

Special Issue

Effects of Biochar on Soil Improvement and Crop Production

Message from the Guest Editor

This Special Issue presents and disseminates the advances related to the effects of biochar on soil improvement and crop production. We welcome high-quality original research, reviews, and methodological papers addressing the mechanisms, applications, optimizations, and sustainability of biochar-based soil management across diverse agroecosystems. Topics of interest include:

- Physicochemical and biological mechanisms of biochar in improving soil structure, fertility, and health;
- Impacts of biochar on crop germination, growth, yield, quality, and stress tolerance (salinity, drought, heavy metals, etc.);
- Interactive effects of biochar with fertilizers, organic amendments, and microbial inoculants;
- Optimization of biochar feedstock, pyrolysis conditions, application rate, and field management;
- Long-term monitoring, modeling, and life-cycle assessment of biochar in agroecosystems;
- Biochar for carbon sequestration, greenhouse gas reduction, and climate-smart agriculture;
- Field applications and economic-ecological benefits of biochar in saline-alkali, degraded, and low-productivity soils;
- Novel biochar-based materials and technologies for soil remediation and sustainable crop production.

Guest Editor

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Message from the Editor-in-Chief

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