Introduction

Food is important to humans because it fuels the body and provides the energy to carry out daily activities. Hence, a sustainable food supply system is required to ensure that the world's growing population is fed with safe, nutritious, and wholesome foods.

There is a need to focus on sustaining the food supply chain and having a circular food economy underpinned by a cross-disciplinary approach. A cross-disciplinary subject like food science can therefore play an important role in facilitating a healthy lifestyle for consumers while at the same time reducing waste and the environmental impact of food production, processing, distribution, and consumption. This will ensure the availability of food for future generations.

Food Science and Technology: Fundamentals and Innovation, 2nd Edition presents different aspects of food science, i.e., food microbiology, food chemistry, nutrition, and process engineering. These can be applied for selection, preservation, processing, packaging, and distribution of quality food. The authors focus on fundamental aspects of food and also highlight emerging technology and innovations that are changing the food industry. Such innovation and smart solutions (blockchain for traceability, big data, sensor technology, superfoods ingredients, personalized nutrition, 3-D printing, artificial intelligence, augmented, and visual reality) provide reasons to be optimistic about an increase in food security in the digitalized global food system. The second edition of this book has been enhanced with the inclusion of two new chapters: "Climate-Smart Food Systems" and "Food Supply Chain in the Pandemic Era." These chapters delve into crucial topics that reflect the dynamic nature of the food industry. Additionally, this edition provides valuable insights into recent developments regarding blockchain technology and traceability, offering readers a comprehensive understanding of how these advancements are shaping the future of food production and distribution. By incorporating these new chapters and updates, the second edition remains a valuable resource for exploring the intricacies and emerging trends within the contemporary food system.

The chapters are written by leading researchers, lecturers, and experts in food chemistry, food microbiology, biotechnology, nutrition, and management. *Food Science and Technology: Fundamentals and Innovation* is valuable for researchers and students in food science and technology. It is also useful for food industry professionals, food entrepreneurs, and farmers. The book covers important topics affecting quality and safety of foods from farm-to-fork.

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