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Nota di contenuto	Chapter 1. Role of plant growth promoting rhizobacteria to modulate proline biosynthesis in plants for alleviation of salt stress -- Chapter 2. Salinity stress and plant growth-promoting rhizobacteria: A journey into the soil -- Chapter 3. Dark Septate Endophytes and Their Role in Enhancing Plant Resistance to Abiotic Stress -- Chapter 4. Rhizobacteria-abiotic stress management -- Chapter 5. Plant Growth Promoting Rhizobacteria: benign and useful substitute for mitigation of biotic and abiotic stresses -- Chapter 6. Rhizospheric microflora: A natural alleviator of drought stress in agricultural crops -- Chapter 7. Quorum sensing molecules of rhizobacteria: A trigger for developing systemic resistance in plants -- Chapter 8. Zinc solubilizing bacteria: A boon for sustainable agriculture -- Chapter 9. Rhizobacteria as bio-

protectants against stress conditions -- Chapter 10. Rhizobacteria for reducing heavy metal stress in plant and soil -- Chapter 11. Pesticide induced cross-resistance in soil bacteria -- Chapter 12. Psychrotrophic microbes: Biodiversity and biotechnological implications for cold stress in plant -- Chapter 13. Phosphate Solubilising Drought Tolerant Microbes: Biodiversity and Biotechnological Application for Alleviation of Drought Stress in Plant -- Chapter 14. Methylotrophic Bacteria Mitigating Abiotic Stress -- Chapter 15. Rhizobacteria and Phytohormones Mediated Salt Induced Abiotic Stress Management in Plant". - Chapter 16. Role of PGPR for alleviating aluminium toxicity in acidic soil -- Chapter 17. Rhizobacteria in Abiotic Stress Management -- Chapter 18. Rhizobacteria – plant interaction, alleviation. .

Sommario/riassunto

Increasing agro productivity to feed a growing global population under the present climate scenario requires optimizing the use of resources and adopting sustainable agricultural production. This can be achieved by using plant beneficial bacteria, i.e., those bacteria that enhance plant growth under abiotic stress conditions, and more specifically, microorganisms such as plant growth promoting rhizobacteria (PGPR), which are the most promising candidates in this regard. Attaining sustainable agricultural production while preserving environmental quality, agro-ecosystem functions and biodiversity represents a major challenge for current agricultural practices; further, the traditional use of chemical inputs (fertilizers, pesticides, nutrients etc.) poses serious threats to crop productivity, soil fertility and the nutritional value of farm produce. Given these risks, managing pests and diseases, maintaining agro-ecosystem health, and avoiding health issues for humans and animals have now become key priorities. The use of PGPR as biofertilizers, plant growth promoters, biopesticides, and soil and plant health managers has attracted considerable attention among researchers, agriculturists, farmers, policymakers and consumers alike. Using PGPR can help meet the expected demand for global agricultural productivity to feed the world’s booming population, which is predicted to reach roughly 9 billion by 2050. However, to do so, PGPR strains must be safe for the environment, offer considerable plant growth promotion and biocontrol potential, be compatible with useful soil rhizobacteria, and be able to withstand various biotic and abiotic stresses. Accordingly, the book also highlights the need for better strains of PGPR to complement increasing agro-productivity. .