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Nota di contenuto	Chapter 1. Introduction: Growth of agricultural waste, its disposal, and related environmental issues -- Chapter 2. Global status of agricultural waste-based industries, challenges and future prospects -- Chapter 3. Technoeconomic and Sustainability Analysis of Agricultural Waste Conversion Technologies -- Chapter 4. Biochemical approach for transformation of agricultural waste to bioenergy production and other value-added products through the bioelectrochemical system -- Chapter 5. Energy-efficient Bio-electrochemical system for treatment of agricultural wastes and wastewater: mechanism, scope and challenges -- Chapter 6. Microbial Conversion of Agricultural Residues into Organic Fertilizers -- Chapter 7. Thermochemical approach for sustainable transformation of agricultural waste into value-added end-products -- Chapter 8. Advances in Thermochemical Valorization of Agricultural Waste -- Chapter 9. Conversion of Agricultural Waste with Variable Lignocellulosic Characteristics into Biochar andits Application -- Chapter 10. Agricultural waste-based biochar for soil carbon sequestration and emission reduction: Preparation, evaluation, application, and mechanism -- Chapter 11. Contemporary Approaches

for Biochar Production from Agro-Waste and Its Current and Prognostic Applications in Environment Health -- Chapter 12. Valorisation of Sugarcane Bagasse Fly Ash into a Low Cost -Adsorbent Material for Removal of Heavy Metals: A Review -- Chapter 13. Extraction of lignin from various agricultural biomass: Its characterization and applications -- Chapter 14. Rice husk: from agro-industrial to modern applications -- Chapter 15. Production and application of nano-materials from agricultural waste -- Chapter 16. Agricultural waste as a source of fine chemicals -- Chapter 17. Centralized approach for the agricultural waste-based industry -- Chapter 18. Decentralized Composting and Vermicomposting for Agricultural Waste Management: Recycle at Source.

Sommario/riassunto

This edited book provides a comprehensive review of the current agricultural waste disposal techniques focusing on the ongoing research in the production of various agro waste-derived value-added products. Further topic includes the techno-economic aspects in up-scaling the technology from lab scale to commercial/pilot scale. Sustainable waste management and alternative renewable energy sources are the most important requirements in this era of rapid industrialization and urbanization. Agricultural waste, which is one of the major contributors to overall waste production, has the ability to be an essential source of renewable energy and other valuable products. The ongoing research and technical advancements in agro-waste treatment lead to the efficient conversion of waste into different value-added products. This book is of primary interest to academicians, researchers, scientists and engineers working in the field of agro-residue management, and biomass to bio-energy conversion technologies. Also, the book serves as reading material for students of Environmental Engineering/Civil and Environmental Engineering and Agricultural Engineering. Rural Management authorities, Industrial and Government policy-making agencies may also find it useful read.