

Special Issue

Sustainable Agricultural Practices to Enhance Soil Carbon Stability in Agroecosystems

Message from the Guest Editors

Carbon is a critical environmental resource for plant growth, crop yields, soil health and fertility, and overall ecosystem functions. Agricultural practices have significantly influenced the global soil carbon storage potential and stabilization. In recent decades, sustainable agricultural management strategies (e.g., crop rotation, avoided land use conversion, cover cropping, organic amendments, etc.) have been developed to balance productivity with environmental sustainability. However, the effects of such novel strategies on soil carbon dynamics at both micro- and macro-scales and associated microbial dynamics over long-term and short-term timeframes remain uncertain. This Special Issue aims to gather original research findings and reviews that explore how sustainable agricultural practices can influence soil carbon storage and stabilization within agroecosystems. Cutting-edge research topics for inclusion encompass, but are not limited to, advancements in soil carbon stocks, sequestration and stabilization mechanisms, and associated microbial dynamics in agroecosystems at both the bulk soil and microscale levels.

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