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Nota di contenuto	-- Chapter 1: History, diversity and community dynamics of bio-control agents -- Chapter 2: Metagenomics: a powerful tool for screening of beneficial biocontrol agents -- Chapter 3: Genome mining of bio-control agents for bioprospecting action modes -- Chapter 4: Bioformulation of biopesticides for increased bioactivities -- Chapter 5: Application of PGPMs based bio-inoculum: healthy soil tomorrow -- Chapter 6: Bioprospection of bio-control agents for mitigating plant diseases related to climate change -- Chapter 7: Modes of action of bio-control agents from rhizosphere to phyllosphere signaling -- Chapter 8: Ricinus communis: an abiotic stress-tolerant crop for reclamation of wasteland reclamation -- Chapter 9: Multi-functionality and diversity of antagonistic potential fungi as biocontrol agent -- Chapter 10: Bio-control agents: A sustainable approach for enhancing soil nutrients use efficiency in farming -- Chapter 11:Elucidating

mechanisms of plant endophytes as bio-control agents and induced resistance to biotic stresses -- Chapter 12:Advancing Broad-Spectrum Disease Resistance in Plants by Bio-Control Methods -- Chapter 13: Incentivizing plant metabolomics on biotic stress by bio-control agents -- Chapter 14:Bio-control agents: proteomics perspective under biotic stress and plant defense -- Chapter 15:Amelioration of plant biotic stress by mycorrhiza helper bacteria -- Chapter 16:Insight into an effective development of bio-control agents formulation for commercial production -- Chapter 17:Advent of Next generation biological control: Challenges and opportunities by high-throughput technologies -- Chapter 18:Bio-control gene discovery in microorganisms by transcription profiling -- Chapter 19:Biocontrol Agents in Agriculture: Patent Landscape, Market Dynamics, and Recommendations for Sustainable Farming -- Chapter 20: Legal framework for the development and application of biopesticides worldwide -- Chapter 21: CRISPR-Cas9: A New Emerging Biocontrol Method for Insect Pest Management -- Chapter 22: Unraveling the biocontrol potential of phyllosphere bacteria against phytopathogens and their significance in sustainable agriculture.

Sommario/riassunto

This book covers all aspects of the diversity and core microbiome of the bio-control agents. Their bioprospecting and application at the field level is also discussed. The application of bio-control agents is unique in plant production due to various reasons, including its environment-friendly nature, management of plant resistance and incentivizing the rhizosphere to phyllosphere signaling. The chapters provide information on major plant-associated diversity of beneficial microorganisms, various pathogen management strategies, and improving plant immunity by the application of bio-control agents. Additionally, the exploitation, development, and quality control of bio-control agent-based formulations for farming systems and industrial-level production is discussed. This approach provides a novel framework for fostering sustainable development in crop production and protection. The book targets researchers, microbiology students, the biofertilizers industry, and those in agricultural and environmental fields.