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BOOK REVIEW

Peanuts: Bioactives and allergens

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Peanut is widely produced in tropical and subtropical regions of the world. Peanut kernels are utilized as major source of cooking oil in developing countries and used in snack food industries in developed countries due to growing trends of vegetarianism and demand for healthy food. There is an increasing expectation in the food and nutrition science and also from consumers to understand the physiological importance of peanut ingredients representing a growing importance in global diet. However, food safety concerns related to aflatoxin contamination and allergenic proteins of peanuts have become mayor public health issues globally.

This current book presents a science based approach concerning the health related beneficial effects and allergenic risk of peanut as food ingredient. The volume provides a review on bioactive nutrients and their dietary benefits and analyses the evidence implicating peanuts as a food allergen. Beside the nutritional science, food technology and engineering approaches are emerging, and the book demonstrates how genetic, pre-harvest, post-harvest, and processing technologies can be applied to increase peanuts' value and to reduce risks. The book includes 13 chapters edited and compiled by contributions of well-recognized scientists coming from 5 countries: U.S.A. (11), Australia (13), Canada (2), The Netherlands (1), and Indonesia (1).

Chapter 1 provides a comprehensive and up-to-date introduction and review of both beneficial and allergenic compounds present in peanut kernels, including current information on bioengineering and allergen management. Chapters 2–5 in this book discuss various aspects of peanut that make it nutritionally important, such as the role of fatty acids in prevention and treatment of certain chronic diseases in humans, the perspectives of phytoalexins and their application to human health, antioxidant capacity of peanut and its antioxidant components. Chapter 9 deals with the current status and future prospect of breeding cultivars with enhanced functional food traits, including the chemical composition of peanut and genotypic variation in mayor phytochemicals. Chapters 7–13 provide science based overviews on allergenic peanut proteins and risk management strategies including such important issues as the mechanism of peanut allergy and characteristics of peanut allergens, risk analysis for peanut allergens, industry allergen management and current initiatives in peanut based food manufacturing, immunoanalytical and LC-NS/MS techniques based detection of peanut allergens, breeding vs bioengineering technologies for development of hypoallergenic peanuts, and current management of peanut allergy using oral immunotherapy.

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