

1. Record Nr.	UNINA9910298443403321
Titolo	Algal Biorefineries : Volume 2: Products and Refinery Design // edited by Aleš Prokop, Rakesh K. Bajpai, Mark E. Zappi
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-20200-6
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (555 p.)
Disciplina	610
Soggetti	Medicine Microbiology Engineering design Renewable energy resources Water pollution Biomedicine, general Applied Microbiology Engineering Design Eukaryotic Microbiology Renewable and Green Energy Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Microalgal systems biology for biofuel production, Seong-Joo Hong and Choul-Gyun Lee -- Government regulation of the uses of genetically modified algae and other microorganisms in biofuel and bio-based chemical production, David J. Glass -- Algal heterotrophic and mixotrophic culturing for biorefinery: From metabolic routes to techno-economics, Octavio Perez-Garcia and Joav Bashan -- Algal Closed Reactor Design, -- Martin Koller -- Algal tubular reactor design, Graziella Chini-Zitelli and Giuseppe Torzillo -- Photobioreactors with internal illumination, Magda Sergejevová, Jose Romel Malapascua, Jiří Kopecký and Jiří Masojídek -- Thin-layer

systems for mass cultivation of microalgae: flat panels and sloping cascades, Jiří Masojídek, Magda Sergejevová, José R. Malapascua and Jiří Kopecký -- Gas balances and growth in algal cultures, Marcai Morales, Juan Cabello and Sergio Revah -- Beneficial or toxic effects of selenium on green algae and their application as nutrient supplements or bioremediators, Milada Vítová, Kateřina Bišová, Jiří Doucha and Vilém Zachleder -- Rare earth elements and algae: Physiological effects, biorefinery and recycling, Franz Goecke, Vilém Zachleder and Milada Vítová -- Utilization of biorefinery waste proteins as feed, glues, composites, and other co-products, William M Chiridon -- Utilization alternatives of algal wastes for solid algal products, Didem Özçimen, Benan nan, Sevgi Ak and Anl Tevfik Koçer -- Algal Cell Disruption and Lipid Extraction: A Review on Current Technologies and Limitations, Chandra S. Theegala -- Microalgal derived biomethanization and biohydrogen production – a review of modeling approaches, Marc Wichern and Manfred Lübken -- Hydrothermal pretreatment of macroalgal biomass for biorefineries, Héctor A. Ruiz, Rosa M Rodríguez-Jasso, Mario Aguedo and Zsófia Kádár -- Conversion of microalgae bio-oil into bio-diesel, Aimaro Sanna and Abd Rahman Nur Adilah -- A framework for sustainable design of algae biorefineries: Economic aspects and life cycle analysis, Peam Cheali, Carina Gargalo, Krist V Gernaey and Gürkan Sin -- Multi-actor life cycle assessment of algae-derived biofuels for U.S. airline industry, Datu Buyung Agusdinata and Daniel DeLaurentis -- Index.

Sommario/riassunto

Algae offer potential to produce renewable chemicals and fuels using solar energy and carbon dioxide from atmosphere or in flue gases while simultaneously reducing the generation of greenhouse gases. Since these can be grown on marginal lands with micronutrients and macronutrients often present in waste streams, algae-based chemicals and fuels do not compete with foods. Still large-scale production of algae-based fuels and chemicals faces considerable technological and economical challenges, and it would by necessity require a biorefinery approach wherein all the possible algal components are converted into value-added compounds. The present series on algal biorefineries represents a forum for reporting the state of the art of different technologies as well as the latest advances in this field. The volume II of this series complements the volume I in terms of the current state of the art. Different chapters in this volume address diverse issues ranging from genetically modified algae to new products to life-cycle analysis of algal products.
