

1. Record Nr.	UNINA9910910498303321
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Titolo	Value Addition and Product Diversification in Sugarcane // edited by Giriya pura Shivalingamurthy Suresha, Gopalareddy Krishnappa, Murali Palanichamy, Huskur Kumaraswamy Mahadeva Swamy, Hari Kuppusamy, Hemaprabha Govindakurup
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2024
ISBN	9789819772285 9819772281
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (373 pages)
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Disciplina	630
Soggetti	Agriculture Agricultural biotechnology Agricultural genome mapping Agricultural Biotechnology Agricultural Genetics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1. Sugarcane By-Products Based Industries in Asian Countries -- 2. Historical perspectives of sugarcane breeding for value addition -- 3. Technological interventions in the production of sugarcane juice concentrates -- 4. Biotechnological manipulations in sugarcane for bioenergy applications -- 5. Sugarcane metabolomics and its applications in value addition -- 6. Sugarcane-based Chemicals and its Applications -- 7. Lignin-derived aromatics in sugarcane biorefinery -- 8. Proteomic Approaches for Ligninolytic Enzymes Production for Enhancing Sugarcane Biomass Conversion Efficiency -- 9. Transgenic Sugarcane-oilcane: An alternative feedstock for the production of drop-in fuel and value-added bioproducts -- 10. Recent advances in

sugarcane nanotechnology and its applications -- 11. Transgenic sugarcane for biopharming: Challenges and prospects -- 12. Sugarcane Bagasse: Transforming Waste into Renewable and Bio-compostable Materials for a Sustainable Future -- 13. Economics of sugarcane value chain and policy capsules on value-added products -- 14. Sugarcane-based traditional sweeteners and health benefits -- 15. A recent update on metabolic engineering in plants, its futuristic applications with special inference to sugarcane -- 16. Powering Tomorrow: Advancements in Energy cane Breeding for Sustainable Bioenergy Solutions -- 17. Sugarcane fibre as dietary supplement, health benefits and applications in functional foods -- 18. Technological advancements in enzyme production for 2G Ethanol.

Sommario/riassunto

This contributed volume covers sugarcane byproducts, preservation, functional foods, bioethanol, and liquid fuels. It focuses on advancements in value addition and its applications in food and other industries, sugarcane biomass, and its utilization in the energy sector. Sugarcane production has been increasing for several decades; however, it has only recently gained importance for product diversification and bioenergy applications. The book also explores biopharming/molecular pharming, genomics for product diversification, biotechnological manipulations for bioenergy applications, metabolic engineering, bioenergy policy, economics, and market intelligence. This book provides an opportunity to compile recent technological advancements in value addition and product diversification, offering insights into the role of sugarcane in green fuels and global energy security in a sustainable manner. This book caters to the needs of various stakeholders, including students, researchers, policymakers, and academicians working in functional foods, nutraceutical research, bioenergy, and synthetic biology. It is also designed for personnel in the sugar and food industries, green fuels, chemical industries, and textile and recycling industries.
