Special Issue

Exploiting Beneficial Plant–Microorganism Interactions for Resilient Farming

Message from the Guest Editors

In natural environments, plants rely on microorganisms to deal with biotic and abiotic stresses, outsourcing to the microbial partner important functions like water and nutrient acquisition and defense against pathogens and pests. The reinstatement of these beneficial interactions is essential for making crops more efficient and less dependent on agrochemicals. Many attempts at progress related to microorganisms have been made, with a long history of research on inoculants and biological control agents, and many of them have reached the market as biological formulations. However, we still exploit a small fraction of the available microbial diversity. At the same time, plant strategies are scarce, and this may be impairing the success of microbial applications due to plants' inability to establish a relationship with applied microorganisms. In this Special Issue, we seek to highlight integrative studies showing novel plant- or microorganism-based strategies to reinstate beneficial plant–microorganism interactions for resilient farming. We will also consider reviews that clearly systematize existing knowledge and point out research gaps and new perspectives.

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Deadline for manuscript submissions

closed (20 February 2025)

Agronomy

an Open Access Journal by MDPI

Impact Factor 3.4
CiteScore 6.7

mdpi.com/si/206016

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