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Book Review

Plant Biopolymer Science: Food and Non-food Applications

D. Renard, G. Della Valle, Y. Popineau (Eds.); The Royal Society of Chemistry, Cambridge, UK, 2002, xii + 304 pages, ISBN 0-85404-856-1, £ 79.50

The increased knowledge of the biosynthetic pathways of plant biopolymers may lead to more effective control of their composition, structure and interactions in biological material, so as to enhance technological functionality and nutritional quality. The genetic engineering and modelling of biopolymers at the molecular and supramolecular level are key tools for establishing links between end-product properties and biosynthesis, and tissue localisation and supramolecular organisation of macromolecules in plants.

Plant Biopolymer Science: Food And Non-Food Applications presents the proceedings of a workshop held in Nantes. The aim of this workshop was to examine the scientific approaches dealing with the structural or functional properties of macromolecules. There are five sections in this book, the first of which describes specific developments in the research of the biosynthesis of macromolecules, particularly in biochemical mechanisms of synthesis of (1 → 3),(1 → 4)- β -D-glucans and the future prospects for broadening soybean utilization by

altering glycinin. Biopolymer design in the different situation is introduced in Section 2, for example, influence of polysaccharide composition on the structure and properties of cellulose-based composites. After that, Sections 3 and 4 deal with two different models, namely biopolymer assembly systems, and interfaces and interphase systems. Biopolymer assemblies covers glutenin macropolymer, swelling and hydration of the pectin network of the tomato cell wall. Finally, multiphasic systems are discussed to show how these concepts may be extended to everyday applications.

This unique book reports on the very latest research on plant biopolymer science from biosynthesis through to applications. With contributions drawn from the international scientific community, it provides an overview of the state-of-the-art for a variety of readers, which will include students, researchers and teachers in academia to professionals in industry and government agencies.

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