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Nota di contenuto	Part I Microorganisms for sustainable agriculture and environmental applications -- Small at Size, Big at Impact: The Microbial Way of Life -- Bioherbicidal Concept: A Novel Strategy to Control Weeds -- Endophytic microorganisms as Bio-Inoculants for Sustainable Agriculture -- Endophytes: Golden treasure for enzyme inhibitors -- Microbial Bioremediation -- Bioremediation: An eco-sustainable approach for restoration of contaminated sites -- Myxobacteria: Unearthing the Potential through Research -- Part II Microorganisms for sustainable industrial important products -- Microbial Cellulases: Role in Ethanol production -- Application of bacterial polysaccharides in cosmetic industries -- Polyphenol oxidase, beyond enzyme browning -- Xylanases - For Sustainable Bioproduct Production -- Inulinase- An Important Microbial Enzyme in Food Industry -- Plant vaccines: an overview -- Microbial Biosurfactants: Future Active Food Ingredients -- Part III Microorganisms as future tools -- Microbial spores: Concepts and Industrial applications -- Insight into compatible solutes from Halophiles: Exploring Significant Applications in Biotechnology -- Riboswitches as molecular tools for regulating microbial gene

expression -- Microbial Metagenomics for Industrial and Environmental Bio-prospecting: The Unknown Envoy -- Bacteriophage based biosensors for the detection of food borne pathogens -- Computational tools and databases of microbes and its bioprospecting for sustainable development. .

Sommario/riassunto

This book presents a comprehensive overview of the use of microorganisms and microbial metabolites as a future sustainable basis of agricultural, environmental and industrial developments. It provides a holistic approach to the latest advances in the utilization of various microorganism bioprospecting including their wide range of applications, traditional uses, modern practices, and designing strategies to harness their potential. In addition, it highlights advanced microbial bioremediation approaches, including genetic manipulation, metagenomics analysis and bacteriophage-based sensors for the detection of food-borne pathogens. Lastly, it elaborates on the latest advances regarding the role of microbes in the sustainable development of various industrial products.