

**Wood and Cellulosics: Industrial Utilization. Biotechnology. Structure and Properties.** Edited by J. F. Kennedy, G. O. Phillips, P. A. Williams. Ellis Horwood, Chichester, 1987, xi + 664 pp. ISBN 0 7458 01137. Price: £69.50.

Cellulose is the most abundant biopolymer and represents a major renewable resource material. Processed cellulose is used to make paper, while cellulose ethers and esters find their way into many consumer and industrial goods. This book is the second volume on cellulose chemistry and applications (see *Carbohydr. Polym.* **6** (1986) 81–3 for a review of the first volume) and places greater emphasis on the value of cellulose as a renewable resource and its potential in the biotechnology area.

The contents of this book are divided in three parts: the first part of which comprises 23 chapters describing the structure and properties of cellulose and its derivatives using analytical methods such as Nuclear Magnetic Resonance (NMR) spectrometry, gel permeation chromatography, etc., to give an up-to-date picture of the structure of cellulose in its many forms and the effects of dissolution pulping and derivatization on the structural features.

The biotechnological aspects of this subject are covered in part 2 which contain 15 chapters covering a diverse range of subjects from chemical and biological degradation to fermentation and bio-utilization of cellulosic feedstocks. The range of applications range from the hi-tech genetic engineering for enzyme production to the lo-tech enhancement of straw and grass for animal feeding.

Part 3 contains 27 chapters on the industrial utilization of cellulose and its derivatives, with contributions ranging from aspects of pulping, wood processing and adhesion to surface coatings, rheological properties, membrane formation and fibre production.

The contributions are from academic and industrial groups from many different countries including Australia, Canada, Czechoslovakia, UK, France, Japan and USA. This has resulted in a book which provides a comprehensive and balanced overview of the current developments and uses of cellulose, a subject which is more actively researched and utilized than for many years in the UK.

We can recommend this excellent book to all scientists involved in the research and analysis of cellulose and its derivatives, non-scientific managers and non-specialist scientists in cellulose industry and biotechnological industries (brewing, food, etc.) who will gain an overall insight into potential of cellulose. It is also suitable for lecturers, student and research workers in academic and government institutions involved in

the study of cellulose and its derivatives, including chemists, biochemists, biologists, biotechnologists and nutritionalists, who will gain valuable detailed information on cellulose, its derivations and industrial application. A general reading of this book will give everyone a wider insight into the overall potential of cellulose as a renewable resource.

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