

Advanced Oil Crop Biorefineries: RSC (RSC Green Chemistry)



In Europe, the main oil-rich crops are sunflower, rapeseed and olive which are grown primarily for food. This book discusses how to convert this whole crop into energy (fuels, power and heat), food and bioproducts (chemicals and/or materials), whilst making optimal use of the by-products generated during farming/harvesting, primary processing (oil extraction and refining) and secondary processing (transesterification). The resulting processes are more economically competitive and the business margin for oil and biodiesel manufacturers is improved. Previously, oil crops have been the main point of focus but many of the technologies used are applicable to a wide variety of raw materials. For example, cellulose from rapeseed straw can be converted to levulinic acid but the same technology could be applied to cellulose from wheat straw or wood. Significant effort is now being devoted to 2nd generation raw materials such as ligno-cellulose which avoid direct competition with food sources. This volume integrates these developments with existing plant oil supply chains and combines biochemical and thermochemical processes to form integrated biorefinery schemes. Two unique features of the book are the information on LCA of biorefinery schemes and the surveys showing where traditional industries could be affected by new biorefinery developments. Energy and cost calculations for the key biorefinery processes and are also included revealing that some are surprisingly profitable and could offer significant global benefits. Other topics covered include: novel farming and harvesting methods, efficient extraction of plant oils, producing biodiesel without glycerol, extraction of high value chemicals from agricultural by-products, anaerobic digestion potential of agricultural by-products, use of proteins to yield amino acids, economics and life cycle analysis, stakeholder surveys, and policy scenarios.

The book is of interest to academics working in relevant areas of chemistry, biology, materials, engineering, economics and policy studies. Those working in the EU farming industry will also find it relevant to their business.

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Advanced Oil Crop Biorefineries: RSC (RSC Green Chemistry) by Abbas Kazmi (Editor), Birgit Kamm (Contributor), Rainer Hofer (Contributor), Soren Henke
Advanced oil crop biorefineries [electronic resource] in SearchWorks and Applications. 13: Challenges in Green Analytical Chemistry. 14: Advanced Oil Crop Biorefineries. 15: Enantioselective Homogeneous Supported Catalysis.
CHAPTER 1 The Biorefinery and Green Chemistry - [RSC] Publishing In biorefining one can find similarities to oil refining, with the exception that in oil refining Green Chemistry is a term which is often applied when chemistry and . Advanced techniques and enabling technologies, such as ionic liquids, are now .. This plant can handle sugar cane bagasse, straw, wood, energy crops and **9781849731355: Advanced Oil Crop Biorefineries (Green Chemistry** From Book Series : RSC Green Chemistry Chemistry. 14: Advanced Oil Crop Biorefineries 20: Alternative Solvents for Green Chemistry: 2nd Edition. **RSC Green Chemistry (series) - Manticore Books** May 12, 2017 RSC Green Chemistry. Editor-in-Chief: Professor James 13: Challenges in Green Analytical Chemistry. 14: Advanced Oil Crop Biorefineries. **Advanced Oil Crop Biorefineries - Google Books Result** Nov 25, 2011 From series: Green Chemistry Series Book cover: From the book: Advanced Oil Crop Biorefineries View all Chapters RSC Books Home. **Advanced Oil Crop Biorefineries RSC Green Chemistry Books** George A. Kraus - Advanced Oil Crop Biorefineries (RSC Green Chemistry Books) jetzt kaufen. ISBN: 9781849731355, Fremdsprachige Bucher **Front Matter - RSC Publishing - Royal Society of Chemistry** Advanced oil crop biorefineries [electronic resource] Imprint: Cambridge, U.K. : Royal Society of Chemistry, 2012. Series: RSC green chemistry series 14. **Advanced Oil Crop Biorefineries (Green Chemistry Series): Amazon** Nov 25, 2011 p xmlns=books>In Europe, the main oil-rich crops are sunflower, rapeseed and olive which are grown From series: Green Chemistry Series. **Front Matter - RSC Publishing - Royal Society of**

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