

Book reviews

Auditing in the food industry

M. DILLON and CH. GRIFFITH (Eds)

Woodhead Publishing Limited, Cambridge, 2001, ISBN 1 85573 450 8, 222 pages

For the time being food industry faces an unprecedented level of anxiety and scrutiny. Following recent food scandals (BSE, foot-and-mouth disease, contaminants, additives and allergens) the consumers getting more and more conscious of their own health, even environmental protection and animal welfare are not just concerned about the safety and quality of food products they eat but also the way in which they are produced and processed “from farm to fork” including animal feedstuffs as well. Considering these concerns the competent authorities and scientific institutions as well as the food industry itself have developed new standards, systems, requirements and methods such as Statistical Process Control (SPC), HACCP, TQM to control and – if necessary – to correct their production activities meeting in this way consumer expectations and legal specifications as well. However, the practical application of these new methods and approach requires much more knowledge and skills in auditing. In this renewed situation *Auditing in the food industry* edited by Mike Dillon and Chris Griffith and published by Woodhead Publishing Limited (Cambridge, England) in 2001 provides an authoritative guide to the range of relevant standards and the auditing skills they require.

In the introduction the Authors say that the main factor behind the huge increase in auditing needs is the demand of retailers who want to know whether the foodstuffs they sell are of a specified and consistent quality and are safe. This increased level of auditing poses new problems for both retailers and those manufacturers supplying them. Up to now there have been two recent developments to resolve these problems:

1. the expansion in third-party accreditation
2. the British Retail Consortium (BRC) Technical Standard.

The use of accredited third-party auditors reduces the likely overlap of efforts by separate retailer audit teams as well as eliminates the suspicion of impartiality and dilettantism. On the other hand, the BRC Technical Standard provides a common basis for auditing food manufacturers and reassuring the consumers about the safety and quality of foodstuffs they buy.

Part 1, describing the auditing process begins with an introductory chapter reviewing developments in standards affecting the food industry. After the definition of standards and principles involved in the standard setting process the Authors review in detail the HACCP based Codex standards, the relevant European Union standards and the UK Food Safety Act. It is emphasized that the GATT Uruguay round final act placed Codex standards, guidelines and recommendations as the “specifically identified baseline” for consumer protection. The remaining chapters describe how retailers audit their suppliers and how governments have moved from a traditional inspection role to one of “regulatory verification of safety and quality control systems” at the food industrial companies.

Part 2 looks at key aspects of safety and quality describing at first the retailer's perspective when assessing suppliers' HACCP systems. The following two chapters review TQM systems and the main topics arising when auditing HACCP-based systems. It is underlined that TQM is unlike HACCP and ISO 9000 in that it does not provide a rigid framework to build up a system within. On the contrary, TQM focuses on continuous improvement and "delighting the consumer". TQM therefore provides a philosophy, culture and discipline so that within this framework quality systems such as HACCP and ISO 9000 can be built and operated. The final chapter in this part looks at standards governing the analytical methods used in safety and quality control with special regard to legislative and FSA (Food Standards Agency, London) surveillance requirements. Standardized analytical methods for laboratories are also reviewed.

Considering newer standards which are becoming increasingly important in the food industry, Part 3 contains chapters on benchmarking (comparison of an organisation against others), environmental audits and life cycle assessment (LCA) providing a holistic approach to address the whole lifetime of products also giving a relatively complete picture of its environmental profile. A separate chapter is dedicated to auditing organic food processors. A special timeliness is given to this chapter by the practical and commercial viability of organic processing being now much more attractive and organic market growth is running at around 40% per annum.

Considering the above, it can be seen that *Auditing in the food industry* is a valuable practical guide to a range of most up-to-date standards developed for the food industry and the ways auditors can supervise and thus improve production processes in the food sector, ensuring compliance of the end products with the relevant safety and quality requirements.

P. MOLNÁR – G. VÁRKONYI

EU food law

K. GOODBURN (Ed.)

Woodhead Publishing Limited, Cambridge, 2001, ISBN 1 85573 557 1, 244 pages

This valuable book is a comprehensive scientific composition dealing with the most recent developments in the food sector of the European Union. Given its fragmented development, EU food law is seen at the first glance as both complex and confusing. With its distinguished international team of contributors, this book emphasizes the key issues so that non-specialists can also understand the legislation structure, its hierarchy and objectives as well as its specific application in their own operation fields. The book is just designed to help readers ask the right questions when developing and marketing various products and services in the European Union, and to provide also the right answers to those questions giving all the necessary information.

Having in mind that food safety is one of the most critical issues today, *EU food law* begins with a short authoritative introduction giving insight into the development of EU food law with special regard to the Commission's Green Paper on the General Principles of Food Law (1997) and to the subsequent White Paper on Food Safety issued in January, 2000. In these fundamental documents the main objectives of the Community food legislation are set out as follows:

- protect public health,
- provide consumers with relevant information enabling them to make well-based decisions when buying foodstuffs,
- ensure fair trading (for example by setting appropriate standards recognized all over Europe);
- provide for the adequate and necessary official controls of foodstuffs.

To achieve these vital objectives, the White Paper lays down a number of guiding principles, including:

- reconfirm the importance of consumer health and environment protection as the starting point for all EU food legislation,
- extending the scope of food safety regulation across the entire food chain from “farm to fork” including the relevant controls on animal feeds and the adoption of the precautionary principle,
- establishing traceability as a major responsibility in food production as a prerequisite both to food safety and effective consumer choice,
- establishing effective crisis management procedures including an effective rapid alert system to control food safety problems once they arise.

After this very short overview of the development of EU food law, the book goes on to describe the main institutions (the European Commission, the Council, the European Food Authority, the Directorate-Generals, Scientific Committees, the European Parliament, etc.) involved in framing food legislation and the legislative process. This discussion is designed to provide a basis for the chapters on specific aspects of EU food law that follow. In Part 1, there is a series of chapters on legislation controlling food safety, ranging from the way food products are manufactured (hygiene and control of the contaminants) to food composition and packaging (additives and food contact materials). In order to serve for better understanding, also practical examples and case studies are involved. Part 2 considers how EU food law ensures that consumers are properly informed about the food products they buy. There are chapters on labelling, nutrition information, the increasingly important area of health claims and the handling of foods for particular nutritional purposes. In Part 3 there are two case studies: one of them illustrates through the example of the frying oils, how the principle of “due diligence” can be applied accross the total supply chain; while the other concerns “functional foods” being a very new emerging area all over the world. In addition to the traditional nutrients: protein, carbohydrate and fat the so-called functional foods provide also a wide range of micronutrients, added fibre sources and other vital substances (vitamins, enzymes, minerals) needed only in very small quantities. Before introducing such a new product into the European market, it shall go through a detailed investigation on every component, whether ingredient or additive, to ensure compliance with the relevant European legal measures. Packaging, labelling and health claims should also be checked very carefully in order to ensure compliance with the existing requirements.

On the eve of Hungary’s access to the European Union, this book titled *EU food law* can be suggested to learn for decision makers, practitioners, lawyers, manufacturers, food processors, traders, caterers and all other specialists who want to develop their knowledge of and commitment to the European food legislation. As for future specialists, this book could be very useful also for university students to get familiarized with the European institutions and process of legislation.

P. MOLNÁR – G. VÁRKONYI

Food chemical safety

D. H. WATSON (Ed.)

Vol. 1: Contaminants

CRC – Woodhead Publishing Limited, Cambridge, England, 2001, ISBN 1 85573 462 1, 322 pages

This book covers chemical contaminants unintentionally added to food during production, probably causing illness, if ingested in larger amount. The volume consists of three parts, 14 chapters. The book is written by fourteen well-known international experts from food standardization, agricultural ministries, education and research institutes.

The first part explains risk analysis and gives relevant analytical methods for detection of contaminants. Chapter 3 deals with quality control and method selection, including among others, legislative requirements, laboratory accreditation and proficiency testing. Separate chapters are devoted to molecular imprint-based sensors and bioassays in contaminant analysis.

The second part deals with particular contaminants, namely veterinary drug residues and their control in UK; inorganic contaminants (metals, nitrate and nitrite), environmental organic contaminants (aromatic hydrocarbons, polycyclic aromatic hydrocarbons, dioxins and polychlorinated biphenyls, etc.). Another chapter touches chemical migration from food packaging, and the factors that control it. Chemicals representing potential risk and health studies as well as regulation and case studies are also described. Pesticides and their monitoring in the UK are treated in detail. Health implications, analysis, prevention and control of mycotoxins are also included. In the opinion of authors, mycotoxins are far more dangerous to human health than pesticide residues.

The third part of the book is devoted to international regulation of chemical contaminants in food, Codex Alimentarius standards, future trends and sources of information. The EU regulation in the field of pesticide residues, veterinary drug residues, mercury and histamine in fishery products are described. Contaminant regulation and management in the case of pesticides in US is the last chapter.

This book is highly recommended to experts working in the field of food safety, food analysis and food legislation. It recommends further readings, including FDA webpage on indirect food additives, many references and an index.

Vol. 2: Additives

ISBN: 1 85573 563 6, 308 pages

This volume provides comprehensive information about additives in the food industry. Surprisingly, there are relatively few scientific books on additives, in spite of the growing public concern. The book consists of three parts, 12 chapters written by 14 specialists from US, Western and Eastern Europe.

Part I is devoted to general issues. Its second chapter reports the regulation of additives in the EU, comprising the list of E numbers in an appendix. Chapter 3 informs on the regulation of additives in the USA.

Part II deals with analysis of additives, including risk analyses. Analytical methods, quality control and selection are treated in detail. A separate chapter contains new methods in detecting food additives, including reference methods (HPLC, ion chromatography, TLC, CE, GC, ICP-AES, enzymatic). The rapid or alternative methods for routine quality control are immunoassay, biosensors, X-ray fluorescence, NIR, FTIR, enzymatic test kits. Chapter 7 summarizes the adverse reactions to food additives, among others food dyes, aspartame, olestra (fat substitute), monosodium glutamate, sodium nitrite, sulfites. Future trends and directions are also outlined.

Part III is devoted to specific additives: colourants, flavours, sweeteners. Safety assessment covers the definition, range and sources of flavouring ingredients. Basic principles of safety evaluations as well as regulatory groups (ECFA, FEMA, etc.) are listed. Functionality and use of sweeteners, safety testing, and case studies of certain sweeteners (acesulfame K, aspartame, alitame, cyclamate, neohesperidin dihydrochalcone, saccharin, sweetener blends, etc.) are reported. Regulatory status and analytics are briefly summarised. Chapter 11 treats food additives other than colours and sweeteners. Appendix I contains EU, JECFA, FCC and JSSFA food additive specifications, while appendix 2 and 3 list the acceptable daily intake data. The last chapter deals with the regulation of antioxidants in food in the EU, Australia, Japan and the USA. A nine-page long index helps the reader.

The volume is a valuable reference for those interested in the use of food additives.

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