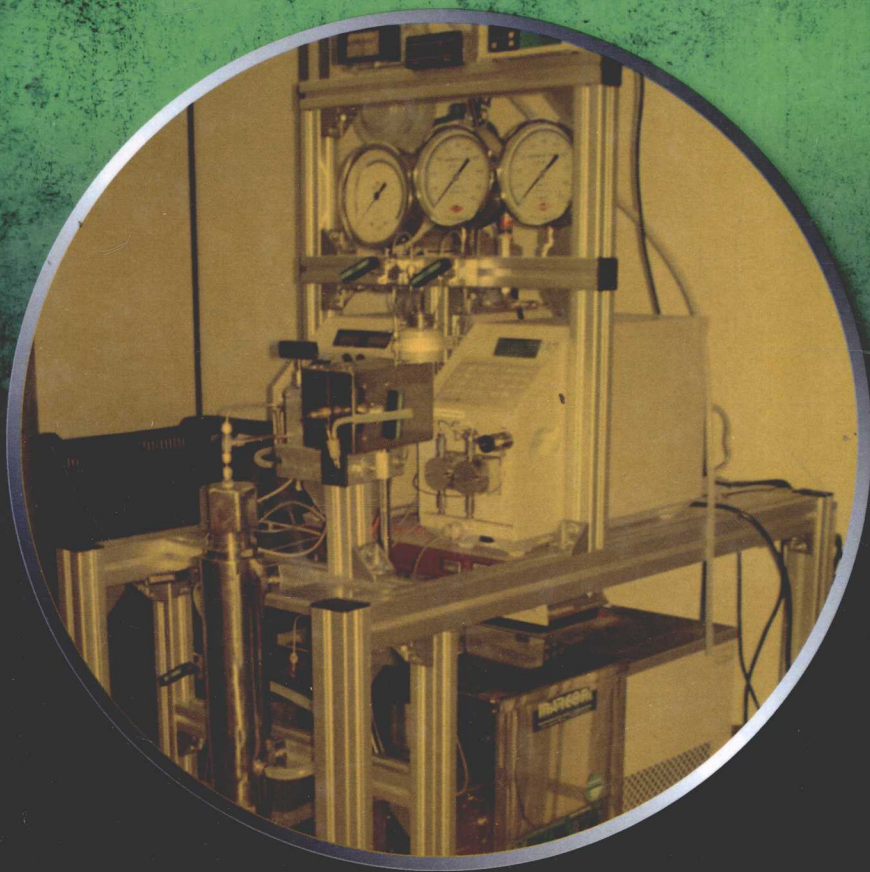


BIOFUELS PRODUCTION



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Biofuels Production

Edited by

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For my loving son, Daksh, on his first birthday

-Vikash Babu

Dedicated to my Wife, Dev, Subh, Family & Friends

-Ashish Thapliyal

For my loving parents

-Girijesh Kumar Patel

Preface

“Anybody who has been seriously engaged in scientific work of any kind realizes that over the entrance to the gates of the temple of science are written the words: ‘Ye must have faith.’”

Max Planck

The true sign of intelligence is not knowledge but imagination.

Albert Einstein

Biofuels is an emerging area for research now a day because existing fossil fuels are likely to diminish within few years and many governments would like to reduce their dependence on fossil fuels. Hence, developing biofuels and alternative energy sources is among the priority of many nations. In the present scenario, the need of hour is to utilize latest scientific approaches and amalgamate them with proper utilization of natural resources and then the technology can impact the life of common man. New technological intervention requires effective co-ordination between different organizations like Universities, Academic Colleges, Research institutions, Government Agencies, Non-governmental Organization and people participation, the end users of technology. This book is an effort to provide latest information on recent scientific methodologies involving biofuel.

Lots of research papers and review articles are available on the internet covering different type of biofuels. It is difficult to comprehend those developments in a single review article. Therefore, there is a need to collect scattered information in a single book with recent advancements.

Each chapter in this book is contributed by experts of their field. In this book, methods of biofuels production such as biodiesel, biomethane, Bioethanol, Biobutanol and Biohydrogen production have been summarized. Apart from production methods, their global

scenario, recent advancements, processing, microbial metabolic engineering for biofuel production and role of micro-organisms in biofuels production, have been well summarized. By all the efforts of contributors, this book will be very helpful for all the graduate, post graduate students and researchers who are working in this area.

The editors are thankful to all the contributors for their co-operation. Finally the authors solicit suggestions for improvement and enlargement of this book from the researchers, students and readers.

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