

**Gums and Stabilisers for the Food Industry 4.** Edited by G. O. Phillips, D. J. Wedlock and P. A. Williams. IRL Press, Oxford, 1988. xiv + 546 pp. ISBN 1 85221 087 7. Price: £50.00, US\$100.00.

Food industries, nowadays, could not and might never be able to do away with either the gums or stabilisers which they currently use in almost all of their products. Hence, the continuing research on these materials on: their analysis, structure and properties (using the latest techniques e.g. NMR and fourier transform IR spectroscopy); their development (especially those from living organisms e.g. microorganisms) and modification (using biotechnological techniques e.g. use of enzymes and; research for novel applications of existing, newly-discovered, newly-developed and newly-modified gums and stabilisers, are all important. Such research is important for the better understanding of the chemical, physical and rheological properties of these materials, to enable the improvement of the processing performance, stability, texture and appearance of food products and to meet the ever-changing needs/demands of the increasingly 'health-aware-but-fast-paced' lives of the consumers.

The book, which is the fourth volume of a series of books on gums and stabilisers is, in the same way as its predecessors, an excellent source of new information, covering recent developments on the basic research and application aspects of this group of materials. Gellans, xanthans and other bacterial polysaccharides, gum arabic, galactomannans, carageenan, gelatin, alginate, pectin and cellulose ethers were most especially dealt with in this volume.

As a reference source this book is a must for all developers, researchers and users of these materials. Libraries of food manufacturers and universities are recommended to have this on their shelves, as with the other previous books in the series. The authors are also to be congratulated on continuing with a very successful series of conferences, the next of which will have been held in the summer of 1989.

**Vivian M. Cabalda**  
**John F. Kennedy**

**Algal Biotechnology.** Edited by T. Stadler, J. Mollion, M.-C. Verdu, Y. Karamanos, H. Morvan and D. Christiaen. Elsevier Science Publishers Ltd, London and New York, 1988. xii + 522 pp. ISBN 1 85166 233 2. Price £55.00. US\$99.00.

In the middle of the 1960s, the emergence of a new biology was often mentioned which could, through its application, dramatically modify the

procedures for manufacturing a large number of bio-substances. The numerous discoveries during the 1970s brought this revolution up to date from the industrial viewpoint. Such discoveries included the structure and functions of certain enzymes, and their use in an immobilised form, in a variety of industrial production processes.

Biotechnology is certainly the fastest-growing applied science of the last 20 years with applications in an enormous range of fields such as medicine, food industry, chemical and pharmaceutical industries, etc. With the ever-increasing population, the world food problem presents a serious challenge that has attracted attention to, and research in, high protein microalgae. Effort has been made to isolate and identify naturally occurring microalgae strains suitable for outdoor biomass fuel production. Progress has been achieved in these areas of algal science and the researchers are hoping to bring the technologies into commercial reality in the near future.

The development of algae, compared to that of cultivated terrestrial plants, is still a young field. The state of the art in this area is so new that terminology has not yet been clearly defined. The book *Algal Biotechnology* is a collection of communications presented by 170 industrial and scientific people from 18 countries at the *International Seaweed Symposium* in France. It covers all aspects of algal biotechnology; new techniques for the preparation of tissue culture and protoplast, the economic feasibility of these new culture techniques for the development of bioreactors, immobilisation techniques, physiology and cultivation of algae.

Certainly, the reader will find valuable insights into the potential of the field of algae biotechnology, as well as the most up to date information concerning the concepts and developments of pilot-scale cultivation systems destined for industrial production.

**Eduardo H. Melo**  
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