

Special Issue

Microplastics and Nanoplastics in Agroecosystems: Strategies to Mitigate Plastic Pollution for Sustainable Agriculture

Message from the Guest Editors

The topic addresses the growing concern of plastic contamination in agricultural environments.

Microplastics (MPs) and nanoplastics (NPs) from sources such as plastic films, irrigation systems, and packaging are increasingly found in soils, water, and crops, posing risks to soil health, crop productivity, water quality, and food safety. These pollutants are persistent, accumulate in the food chain, and threaten the sustainability of agricultural systems. This call invites manuscripts exploring the transport, transformation, and environmental fate of MPs and NPs in agroecosystems, with a focus on their impacts on soil microbiota, nutrient cycling, and plant health. We also seek innovative strategies with which to mitigate plastic pollution, including biodegradable alternatives, sustainable farming practices, and advanced remediation techniques for contaminated environments. In summary, this topic aims to gather research that addresses the risks of microplastic and nanoplastic pollution in agriculture and proposes actionable solutions to reduce their impact, supporting the long-term sustainability of agricultural systems and protecting public health.

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