

of food and nutritional status, and dietary allowances and goals. The final part of the handbook discusses the nutritional management of various human disorders and diseases, including heart and circulation disorders, cancer, diabetes, and diseases of the bones, teeth, skin, hair, kidneys and liver. The relationship of diet to nervous system disorders and mental health is covered, in addition to the nutritional management of underweight babies and treatment of alcoholism, the management of inherited metabolic disorders and gastro-intestinal diseases, as well as minor disorders such as sepsis, hemopoiesis, anaemias, asthma, and food allergy. The final chapter in this section presents an integrated approach to human dietetics and health.

This authoritative volume is a valuable reference source for food scientists, nutritionists, dieticians, and individuals involved in the food industry, agricultural industry, and medicine.

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### **Cell and Developmental Biology of Arabinogalactan-Proteins**

Eugene A. Nothnagel, Antony Bacic, Adrienne E. Clarke (Eds.); Kluwer Academic/Plenum Publishers, New York, 2000, xix + 301 pages, ISBN 0-306-46469-1 (£96.00)

Arabinogalactan-proteins have a large impact in plant physiology. They are ubiquitous, and are involved in diverse physiological effects including apoptosis, cell division, arrest of growth (reversible), oxidative bursts/wounding, somatic embryogenesis, pollen tube growth, chilling protections, microsporogenesis, growth suppression and xylem formation. Different arabinogalactan-proteins may have different tissue and cellular locations, and some appear and disappear during development. They also have a range of functions, however, to date, no one function of a single arabinogalactan-protein is understood.

The field of arabinogalactan-proteins is heading towards a greater understanding of both the form and function of arabinogalactan-proteins and their reciprocal relationships. *Cell and Developmental Biology of Arabinogalactan-*

*Proteins* is based on the 20th Symposium in Plant Physiology at the University of California, Riverside. The volume aims to increase the understanding of how the design of these proteoglycans is adapted for their seemingly myriad functions.

This book is divided into seven sections, each of which contains a selection of papers, complete with detailed referencing. Initially, the structure and biosynthesis of arabinogalactan-proteins is covered, followed by the localization and action of these proteoglycans at the subcellular and cellular levels. In subsequent sections, the roles of these proteoglycans in somatic embryogenesis, reproductive development and vegetative development are examined. Finally, information on medically and industrially important arabinogalactan-proteins and related macromolecules is given. The last section contains a selection of relevant short papers and abstracts.

The potential commercial uses of arabinogalactan-proteins, such as their possible use to induce immunostimulation in animals, are discussed in this text, as are the industrial uses (in the food and cosmetic industries) of these proteoglycans, which rely on their functionality as emulsifiers. This up-to-date and well-structured book has enormous value as an essential reference tool, and is highly recommended for scientists and researchers interested in the biology of arabinogalactan-proteins.

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### **Cereal Biotechnology**

Peter C. Moris, James H. Bryce (Eds.); Woodhead Publishing Ltd, Cambridge, 2000, 264 pages, ISBN 1-85573-498-2 (£95.00)

Cereals provide the foundation of the world's diet, with more than half our food being derived from wheat, maize and rice. Genetic modification is one of the most important and controversial issues facing the food industry, especially in cereal production and processing, where its potential benefits and drawbacks are being seriously debated. *Cereal*