant physiological functions, improve nutrient efficiency, and enhance stress tolerance. This Special Issue aims to bring together interdisciplinary research on the roles, mechanisms, and applications of biochar and biostimulants across various agroecosystems. We encourage contributions that utilize advanced techniques, including omics, modeling, field trials, and life cycle assessments, to explore how these amendments function across soil–plant systems.

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Message from the Editor-in-Chief

Plants is an open access journal which provides an advanced forum for research findings in areas related to plant function, its physiology, biology, taxonomy, stresses, and its interactions with other organisms. It publishes original research articles, reviews, reports, conference proceedings (peer reviewed full articles) and communications. In original research papers, it is important that full experimental details are provided. We also encourage timely reviews and commentaries on topics of interest to the plant research community.

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