

# Functional Foods and Cardiovascular Disease

Edited by  
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# Preface

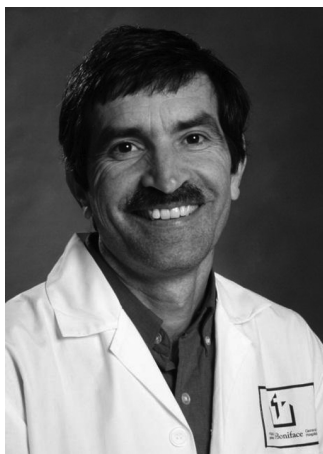
Coronary heart disease (CHD) is the leading cause of death in developed countries. Although there have been great improvements in treating CHD through surgery and medications, these interventions are very expensive in countries where budgets are severely strained. An alternative approach, however, is to prevent the development of cardiovascular disease through a combination of diet and exercise. This book focuses on the use of functional foods defined as foods with physiological benefits that can reduce the risk of chronic diseases such as cardiovascular disease. Over the last decade, researchers around the world have focused on identifying and developing functional foods that will enhance the health and well-being of an aging population. This book brings together important information on the benefits that a selected group of functional foods have on cardiovascular disease.

Each chapter in this book provides a critical discussion on the bioactive components responsible for the cardiovascular benefits of selected functional foods. These bioactive components are referred to as nutraceuticals. The opening chapter, Chapter 1, provides a detailed overview of the pathogenesis of coronary artery disease. Chapter 2 discusses genetic methods for enhancing bioactives in foods as well as new and improved techniques for extracting bioactive components for developing functional foods. The remaining chapters focus on particular functional foods and/or their bioactive components. Chapter 3 covers the clinical and experimental evidence for the cardiovascular benefits of fish oils. Chapter 4 discusses the cardiovascular benefits of plant oils, focusing on flaxseed oil. The importance of folic acid in homocysteine metabolisms and its impact on cardiovascular disease is presented in Chapter 5. The clinical and experimental evidence for the cardiovascular benefits of plant sterols is covered in Chapter 6. The ability of wine to prevent cardiovascular disease is the subject of Chapter 7. The role of garlic products in the management of cardiovascular disease is discussed in Chapter 8. Chapter 9 deals with the controversy surrounding the impact of egg consumption by presenting evidence showing the beneficial effects on cardiovascular disease. The importance of fiber for the treatment of cardiovascular disease is clearly described in Chapter 10. The beneficial effects of cocoa and chocolate on heart health are covered in Chapter 11. The last chapter, Chapter 12, focuses on the growing scientific evidence that points to the beneficial effects of beverages such as coffee and tea, with particular emphasis on their effects on cardiovascular disease.

We hope that this book will provide useful information to nutritionists, food scientists, as well as those working in the health or health-related industry. We believe that this book will enhance our understanding of the potential role of functional foods in combating cardiovascular disease. We are most appreciative of the contributions by all the authors in making this a valuable and timely publication on an important topic that affects us all directly or indirectly. We also appreciate the support provided by the editorial staff of Taylor & Francis.

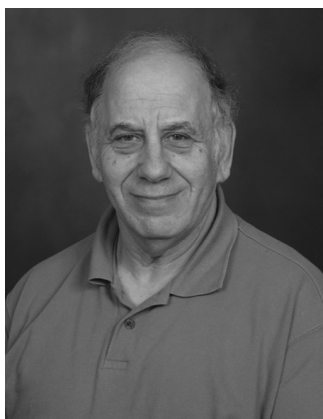
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# Editors



**Dr. Mohammed H. Moghadasian** is currently a professor in the Department of Human Nutritional Sciences, Faculty of Human Ecology at the University of Manitoba, Winnipeg, Canada. He is also a principal investigator at the Canadian Centre for Agri-food Research in Health and Medicine (CCARM) at the St. Boniface Hospital Research Centre, Winnipeg, Canada. He obtained his PhD in the discipline of pathology and laboratory medicine from the University of British Columbia, Vancouver, Canada in 1998. After extensive postdoctoral training in the area of functional foods and nutraceuticals, Dr. Moghadasian joined the University of Manitoba in 2003. Dr. Moghadasian's research program is well funded through a number of major grant agencies. His research activities have extensively contributed to advancing the applications of functional foods and nutraceuticals in the prevention and treatment of cardiovascular diseases. Dr. Moghadasian is the

primary author on numerous scientific articles plus several book chapters. Dr. Moghadasian is a recipient of a number of research and teaching excellence awards including the Canadian Nutrition Society Centrum Foundation New Scientist Award. He serves several scientific journals as a member of the editorial board.



**Dr. N. A. Michael Eskin** is currently a professor in the Department of Human Nutritional Sciences and associate dean, Faculty of Human Ecology at the University of Manitoba, Winnipeg, Canada. He obtained his PhD in physiological chemistry at Birmingham University, United Kingdom, where he conducted research on toxicology focusing on mercapturic acid. Dr. Eskin holds several patents and has published 25 chapters and over 115 scientific papers related to edible oils and mustard gum. He has authored and edited 10 books, several of which were translated into German and Japanese. Dr. Eskin is the recipient of a number of awards including the Timothy Mounts Award by the American Oil Chemists' Society and the W. J. Eva Award by the Canadian Institute of Food Science and Technology for his outstanding contributions to research and service. He is a fellow of the American Oil Chemists'

Society, the Canadian Institute of Food Science and Technology, and the Institute of Food Science and Technology of the United Kingdom. Dr. Eskin sits on the board of five international journals and was recently appointed co-editor of *Lipid Technology*.