



Book reviews

Protein Glycosylation; Cellular, Biotechnological and Analytical Aspects. Edited by H.S. Conradt, series: GBF Monographs, volume 15. xii + 293 pp. Price £52-00. ISBN 3-527-28367-6.

Many recombinant proteins, which are either in use or being developed as therapeutics, are glycosylated. It is now apparent that carbohydrate chains, linked *N*- or *O*-glycosidically to proteins, are important in such diverse phenomena as recognition, intracellular translocation, receptor function, secretion, protein folding, protein conformation or stability, cellular adhesion, growth inhibition and antigenicity. They have been shown to influence profoundly both the functional and physico-chemical properties of a glycoprotein.

As more recombinant glycoproteins are being developed for therapeutic purposes, there is an increasing need for sensitive, simplified methods for analysis of their oligosaccharide chains.

'Protein Glycosylation: Cellular, Biotechnological and Analytical Aspects' is based upon the International Workshop on Protein Glycosylation held at the GBF in Braunschweig, Germany, and attempts to draw together the recent analytical techniques that researchers in universities and industries have developed in furthering the understanding of biological phenomena associated with protein-linked carbohydrates.

The book contains 39 world-leading reports grouped into five sections, covering cellular aspects, glycosylation in non-mammalian cells, and analytical and biotechnological aspects such as glycosyltransferases and recombinant glycoproteins.

This book is recommended to pharmaceutical companies involved in the production of clinically important glycoproteins, as well as researchers from industrial laboratories with an emphasis on biotechnology.

John F. Kennedy
Mercedes G. Garaita

Biosynthesis and Biodegradation of Cellulose. Edited by C.H. Haigler and P.J. Weimer, Marcel Dekker Inc., New York, 1991. xi + 694 pp. Price US\$175-00. ISBN 0-8247-8387-5.

The biosynthesis of cellulose has been the topic of many books, reports and papers, as has the biodegradation of

cellulose. The reversibility of enzyme actions clearly links the two. Rarely, if ever, are the two fields linked together in a single publication. This, however, is the aim of 'Biosynthesis and Biodegradation of Cellulose' — to stop the two linked fields being treated as separate entities. This was the dream; the reality, however, is a little less satisfying, the problem being that, at no time in the book do the two separate fields come together. The editors could easily have bound the two totally discreet sections 'Biosynthesis' and 'Biodegradation' separately and sold them as separate books. This initial point is, however, the only real fault with this otherwise excellent volume.

Under the 'Biosynthesis' heading, cell biology, biophysics, biochemistry and molecular biology are discussed, whilst under the 'Biodegradation' heading a broad canvas of microbial degradation has been covered. In fact, one feels that this volume is the most comprehensive work that the editors could produce on the subject, and with over 3000 citations, it should also provide a key to further reading on each particular subject which takes ones' interest, or fits ones' field.

'Biosynthesis and Biodegradation of Cellulose' will be the ideal source for any interested worker, regardless of experience, in biochemistry, cell biology, molecular biology, biotechnology and environmental science. No library which deals in biotechnology or biochemistry could be considered complete without this volume, and we are sure that it will find its way into the personal library of many interested scientists as well.

David W. Taylor
John F. Kennedy

Milk and Dairy Products: Properties and Processing. By I. Rosenthal, VCH Publishers, Weinheim, 1991. 217 pp. Price £46-50. ISBN 3-527-27989-X.

Milk, and products produced from it, have been important components of the human diet for thousands of years, being a rich and diverse source of nutrients. Milk is an aqueous solution of lactose, minerals (including calcium), and other minor components, emulsified with fat, and supporting a colloidal dispersion of proteins. The protein quality is good and there is an excess of lysine, which complements lysine-deficient grain proteins. It is clear that in today's society, where the nutritional quality of food is of paramount

importance in its' acceptance as part of the diet of modern man, milk, and products produced from it, are essential components of a nutritionally balanced diet. For the commercial production of milk and milk products, numerous technologies must be brought together, including animal husbandry, engineering, food technology, biotechnology and nutrition, in order that high quality products can be produced economically.

'Milk and Dairy Products' brings together, in 5 well-structured chapters, key technical information from the various disciplines on milk and milk products. Chapter 1 details the composition, chemistry and physical properties of milk. The analytical assays, utilised for the determination of the composition and quality of milk, are briefly described at the end of the chapter. Production of milk is described in Chapters 2 and 3. Chapter 2 describes the biological processing, dairy microbiology and the commercial collection/assessment of raw milk, and the implication for the grading/payment system. In Chapter 3, brief descriptions of the stages involved in processing the milk for human consumption

are described. The manufacture of dairy products, including a range of cheeses, fermented products, butter, desserts and condensed and dried milks, are outlined in Chapter 4. Chapter 5 is a miscellaneous compilation of information, presented in tabular form where possible, covering microorganisms, tests and terminologies used in the milk and milk products industry.

By necessity, being a small, 200-page single volume, the book cannot provide in-depth information on all aspects of milk and milk products. It does contain a substantial amount of current expertise, but would have benefitted from a more substantial reference list. The information is well organised and clearly presented, making this a book which will be of interest not only to those working within the dairy industry, but also to individuals wishing to know more about these important components of our diet.

Linda L. Lloyd
John F. Kennedy