

1 Introduction

Food Safety & Quality along the Value Chain

The safety status of the final product corresponds to the capacities of the weakest link of the value chain.



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1.1 Food quality and safety – risk based control and operators' responsibility along Food Supply Chains

1.1.1 Food quality and safety – a growing concern in global trade

With the rising liberalisation of agro-industrial markets and thus the world-wide integration of food supply chains, the assurance of food quality and safety has become a major concern. Global trading needs standardised products. Following serious and repeated incidents such as mad cow disease (Bovine Spongiform Encephalitis – BSE), Dioxin, Aflatoxin, and most recently, Sudan Red, consumer protection has become a priority in policy making in the large consumer markets of the United States and the European Union. Hence, legal requirements for quality assurance systems and food control along the entire food chain, from seed and agricultural production, through food processing and the distribution system, up to the consumers' table, are increasing considerably.

In parallel, many retailers introduced private labels⁴⁾ thus becoming more vulnerable and responsive to consumer concerns. As a reaction to widespread protest following food scandals, retailers and their respective business associations took the initiative to develop common good practices for food quality and safety from farm to fork by integrating the whole supply chain into their quality concepts.

The consequent pressure on fresh and raw material producers, processors, forwarding companies as well as control institutions goes beyond boundaries and implies high requirements on quality assurance systems abroad. As a consequence, farmers and companies, legislative and control bodies, accreditation, certification and advice giving organisations in export countries need to develop and implement respective institutional capacities, guidelines and knowledge transfer systems aimed at assuring food quality and safety.

1.1.2 Food quality and safety – the responsibility of governments and the private industry

Major prerequisite for ensuring food quality and safety is that all stakeholders in the food supply chain recognise that primary responsibility lies with those who produce, process and trade food and that public control should be based on (scientific) risk assessment. Operators' responsibilities cover the whole food supply and marketing chain from primary production to final consumption and encompass all actors in exporting and importing countries, such as:

Actors in the food supply chain – Export country:

Food Supply Chain Operators:

- farmers (variety and seed selection, soil preparation, crop and pest management, harvesting methods, sorting, grading, packing, etc. including documentation of all work routines)

⁴ Private labels are labels of specified retailers, putting their reputation at risk in case of a food scandal.

- processors (raw material handling and control, product and process management and control, etc. including documentation of all work routines)
- consumers (product selection, transport, storage, preparation, consumption and disposal of household waste)

Food Supply Chain Supporters:

- operational service providers such as forwarding agents and the like subcontracted by operators (produce handling, transport and storage, laboratory services, etc. including documentation)
- support service providers such as publicly or collectively financed institutions incl. branch associations (research and development, education, training, trade promotion, advocacy, etc.)

Food Supply Chain Enablers:

- public entities such as policy makers and regulatory bodies (political, economic and legislative framework conditions)
- food control agents at boundaries (risk-based [phyto-]sanitary control, certificate of origin, monitoring and reporting, etc.)

Actors in the food supply chain – Import country:

Food Supply Chain Operators:

- processors (handling and control of raw material of local and imported origin, product and process management and control, etc. including documentation of all work routines)
- importers, wholesalers and retailers (fresh and processed produce storage and distribution in appropriate conditions, etc. including documentation)
- consumers (fresh and processed produce handling, storage and preparation in appropriate conditions)

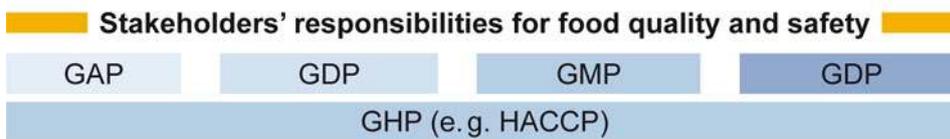
Food Supply Chain Supporters:

- operational service providers such as forwarding agents and the like subcontracted by operators (produce handling, transport and storage, laboratory services, etc. including documentation)
- support service providers such as publicly or collectively financed institutions incl. branch associations (research and development, education, training, trade promotion, advocacy, consumer associations and environmental organisations, etc.)

Food Supply Chain Enablers:

- public entities such as policy makers and regulatory bodies (setting political, economic and legislative framework conditions)
- food control and risk analysis bodies (risk-based [phyto-]sanitary, hygiene and quality control, risk assessment, risk management and risk communication)

The list illustrates that in the case of exports of agro-industrial products, an important part of the responsibility for food quality and safety assurance stays with public and private stakeholders in the exporting countries. A safe and good-quality product should be the result of adequate control at all stages of the supply chain rather than corrective action taken late in the process.



GAP	Good Agricultural Practices
GDP	Good Distribution Practices
GMP	Good Manufacturing Practices
GHP	Good Hygiene Practices
HACCP	Hazard Analysis Critical Control Point

Graph 1: The Food Supply Chain and operators' responsibility for food quality and safety

The change in approaches from controlling the final product to process-oriented quality assurance systems throughout the supply chain proves to be beneficial for all operators.

Stakeholders report that investments into Good Practice and Quality Assurance Systems (compliance costs) are justifiable (e.g. Jaffee 2005b, Collinson 2001) and in many cases result in a more than reasonable return on investment, namely:

- reduced input costs through implementation of integrated crop/pest management
- higher labour productivity through improved work-flow
- improved market access through communication of the Good Practices applied
- improved long-term supplier-customer relationships through reliable and continuous food quality

Against this background, the present study aims at facilitating easy access to information on food quality and safety for all actors – supply chain operators, supporters and enablers – to find their way through the labyrinth of mandatory standards and voluntary good practices applicable to fresh and processed fruit and vegetables as well as herbs, spices and nuts.

1.2 Recent developments – brief overview on major changes in standard setting and benchmarking and related trade issues

Public and private standards are subject to continuous changes as a result of, among others, the on-going process of liberalisation of the world trade, the harmonisation of EU Member States' laws and the interest of the private industry to establish cost-effective supplier-buyer linkages and to gain a competitive edge. The present revised and up-dated 2nd edition of the reference book takes stock of the changes that have come into force since the 1st edition was published in 2003. The following list gives an overview of the most important developments in food quality and safety standards and related trade issues.

1.2.1 World Trade Organization (WTO)

As the second large negotiation round of the WTO, the 'Doha Development Round' was explicitly devoted to assist less and least developing countries to achieve their development goals by focusing on the triangle of market access and domestic support, both in agriculture, and non-agricultural market access.

With the negotiation groups failing to submit the modalities⁵⁾ even after several extensions, the Secretary General of the WTO recommended to the General Council to suspend the Doha Development Agenda negotiations on 24 July 2006 by leaving the opportunity to members to resume negotiations any time.

The main blockage is in the two agriculture related fields of market access and domestic support (the third angle, non-agricultural market access, has not even been discussed yet). The EU and the United States (US) hold one each other responsible for the current impasse in the Doha negotiations. The US is considered to be inflexible with regard to domestic support whereas the EU is regarded as focusing mainly on market access. At the same time, developing countries consider their agriculture to be unprotected against subsidised exports from industrialised countries.

While this deadlock might weaken the WTO as multilateral authority, it might give a fresh impetus to bilateral and regional trade agreements, which are anyhow on the rise. Moreover, it will further foster bilateral and multilateral development cooperation in trade-related fields (WTO Task Force Aid for Trade – WTO-TF Aft; EU Commission trade promotion⁶⁾ and USA trade promotion⁷⁾).

For a more in-depth view of the current status of WTO provisions and on-going negotiations as well as other multilateral standard setting and benchmarking organisations please refer to [chapter 4.1](#).

⁵ Modalities are submissions, on which negotiations are based. They define the framework for phased liberalisation, calculation methods and time limits for negotiation steps.

⁶ 2 billion US\$ per annum until 2010

⁷ 2,7 billion US\$ per annum until 2010

1.2.2 International Organization for Standardization (ISO)

Published on 1 September 2005, the “Food Safety Management System” **ISO 22000:2005** is a new certification standard, which combines the generic management system of the ISO 9001:2000 family with the hygiene requirements for the food industry (HACCP – Hazard Analysis Critical Control Points). ISO 22000:2005 specifies requirements for a food safety management system for all operators along the food supply chain.

1.2.3 European Union (EU)

In 2002, the Directorate General Health and Consumer Protection (DG SANCO) of the European Commission adopted much tougher measures to strengthen official food and feed controls. The aim was to streamline the previously weak and scattered controls and to strengthen consumer protection by giving both Member States and the Commission stricter enforcement tools. While the controls remain the responsibility of the Member States, performance criteria for competent authorities and the design and development of control systems have been harmonised EU-wide.

The **General Food Law** (Regulation (EC) No 178/2002) entered into force on 21 February 2002 and is implemented as from 1 January 2006; existing food law principles and procedures must be adapted by 1 January 2007. The EU Food Law comprises the following elements:

- The **General Principles** lay down the requirements for traceability of food and feed products, responsibility of operators, withdrawal of unsafe food or feed from the market and notification to the competent Authorities.
- The **European Food Safety Authority (EFSA)** became operational in May 2003 and is the keystone of EU risk assessment regarding food and feed safety. In close collaboration with national authorities and in open consultation with its stakeholders, EFSA provides independent scientific advice and clear communication on existing and emerging risks.
- The purpose of the **Rapid Alert System for Food and Feed (RASFF)** is to provide the Member States’ control authorities with an effective tool for exchange of information on measures taken to assure food safety.

The EU **Hygiene Package** (Regulations (EC) No 852/2004, 853/2004 and 854/2004 and Directive 2004/41/EC) lays down, further specified for certain categories of food, the ‘farm to fork’ principle to hygiene policy, the registration requirements for businesses, the labelling requirements for foods, the requirements for documentation, the self-inspection plan in accordance with HACCP and the traceability requirements as well as flexibility provisions for food produced in remote areas or with traditional methods (in force since 1 January 2006).

In the context of the review of food hygiene legislation, Regulation (EC) No 882/2004 reorganises **official controls of food and feed** so as to integrate controls at all stages of production and in all sectors. The Regulation defines the European Union’s duties as regards the organisation of these controls, as well as the rules, which must be respected by the national authorities responsible for carrying out the official controls, including coercive measures adopted in the event of failure to comply with Community law (in force since 1 January 2006).

In its effort to streamline Member States legislation, the Community harmonises the **Maximum Residue Levels (MRLs)** for **Pesticides** for about 150 plant protection products. The harmonisation process is on-going.

The EU created a new legal framework for **Genetically Modified Organisms (GMO)** regulating the contained use of genetically modified microorganisms (GMMs), the deliberate release into the environment of GMOs, the placing on the market of GMO food and feed products containing or consisting of GMOs, the intentional and unintentional movements of GMOs between Member States of the EU and third countries, as well as the labelling and traceability of GMOs.

The European Commission adopted a proposal for a new **Regulation on Organic Production** on 21 December 2005, which aims to improve clarity for both consumers and farmers and will take more account of regional differences in climate and conditions. Imports of organic products compliant with EU standards or accompanied by equivalent guarantees from the country of origin are admitted to enter the EU. The new regulation is supposed to enter into force in 2009.

The European Commission intends to submit a proposal for a reform of the **Common Organisation of Markets (COM)** for fresh and processed fruit and vegetables sectors at the end of 2006. Consultation with European sector stakeholders took place on 18 May 2006 to discuss reform options. An impact report covering several reform options and their possible effects will be finalised by autumn 2006.

The EU formally recognised the inspection and certification systems for fresh fruit and vegetables of Turkey by 26 December 2006 as well as those of Kenya and Senegal by 15 March 2006 as so called **Approved third country Inspection Service (AIS)**.

For a more in-depth view of the current status of EU food safety and quality standards please refer to [chapter 4.2](#) (standard setting) and [5](#) (market access).

1.2.4 German Food and Feed Law

The new **Food and Feed Code** (Lebensmittel- und Futtermittelgesetzbuch – LFGB), which entered into force on 7 September 2005, replaces the former German Food and Commodities Law (Lebensmittel- und Bedarfsgegenstaendegesetz – LMBG). The LFGB implements the provisions of the EU Food Law (Regulation (EC) No 178/2002).

The Federal Parliament (Bundestag) decided on a new **Consumer Information Law** on 29 June 2006 to regulate consumers' access to federal offices' data on violations against the Food and Feed Law, on the origin and use of products, on ingredients and control measures. The law was finally approved by the Federal Council of Germany (Bundesrat) in September 2006.

The Federal Directive on **Marketing Standards** will be removed as from 1 January 2007 and replaced by the respective EU regulations.

1.2.5 Private standards

EurepGAP has fixed the main elements for the 2007 version of their standard. An **all farm base module** will be complemented by **crop specific modules** (fruit and vegetables, coffee, flowers and ornamentals etc.) and specific **input-related standards** (Propagation Material, Feed). A **Farmer Group Quality Management System Checklist** (normative document) has been published in 2005 to be used by Certification Bodies when auditing the application and implementation of EurepGAP General Regulations' requirements in Farmer Groups. Nine GAP Schemes have become **EurepGAP Approved Schemes** to the EurepGAP Scope Fruit and Vegetables, thereof 3 Spanish, 1 French and 1 German scheme as well as ChileGAP and Mexico Calidad Suprema.

The 4th Issue of the British Retail Consortium **BRC Global Standard Food**, the **BRC Global Standard Storage and Distribution** and the **BRC Global Food Standard Food Packaging** have been launched.

The **International Food Standard (IFS) Version 4** is in place, and the **IFS Logistics Standard** has been launched in April 2006 for certification of quality assurance systems in transport, logistics and storage.

Many more changes in public and private standards have taken place since the 1st edition of the present reference book was published in November 2003. For more details on the status of private standards please refer to [chapter 4.3](#).

1.3 The context of this reference book

1.3.1 Food quality and safety and the EU-MEDA partnership – validity of this document for other export countries and commodities

This study, though referring to the situations in the Southern Mediterranean partner countries of the EU, aspires to be applicable in any country of the world exporting to EU markets. The MEDA-countries have been chosen as an example for the simple reason that the MEDA-department of GTZ disposed of funds for financing this study. Out of the Mediterranean Area, only those countries have been chosen for analysis that are admissible for technical and financial assistance as defined by the German development policy and have got a growth potential with regard to food exports (Algeria, Egypt, Jordan, Morocco, Syria, Tunisia, Turkey)⁸.

Due to the complexity of both mandatory legal provisions and voluntary codes of practice, it is neither possible to cover all applicable standards for entire product ranges of interest nor to supply entire documentation on relevant legislation and codes. This reference book therefore explains the system of multilateral, supranational, national and private standards in an exemplary way for selected product groups.

⁸ Lebanon is no longer a formal partner country of German bilateral Development Cooperation. On behalf of the Federal Ministry for Economic Cooperation and Development (BMZ), GTZ is bringing the present portfolio to a close.

Although, the process of harmonisation, which aims at implementing uniform rules and regulations for food quality and safety EU-wide, already started in January 1993, harmonisation is still not completed. EU Member States continue applying national laws and regulations in addition to an ever expanding EU regulatory framework. With this in mind, the study will not only give relevant information about the EU food law but also a brief introduction to the food laws as applied in Germany, France and the United Kingdom (UK). These examples have been chosen due to the importance of their market sizes and the specifics of the legal framework and importance for exporters in MEDA-countries.

1.3.2 Know how transfer on food quality and safety standards – how to use this reference book

This reference book imparts fundamental **knowledge on standard setting and benchmarking** in view of building capacities of food industry stakeholders in EU partner countries. Assembling necessary foundations including indications for “further readings” at the end of each section, an extensive **list of (partly interactive) internet resources** with brief explanations on contents ([chapter 7](#)) and a detailed **bibliography** ([chapter 8](#)), this publication enables policy makers, public administration, food operators, development agencies and any other interested parties

- to access and disseminate up-to-date information on international laws, regulations and industry standards necessary for competing in export markets
- to evaluate the changing food quality and safety environment with regard to its impact on the domestic food sector
- to evaluate the need for and consequences of adopting international standards and, if necessary, to harmonise national laws with international standards
- to improve skills for negotiations in international standard setting organisations in view of successful integration of the national food industry into international markets

This reference book has been designed to serve as a guide to the ever expanding system of standards and regulations. The wealth of information assembled in this publication can serve as a starting point for setting up an **Information System on standards** to facilitate access to up-to-date information on international market access requirements for public and private sector stakeholders.

Readers interested in **other countries of origin** or **other commodities** than those covered here can use this publication to gain an overview on the structure of international and national standard setting and apply the same guiding principles for information research on standards and regulations. The extensive list of internet resources and the detailed bibliography facilitate research on topics of special interest.