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Rhizosphere Microbes and Plant Stress

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Deadline for manuscript submissions:

closed (27 February 2024)

Message from the Guest Editors

Plant growth-promoting rhizobacteria (PGPR) are chemical-free alternatives to conventional crop protection methods in agriculture. Rhizosphere microbes are unique among the PGPR genera in terms of root colonization; nitrogen fixation; the production of exopolysaccharides, siderophores, hydrogen cyanide (HCN), and phytohormones; the solubilization of phosphorus, potassium, and zinc; biofilm formation; antioxidant activities; stress adaptation abilities; and positive interactions with other microbial communities. They also aid in plant development by promoting biotic and abiotic stress tolerance and as well as by supporting host plant nutrition. A rhizosphere microbe is regarded as an environmentally acceptable alternative to harmful chemical fertilizers because of its active growth-promoting actions. However, the molecular mechanism of the interaction between rhizosphere and plant is still less known. A deeper understanding of the PGPR interaction with plants is important for improving the efficiency of PGPR and expanding its application in agriculture.



mdpi.com/si/169923

Special Issue



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Message from the Editor-in-Chief

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