

Preface

Food processing is very important in many economies of the world. Food processing may be carried out in the home or by community groups or as cottage industries or more formal commercial formulations with respective sites having increasing levels of sophistication and capital requirements. The aims of the food processing are to ensure microbiological and chemical safety of foods, adequate nutrient content and bioavailability, and acceptability to the consumer and caregiver with regard to sensory properties and ease of preparation. Processing may have either beneficial or detrimental effects on these different properties of food, so each of these factors must be taken into account in the design and preparation of complementary foods.

Food quality is frequently associated with food safety. A good quality food is one that is safe to consume, nutritious, and organoleptically acceptable. Food safety encompasses a whole series of processes and activities both within and outside the food processing plant that will ensure that the food is free of potential chemical, physical, and biological hazards. Among these hazards (which may not be intentional) are naturally occurring toxins, pathogenic microorganisms, and harmful chemicals (pesticides for example).

Quality within a food processing plant may also be related to the notion of quality control. In this regard, quality control has many objectives within a food processing plants, mainly being to maintain the nutritional value of the processed product, to protect customers from the dangers of contaminated food and associated foodborne diseases, to ensure that all food laws and regulations (whether local, national or international) are met, to facilitate international business and commerce, etc. Food and Agriculture Organization (FAO), World Health Organization (WHO) and several national level regulatory organizations such as Fruit products order (FPO), Prevention of Food Adulteration (PFA), Agricultural Produce (grading and marking) (AGMARK), and Meat Food Products Order (MFPO) have been designated to safeguard the health of consumers and to prevent fraudulent practices in food trade.

HACCP (Hazard Analysis and Critical Control Points) is a system used by many food processing plants to ensure the safety and quality of the food products.

The idea behind HACCP is that food processing has critical points at which food contamination (physical, chemical, and/or biological) may occur. By controlling quality tightly at those critical points, it is possible to control the whole food processing.

This book offers a unique dealing with the subject and provides not only an update of state-of-the-art techniques in many critical areas of food processing and quality assessment but also the development of value added products from food waste, Food safety, and nanotechnology in Food and Agriculture Industry and looks into the future by defining current bottlenecks and future research goals. This work will facilitate a ready reference of the current subject matter to students and researchers alike.

This book is not intended to serve as an encyclopedic review of the subject. However, the various chapters incorporate both theoretical and practical aspects and may serve as baseline information for future research through which significant development is possible.

The book has nineteen chapters, with each focusing on a specific topic to cover diverse perspectives. An introductory chapter on Food Processing is included. Other chapters give insights on Processing of fruits, Nutritional Quality Assessment in Dairy Products, Food quality and safety, various Foodborne Microbial Diseases and their Control, use of Microbial Metabolites as Biological Control Agents in Food Safety, Recent Approaches in Risk Assessment of Foods, Microbiological Quality Systems and Microbial Risk Analysis. Furthermore the book also includes chapters on Value Addition and Preservation by Fermentation Technology, Importance of Yeasts and Lactic Acid Bacteria in Food Processing, Application of membrane technology in food processing, Post Harvest Management and Value Addition of Horticultural Crops, Development of Value Added Products from Food Wastes, and Nanotechnology in Food and Agriculture Industry.

With great pleasure, we extend our sincere thanks to all our well-qualified and internationally renowned contributors for providing the important, authoritative, and cutting edge scientific information/technology to make this book a reality. All chapters are well illustrated with appropriately placed tables and figures and enriched with up-to-date information. We are also thankful to the reviewers who carefully and timely reviewed the manuscript.

We are extremely thankful to Springer, New York, USA for completing the review process expeditiously to grant acceptance for publication. We appreciate the great efforts of book publishing team especially Dr. Susan Safren, Senior Publishing Editor, Food Science, in responding to all queries very promptly.

We express sincere thanks to our family members for all the support they provided, and regret the neglect and loss they suffered during the preparation of this book.

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Food Processing: Strategies for Quality Assessment

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2014, XI, 510 p. 35 illus., 15 illus. in color., Hardcover

ISBN: 978-1-4939-1377-0