

Letter to Editor

Review of *Mineral Components in Foods*, Edited by Piotr Szefer and Jerome O. Nriagu

by Prof. Jacek Namieśnik

(CRC Press – Taylor & Francis, FL, 2007, pp. 480)

At the beginning of the year, the book titled *Mineral Components in Foods*, edited by P. Szefer and J.O. Nriagu, was published by the renowned *CRC Press – Taylor & Francis*. It has to be stressed at this point that this is the second book authored by professor Szefer; his first book, a monographic review in the field of chemical oceanography, was published 5 years ago under the aegis of the world's leading publishing house, Elsevier [see reviews in *Journal of Environmental Quality* 32, 1928 (2003); *International Journal of Environmental Chemistry*, 82 (10), 2002; *Chemia Analityczna*, 48 (2003); *Chemia i Inżynieria Ekologiczna* 9 (7), 803-804 (2002), and *Orbital* 4, 173-174 (2002)].

The other editor of the reviewed book – Jerome O. Nriagu of Michigan University is an excellent scientist and editor-in-chief of one of the most renowned international journals, *The Science of the Total Environment* (Elsevier); he is also the world's most frequently cited author in the field of environmental health. Moreover, he serves as series editor for book publishers Elsevier and Wiley-Interscience. It is noteworthy that Nriagu's achievements include editing 30 books and publishing about 300 scientific papers listed in the Philadelphia ISI citation index. He has been the first author as well as the only author of 13 papers published in *Nature* (London) and *Science*. Such spectacular achievements not only testify to the high scientific value of the book he has co-edited with Szefer, but also show the strong scientific ranking of Szefer, the book's first editor, in the international arena.

Among the co-authors of specific chapters there is a group of internationally renowned scientists from, inter alia, Great Britain, the USA, France, Italy and Poland who have achievements such as development and implementation of methods for qualitative and quantitative determination of the species of mineral components in food; application of chemometric methods in food quality evaluation and food product authenticity; and health risk assessment with regard to chemical contamination of environmental and technological origin resulting from the

food production process and subsequent food product distribution. Seven out of 13 chapters have been written by the Polish specialists, *i.e.* prof. M. Biziuk, D.Sc., M.Eng.; prof. B. Szteke, D.Sc.; prof. J. Szpunar, D.Sc., M.Eng.; prof. M. Nabrzyski, D.Sc.; and prof. P. Szefer, D.Sc. The above-listed authors form a team of excellent specialists in the field of food chemistry who are actively working in Poland. I have no doubts that Szefer led the team's effort acting not only as a co-editor, but also as an author or co-author of three chapters that amounted to about half of this 480-page book. Particular attention should be paid to chapter 4 in which, for the first time in international literature, the author described the possibilities of using chemometric methods for evaluating food quality and its authenticity, and presented his own, significant achievements in this field. Chapters 6 and 7 exemplify the perfect literature review which includes data produced by Szefer and his team on the subject of the occurrence of a practically complete set of elements (with rare earth elements) in all food product types – grain products, meat and milk products, a wide spectrum of vegetables and fruits, honey, bakery and confectionery goods, drinks, etc. It has to be underscored that the co-authors of some chapters are young scientists and doctoral fellows for whom the participation in the writing of this book will open the door to the scientific world.

The reviewed monograph is the pioneering work in the field of bromatology that brings the reader closer to many key issues related to the occurrence of macro- and microelements as the nutritional components in food, and of toxic elements that are present in food due to contamination. To be precise, the book deals with the important subject of food quality and authenticity as well as the impact of mineral composition of food on health risk after food consumption. According to the newest estimates, about 40% of the human population suffers from different metabolic dysfunctions that result from the deficiency of trace elements. On the other hand, a statistically significant correlation between the excessive uptake of mineral components and

diseases of endocrine glands, kidneys, liver, and blood and skeletal systems has been observed. Therefore it is important to fully investigate and elucidate the origin, functions and bioavailability of mineral components, and the interactions among them, as well as the interactions between minerals and nutritional components in food.

To summarize, *Mineral Components in Foods* familiarizes the reader with the current state of knowledge about the distribution, speciation, role and synergistic and antagonistic interactions among mineral components present in different raw and processed foods. Moreover, the reader has an opportunity to learn about potential risks associated with the penetration of toxic and radioactive elements into food products during technological processes, packing and product distribution.

Based on the international literature review, I can state that the presented book is the first such comprehensive and in-depth work which, including the chemometric evaluation, will surely constitute an invaluable input to the current knowledge about the role of mineral components as essential elements in food as well as about health risks due to the presence of highly toxic elements in food.

This book can be recommended to all readers who are interested in bromatology, and in particular to specialists in the field of food chemistry, food technology, ecotoxicology and environmental analytics.

Mineral Components in Foods would make a valuable addition to many library collections.

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