COFFEE

IN HEALTH AND DISEASE PREVENTION

EDITED BY

VICTOR R. PREEDY

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Preface

The consumption of coffee as a beverage has a history dating back thousands of years but it is only in the past few decades that evidence has been provided to support the notion that it has an extremely complex food matrix in which individual components have therapeutic potential. On the other hand, it has been argued that excessive consumption of coffee may be detrimental. Understanding the biology of coffee and its impact on health is complicated by the fact that coffee contains many bioactive compounds. The well-known ones include caffeine, the diterpenes, and chlorogenic acids. However, several hundred (if not thousands) of other compounds and their derivatives are also present in coffee, too numerous to mention here. They occur in varying quantities and are contained either within the coffee beans themselves or produced by the commercial production process. After ingestion of the coffee beverage, many of these analytes undergo modification via the tissues or even intestinal bacteria. Each of these modified compounds in turn has their own chemistry, biochemistry, and health effects. Understanding the whole nature of coffee production, composition, impact on health, and the putative role of individual coffee-related analytes is thus very complex. This is addressed in the scientific treatise *Coffee in Health and Disease Prevention*, which aims to be the most comprehensive book on coffee in all its aspects.

It has the following four main sections:

SECTION 1: INTRODUCTORY AND GENERAL TEXT

1.1 The Plant
1.2 Coffee Processing
1.3 Constituents and Composition
1.4 Coffee Types and Coffee Drinking Culture
1.5 By-products and Secondary Usage

SECTION 2: EFFECTS OF COFFEE CONSUMPTION

2.1 Infection and Immunity
2.2 Cancer
2.3 Cardiovascular
2.4 Nervous System and Behavior
2.5 Diabetes and Glucose Control
2.6 Metabolism and Other Organ Systems
2.7 Cellular and Molecular Biology

SECTION 3: EFFECTS OF SPECIFIC COMPOUNDS FOUND IN COFFEE

3.1 Infection and Immunity
3.2 Cancer
3.3 Cardiovascular
3.4 Nervous System and Behavior
3.5 Diabetes and Glucose Control
3.6 Metabolism and Other Organ Systems
3.7 Cellular and Molecular Biology

SECTION 4: ANALYSIS AND METHODS

This book is thus a comprehensive approach to everything one needs to know about coffee. The book encompasses botany, preclinical and clinical studies. The material ranges from the gene to geographical populations. While there has been some attempt to broadly subdivide the material, it should be emphasized that some chapters assigned to a particular section can equally be allocated to another part of the book. The expert indexing system offsets this, so that material of interest can be readily located.

This book, *Coffee in Health and Disease Prevention*, is designed for nutritionists and dietitians, food scientists, food chemists, pharmacologists, public health scientists and workers, epidemiologists, agriculturists, botanists, health care professionals of various disciplines, policy makers, and marketing and economic strategists. It is designed for teachers and lecturers, undergraduates and graduates, and those undertaking postgraduate research or studies.

The Editor

Biography

Victor R. Preedy BSc, PhD, DSc, FSB, FRSH, FRIPHH, FRSPH, FRCPath, FRSC is a senior member of King's College London (Professor of Nutritional Biochemistry) and King's College Hospital (Professor of Clinical Biochemistry; Hon). He is attached to both the Diabetes and Nutritional Sciences Division and the Department of Nutrition and Dietetics. He is also Director of the Genomics Centre and a member of the School of Medicine. Professor Preedy graduated in 1974 with an Honours Degree in Biology and Physiology with Pharmacology. He gained his University of London PhD in 1981. In 1992, he received his Membership of the Royal College of Pathologists and in 1993 he gained his second Doctoral degree, for his contribution to the science of protein metabolism in health and disease. Professor Preedy was elected as a Fellow of the Institute of Biology in 1995 and to the Royal College of Pathologists in 2000. Since then he has been elected as a Fellow to the Royal Society for the Promotion of Health (2004) and The Royal Institute of Public Health and Hygiene (2004). In 2009, Professor Preedy became a Fellow of the Royal Society for Public Health and in 2012 a Fellow of the Royal Society of Chemistry. In his career Professor Preedy worked at the National Heart Hospital (part of Imperial College London) and the MRC Centre at Northwick Park Hospital. He has collaborated with research groups in Finland, Japan, Australia, USA and Germany. He is a leading expert on biomedical sciences and has a long standing interest in how nutrition and diet affects health. He has lectured nationally and internationally. To his credit, Professor Preedy has published over 570 articles, which includes peer-reviewed manuscripts based on original research, reviews and numerous books and volumes.

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Part 3.2 Cancer

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