Special Issue

The Role of Plant Growth-Promoting Bacteria in Crop Improvement

Message from the Guest Editors

Due to climate change, the quality of the agricultural soils is decreasing, and some human activities make this situation worse. In this context, crops struggle to grow due to the presence of abiotic stresses such as salinity, organic and inorganic pollution, drought, and high temperatures, which interfere with their development, causing a loss of productivity. As the world population is increasing, it is important to promote crop growth, even in degraded soils with the presence of abiotic stress, to feed the population. It is necessary to change the way of promoting crop growth, replacing chemical fertilizers and pesticides with more ecofriendly tools. In both of the cases discussed above, plant-growth-promoting bacteria (PGPB) are excellent candidates to improve crop development and productivity in order to promote their growth in degraded soils and alleviate plant stress. In addition, PGPB have plant-growth-promoting (PGP) properties, which help plants to uptake nutrients and protect against biotic stresses such as phytopathogens. For this reason, PGPB have the potential to be used as biofertilizers and biopesticides for crop improvement.

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