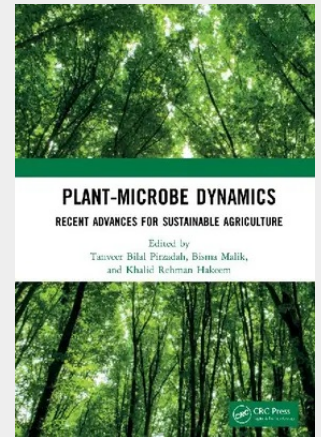


Plant-Microbe Dynamics

Recent Advances for Sustainable Agriculture

Plants and microbes have co-evolved and interacted with each other in nature. Understanding the complex nature of the plant-microbe interface can pave the way for novel strategies to improve plant productivity in an eco-friendly manner. The microbes associated with plants, often called plant microbiota, are an integral part of plant life. The significance of the plant microbiome is a reliable approach toward sustainability to meet future food crises and rejuvenate soil health. Profiling plant-associate microbiomes (genome assemblies of all microbes) is an emerging concept in understanding plant-microbe interactions. Microbiota extends the plant capacity to acclimatize fluctuating environmental conditions through several mechanisms. Thus, unraveling the mystery of plant-microbe dynamics through latest technologies to better understand the role of metabolites and signal pathway mechanisms is very important. This book shares the latest insight on omics technologies to unravel plant-microbe dynamic interactions and other novel phytotechnologies for cleaning contaminated soils. Besides, it also provides brief insight on the recently discovered clustered regularly interspaced short palindromic repeats CRISPR-Cas9, which is a genome editing tool to explore plant-microbe interactions and how this genome editing tool helps to improve the ability of microbes/plants to combat abiotic/biotic stresses.

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