canning, meat freezing and packaging, followed by a brief description of the technology trends.

Fundamentals of Food Reaction Technology provides a good introduction to food reaction technologies and contains a well-structured index and contains numerous references providing easy access to further reading material. It is particularly recommended to industrial technologists working in process design, organisation and control of food processing.

John F. Kennedy*
Francois Meullenet
Chembiotech Laboratories,
Institute of Research and Development,
University of Birmingham Research Park,
Birmingham B15 2SQ, UK

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* Corresponding author. Tel.: +44-121-414-7029; fax: +44-121-414-7030

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Water-Soluble Polymer Application in Foods
A. Nussinovitch; Blackwell Publishers, Oxford, 2003, vii + 240 pages, ISBN 0-632-05429-8, £69-50

Water-soluble polymers are commonly used for many traditional applications in the food and other industries. They can be used as thickening and gelling agents for the stabilisation of emulsions and for syneresis control, or as suspending agents for coatings and binders. *Water-Soluble Application in Foods* provides a theoretical, up-to-date, and comprehensive approach to hydrocolloids as adhesives, special gum coatings, and dry macro- and liquid-core hydrocolloid capsules. Some other hydrocolloid products and the applications of water-soluble polymers are also covered.

The first chapter describes the adhesive properties of hydrocolloids. Synthetic hydrocolloids used to create multi-layered foods, hydrocolloid adhesion tests, hydrocolloids as wet glues and their dependence on layer thickness, moisture content and molecular weight, are discussed. The second chapter deals with hydrocolloid coatings. Coatings created by drying hydrocolloid gels, solutions, blends and wax–hydrocolloid mixtures are presented. In addition, methods of testing coatings and how to design a hydrocolloid coating are included. The liquid-core hydrocolloid capsules and hydrocolloid macrocapsules are focused upon in Chapter 3, which contains information on applications, mechanical properties of liquid-core capsules and dry macro-capsules.

Multi-layered hydrocolloid products, which are important for their ability to convey the sensation of eating many textures at once, are discussed in the next chapter. The following chapter deals with the processes for flavour encapsulation and hydrocolloids as suitable matrix-builders in flavour encapsulation. Chapter 6 details hydrocolloids used in immobilisation for food purposes, and includes many examples. The role of hydrocolloids in preparing gum-based foods, how their properties determine the properties of texturised fruits and information about the uses and trends of such products are discussed in Chapter 7. The penultimate chapter emphasises the food uses of hydrocolloid cellular matrices. Examples of the unique nature and different production methods for hydrocolloid cellular solids are also provided in this chapter. The final chapter covers the uses of hydrocolloids for producing special textures in foods and other products.

This volume provides a clearly written and presented compendium, equally of value as a textbook or as an essential reference tool. It is especially suitable for scientists and students in all branches of biochemistry and food science, and will also be of value to workers in the related areas of adhesives and coatings.

John F. Kennedy*
Meng M. He
Chembiotech Laboratories,
Institute of Research and Development,
University of Birmingham Research Park,
Vincent Drive, Birmingham B15 2SQ, UK

Available online 20 July 2004

* Corresponding author. Tel.: +44-121-414-7029; fax: +44-121-414-7030

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Performance Functional Foods
D.H. Watson (Ed.); Woodhead Publishing Ltd, Cambridge, UK, 2003, xi + 200 pages, ISBN 1-85573-671-3, £115.00

In the last few decades, the food market in Europe and the US has seen the emergence of new type of foods that are thought to play a physiological functional role. These so-called 'functional foods' claim to improve consumer life by having a beneficial effect on mood, health, and mental and physical performances. As the market is growing quickly, it appears that the selling arguments are rarely based on scientific evidence, which has led people to question the reliability and safety of functional foods. This collection of reviews provides information on the principles of existing functional foods.

The first chapter of *Performance Functional Foods* provides an introduction to the market trends in the US and Europe. The next three chapters provide detailed information

on the interactions between stress, food and mood, the impact of nutrients and herbal ingredients such as *kava kava* on mood, cognitive function and nutrition, and the medicinal plants associated with improvement of mental and physical performance, respectively. The following three chapters focus upon phyto-oestrogens and cognitive function, the beneficial role of ginseng, and the effects of *gingko biloba* with respect to Alzheimer's disease. Alzheimer's disease is one of the most devastating neurological disorders affecting approximately 15 million people worldwide. *Gingko biloba* has neuroprotective effects that are used in antidementia drugs to improve disturbances of higher interactive functions and impairment of vigilance. The final three chapters discuss functional ingredients in sport drinks, pharmacological functions of green tea polyphenols, and the influence of caffeine on mental performance and mood. Caffeine is thought by many to be helpful to mental performance and mood, however, such beliefs are in contrast to current scientific evidence.

This volume provides an excellent introduction to functional food for newcomers to this interesting and rapidly expanding research area.

John F. Kennedy*
Francois Meullenet
Chembiotech Laboratories,
Institute of Research and Development,
University of Birmingham Research Park,
Vincent Drive, Birmingham B15 2SQ, UK

Available online 20 July 2004

* Corresponding author. Tel.: +44-121-414-7029; fax: +44-121-414-7030

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