

'Downstream Processing and Bioseparation' will have a very wide readership, because it is aimed at all graduate level and beyond scientists in biotechnology, chemical and biochemical engineering and in the pharmaceutical field. Many scientists who require bioseparation techniques may feel compelled to purchase this book, and scientific libraries would be incomplete without a copy.

John F. Kennedy
David W. Taylor

Gums and Stabilisers for the Food Industry 5. Edited by G. O. Phillips, D. J. Wedlock and P. A. Williams, IRL Press, Oxford, 1990. xv + 609 pp. ISBN 019 9630615. Price: £55.00.

The food industry is most often the prime target for application of carbohydrates. However, there still remains a lot to be known regarding the relationship between carbohydrate functionality and their molecular structure and the physicochemical interaction of carbohydrates with biopolymers and other substances in a system. Understanding of the basic principles subsequently leads to the ability to design carbohydrates and systems to give desired functionality and properties, respectively.

Development and increase in carbohydrate applications needs the interaction between the user, the producer and the basic researcher. The Gums and Stabilisers in the Food Industry series aims to marry the technical and industrial considerations with more basic interpretation of functionality; the latest addition for the year 1990 (Volume 5) is no exception.

Again the editors are to be congratulated for putting together the most recent information on gum arabis and other exudates, starch, gelatin, pectin, microbial polysaccharides, celluloses and seed gums and marine polysaccharides. In the whole, not a lot has developed except, in particular, the microbial polysaccharide, acetan, and the novel idea of derivatizing polysaccharides in their natural state, e.g. cereal grains for starch, and subsequent extraction of the derivatives. The book also underlines and identifies the problems and questions still remaining in the carbohydrate field especially their applications in the food industry.

To those familiar with this series, the latest addition comes up to the same standards as the earlier volumes. The book is highly recommended to all carbohydrate scientists, as an addition to their libraries and/or for reading.

Vivian M. Cabalda
John F. Kennedy

Chemical Changes During Food Processing. Edited by J. Davidek, J. Velisek and J. Pokorny, Elsevier Science Publishers, Amsterdam, 1990. xv + 448 pp. ISBN 0-444-98845-9. Price: US\$174.25/Dfl. 340.00.

Food processing is as old as mankind. As knowledge has increased, so also has food processing evolved. However, deep sophisticated knowledge in this field has been acquired slowly, compared to that in other areas of science. This might be due to complex chemical heterogeneity of foods and the complexity of the processes and reactions which take place during preparation. The development of powerful new analytical methods, specially in separation techniques, has made possible the expansion of understanding of new aspects of food science.

The aim of 'Chemical Changes During Food Processing' is to describe in detail the processes and chemical reactions which take place during industrial processing and storage of food. The work deals with the changes occurring in foodstuffs from the aspect of the main food constituents, regardless of the particular food item per se.

'Chemical Changes During Food Processing' includes six chapters, each dealing with a different group of food components: proteins, saccharides, lipids, as well as vitamins, sensorically active compounds (including natural pigments and flavour-active substances) and natural anti-nutritive and toxic compounds. These components are important from the side of nutritional, sensory and hygienic properties of food commodities. Only natural food constituents are considered.

The most important reactions are described and in general detailed by means of figures. A theoretical explanation of each type of reaction is given, followed by examples taken from different branches of food technology.