tionality of milk proteins. The first, from Cork, is a general review of functional milk protein products, the second is more specific. Authors from Edinburgh and Cornell combine 'to review some of the site-directed mutagenesis work which has been performed to investigate the basic properties of β-lactoglobulin, the putative function and finally the processing behaviour of this small milk-whey protein'. Both are up to date well referenced statements.

The shorter, more focused, chapters discuss aspects of specific products and processes. They include the functional properties of the products of chhana whey (chhana is a traditional Indian product used in confectionery), the investigation of the effect of fluid shear on the aggregation of whey protein concentrates, the debittering of α-casein hydrolysates with an enzyme from *Aspergillus oryzae*, the effect of mild heat treatment on the denaturation of γ-glutamyltranspeptidase (an indicator for assessing heat treatments) in milk and some milk products, the keeping quality of pasteurized (72° for 15 sec) and high pasteurized (115° for 2 sec) milk, fouling in UHT processing, and the UF of sweet cream buttermilk.

The book itself is a mixture of typesetting and reprographics. The figures are clear and easy to follow, and there is an adequate index. Altogether, this is an essential, and relatively inexpensive, book for all those working, or interested, in the biochemistry of milk products. It is highly recommended.

K. T. H. Farrer

Carbohydrate Polyesters as Fat Substitutes. Edited by Casimir C. Akoh and Barry G. Swanson, Marcel Dekker Inc., New York, 1994. pp. viii + 269. ISBN 0-8247-9062-6. US$ 125.

Reduction of fat content by the use of fat substitutes or fat replacers has become an important commercial area in recent years as food manufacturers seek to offer a range of palatable foods that appeal to consumers as products that aid their efforts to reduce their fat intake in line with nutritional advice.

This book is a detailed and wide-ranging account of carbohydrate polyesters as fat substitutes. The thirteen chapters cover a wide range of topics relevant to this area. The reviews of chemical and enzymatic synthesis, patent literature, emulsification and anti-microbial properties of sugar esters, potential markets and consumer demand, and regulations and applications of these products provide a very useful and detailed insight into the science, technology and economics of carbohydrate polyesters as fat substitutes. Chapters on other fat substitutes, nutritional aspects and supercritical fluid extraction and chromatography are also included.

Despite small amounts of overlap between some chapters, and the occasional typographical error, this book is generally well-edited. Although the references at the end of each chapter are very useful, some of the recent developments since early 1992 are not included, although some chapters include a few references from 1993. Solventless enzymatic synthesis of carbohydrate polyesters is one area that has developed to a significant extent since the appropriate chapter in this book was written.

The authors are clearly strongly committed to sucrose fatty acid polyesters, and they do not seem to dwell on any negative aspects. Thus, the index includes anal leakage of trialkoxytricarballylate, but not of sucrose polyesters. Loose stools caused by high intakes of sucrose polyesters are mentioned as causing difficulties with stool collection, but there is no detailed discussion of this aspect. The authors may feel by including the levels of Olestra in the petition to the Food and Drug Administration, they do not need to consider negative effects of the product at higher intakes, but it would have been useful in a text of this type to indicate how these proposed limits were arrived at.

Despite these reservations, the book will be an essential read for scientist and technologists interested in the area of fat substitutes, and the coverage of this subject is sufficiently broad and detailed to justify the purchase of this book.

M. H. Gordon

Food Labelling Data for Manufacturers. Based on McCance & Widdowson's The Composition of Foods. Published by the Royal Society of Chemistry and the Ministry of Agriculture, Fisheries & Food, Anon (1992). ISBN 0-85186-992-9.

This book has been published to help food manufacturers in their nutritional labelling of products. Key nutrients have been selected from the list of 42 in the 5th edition McCance and Widdowson's *The Composition of Foods* (a joint production by the Royal Society of Chemistry and the Ministry of Agriculture, Fisheries & Food), to include those laid down by the EC Directive 90/496/EEC on Nutrition Labelling for Foodstuffs which became law in October 1993.

There are about 1200 fresh, prepared and manufactured foods included in the book. The data have been recalculated from the original tables, in the form required by the EC Directive. Directive 'Group 1' nutrients are those listed first, and are energy (in kJ followed by kcal), protein, carbohydrate and fat. These are followed by 'Group 2' nutrients: total sugars, saturated fatty acids (saturates), fibre and sodium. Recalculated values for starch are also included as are the amounts of alcohol in alcoholic drinks in the format required by law. According to the Directive, nutrition information on food product labels may be derived from (a) analysis or (b) on calculation from the composition of the ingredients or (c) using generally established and accepted data. Data in the book will provide information for (b) and (c).

The book is an invaluable resource for manufacturers and the approach is especially useful for small manufacturers, with a wide range of products, who have no access to analytical facilities.

Ann F. Walker