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Special Issue Reprint

Recycling of Organic Wastes in Agriculture

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This Special Issue focuses on the recycling and valorisation of organic wastes in agriculture as a key pathway toward sustainable and circular agri-food systems. Faced with increasing pressure on natural resources, climate change, and environmental degradation, agriculture must optimize the use of nutrients and energy while reducing reliance on mineral fertilizers and minimizing waste-related impacts. Organic waste streams from livestock production, municipal services, agro-industrial processing, and wastewater treatment represent valuable sources of organic matter and nutrients, but their agricultural use also raises concerns related to contaminants, emissions, and long-term soil and environmental risks.

The Special Issue brings together interdisciplinary research that evaluates both the benefits and challenges of organic waste utilization in agriculture. Contributions address the transformation of diverse waste streams into fertilizers, soil amendments, and biostimulants; impacts on soil properties, microbial communities, crop productivity, and product quality; composting and process optimization to reduce nutrient losses and immobilize contaminants; and the assessment and mitigation of emerging risks such as microplastics and heavy metals. Broader system-level perspectives, including anaerobic digestion, biomethane production, and socio-economic and policy aspects of circular bioeconomy implementation, are also covered.



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