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.