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Nota di contenuto	Chapter 1 - Fundamental Structure, Composition and Cutting-Edge Applications of Polysaccharides in the Contemporary Context -- Chapter 2 - From waste to biofuels: Microbial revalorization of agro-industrial left-overs -- Chapter 3 - Valorization of agro-food wastes and byproducts into bioactive peptides -- Chapter 4 - Microbial cellulases and their characterization for industrial applications: A

review -- Chapter 5 - Utilization of agro-wastes for xylitol production through microbial fermentation -- Chapter 6 - Single-cell protein and biodiesel production from agro-industrial waste -- Chapter 7 - Microbial biodegradation of the agricultural wastes for environmental sustainability -- Chapter 8 - Systematic Utilization of Carbohydrate-Rich Residues by Microbial Enzymes-Based Processing Technology: A Biorefinery Concept -- Chapter 9 - Use of microbial mass assisted aquaculture practice: A step towards resilient and sustainable youth empowerment -- Chapter 10 - Agro waste valorization and production of bioethanol -- Chapter 11 - Sustainable treatment of agro-wastes for the development of novel products especially bioenergy: prospects and constraints -- Chapter 12 - Integrated agro waste valorization and biorefinery approach: Prospects and challenges -- Chapter 13 - Agrowaste as a Potential Feedstock for Biofuel Production -- Chapter 14 - Valorization of Jackfruit waste into bioactive peptides and nutraceuticals -- Chapter 15 - Valorization of feather waste by microbial enzymatic activity: Bioconversion, production and application -- Chapter 16 - Production of biopesticides from agricultural waste as an alternative to chemical pesticides -- Chapter 17 - Biogenic nanoparticles synthesis, extraction, and purification from agro-wastes -- Chapter 18 - A sustainable approach to biosynthesis of nanoparticles from Agro-waste.

Sommario/riassunto

This book mainly focuses on the recent trends and sustainability challenges in the valorization of agro-wastes, emphasizing the role of microbial biotechnology. Processing of various kinds of agro-wastes such as lignocellulosic materials, food industry wastes, dairy wastes, etc., into several bioactive compounds, enzymes, biofuels, biogas, biofertilizers, nutraceuticals, nanoparticles, etc., will be discussed elaborately in more detail. This book investigates the theoretical and practical aspects of modern research regarding the valorization of agro-wastes through microbial technology. Moreover, the role of valorization research in circular bio-economy will also be addressed in this book.