and subject area, it should be excluded from all but the most dedicated food scientist's personal library.

David W. Taylor John F. Kennedy

Biotechnology of Microbial Exopolysaccharides. By I. Sutherland, Cambridge University Press, Cambridge, 1990. viii + 363 pp. ISBN 0 521 36350 0. Price £30.00.

Carbohydrate polymers of microbial origin are currently the topic of several areas of research and industrial interest. The application of such macromolecules have shown an increase due to successful efforts to find out about the relationship between their unique physical properties and chemical structures. *Biotechnology of Microbial Exopolysaccharides* provides a broad approach to the area, focusing mainly on scientific and industrial aspects of usage of bioactive carbohydrates.

Initial chapters deal with basic definitions and classifications of the most-used microbial macromolecules, e.g. cellulose, xanthan, dextran; their structures and analytical methods, i.e. HPLC, NMR, GLC, GPC, etc., thus enabling easy comprehension of further chapters.

Basic information on biosynthesis of polysaccharides is also included, as for example, mechanism of synthesis of xanthan and alginate. Other chapters of the book are related to the production and industrial use of carbohydrate polymers with commercial importance, e.g. alginates, curdlan, xanthan, dextran, hyaluronic acid, pullulan, arabic and guar gums, and so on.

Also relevant are the examples of food usage (dairy products, fabricated foods, icings), industrial applications (oil recovery, enzymes and cell recovery, paints, printing, textiles) and medical applications (vaccines, wound healing, antitumor and antiviral activity, drug delivery).

This book is therefore recommended to those working with carbohydrate molecules, e.g. biotechnology scientists, teachers, industry related managers, and students of biology and engineering courses.

> John F. Kennedy Haroldo C. B. Paula