



Book Review

Food Processing: Biotechnological Applications

S.S. Marwaha, J.K. Arora (Eds.); Asiatech Publishers Inc., New Delhi, 2000, xii + 347 pp, plus XII, ISBN 81-87680-04-0

Basic research is often driven by final, marketable products, which makes food processing a technology-based economic necessity. Advanced biotechnology techniques have influenced all segments of the food processing industry including production and preservation of raw materials, alteration of food functional and nutritional properties, safety and quality control of food materials, and the utilisation of food processing wastes. This volume is intended to provide a clear perspective on practical applications of biotechnology in the area of food processing, and is the outcome of a lecture series organised by the Punjab State Council for Science and Technology (PSCST).

The volume is comprised of 14 chapters and begins with two introductory chapters which present an overview of biotechnological advancements in food processing, and food engineering for biotechnologists, respectively. The next chapter covers scale-up and mathematical modelling in bioprocesses related to food technology. Chapters on food preservation, and food irradiation in the protection and preservation of food, follow. Food preservation covers any measure that keeps food well over a reasonable period of time, the objective being to minimise damage. Initially, techniques such as sun drying, pickling and fermentation were practised, before refrigeration, freezing and canning

were introduced. Chemical preservatives and pesticides have also been utilised, and food irradiation is one of the latter techniques to be developed.

A chapter detailing the application of enzymes in food processing is included in this volume, and covers sources of enzymes, and their application in the starch, sucrose, fruit juice, beer, wine and distilling, dairy, and baking industries. Specific chapters also cover Indian fermented foods, alcoholic beverage production, fermented dairy products, cheese production technologies, and the post harvest processing of fruit and vegetables. The final three chapters cover food borne disease and their control, biomanagement of food industry waste, and food safety and standards, respectively.

In summary, this volume details the increasingly important role of microbial systems, enzymes, improved preservation techniques and bio-engineering in the development of new and improved food products, and aims to provide a perspective on important biotechnological issues with direct relevance to food processing. It is recommended for use by both students and professionals with interests in areas of food technology/biotechnology.

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

* Corresponding author.