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Titolo	Annual Plant: Sources of Fibres, Nanocellulose and Cellulosic Derivatives [[electronic resource] ] : Processing, Properties and Applications / / edited by Ramzi Khiari, Mohammed Jawaid, Mohamed Naceur Belgacem
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Collana	Composites Science and Technology, , 2662-1827
Altri autori (Persone)	JawaidMohammed BelgacemMohamed Naceur
Disciplina	620.118
Soggetti	Composite materials Materials Chemistry Biomaterials Composites Materials Chemistry Plant Materials
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Nota di contenuto	Raw material: extraction and characterization of fibres and extractives products from annual plants -- Chemical composition and pulping of fibre from annual plants - A comparison with other cellulosic fibre sources -- Characterization and comparative evaluation of thermal, structural, chemical, mechanical and morphological properties -- Extraction and characterization of the antioxidant/antimicrobial performance of annual plants -- Production of bioethanol from annual plant residues: isolation and characterization -- Delignification and characterization fibres obtained from annual plant -- Annual plant as sources for preparing fibre and nanofibers -- Production of cellulose nanocrystal from date palm and their comparison with others sources -- Preparation and characterization of cellulose nanofibril from annual plant -- Thermo-chemical properties of nanocellulose from Kenaf -- Nanocellulose isolated and properties from Tunisian annual plant --

Baggage and rice straw at multiscale from fibre to nanocellulose -- Characterization of nanocellulose obtained from cactus -- Composite and nanocomposites using annual plant -- Mechanical properties of fiberboards made in biocomposites reinforced with annual plant -- Nanocomposites with cellulose nanocrystals extracted from annual plants -- Production of bio-based composites reinforced with cellulose nanofibril obtained from annual plants -- Production of cellulose nanofibrils and nanocomposites: A review of recent advances -- Nanocellulose from agricultural residues in Papermaking application -- Annual plant as a source for producing macromolecules -- Preparation and characterization of microcrystalline cellulose (MCC) -- Preparation and characterization of cellulosic derivatives from annual plant -- Liquid crystalline properties of hydroxypropyl cellulose prepared from annual plant -- Structure and Properties of Cellulose and Its Derivatives from annual plant -- Production and Characteristics of Cellulose derivatives from Different Sources -- Cellulose Chemistry: Novel Products and Synthesis Paths -- Potential of use annual plant in wastetreatment -- Potential adsorption of methylene blue from aqueous solution using annual plant residues -- The potential of annual biomass for biochar production: Performance, mechanism and wastewater application -- Biosorption and kinetic study on heavy metals removal from aqueous solution using fibre and nanocomposites from annual plants -- Valorisation of annual plants in removing synthetic dye -- Adsorption of textile dye on an unconventional biosorbent.

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#### Sommario/riassunto

This book gives an overview of the processing, properties, and applications of fibers and cellulose derivatives obtained from annual plant materials in the formation of non-wood source of pulp. The book comprises illustrations and tables summarizing the latest research on the production of fibers and cellulose derivatives using several key methods and/or characterization techniques. This book collates the information and knowledge of new ways to prepare cellulosic derivatives and describe the concepts and architecture of fibers obtained from annual plants. This book caters to researchers, policymakers, and industrial practitioners who are interested in natural fibers as a way to preserve the forest resource and to satisfy the increasing demand in pulps.

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