Special Issue

The Effect of Soil Microbes on Plant Growth and Crop Protection

Message from the Guest Editors

Soil microbes play a pivotal role in shaping the dynamics of plant growth and crop protection, exerting important influences on agricultural ecosystems. Historically, the symbiotic relationships between plants and beneficial soil microbes, such as mycorrhizal fungi and rhizobacteria, have been applied to crops. These microbial partners form intricate networks with plant roots, facilitating nutrient uptake and enhancing plant growth. Their involvement in nutrient cycling and the release of growth-promoting substances underscores their indispensable role in augmenting crop productivity. Moreover, soil microbes have significant potential to sustain crop protection against pathogens and pests.

This Special Issue explores soil microbial communities' effects on plant stress tolerance. Soil microbes have been shown to mitigate abiotic stresses, such as drought and salinity, through osmoprotection and hormonal regulation. As climate change continues to pose challenges to agriculture, understanding and harnessing the potential of soil microbes in stress alleviation becomes increasingly crucial for ensuring food security.

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"Microorganism" merges the idea of the very small with the idea of the evolving reproducing organism is a unifying principle for the discipline of microbiology. Our journal recognizes the broadly diverse yet connected nature of microorganisms and provides an advanced publishing forum for original articles from scientists involved in high-quality basic and applied research on any prokaryotic or eukaryotic microorganism, and for research on the ecology, genomics and evolution of microbial communities as well as that exploring cultured microorganisms in the laboratory.

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