

Innovations in Plant Science for Better Health: From Soil to Fork Book Series

Assessment of Medicinal Plants for Human Health: Phytochemistry, Disease Management, and Novel Applications

Editors: **Megh R. Goyal, PhD**

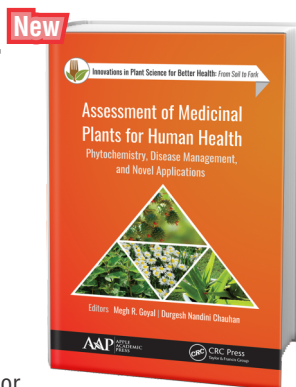
Retired Professor, Agricultural and Biomedical Engineering, University of Puerto Rico

Durgesh Nandini Chauhan, MPharm

Ishita Research Organization, Raipur, India

This volume looks at the importance of medicinal plants and their potential benefits for human health, providing insight with scientific evidence on the use of functional foods in the treatment and management of certain diseases. Divided into four sections, the volume covers the assessment and identification of medicinal plants, the role of medicinal plants in disease management, the ethnobotany and phytochemistry of medicinal plants, and novel applications of plants. Chapters discuss the variety of bioactive compounds (also referred to as phytochemicals) in the leaves, stems, flowers, and fruits of certain plants that can help to promote human health. It outlines the bioactive molecules that can be isolated from medicinal plants, the available sources, the biochemistry and structural composition of the plants, and their potential biological activities. It goes on to look at bioactive compounds in relation to their potential pharmacological applications in human health, particularly disease prevention and management.

10 color and 6 b/w illustration. Approx. 317 pages with index.
\$169.95 US / £131.00, Hardbound ISBN: 978-1-77188-857-8.
Ebook ISBN: 9780429328541. Forthcoming July 2020.



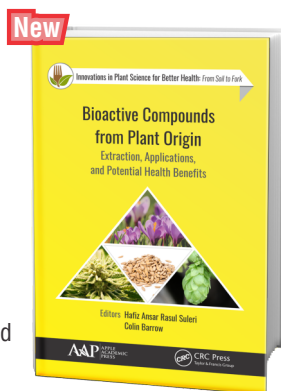
Bioactive Compounds from Plant Origin: Extraction, Applications, and Potential Health Benefits

Editors: **Hafiz Ansar Rasul Suleria, PhD**
Colin Barrow, PhD

Alfred Deakin Professorm Chair of Biotechnology, Director of the Centre for Chemistry and Biotechnology, Deakin University, Australia

This new volume explores the importance of phytochemicals from plants in therapeutics and human health. Its focus is on the extraction of bioactive compounds and their applications in human health. Natural products and their bioactive compounds are increasingly utilized in preventive and therapeutic medication as well as for the production of pharmaceutical supplements and more recently as food additives to increase the functionality of foods.

10 color and 30 b/w illustrations. 336 pages with index.
\$159.95 US / £124.00. Hardbound ISBN: 978-1-77188-786-1.
Ebook ISBN: 9780429029288. October 2019



Book Series Editor:

Hafiz Ansar Rasul Suleria, PhD

McKenzie Fellow, School of Agriculture and Food, Faculty of Veterinary and Agricultural Science, University of Melbourne, Australia
Email: h.suleria@hotmail.com

Bioactive Compounds of Medicinal Plants: Properties and Potential for Human Health

Editors: **Megh R. Goyal, PhD**

Retired Professor in Agricultural and Biomedical Engineering, University of Puerto Rico

Ademola O. Ayeleso, PhD

Senior Lecturer, Department of Biochemistry, Adeleke University, Nigeria

"In this book, an assemblage of recent findings on the therapeutic potentials of several medicinal plants/natural products is presented. The editors have selected chapters of original research and updated reviews from experienced authors who are specialists in the field. Readers are assured of interesting discoveries and an insight into the future position of medicinal plants/natural products in modern therapeutics. I recommend the book."

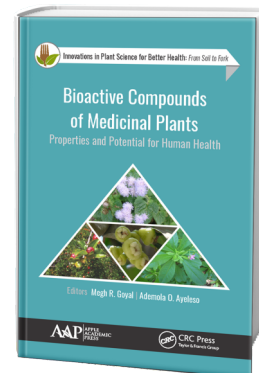
—Pius Fasinu, PhD, Pharmacologist, National Center for Natural Products Research, School of Pharmacy, University of Mississippi

"A dependable, broad, and extremely educational volume of recent progresses in various vital up-and-coming areas of medicinal plants and health. It has exceptional chapters written by erudite scholars. This book can serve as a reference for both students and professionals."

—Bashiru Olaitan Ajiboye. PhD, Biochemistry Program, Department of Chemical Sciences, Afe Babalola University, Nigeria

This volume sheds new light on the immense potential of medicinal plants for human health from different technological aspects. The volume presents new research on bioactive compounds in medicinal plants that provide health benefits, including those that have proven especially effective in treating and managing diabetes mellitus and hypertension.

33 color and 20 b/w illustrations. 384 pages with index.
\$159.95 US / £124.00.
Hardbound ISBN: 978-1-77188-648-2.
Ebook ISBN: 9781315147475. June 2018.



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Health Benefits of Secondary Phytocompounds from Plant and Marine Sources

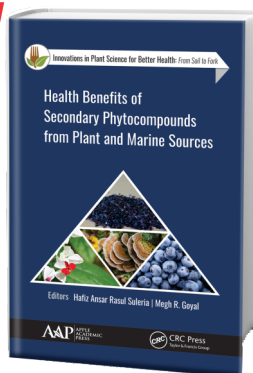
Editors: **Hafiz Ansar Rasul Suleria, PhD**
Megh Goyal, PhD

Retired Professor in Agricultural and Biomedical Engineering, University of Puerto Rico

This new volume looks at a selection of important issues and research topics on phytochemicals in plant-based therapeutics, covering bioactive compounds from both plant and marine sources. The first section of the book describes the concept of extraction of bioactive molecules from plant sources, both conventional and modern extraction techniques, available sources, biochemistry, structural composition, and potential biological activities. Advanced extraction techniques, such as enzyme-assisted, microwave-assisted, ultrasound-assisted, pressurized liquid extraction, and super critical extraction techniques, are described in detail. Part 2 discusses the isolation of potential bioactive molecules from marine sources, their importance, and health perspectives. This section explains the marine bioactivity, physical characteristics, uniqueness, uses, distribution, importance, traditional importance, nutritional importance, bioactivities, and future trends of different functional foods.

15 color and 13 b/w illustrations. Approx. 329 pages with index.
\$169.95 US / £131.00, Hardbound ISBN: 978-1-77188-898-1.
Ebook ISBN: 9781003019602. Forthcoming June 2020.

New



Human Health Benefits of Plant Bioactive Compounds: Potentials and Prospects

Editors: **Megh R. Goyal, PhD**
Retired Professor in Agricultural and Biomedical Engineering, University of Puerto Rico
Hafiz Ansar Rasul Suleria, PhD

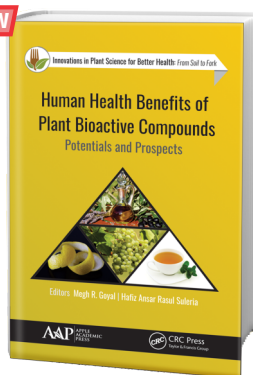
This book focuses on the importance of functional foods and their secondary metabolites for human health, presenting new insights with scientific evidence on the use of functional foods in the treatment of certain diseases. The plants covered and their bioactive compounds are easily accessible and are believed to be effective with fewer side effects in comparison with modern drugs in the treatment of different diseases.

The volume is divided into four sections that cover these topics:

- Functional foods for human health, which discusses the concept of functional foods, the available sources, biochemistry, structural composition, and different biological activities, especially antioxidant activity.
- Pharmacological aspects of fruits and vegetables, which focuses on the extraction of bioactive molecules, phytochemistry, and biological activities of a selection of plants.
- Pharmacological aspects of natural products, which explores bioactive compounds, structural attributes, bioactivity of anthocyanin, piceatannol, and a review of the ethnobotany/and medicinal properties of green and black tea.
- Pharmacological aspects of cereals and grains, which reviews the health benefits of flax seed, wheatgrass juice, and use and therapeutic potential as supplements for various disease management.

5 color and 16 b/w illustrations. 396 pages with index.
\$159.95 US / £124.00, Hardbound ISBN: 978-1-77188-739-7.
Ebook ISBN: 9780429457913. July 2019.

New



Phytochemicals from Medicinal Plants: Scope, Applications, and Potential Health Claims

Editors: **Hafiz Ansar Rasul Suleria, PhD**
Megh R. Goyal, PhD

Retired Professor in Agricultural and Biomedical Engineering, University of Puerto Rico

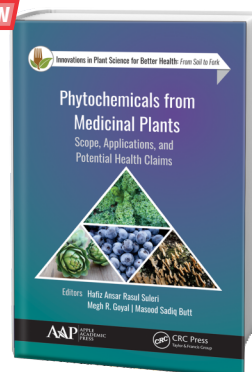
Masood Sadiq Butt, PhD

Professor and Dean, Faculty of Food, Nutrition and Home Sciences, University of Agriculture, Pakistan

This book looks at bioactive compounds from medicinal plants, the health benefits of bioactive compounds, and the applications of plant-based products in the food and pharmaceutical industries. The first section discusses available sources of bioactive compounds from medicinal plants, biochemistry, structural composition, potential biological activities, and how bioactive molecules are isolated from medicinal plants. The authors examine the applications of bioactive molecules from a health perspective, looking at the pharmacological aspects of medicinal plants, the phytochemical and biological activities of different natural products, and ethnobotany/and medicinal properties, and also present a novel dietary approach for disease management. The book goes on to examine how the plant-based products are used in various sectors of the food and pharmaceutical industries.

10 color and 12 b/w illustrations. 324 pages with index.
\$169.95 US / £131.00. Hardbound ISBN: 978-1-77188-795-3.
Ebook ISBN: 9780429203220. November 2019.

New



Plant- and Marine- Based Phytochemicals for Human Health: Attributes, Potential, and Use

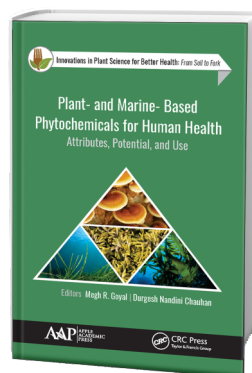
Editors: **Megh R. Goyal, PhD**
Retired Professor in Agricultural and Biomedical Engineering, University of Puerto Rico
Durgesh Nandini Chauhan, MPharm
Ishita Research Organization, Raipur, India

This new book provides insight with scientific evidence on the use of medicinal plants in the treatment of certain diseases. It describes bioactive compounds of marine and plant origin that have been discovered to be advantageous for human health, shedding new light on the potential of phytochemicals and contributing to the ocean of knowledge on phytochemistry and pharmaceutical biology. In addition, the role of plant-based pharmaceuticals is also discussed as an example of innovative uses of plant product.

This book addresses the importance of phytochemicals from plants and marine life. It divided in four parts:

- Bioactive compounds in medicinal plants: status and potential
- Plant-based pharmaceuticals in human health: review
- Therapeutic attributes of mushroom, cereal grains, and legumes
- Innovative use of medicinal plants

23 color and 37 b/w illustrations. 398 pages with index.
\$169.95 US / £131.00, Hardbound ISBN: 978-1-77188-670-3.
Ebook ISBN: 9781351251983. November 2018.



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Plant Secondary Metabolites for Human Health: Extraction of Bioactive Compounds

Editors: **Megh R. Goyal, PhD**

Retired Professor in Agricultural and Biomedical Engineering, University of Puerto Rico

P. P. Joy, PhD

Professor of Agronomy and Head of the Pineapple Research Station, Kerala Agricultural University, India

Hafiz Ansar Rasul Suleria, PhD

This new book volume deals with recent advanced research in the medical and nutrition sciences, natural products, and health-promoting foods that work to reduce the risk of diseases while enhancing overall well-being. The book covers these main areas:

Part 1: Extraction of Bioactive Compounds from Plants discusses the concept of functional foods, available sources, biochemistry, structural composition, different biological activities for better health, and vitality of bioactive compounds in cell signaling and biological assays.

Part 2: Plant-Based Drugs looks at plant products, their health-promoting potential, and natural remedies for lifestyle diseases.

Part 3: Innovative Use of Plant Based Drugs for Human Health examines the therapeutic activities of natural resources as xylitol and aldose reductase inhibitors, which are found to be beneficial in the treatment of diabetes, pulmonary infection, otitis media, osteoporosis, hyperglycemia and glycation, oxidative stress and immune functions, and more.

24 color and 38 b/w illustrations. 346 pages with index.
\$159.95 US / £124.00. Hardback ISBN: 978-1-77188-766-3.
Ebook ISBN: 9780429425325. September 2019.

The Role of Phytoconstituents in Health Care: Biocompounds in Medicinal Plants

Editors: **Megh R. Goyal, PhD**

Retired Professor in Agricultural and Biomedical Engineering, University of Puerto Rico

Hafiz Ansar Rasul Suleria, PhD

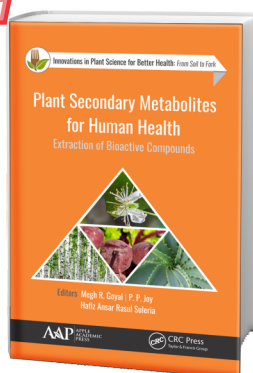
Ramasamy Harikrishnan, PhD

Assistant Professor, Department of Zoology, Pachaiyappa's College for Men (affiliated with the University of Madras), Tamil Nadu, India

This new volume provides new insights with scientific evidence on the uses of medicinal plants in the treatment of certain diseases. It reviews various therapies with herbal phytoconstituents for certain types of disorders, modes of action, and pharmacological screening. It focuses on potential benefits of herbal extracts and bioactive compounds for human health care, provides a comparative phytoconstituent analysis of selected medicinal plants using GC-MS/FTIR techniques, and discusses the role of herbal medicines in female genital infections. It goes on to look at the health-boosting properties of cabbage and the functional properties of milk yam (*Ipomoea digitata* L.).

9 color and 1 b/w illustration. Approx. 341 pages with index.
\$179.95 US / £139.00, Hardbound ISBN: 978-1-77188-820-2.
Ebook ISBN: 9780429284267. Forthcoming February 2020.

New



The Therapeutic Properties of Medicinal Plants: Health-Rejuvenating Bioactive Compounds of Native Flora

Editors: **Megh R. Goyal, PhD, PE**

Hafiz Ansar Rasul Suleria, PhD

Ademola Olabode Ayeleso, PhD

Senior Lecturer, Department of Biochemistry, Adeleke University, Nigeria

T. Jesse Joel, PhD

Assistant Professor of Microbiology, Biotechnology and Biosciences Department, School of Agriculture and Biosciences at Karunya University, Coimbatore, India

Sujogya Kumar Panda, PhD

Animal Physiology and Neurobiology, KU Leuven, Belgium

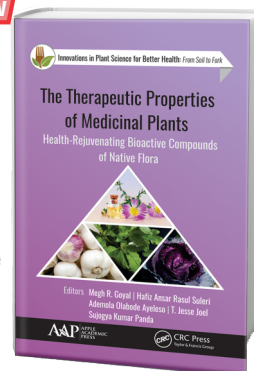
This volume provides some informative research on the scientific evidence of the health benefits that can be derived from medicinal plants and how their efficacies can be improved. The volume is divided into three sections covering the phytochemistry of medicinal plants, disease management with medicinal plants, and novel research techniques in medicinal plants. The pharmacological benefits of several specific plants, such as basil, fig, garlic, palm tree, etc., are discussed, addressing health issues including metabolic and mental disorders, acute mountain sickness, polycystic ovarian syndrome, and specific diseases such as Huntington's. It also looks at the role of antioxidants in disease management. Additionally, the book covers recent problems of drug resistance and how medicinal plants can serve as antibiotic, anthelmintic, and antiparasitic drugs that will be helpful for human and animals. Furthermore, it also covers novel approaches for the screening of plant-based medicines, extraction, toxicity and safety issues of essential oils, and nanoparticle-based delivery of plant metabolites.

28 color and 45 b/w illustrations. 376 pages with index.
\$169.95 US / £131.00.

Hardbound ISBN: 978-1-77188-803-5.

Ebook ISBN: 9780429265204. Forthcoming December 2019.

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ABOUT THE BOOK SERIES EDITOR

Hafiz Ansar Rasul Suleria, PhD, is the McKenzie Fellow at the School of Agriculture and Food in the Faculty of Veterinary and Agricultural Science, The University of Melbourne, Australia. He was formerly the Alfred Deakin Research Fellow at Deakin University, Victoria, Australia. He is an Honorary Fellow of the Diamantina Institute, Faculty of Medicine, The University of Queensland (UQ), Australia.

Before joining the UQ, he worked as a lecturer in the Department of Food Sciences, Government College University Faisalabad, Pakistan. He also worked as a research associate in the PAK-US Joint Project funded by the Higher Education Commission, Pakistan, and Department of State, USA, with collaboration of the University of Massachusetts, USA, and the National Institute of Food Science and Technology, University of Agriculture Faisalabad, Pakistan.

Dr. Suleria has published more than 80 peer-reviewed scientific papers in professional journals and has co-edited several books. He is also in collaboration with more than ten universities where he is working as a co-supervisor/special member for PhD and postgraduate students. His major research focus is on food nutrition, particularly in screening of bioactive molecules, including isolation, purification, and characterization using various cutting-edge techniques from different plants, marine, and animal sources; in vitro, in vivo bioactivities; and cell culture and animal modeling.

Dr. Suleria did his postdoctoral fellowship at the Department of Food, Nutrition, Dietetic and Health at Kansas State University, USA. He was been awarded an International Postgraduate Research Scholarship and the Australian Postgraduate Award for his PhD research at the University of Queensland School of Medicine and the Translational Research Institute in collaboration with the Commonwealth and Scientific and Industrial Research Organization, Australia.

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Dec 7 2019