

Book reviews

H. Ramaswamy, M. Marcotte (Eds.), *Food Processing: Principles and Applications*, CRC Press, Taylor and Francis Group, Boca Raton, FL, USA, 2006 (xvi+420 pp., £39.99, ISBN 1-58716-008-0)

Food, whether from an agricultural or animal source is highly perishable item and preservation of food has been carried out by man using various means for many years in order to ensure a supply between growing seasons. Thus, the major emphasis of food processing is preservation or shelf life extension of food products by preventing undesirable changes in the wholesomeness, nutritive value and sensory qualities—a topic which definitely involves the physical and physicochemical properties of carbohydrates. The problems in food preservation are caused by wide range of reactions such as physical, chemical, enzymatic and microbiological. They may be prevented or minimized by a range of formulation, processing, packaging and storage techniques including the use of additives. However, the current trend is the minimal use of chemically preservatives, which has implications for the safety of food products. Therefore, new methods of preservation may benefit particularly in new combinations with the new and existing techniques.

Food Processing: Principles and Applications, discusses the basic principles and applications for major processing techniques of commercial importance. The main emphasis is given on three methods of food preservation, i.e. thermal processing, freezing, and dehydration. Both science and engineering principles are covered, highlighting the chemical and microbiological basis of food preservation and covering the mathematical basis for modelling and processing applications. The book opens with an introductory chapter on an overview of the food processing needs and principles. The basic information on units, dimensions, conversions, common terms, mass balance, energy balance, heat transfer, fluid flow, rheological and thermophysical properties is covered in the Chapter 2.

Thermal processing is the primary method for ensuring microbial safety of food products. The major shifts in consumer demand and regulatory burden have increased the importance of thermal processing in food processing. Chapter 3 details the principles of thermal processing, emphasizing the use of process calculation methods and equipment for thermal processing. Low temperature preservation is discussed in the subsequent chapter, in which refrigerated storage is discussed first, followed by freezing techniques.

Food dehydration offers a cost effective and very practical means of food preservation. Drying technology extends the availability of seasonal commodities, retaining their nutritive

values and adding variety to the routine diet. Different aspects of food dehydration have been described in the Chapter 5. Different separation and concentration processes such as evaporation, membrane processing, freeze concentration, extraction and osmotic dehydration are discussed in the last chapter.

In conclusion, this volume explores both the basic and applied aspects of food processing with particular emphasis on three main techniques of food preservation. This book can be a useful resource not only to the students but also to the researchers working in the area of food processing and preservation.

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C.M. Smales, D.C. James (Eds.), *Therapeutic Proteins: Methods and Protocols*, Humana Press Inc., Totowa, New Jersey, USA, 2005 (xiv+482 pp., £79.50, ISBN 1-58829-390-4)

Modern molecular biology with recombinant DNA techniques has made possible to produce a wide range of natural and modified proteins. In addition, hybridoma technology introduced a new class of protein/glycoprotein reagents—the monoclonal antibodies that provide an alternate approach to treat many diseases. It is now possible to produce not only the recombinant version of natural proteins, but also proteins that have been engineered with improved characteristics. Various approaches have been used to modify the therapeutic activity of proteins, improve their stability, or reduce the rate of clearance, including amino acid substitutions, fusion of peptide sequences, and glycosylation engineering etc.

Therapeutic Proteins; Methods and Protocols, the volume 308 of *Methods in Molecular Biology*TM series, discusses the different techniques for the production of therapeutic proteins. The book opens with an introductory chapter on