BIOMATERIAL RESEARCH FOR FOOD QUALITY AND SUSTAINABILITY

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CONTENTS

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PREFACE

Food science and technology are constantly evolving to meet the challenges of sustainability, nutrition, and quality in the modern world. This book overview into various cutting-edge topics related to food science and technology, showcasing the latest advancements and research findings in the field. The chapters within this book explore a range of innovative approaches and applications that have the potential to transform the food industry and address current global food-related concerns.

This book begins with the microencapsulation of Spirulina as an alternative protein source. Spirulina, a nutrient-rich microalgae, has gained significant attention as a sustainable and nutritious protein source. The chapter explores the latest advancements in microencapsulation techniques, which can improve the stability and bioavailability of Spirulina, making it a viable alternative protein source for various food applications.

The second chapter focuses on the valorisation of agricultural and industrial waste, addressing the growing concern of waste management in the food industry. The third chapter delves into the use of probiotics in shrimp aquaculture, which is an emerging area of research. Probiotics, beneficial microorganisms, have been shown to improve shrimp health, growth, and disease resistance. The fourth chapter discusses advancements in food quality analysis, focusing on the latest techniques and methods for assessing the quality and safety of food products. With increasing consumer demands for safe, nutritious, and high-quality food, this chapter explores cutting-edge approaches in food analysis.

The fifth chapter addresses the cultivation awareness of *Moringa oleifera*, a highly nutritious and versatile plant, in Malaysia. The chapter discusses the potential benefits of *Moringa oleifera* cultivation, including its nutritional properties, environmental sustainability, and economic impact.

The last chapter delves into the phenolic content and antioxidant properties of seaweed, which is gaining increasing attention due to its potential health benefits. Seaweed is known for its rich phenolic content, which has been associated with antioxidant, anti-inflammatory, and anti-cancer properties. The chapter presents the latest research findings on the phenolic content and antioxidant properties of seaweed, highlighting their potential health benefits and applications in functional foods and nutraceuticals.

Overall, this book provides a comprehensive overview of various innovative approaches and applications in food science and technology, highlighting the potential of these advancements to transform the food industry and contribute to sustainable food production, nutrition, and quality. The chapters within this book are a valuable resource for researchers, academicians, professionals, and students interested in the field of food science and technology.

I specifically want to thank all contributors in this book entitled *Biomaterial Research for Food Quality and Sustainability.*

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