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Nota di contenuto	Chapter 1. Role of Microorganisms for Managing Climate Change Impacts -- Chapter 2. Microbial interventions in soil and plant health for improving crop efficiency -- Chapter 3. Fusarium wilts of chickpea, pigeonpea and lentil and their management -- Chapter 4. Application of Arbuscular Mycorrhizae in Soil Management -- Chapter 5. Plant Growth-Promoting Rhizobacteria (PGPRs): A Fruitful Resource -- Chapter 6. Microbes for Bioremediation of Heavy Metals -- Chapter 7. Plant growth promoting endophytic bacteria and their potential to improve agricultural crop yields -- Chapter 8. Importance and Utilization of Plant Beneficial Rhizobacteria in Agriculture -- Chapter 9.

Potash Solubilizing Bacteria (KSB) -- Chapter 10. Seed biopriming with potential microbial inoculants as sustainable options for stress management in crops -- Chapter 11. Cropping Systems Effect on Soil Biological Health and Sustainability -- Chapter 12. Influence Of Endophytic Bacteria On Growth Promotion And Protection Against Diseases in Associated Plants -- Chapter 13. Agricultural perspectives of Mycorrhizal glomalin as 'soil fertility determinants' -- Chapter 14. Perspectives of Plant Growth Promoting Rhizobacteria in Conferring Salinity Tolerance in Crop -- Chapter 15. Microbe- Mediated Biotic and Abiotic Stress Tolerance in Crop Plants -- Chapter 16. Application of microbial products for enhancing the nutritional quality of agricultural produce -- Chapter 17. Microbial products: Protein, enzyme, secondary metabolites and chemicals -- Chapter 18. Microbial products and biotechnological applications thereof: proteins, enzymes, secondary metabolites & valuable chemicals -- Chapter 19. Systems and Synthetic biology approach to understand the importance of Pathogen- Host interaction -- Chapter 20. Microbes Mediated Nutrient Use Efficiency in Pulse Crops -- Chapter 21. Omics-data Integration in Microbial Research for Agricultural and Environmental Applications. .

Sommario/riassunto

Microbial communities and their multi-functionalities play a crucial role in the management of soil and plant health, and thus help in managing agro-ecology, the environment and agriculture. Microorganisms are key players in N-fixation, nutrient acquisition, carbon sequestration, plant growth promotion, pathogen suppression, induced systemic resistance and tolerance against stresses, and these parameters are used as indicators of improved crop productivity and sustainable soil health. Beneficial belowground microbial interactions in the rhizosphere help plants combat abiotic challenges in the unfavourable environmental conditions of native soils. These microorganisms and their products offer potential solutions for agriculture in problematic areas since they are able to degrade xenobiotic compounds, pesticides and toxic chemicals and help remediate heavy metals in the rhizosphere and so make deteriorated soils suitable for crop production. This book compiles the latest research on the role of microbes in the rhizosphere and agro-ecology, covering interaction mechanisms, microbe-mediated crop production, plant and soil health management, food and nutrition, nutrient recycling, land reclamation, clean water systems, agro-waste management, biodegradation, bioremediation, biomass and bioenergy, sanitation and rural livelihood security. It is a comprehensive reference resource for agricultural activists, policymakers, environmentalists and advisors working for governments, non-governmental organizations and industries, helping them update their knowledge of this important, but often neglected, research area. .
