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Soil Ecology and Microbe-Plant Interactions in Agricultural Systems

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Deadline for manuscript
submissions:

closed (30 November 2023)

Message from the Guest Editors

Soil microorganisms may exert key influences on plant growth and development via mechanism-related differentiation in resource use and plant–microbe feedback dynamics. Resource use is related to microbial processes associated with chemical speciation and availability of substrate and nutrients, and microbial-mediated enzymes that enable plants to acquire these resources. Feedback processes are associated with changes in the soil community structure interrelated to responses in plant–microbe interactions. Bacteria conditioned with root exudates have been shown to utilize C substrate more efficiently than those without access to rhizodeposits.

A microbial-ecology-based perspective with respect to concepts such as soil health is needed in order to adequately assess its relevance to for crop performance. In addition to defining and evaluating the most significant aspects of the relationship between soil microbial ecology and plant–microbe interaction, this Topic is open to studies that assess the influence of the management of crop production systems on these relationships and their relevance to improved economic performance.



mdpi.com/si/169541

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Message from the Editor-in-Chief

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