

# Plant Protein Foods

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Editors

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 Springer

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# Preface

Protein is an essential macronutrient for humans. It provides amino acids, which are the building blocks for growth and maintenance of health. Animal-based protein foods, such as those based on red meat, contain saturated fat and cholesterol. In contrast, plant-based protein foods contain fiber, are low in saturated fat, and have zero cholesterol. Several studies have shown that regular consumption of plant-based protein foods instead of animal-based protein foods can reduce the risk factors of cardiovascular diseases, diabetes, and certain cancers.

Apart from human health, the environmental impact of production of animal protein is higher than that of plant-based protein. For example, the greenhouse gas emission from the production of 1 pound of lamb meat is 30 times higher than 1 pound of lentils. Today, as consumers are better informed than before on the importance of healthy diet and environmental impact of food products they purchase, the demand for plant-based protein foods is increasing globally. This trend has prompted many large-scale projects to focus on products derived from plant-based protein in the industry, as well as fundamental research in academia. Nowadays, several established multinational meat companies are beginning to add plant-protein product lines to meet the current demand.

This book is the first of its kind on plant-based protein foods, covering a wide range of topics in 18 chapters, including processing, product development, nutritional value, consumer acceptance, and market opportunities for plant-based protein products. We humbly believe that this book will benefit academics, industry professionals, dieticians, and many others in utilizing the full potential of plant-based protein foods.

We are grateful to all the authors for contributing chapters to this book. We are also thankful to the staff of the editorial and production departments of Springer for their support and their efforts to bring this book to publication.

Guelph, ON, Canada

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Amanat Ali

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**Loong-Tak Lim** received his doctoral degree in food science from the University of Guelph, Canada, and BSc degree in food science from Acadia University, Canada. He is currently a tenured professor in the Department of Food Science and team leader of the Packaging and Biomaterial Group. He is also an adjunct professor in the School of Packaging at Michigan State University. His research is focused on exploiting ultrafine fibers and particles for encapsulation and advanced packaging applications, aiming to reduce food waste and improve food safety during distribution. He has authored/co-authored over 160 peer-reviewed journal articles and book chapters, as well as co-edited several books. Prior to joining the University of Guelph in 2005, he was with Husky Injection

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