

Mass spectrometry in food safety**Methods and protocols**

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Zweigenbaum (ed)

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Food safety is one of the main concern in a seven billion people world where food production is now-a-day a world enterprise. Food safety is a necessary pre-requisite for healthy citizens, a global duty that all main geographical areas (Europe, China, USA and Japan) have addressed. However, the book is rightly opened by an overview of the European union regulations, the area where the most up-to-date regulations have been developed. Due to the intrinsically intricate political nature of the Union and to the fact that the regulations that along the years have been developed need to be followed by all member states, these regulations can serve now-a-day as a template for a worldwide high quality monitoring of food supply. Dr Peter Fürst give us a detailed view of these regulations, paying particular attention to the methods, protocols and juridical recalls for pesticides (more than two-hundreds), pharmacologically active substances (including the prohibited ones) and organic contaminants (mainly mycotoxins, dioxins, polycyclic aromatic hydrocarbons), a view that is framed within the multifaced use of different mass spectrometry equipments and several types of mass spectrometry techniques coupled with other cytochemical/biochemical techniques.

The following chapters are dealing with a comparison of this view with those in place in China (with a particular focus to the application of mass spectrometry to the analysis of pesticides and a long list of additives including antioxidants, preservatives, colors, sweeteners, flavors, emulsifiers, etc.) and in the USA and Japan (this last chapter contributed by Dr. Jerry Zweigenbaum of the Agilent Technologies, Wilmington, DE, USA). It seems to me that a worldwide harmonization is autonomously springing out under the economical pressure of getting a free commercial movements of

foods and this is something beneficial to the healthy of the people of the world. Several chapters are dealing with pesticides detection in fruits and vegetables making use of combined techniques like capillary gas chromatography or triple quad liquid chromatography and mass spectrometries. Hormones, mycotoxins, antibiotics and polycyclic aromatic hydrocarbons extraction, detection and quantitations are treated in several chapters. Quite relevant to all of the methods and protocols is the extraction procedure of the additive or contaminant substances to be analyzed since the food is, chemically speaking, a very complicated organic matrix and sample preparation is the crucial step for a good standard practice in mass spectrometry analysis. A specific chapter is dealing with the advantages of using automated solid phase extraction. I think that histo- and cytochemists involved with human and veterinary health topics will benefit from reading this book where a special attention is paid to the chronic toxicity exposures that occur when food quality is not of the highest level. A fact that can occur either deliberately (due to criminal intents) or naturally by involuntary contamination (which can give rise to acute toxicity cases, just think how many people died due to aflatoxins ingestion). This last case is of particular relevance when thinking to the bio-food fashion in food production and consumption in the present day Western societies.

I would like to spend few words in favour of the OGM products which are much more severely checked in respect to the bio-food aliments. I think that the advocates of the bio-food productions who are anti-OGM food should try to distinguish their political aversion, that I share, of the OGM techniques management (*i.e.*, to be against the monopolies is always right!) from the OGM products which are giving a much more safe and clean food able to save the environment from pollution due to the massive use of chemicals and providing food tailored for all the social (massive production for seven billion people), humanitarian (*e.g.*, golden rice for poor people) and medical (therapeutical) needs.

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