

## Special Issue

# Soil Fermentation: Microbial Decomposition and Utilization in Agricultural Wastes

### Message from the Guest Editors

Microbial communities play a central role in the decomposition and mineralization of organic wastes, making fundamental contributions to nutrient cycling, soil fertility, and agroecosystem sustainability. Advances in microbiology, biogeochemistry, and soil ecology have expanded our understanding of how bacteria, fungi, and other microorganisms regulate the transformation of animal manures and plant residues into bioavailable nutrients. This Special Issue aims to investigate the mechanisms, processes, and efficiencies of microbial decomposition and agricultural residue utilization in soil systems. It provides a platform for field-based, laboratory, and integrative studies addressing soil fermentation dynamics, nutrient release, carbon stabilization, and interactions between microbial communities and management practices. We encourage cutting-edge research employing advanced analytical approaches, molecular tools, and innovative experimental designs to address current challenges in waste management and sustainable agriculture. Priority will be given to studies demonstrating high scientific rigor, originality, and practical relevance.

### Guest Editors

Dr. Lucas Aquino Alves  
Dr. Leandro de Oliveira  
Dr. Tales Tiecher

### Deadline for manuscript submissions

31 December 2026



## Agronomy

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### Message from the Editor-in-Chief

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### Editor-in-Chief

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