

PREFACE

We introduce this book volume under the book series *Innovations in Plant Science for Better Health: From Soil to Fork*, published by Apple Academic Press. This book mainly covers the current scenario of the research and case studies and the importance of phytochemicals in therapeutics, under two main parts: Part I: Extraction of Bioactive Compounds and Their Applications, and Part II: Bioactive Compounds and Health Claims.

Part I describes the advances in the extraction of bioactive compounds from various sources. Advanced extraction techniques such as enzyme-assisted, microwave-assisted, ultrasound-assisted, pressurized liquid extraction and supercritical extraction techniques are described in detail. Natural products and their bioactive compounds are being increasingly utilized in preventive and therapeutic medication. Bioactive compounds have been utilized for the production of pharmaceutical supplements and more recently as food additives to increase the functionality of foods.

Part II covers the role of different bioactive compounds and their health-promoting potential for lifestyle diseases. The incorporation of any functional foods, nutraceuticals, and bioactives in the daily diet is a beneficial endeavor to help prevent the progression of chronic disorders. This section explains the botany, physical characteristics, uniqueness, uses, distribution, importance, phytochemistry, traditional importance, nutritional importance, bioactivities, and future trends of different functional foods. Functional foods, beyond providing basic nutrition, may offer a potentially positive effect on health and cure various disease conditions such as metabolic disorders, cancer, and chronic inflammatory reactions.

This book volume sheds light on the potential of plants for human health from different technological aspects and contributes to the ocean of knowledge on food science and nutrition. We hope that this compendium will be useful for students and researchers of academia as well as for persons working with the food, nutraceuticals, and herbal industries.

The contributions by the cooperating authors to this book volume have been most valuable in the compilation. Their names are mentioned in each chapter and in the list of contributors. We appreciate you all for having

patience with our editorial skills. This book would not have been written without the valuable cooperation of these investigators—many of whom are renowned scientists—who have worked in the field of food science, biochemistry, and nutrition throughout their professional careers. I am glad to introduce my mentor and a coeditor, Prof. Colin Barrow, who brings his expertise and innovative ideas on bioactive compound, drug discovery, and separation sciences in this book.

The goal of this book volume is to guide the world science community on how bioactive compounds can alleviate us from various conditions and diseases.

We will like to thank editorial and production staff, and Ashish Kumar, Publisher and President at Apple Academic Press, Inc., for making every effort to publish this book when all are concerned with health issues.

We request that readers offer us constructive suggestions that may help to improve future works.

I thank Dr. Megh R. Goyal for his leadership and for inviting me to join his team. He is a world-renowned scientist and engineer with expertise in agricultural and biological engineering. Truly he is giver and a model for budding scientists. I am on board to learn.

— Hafiz Suleria