

Pratima Bajpai

Biotechnology for Pulp and Paper Processing

Biotechnology For Pulp And Paper Processing

**Amit Kumar,Puneet Pathak,Dharm
Dutt**



Biotechnology For Pulp And Paper Processing:

Biotechnology for Pulp and Paper Processing Pratima Bajpai,2011-11-24 This book provides the most up to date information available on various biotechnological processes useful in the pulp and paper industry Each of the twenty chapters covers a specific biotechnological process or technique discussing the advantages limitations and future prospects of the most important and popular processes used in the industry Topics covered include tree improvement pulping bleaching deinking fiber modification biosolids management and biorefining

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Application of Biotechnology in Pulp and Paper Processing Preethi Kartan,2018-12 Application of Biotechnology in Pulp and Paper Processing describes the techniques like enzymes engineering molecular biology proteomics genetic engineering genomics along with metabolomics and bioinformatics These biotechniques in 21st century have helped in development of pulp and paper sector in terms of economic feasibility and designing As described biotechnology is known for increasing cost efficiency product quality and developing environment friendly processes Further readers have been provided with some extended topics like Biodegradation of Endocrine Disrupting chemicals and residual organic pollutants of pulp and paper mill effluent by bio stimulation

Enzymes for Pulp and Paper Processing Thomas William Jeffries,1996 Discusses the use of microbial enzymes in several aspects of pulp and paper processing Examines the mechanisms for enzyme bleaching and presents information on the commercialization of enzymatic bleaching with microbial xylanases Discusses the use of cellulases to enhance fibrillation and remove contaminants from recycled fibers

Green Pulp and Paper Industry Amit

Kumar,Puneet Pathak,Dharm Dutt,2021-07-19 This book provides recent developments and future perspectives of pulp and paper processing based on biotechnology to replace conventional environmental unfriendly chemical processes The use of microorganism and microbial enzymes in various processes such as bleaching deinking refining dissolving pulp debarking pitch removal slime control wastewater treatment and waste material valorisation are discussed *Biotechnology for Improving Pulp and Paper Processing* Centre Technique du Papier (Grenoble, França),Cost E23 Action Biotechnology in the Pulp and Paper Industry,2002

Microbial Xylanolytic Enzymes Pratima Bajpai,2022-05-29 Microbial Xylanolytic Enzymes describes the enzyme structure and its interaction with plant cell walls the properties and production of different enzymes and their applications and the knowledge gathered on the hydrolysis mechanism of hemicellulose The knowledge gathered about the hydrolysis mechanism of the hemicelluloses especially xylans has greatly promoted the rapid application of these enzymes in new areas In recent years there has been a spurt of interest in xylan degrading enzymes due to their applications in several industrial processes including paper and pulp industries food and feed industries biofuel industry textile industry chemical and pharmaceutical industry brewing industry and more Xylan is the principal type of hemicellulose An enzymatic complex is responsible for the hydrolysis of xylan but the main enzymes involved are enzymes produced by fungi bacteria yeast algae protozoans and more Gives up to date authoritative information and cites pertinent research on the synergistic action of xylanolytic enzymes Includes studies on xylanase regulation and synergistic action between multiple forms of xylanase Covers in great depth all aspects of Xylanolytic enzymes Includes detailed descriptions on Xylanolytic enzymes as a supplement in animal feed for the manufacture of bread food and drinks textile industry pulp and paper industry biofuel industry and production of pharmaceuticals and important chemicals and waste management etc Challenges future trends in the commercial production and application of xylanases

Biotechnology for Environmental Protection in the Pulp and Paper Industry P. Bajpai,R. Kondo,2012-12-06 Pulp and paper production has increased globally and will continue to increase in the near future Approximately 155 million tons of wood pulp is produced worldwide and about 260 million is projected for the year 2010 To be able to cope with increasing demand an increase in productivity and improved environmental performance is needed as the industry is also under constant pressure to reduce and modify environmental emissions to air and water The authors give updated information on various biotechnological processes useful in the pulp and paper industry which could help in reducing the environmental pollution problem in addition to other benefits Various chapters deal with the latest developments in such areas as raw material preparation pulping bleaching water management waste treatment and utilization The book also covers the environmental regulations in various parts of the world as well as the role of biotechnology in reducing environmental problems

Environmentally Benign Approaches for Pulp Bleaching Pratima Bajpai,P. Bajpai,2005-08-05 Pulp and paper production has increased globally and will continue to increase in the near future Approximately 155 millions tons of wood pulp is produced worldwide and about 260 millions is

projected for 2010 To cope with the increasing demand an increase in production and improved environmental performance is needed as the industry is under constant pressure to reduce environmental emissions to air and water This book gives updated information on environmentally benign approaches for pulp bleaching which can help solve the problems associated with conventional bleaching technologies Main focus is on the environmentally friendly technologies that can help solve some of the problems associated with conventional bleaching technologies Information given is up to date authoritative and cites the experiences of many mills and pertinent research which is of interest to those working in the industry or intending to do so Covers in great depth all the aspects of various bleaching processes including environmental issues *Poster Session* Centre Technique du Papier,2002 **Enzymes for Pulp and Paper Processing** ,1996 **Biotechnology in Pulp and Paper Manufacture** T. Kent Kirk,Hou-Min Chang,2013-10-22 Biotechnology in Pulp and Paper Manufacture Applications and Fundamental Investigations documents the proceedings of the Fourth International Conference on Biotechnology in the Pulp and Paper Industry held in Raleigh NC and Myrtle Beach SC on 16 19 May 1989 This volume contains 68 selected papers organized into seven parts Part I deals with cell wall degradation and biopulping It includes papers such as energy savings in biomechanical pumping and biological degradation and delignification of rice straw Part II on the enzyme and fungal treatment of pulps presents studies on the improvement of pulp properties by treatment with enzymes or with whole cells Part III reports on research on new biological treatments for wastewaters produced by the created by the pulp and paper industry Part IV discusses the conversion of pulping and papermaking byproducts to more valuable products via fermentation Parts V and VI are devoted to fundamental studies on lignin biodegradation and on cellulose and hemicellulose biodegradation respectively Part VII focuses on molecular genetics research on lignocelluloses degrading microorganisms **Encyclopedia of Surface and Colloid Science** P. Somasundaran,2006 *Pulp Production and Processing* Valentin Popa,2013-09-23 Cellulose represents the most widely spread organic polymer found in nature and it was used for a long time as a raw material for paper textiles film and flexible packing material Due to its accessibility in huge amounts by photosynthesis process as a renewable material cellulose is considered at present the answer to many problems connected with sustainable development This explains the great scientific interest for this compound along with a lot of preoccupations to systematize the accumulated information in reviews and books This book will present the aspects of cellulose obtaining in the correlation with its integration in a new concept of biorefining Thus usual technological steps of pulp manufacture pulping bleaching will be continued with chemistry characteristics of by products and their utilization fiber characterization for paper obtaining cellulose derivatives and special products resulted in cellulose processing beads and microspheres micro and nano structures fibers production their antibacterial properties optical functional film and hydrogen This extensive book should prove to be a very useful tool for scientists students and postgraduates working in the field of pulp paper and cellulose derivatives aiming at opening a new era for renewable resources processed by biorefining **COST E23 Action**

,2003 Biotechnology for Clean Industrial Products and Processes ,1998 With erratum Biotechnology: Special processes Hans-Jürgen Rehm,Gerald Reed,1991 *Biotechnology for Improving Pulp and Paper Processing, 28-29 November 2002, Centre Technique Du Papier, Grenoble, France* European Cooperation in the Field of Scientific and Technical Research (Organization). COST E23 Action. Workshop,Centre technique du papier,2002

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