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Book Reviews: Technical Books Section

A USEFUL ADDITION TO THE LITERATURE ON FOOD CONTAMINANTS

Safety evaluation of Certain Food Additives and Contaminants - Prepared by the fifty-seventh meeting of the Joint FAO/WHO Expert Committee on Food Additives (JECFA) - WHO Food Additives Series 48
World Health Organization, Avenue Appia 20, 1211 Geneva 27, Switzerland, Publication Date 2002, v + 692 pages, ISBN 92 4 166048 1: Order no. 1270048: Price: Sw.fr. 100.00, US $90.00; in developing countries: Sw.fr. 70.00

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In today's era where the focus is shifting from high calorie food towards low calorie food i.e. baked, processed food items to maintain good physique, this book can serve as a bench mark to study these additional food derivatives. This volume contains monographs prepared at 57th meeting of FAO/WHO Expert Committee on food additives, which met at FAO headquarters in Rome, Italy on 5-14 June 2001. These monographs, summarizes the safety data on selected food additives and contaminants reviewed by the committee. This book reviews the projection and rejection of the myths associated with the consumption of these food additives in a more explicated manner. Based on the previous existing information and introduction of recent scientific knowledge on the

toxicological data, several specifications were made or revised by FAO. This book serves as a reliable guide for exploring various risks associated with the use of these food additives or contaminants.

The book is divided into various sections on the basis of emulsifiers, coloring agents, glazing agents, preservatives, sweetening agents, thickeners, miscellaneous and food contaminants. Monographs on safety evaluation on six groups of flavoring agents evaluated for Safety evaluation of flavoring agents are also included in this particular book.

Each section is further individualized into different chapters according to compound that was reviewed by the committee.

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These chapters include the complete available information on the particular foodstuff. These chapters are framed in different prefaces covering biological data, toxicological data, observations on human beings, analytic methods employed for detection, results of survey of food consumption in different populations, Estimated dietary intake, risk assessment, prevention & control and evaluations based on this supplemented information.

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The first chapter deals with 2 emulsifiers- dactyl tartaric acid and fatty ester of glycerol (DATEM) and Quillaia extracts. The FAO has reviewed short term & long-term study of toxicity, carcinogenicity and two-generation study and developmental study of toxicity on the basis of dietary intake content.

Second chapter furnishes the information on Beta-carotene which is used as a food color and interestingly it specifies that beta carotene from synthetic origin does not raise any safety concerns.

The third chapter talks about hydrogenated polydecene which is used as a glazing agent, it supplements the vital information on its absorption and distribution in humans & also foresights the risks as it may decrease the levels of essential fatty acid.

The next chapter deals with natamycin that is commonly used as a food preservative. Apart from the existing information on it, processed meat was also recognized as a major contributor of natamycin and on analysis of this, it was discovered that ODI were with in the permissible range. It also carries a teratogenic potential.

The fifth chapter contains information on sweetening agent-D Tagatose. It mentions the risk of divided doses in healthy as well as diabetic individuals.

The next editorial talks about thickening agent -carrageenan, it was observed that consumption beyond 5% stimulates carcinogenesis in colon in rats. On analysis of dietary content of carrageenan, it was concluded that it is used in very low quantity which carries negligible toxicity.

Chapter seven deals with 2 miscellaneous substances -Acetylated starch and alpha cyclodextrin. On the basis of supporting evidences, both were found to be less toxic. Since no risks were attributed to these no limits were defined for their consumption.

...[The book] contains information that is useful to those who are manufacturing food items using these food additives and veterinary drugs. It can also serve as a guide for the testing of contaminants by in government officials involved in regulation of food, industrial testing laboratories, and toxicological laboratories and for universities imparting education on nutrition. It also intensely magnifies the concern of the World Health Authorities over these ingredients of food and also their strict vigilance in maintaining their levels in the dietary intake with in the issued specifications...
Chapter eight briefs individually about the safety evaluation of six groups of flavoring agents. For simplification substance is first assigned into 3 classes on the basis of structure and then into either innocuous or as endogenous substances. Apart form the data on the estimated dietary intake and safety, different methods for evaluation are described. The relevant background information is also given.

The last chapter deals with 2 groups of food contaminants- chloropropanediol and polychlorinated dibenzdoxins, dibenzofurans and biphenyls. Apart from other contents it also adds up valuable information on analytical methods, sampling procedures, effect of processing, levels and patterns of contamination, effect of regulatory limits, biomonitoring and prevention and control.

In the annexure it provides reports and references of previous meeting of joint FAO/WHO expert committee on food additives.

At times, based on the findings of various toxicological studies, the information can be misleading but FAO warns against this and focuses for further assessment of this aspect. There is an incomplete information about the type of food for which these additives are used which is a major limitation of this book. The dietary habits of the people world wide is also changing due to the stressful lifestyle and they count more on the ready prepared foods available in the market with enormous amount of food additives and preservative & thus are more liable to the adversity of them. This book cannot serve for public awareness which is truism for population residing in developing countries where the food authorities are slow to respond.

Though, the book suffers from all these set backs, yet it contains information that is useful to those who are manufacturing food items using these food additives and veterinary drugs. It can also serve as a guide for the testing of contaminants by in government officials involved in regulation of food, industrial testing laboratories, and toxicological laboratories and for universities imparting education on nutrition. It also intensely magnifies the concern of the World Health Authorities over these ingredients of food and also their strict vigilance in maintaining their levels in the dietary intake with in the issued specifications.

-Dr Anshu Sethi & Dr BK Bajaj
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