

Book review

Polysaccharide Association Structures in Food

Edited by Reginald H. Walter, Marcel Dekker, New York, 1998, 352 pages, illustrated ISBN 0-8247-0164-X, \$165.00

This book under review describes the interactions of polysaccharides in aqueous solutions and provides an up to date, general introduction to the field. The book is comprised of 10 chapters written by authors from universities, government institutes and industry, and from a wide range of countries.

The first chapter, "Origin of polysaccharide supramolecular assemblies", is by editor Reginald Walter and gives a valuable introduction to the terms and concepts used to describe the association structures of polysaccharides. "Polysaccharide molecular structures" written by David Oakenfull provides a useful and concise background to polysaccharide structure and conformation. The third chapter, "Gel formation and ultrastructure in food polysaccharides" by Tokuya Harada and Akira Harada describes the gel structures of different polysaccharides using micrographs and X-ray diffraction patterns as illustrations. Unfortunately, this chapter is marred by many errors in the numbering of the figures, and in one case a figure is absent entirely.

"Structures and phase transitions of starch polymers" by Costas Biladeris is a very large chapter (112 pages) which leads to a slightly unbalanced aspect to the book but does provide a detailed and comprehensive review of these important and well-researched food polysaccharides. Chapter 5, "Microcrystalline cellulose technology"

written by Gregory Buliga, George Ayling, Gregory Krawczyk, and E.J. McGinley of FMC Corporation, includes a sizeable appendix of product formulations providing practical examples of the use of microcrystalline cellulose as a food ingredient. Both chapters 6 and 7, "Cyclodextrins" by Z. Helena Qi and Matthew Romberger and "Starch-lipid interactions" by Ratnajothi Hoover, are enjoyable and well written summaries of these subjects. "Interactions in whey protein/polysaccharide mixtures at pH 7" by P.B. Fernandes outlines experiments examining the effects of different polysaccharides added to whey protein isolate gels. Monique Axelos describes "Polysaccharide-metal interactions", and discusses their potential in both food and nonfood applications. In the final chapter, "Rheology of structured polysaccharide food systems: starch and pectin", Paul Okechukwu and M. Anandha Rao describe the rheological principles used in the description and analysis of polysaccharide structures.

"Polysaccharide Association Structures in Food" is the 87th volume in the Food Science and Technology series and makes a worthwhile addition to this interesting and comprehensive range of books.

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