

1. Record Nr.	UNINA9910590062903321
Titolo	Antifungal Metabolites of Rhizobacteria for Sustainable Agriculture [[electronic resource] /] / edited by R.Z Sayyed, Anjana Singh, Noshiin Ilyas
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2022
ISBN	3-031-04805-9
Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (385 pages)
Collana	Fungal Biology, , 2198-7785
Disciplina	615.792
Soggetti	Fungi Mycology Microbiology Biotechnology Agriculture Biology - Technique Molecular biology Biological Techniques Molecular Biology Medicaments antifúngics Agricultura sostenible Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Chapter. 1. Potential of Streptomyces and its Secondary Metabolites for Biocontrol of Fungal Plant Pathogens -- Chapter. 2. Antifungal Secondary Metabolites against Blast Fungus - Magnaporthe oryzae -- Chapter. 3. Utilization of Plant Growth Promoting Bacteria (PGPB) Against Phytopathogens -- Chapter. 4. PGPR in Biofilm Formation and Antibiotic Production -- Chapter. 5. Plant Growth Promoting Rhizobacteria As Antifungal Antibiotics Producers -- Chapter. 6. Biofungicidal Properties of Rhizobacteria for Plant Growth Promotion and Plant Disease Resistance -- Chapter. 7. Antifungal Compounds of

Plant Growth Promoting Bacillus species -- Chapter. 8. Bioactive Biomolecules from Plant Growth-Promoting Rhizobacteria (PGPR) -- Chapter. 9. Metabolomic Profiling of Plant Growth Promoting Rhizobacteria for Biological Control of Phytopathogens -- Chapter. 10. Hydrolytic enzymes from PGPR against Plant Fungal Pathogens -- Chapter. 11. Induction of Hydrolytic Enzymes: A Criterion for Biological Control Candidates Against Fungal Pathogen -- Chapter. 12. Pseudomonas as Biocontrol Agent for Fungal Disease Management in Rice Crop -- Chapter. 13. Interaction of Mycorrhizal Fungi with Rhizospheric Microbes and their Mode of Action -- Chapter. 14. The Potential of Plant Growth Promoting Rhizobacteria (PGPR) as Biological Tools in Enhancing Agricultural Sustainability -- Chapter. 15. Role of Plant Growth Promoting Rhizobacteria (PGPR) in Food Security -- Chapter. 16. Plant-Microbe-Insect Interactions: Concepts and Applications for Agricultural Sustainability -- Chapter. 17. Exploring the Crucial Role of Plant Growth Promoting Rhizobacteria (PGPR) in Plant Secondary Metabolite Production and Diabetes management.

Sommario/riassunto

Antifungal Metabolites of Rhizobacteria for Sustainable Agriculture focuses on plant health in agro-ecosystems of various economically important cash and food crops with a concern to promote sustainable agriculture. They have emerged as a key organic tool for enhancing yields. In a natural environment the interactions between plants and phytopathogenic fungi are complex and survival requires a development of resistance to plant diseases. Diversity of Plant Growth Promoting Rhizobacteria (PGPR) diversity depends on the nature of root exudates and soil conditions that affect their interaction with host plants. Novel strategies, such as, applying bioactive natural products against the pathogenic fungus are required to control disease sustainably. Various classes of secondary metabolites including lipopeptides, macrolides, alkaloids, terpenoids and phenolics from microorganisms and plants strongly suppress fungal growth and can also be effective in controlling plant diseases both in vitro and in vivo. The modes of actions of some potential antifungal secondary metabolites against pathogenic fungus are also discussed. Eco-friendly fungal species and their metabolites are excellent agents used for regulating various fungal and bacterial phytopathogens and may have tremendous potential for other applications, and play a key role in enhancing plant tolerance to stress. Antifungal Metabolites of Rhizobacteria for Sustainable Agriculture also covers bovine-based formulations used for sustainable production and nutritional security through horticultural crops, thereby addressing the problems associated with malnutrition and under-nutrition encountered by small and marginal farmers, as well as by families facing resource constraints. These techniques can also improve breathable air, drinkable water, and consumable foods. This book addresses the need to mitigate the health problems of people via organic crop production and to improve the socio-economic status of farmers (especially in developing countries), and to revitalize agricultural sustainability.
