



## Book Reviews

**Chitin and Chitosan.** Edited by G. Skak-Bræk, T. Anthonsen & P. Sandford. Elsevier Applied Science Publishers, London, 1989. ISBN 1-85166-395-9 Price: £86.00.

The last fifteen years have seen a tremendous expansion of interest in chitin, chitosan and related enzymes and International Conferences were held in 1977, 1982, 1985 and 1988. This book represents the proceedings of the 4th International Conference on Chitin and Chitosan which was held in Trondheim, Norway, 22–24 August 1988. The book is edited by three members of the organising committee and runs to over 800 pages covering a wide variety of topics. It is a credit to the contributors, editors and publisher that this large volume of proceedings appeared so soon after the conference. The proceedings contain 11 plenary lectures, 23 papers on sources and biochemistry, 12 on structure and chemical modification, 10 on physical chemistry and functional properties and 31 papers concerned with applications in medicine, biotechnology and other fields.

The plenary lectures examine a wide range of topics, including sources, biomass and production of chitin, biochemical cytology of chitin and chitosan synthesis in fungi, solution properties of chitosan, use of chitosan in cosmetics and the molecular biology of chitosan in plant/pathogen interactions. Papers in the section on sources and biochemical aspects examine marine sources of chitin, production of chitosan by mucoraceous moulds, regulation of chitin and chitosan biosynthesis as well as characterisation of chitinases and chitosanases. There is considerable interest in modification of chitin and chitosan for industrial processes and

papers in the section on structure and chemical modification examine topics including iodo-chitins, enzymic production of oligomers, as well as structural studies using NMR and X-ray analysis. Binding ability, production of gels, foam enhancing properties and rheology of aqueous chitosan systems are amongst the subjects addressed in the section on physical chemistry and functional properties. The final two sections represent over one third of the book and consist of various applications in medicine, biotechnology and other fields. These applications are extremely diverse, encompassing areas such as flocculation, immobilisation and encapsulation, production of beads, fibres and contact lenses, and applications as seed coatings or for controlled release of pharmaceuticals.

The contributions appear to have been reproduced by camera-ready copy since typeset and quality of print, figures and tables vary from paper to paper. The presentation and content of the papers are variable as might be expected, but my major criticism of the book is the poor subject index which runs to just five pages with just over 450 entries. A two-page index of contributors is also provided, but I feel that this could justifiably have been sacrificed for a more comprehensive subject index. The size of the book, diversity of topics covered and inadequacy of the index means that the differing needs and interests of many readers will only be met by extensive browsing through the papers.

The large number of contributors from diverse fields is a testimony to the increasing interest in fundamental and applied aspects of chitin and chitosan science. The book should appeal not only to those scientists engaged in fundamental research on chitin and chitosan but also to industrialists and academics interested in exploiting the diverse range of applications for these polymers.

**P. E. Cook**

**Muscle and Meat Biochemistry.** By A. M. Pearson & R. B. Young. Academic Press, New York, 1989. ISBN 0-12-548055-5. ix + 457 pp. Price: US\$52.50.

This book on muscle, which will be mainly of interest to those concerned with its transformation to meat, is a review of published work in 12 key areas. These are covered in separate chapters as follows: composition and structure; muscle cell differentiation and growth; proteins of the thick filament; proteins of the thin filament; proteins of the myofibrils; sarcoplasmic reticulum; contraction and rigor mortis; skeletal muscle growth and protein metabolism; skeletal muscle fibre types; cardiac and smooth muscle; sarcoplasmic proteins; and connective tissue proteins.