

1. Record Nr.	UNINA9910799220303321
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Titolo	Paddy Straw Waste for Biorefinery Applications [[electronic resource] /] / edited by Neha Srivastava, Bhawna Verma, P. K. Mishra
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2024
ISBN	981-9982-24-3
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (236 pages)
Collana	Clean Energy Production Technologies, , 2662-687X
Altri autori (Persone)	VermaBhawna MishraP. K
Disciplina	333.707
Soggetti	Human ecology - Study and teaching Bioenergetics Microbial ecology Environmental Studies Environmental Microbiology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1. Biorefineries: An Analogue to Petroleum Refineries -- 2. From organic waste to renewable energy: Rice straw -- 3. A wealthy green approach: Conversion of paddy straw waste into biorefinery products -- 4. Valorization of paddy straw waste for sustainable development of biofuels -- 5. Lignocellulosic Waste to Biofuel-Paddy Straw to Bioethanol: Advancement in Technology -- 6. Nanomaterial fabrication from paddy straw for bioethanol production -- 7. Fabrication of Activated Charcoal from Paddy waste for Bioethanol Production -- 8. Bioethanol Production from Paddy Straw Lignocellulosic Waste -- 9. Utilization of Paddy Straw for the Production of Hydrolytic Enzymes -- 10. Biochar: A Pyrolyzed Green fuel from Paddy Straw.
Sommario/riassunto	This book provides an exclusive and critical in-depth analysis of paddy straw waste valorization at a broad scale for different industrial applications. It explores and discusses the various valorization pathways of paddy straw into valuable products connected to biorefineries' products and byproducts. The book also examines the scope, potential, and availability of paddy straw in the field of biorefineries. Various lignocellulosic biomasses with expanded

potential are known for their industrial applications, even at a broad pilot range. Among these biomasses, paddy straw has emerged as the most suitable lignocellulosic waste for various biorefinery applications. Paddy is a crucial and widely consumed crop globally, and it generates the highest annual production of waste compared to other cereal crops. The cellulose content, accounting for approximately 47% of the total cellulosic biomass, offers significant potential for valorization, along with hemicellulose and lignin, which can also be explored and expanded on an industrial scale. However, despite the tremendous scope for valorization, lignocellulosic biomass-based biorefineries face cost-effectiveness challenges that need to be addressed for sustainable and uniform expansion, distribution, and economic scalability in various applications. The book's specific feature lies in its targeted and specific valorization of paddy straw into biofuels and other biorefinery-based products, which hold promising industrial applications and easily scalable approaches for mass production. This book is an essential resource for students, scientists, engineers and practitioners working in the biorefinery industry and academia.
