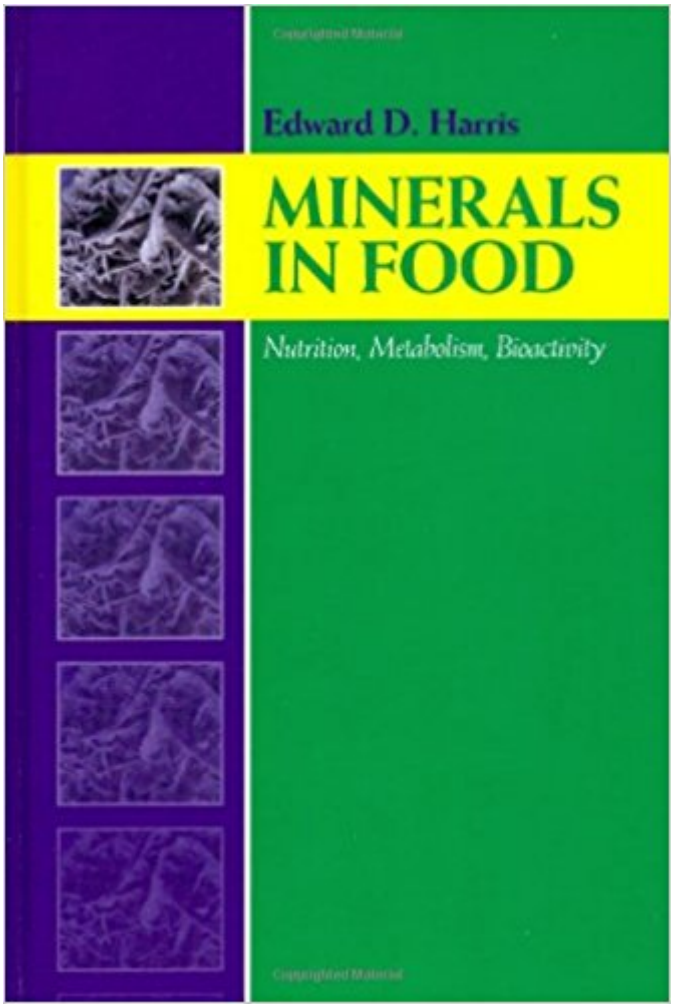
Minerals In Foods: Bioactivity, Metabolism, Nutrition



Synopsis

This book presents a technical introduction to all facets of nutritive minerals in foods, including their chemistry, transport, absorption, bioavailability and physiological functions. The book explains the in vivo behavior of minerals at a molecular level and clarifies their unique metabolic roles. It is an important instructional text for students and practitioners of nutrition and food science.

Book Information

Hardcover: 378 pages

Publisher: DEStech Publications, Inc (January 16, 2014)

Language: English

ISBN-10: 1932078975

ISBN-13: 978-1932078978

Product Dimensions: 1 x 6 x 9 inches

Shipping Weight: 1.4 pounds (View shipping rates and policies)

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Best Sellers Rank: #1,526,099 in Books (See Top 100 in Books) #93 inÃ Â Books > Medical Books > Basic Sciences > Bacteriology #649 inÃ Â Books > Textbooks > Medicine & Health Sciences > Medicine > Clinical > Nutrition #2679 inÃ Â Books > Science & Math > Agricultural Sciences > Food Science

Customer Reviews

DEStech Publications, Inc., Lancaster, Pennsylvania, U.S.A., 2014, ISBN 978-1-932078-97-8, 368 pages This book provides a fundamental study of the functions of food minerals in humans; investigates chemistry, biological effects, and nutrition, while covers macrominerals and microminerals from arsenic and boron through vanadium and zinc. The author, Edward D. Harris, is the professor emeritus of the Department of Nutrition and Food Science, Texas A&M University. The book gives a technical introduction to all major and trace minerals in foods, including their chemistry, transport, absorption, bioavailability, and physiological roles. It explains the in vivo functions of food minerals and demonstrates why and how macrominerals and microminerals are necessary for proper metabolic functioning in humans. Also presented is the etiology of diseases resulting from mineral defi ciencies. Important information is revealed on the roles of minerals in the brain, as well as on ways minerals interact with one another in the body. Detailed biochemistry and nutritive information for twenty minerals are provided in separate chapters. This text represents the only comprehensive summary of the science of inorganic elements in foods and their biological

effects, with implications for food scientists, food engineers, and clinical nutritionists. The fi rst seven chapters give an introduction to the minerals, their chemical and biochemical properties, their bioavailability in foods, nutritional approaches to minerals, their intestinal absorption and post-absorption metabolism. A separate chapter is devoted to mineral-mineral interactions (microminerals and macrominerals as well). Chapter 9 treats minerals in the brain, their functions; focussing mainly on Zn, Cu, Fe, and Mn; and also discusses specifi c diseases with mineral connections. Chapter 10-22 delivers history, chemical, biochemical, nutritional properties, and intestinal absorption of individual mineral groups. Each chapter gives a summary, references, and questions to be answered by the readers, who can easily check their newly acquired knowledge in a very amusing way. At the end of the book one can fi nd the right answers as well. --M. TÃƒâ œTH-MARKUS, Acta Alimentaria, An International Journal of Food ScienceIn the past two decades knowledge about the importance and function of minerals in foods, both as structural components and enzymatic cofactors in biological materials, has grown exponentially. In this regard, Minerals in Foods by Edward D. Harris presents seminal and basic information important to our current understanding of the metabolic and nutritional relationships influenced by dietary minerals. Although Minerals in Foods is primarily a textbook, the reader will find that the book also serves as an excellent desk reference and resource. Minerals in Foods fulfills these objectives using a narrative that balances biochemical, nutritional, as well as and clinical information. The initial chapters deal with the chemical properties of minerals including selected aspect of basic quantum theory and fundamentals important to biochemical insights; for example, the natural states of minerals in cells and macromolecules. An excellent summary of basic enzymatic/catalytic functions is provided along with information important to understand the nature of mineral complexes and chelates. Diagrams illustrating given principals are also extensively provided. Once a foundation is laid related to chemical principles, factors important to the bioavailability of minerals in foods are next described, including discussions of basic laboratory and clinical approaches used in assessing the nutritional bioavailability of minerals. Importantly, attention is also given the both the positive and potential negative effects of food processing as it relates to the bioavailability of minerals. A very str --Robert Rucker, Ph.D, Distinguished Professor Emeritus, Department of Nutrition, University of California, DavisThis book provides a fundamental study of the functions of food minerals in humans; investigates chemistry, biological effects, and nutrition, while covers macrominerals and microminerals from arsenic and boron through vanadium and zinc. The author, Edward D. Harris, is the professor emeritus of the Department of Nutrition and Food Science, Texas A&M University. The book gives a technical introduction to all major and trace minerals in foods, including their

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