Special Issue

Innovative Applications for Sustainable Agriculture: Strategies for Soil Fertility, Plant Growth, and Stress Mitigation

Message from the Guest Editors

Dear Colleagues: Sustainable agriculture faces significant challenges, including soil degradation, reduced fertility, and the effects of climate change. Biochar and humic substances have emerged as promising solutions, offering benefits such as improved soil fertility, enhanced plant growth, and the mitigation of abiotic and biotic stresses. These materials, derived from renewable resources, also contribute to carbon sequestration, aiding in the global effort to combat climate change. However, significant knowledge gaps remain regarding their mechanisms of action, their interactions with soil–plant systems, and how to optimize their properties for different agricultural contexts.This Special Issue aims to present cutting-edge research on the applications of biochar, humic substances, and their engineered derivatives to enhance soil fertility, promote plant growth, and mitigate stress in agricultural systems. We also seek to explore their broader role in achieving sustainability in soil management, carbon sequestration, and environmental protection.

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I encourage you to contribute a research or comprehensive review article for consideration for publication in *Sustainability*, an international Open Access journal which provides an advanced forum for research findings in areas related to sustainability and sustainable development. *Sustainability* publishes original research articles, review articles and communications. I am confident you will find the journal contributes to enhancing understanding of sustainability and fostering initiatives and applications of sustainability-based measures and activities.

Editor-in-Chief

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