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Nota di contenuto	Marine Algae Extracts; Contents; List of Contributors; Preface; Acknowledgments; Volume 1; Chapter 1 Introduction of Marine Algae Extracts; 1.1 Introduction; 1.2 Algal Biomass as a Useful Resource; 1.3 Biologically Active Compounds Extracted from Algae; 1.4 The Application of Products Derived from Algal Biomass; 1.4.1 Agriculture - for Plants; 1.4.2 Functional Food; 1.4.3 Cosmetics; 1.4.4 Pharmaceuticals; 1.4.5 Fuels; 1.4.6 Antifouling Compounds; 1.5 Extraction Technology; 1.6 Conclusions; References; Part I: Cultivation and Identification of Marine Algae Chapter 2 Identification and Ecology of Macroalgae Species Existing in~Poland2.1 Introduction; 2.2 Collection of Macroalgal Thalli and Culture Conditions; 2.3 Macroalgae Forming a Large Biomass in Inland Waters of Poland; 2.4 Ecology Aspects of Freshwater Macroscopic Algae; 2.5 Summary; Acknowledgments; References; Chapter 3 Identification of Microalgae Producers of Commercially Important Compounds; 3.1 Introduction; 3.2 Microalgae for Human Consumption; 3.2.1 Chlorella; 3.2.2 Dunaliella; 3.2.3 Haematococcus Pluvialis; 3.3 Microalgae for Aquaculture and Animal Farms 3.4 Microalgae for Biofuels3.5 Molecular Identification of Microalgae; 3.5.1 MA1-MA2 Universal Oligonucleotides; 3.5.2 Amplification of the

18S rDNA Gene; 3.5.2.1 Dunaliella; 3.5.2.2 Botryococcus; 3.5.2.3 Chlamydomonas; 3.5.2.4 Scenedesmus; 3.5.2.5 Chlorella; 3.5.2.6 Other Microalgae Genera; 3.5.3 18S rDNA Introns Characterization; 3.6 Conclusion; References; Chapter 4 Cultivation and Identification of Microalgae (Diatom); 4.1 Introduction; 4.2 Materials and Methods; 4.2.1 Plankton Net; 4.2.2 Preparation for Light Microscopy; 4.2.3 Identification of Species
4.2.3.1 Odontella Mobiliensis (Bailey) Grunow 18844.2.3.2 Pleurosigma Normanii; 4.2.3.3 Chaetoceros Curvisetus; 4.2.3.4 Skeletonema Costatum; 4.2.3.5 Coscinodiscus Centralis; 4.3 Algal Culture Conditions; 4.3.1 Physical and Chemical Conditions; 4.3.1.1 Light; 4.3.1.2 Temperature; 4.3.1.3 Salinity; 4.3.1.4 pH; 4.3.1.5 Aeration/Mixing; 4.3.1.6 Culture Medium/Nutrients; 4.3.2 Isolating/Obtaining and Maintaining of Cultures; 4.3.3 Sources of Contamination and Treatment; 4.3.4 Algal Culture Techniques; 4.3.5 Growth Dynamics; 4.3.5.1 Lag or Induction Phase; 4.3.5.2 Exponential Phase
4.3.5.3 Phase of Declining Growth Rate
4.3.5.4 Stationary Phase; 4.3.5.5 Death or Crash Phase; 4.3.6 Harvesting and Preserving Microalgae; 4.3.7 Algal Production Cost; 4.3.7.1 Uses of Algae; 4.4 Conclusion; References; Part II: Production and Processing of Marine Algae; Chapter 5 Analysis of Green Algae Extracts; 5.1 Introduction; 5.2 The Algae Biomass as a Raw Material of Natural Chemical Compounds; 5.3 Methods of Extraction of Biochemical from Algae Biomass; 5.4 Analytical Procedures; 5.5 Conclusion; Acknowledgments; References
Chapter 6 Algae Extract Production Methods and Process Optimization

Sommario/riassunto

Designed as the primary reference for the biotechnological use of macroalgae, this comprehensive handbook covers the entire value chain from the cultivation of algal biomass to harvesting and processing it, to product extraction and formulation. In addition to covering a wide range of product classes, from polysaccharides to terpenes and from enzymes to biofuels, it systematically discusses current and future applications of algae-derived products in pharmacology, medicine, cosmetics, food and agriculture. In doing so, it brings together the expertise of marine researchers, biotechnologists and pro
