N. S. Mahendrakar, N. M. Sachindra (eds): Technology of Muscle Foods

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The meat industry continues to play an important role in the growth and maintain in food chains of human diets and nutrients to our society. To fully understand the implication of improvements and problems in animal products impacts to the meat quality and safety during the processing, this book aimed to bring comprehensive recent advances for better understanding of meat quality and safety as well as nutrient factors and recovery of values from by-products. The chapters 1 and 2 summarized the live stock hygiene control and Hazard Analysis and Critical Control Points (HAACP) system in the meat production and practices. The sources of microbial contamination in meats from live-stock and processing plant are highlighted and improvement of meat safety by HAACP program is described well. In Chapter 2, various chemical and physical methods of decontamination of meat are summarized. The effect of probiotics and prebiotics in cooked meat products is highlighted, and its mechanism and beneficial effects were described in chapter 3. Tenderness, juiciness, taste and flavour of meats are the most important factors for meat consumers. The chapter 4 did deal with important factors affecting meat tenderization and chemical and physical methods of meat tenderization, which improve meat quality. Nano-technology in food processing is getting important and promising technology to improve texture,

flavour and add more values. This technology is also useful for applying to food safety, bio safety, packaging and so on. The current trend of nano-technology in meat processing is highlighted in Chapter 5 and this covers many aspects of food nano-technology, bio sensing of meat, meat packaging, and pathogen identification in muscle foods. Irradiation in foods is always arguments on its efficacy and safety issues. Radiation processing technology of meats and quality changes by this processing are summarized in Chapter 6 including safety and nutrient changes of irradiation in meat products.

The comminuted meat products are unique type of processed meat products made by mechanical process of reducing raw materials to small particles. Types of comminuted meat products, processing steps, meat and non-meat ingredients and quality of comminuted products are very well dealt with in chapter 7. Chapter 8 describes the current meat products and processing technologies of various commercial meat products, such as sausages, enrobed meat products, intermediate moisture meat foods, restructured meat products, meat analogues and designer meat products. Technological and microbiological aspects of fermented sausages, new information obtained by using modern approaches to study the microbial ecology based on molecular biology methods are focused in chapter 9. Thermal processing of meat inactivates pathogens and spoilage organisms to produce shelf stable products. Principles of thermal processing including canning, retort pouch processing, microwave cooking, extrusion cooking and ohmic heating are briefly discussed in chapter 10. These chapters help reader to understand various meat products and technologies behind these products including nutrient issues and functionality changes. Lastly, the waste management of meat by-products

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and recovery of biomaterials from animal wasters are discussed in Chapter 11. Over 50% of live animal weight is considered as by-products and recovery of valuable components is critical in future meat industry and minimizing the environments pollution by their disposal. This chapter addresses this challenge and future perspective for readers.

This book is well organized and contains much comprehensive information in current practices of meat industry and muscle foods. It is recommended for use as a textbook for animal, food and nutrition graduate program. It is also useful for livestock and meat industry people as well as nutraceutical personnel as a handbook.