

Cost-effective management tools for ensuring food quality and safety

FOR SMALL AND MEDIUM AGRO-INDUSTRIAL ENTERPRISES



Module 3: Application of quality management principles in small and medium agro-industrial enterprises



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Foreword

The Rural Infrastructure and Agro-Industries Division (AGS) of FAO works to improve and strengthen the capacities of small and medium agro-industries, the enterprises that provide them with services and materials and the relevant support organizations in order to ensure food quality and safety. It carries out these activities using an approach that integrates the different factors affecting the capacity of a business to produce foods to meet the demands of the market according to recognized standards, while maintaining and increasing the profitability and viability of the business. Management and technical aspects must be integrated within a practical and cost-effective approach. This ensures that higher incomes, sources of jobs and the food security of the rural population are also promoted.

The training manual entitled *Cost-effective management tools for ensuring food quality and safety – for small and medium agro-industrial enterprises* focuses on these objectives.

This manual is the result of a collaborative effort by technical staff of the Rural Infrastructure and Agro-Industries Division of FAO. It is based on case studies carried out in Bolivia and El Salvador on opportunities for the improvement of capacity of small- and medium-scale food processing enterprises, through training to meet the demands of the market.

These case studies, which were carried out as part of the FAO programme 'Agribusiness Development: Small and Medium Post-production Enterprises', identified the training needs of small and medium fruit and vegetable agro-industries. This sector had been chosen as representative of the food industries operating in Latin America.

In Bolivia, a range of agro-industries was evaluated. These produced: (i) processed dried fruits, jams and/or fruit pulps, particularly pineapple and peaches; (ii) processed vegetables such as faba beans and garlic; (iii) various processed products such as pickles.

In El Salvador, the study focused on the development of products such as tomato-based foods, fruit juices and nectars (including peaches, apples, grapes and tropical fruits), as well as other fruit and vegetable products. This made it possible to identify problems common to the different enterprises, such as low-quality raw materials, inefficient processing operations, lack of knowledge of the relevant quality and safety standards and their implementation and lack of entrepreneurial vision. There was a consensus among small-scale entrepreneurs that these problems could be overcome by implementing innovative training strategies. This consensus led to the idea of preparing this manual.

The manual is divided into four modules, each subdivided into themes. Module 1 discusses the use of market information as a tool for business decision-making. Module 2 covers systems and tools for improving the management of food quality and safety in agro-industry. Module 3 focuses on the principles of quality

management in small and medium agro-industrial enterprises. Module 4 discusses planning as a tool for the management of food quality and safety.

This manual includes case studies, exercises and bibliographic references, as well as a trainer's guide, PowerPoint presentations, appendices, further reading and links of interest.

The purpose of this manual is to assist trainers and entrepreneurs wishing to use the material for self-learning. With this manual, FAO can now provide the small and medium agro-industry sector in developing countries with an important tool for improving its competitiveness and its capacity to deliver high-quality products to consumers.

The English version has been revised to include references, recommended reading and links suitable for English readers. In Module 2, information on standards and regulations relating to quality and safety has been included in order to provide norms that are relevant worldwide.

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Acronyms and abbreviations

Brix	measurement of the amount of sugar in a solution per weight of total solution
GAP	good agricultural practices
GLOBALGAP	pre-farm-gate standard for good agricultural practice (formerly known as EUREPGAP)
GMP	good manufacturing practices
HACCP	hazard analysis and critical control points
ISO 22000	ISO standard on food safety management systems
ISO 9000	family of ISO standards on good quality management practices
ISO 9000:2000 series	ISO 9000 family of standards issued in 2000
ISO 9001	ISO standard providing a set of standardized requirements for a quality management system
ISO 9001:2000	ISO 9001 standard issued in 2000
ISO	International Organization for Standardization
NGO	non-governmental organization
PDCA	planning, doing, checking and acting
SCM	supply chain management
SENA	Colombia's National Training Service
Six 'M's	manpower, materials, machinery, method, medium and measurement

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Study guide for the module

MODULE 3

APPLICATION OF QUALITY MANAGEMENT PRINCIPLES IN SMALL AND MEDIUM AGRO-INDUSTRIAL ENTERPRISES

Objectives

- To illustrate the importance of quality management principles for improving product quality and safety
- To provide guidelines for the application of quality principles in small and medium agro-industrial enterprises

Content

Theme 1: Principles of quality management in small and medium agro-industrial enterprises

- General quality management principles

Theme 2: Leadership, the key to improving food quality and safety

- Entrepreneurial leadership
- Leadership and planning in agro-industry
- Leadership in communicating of the company's objectives

Theme 3: The process approach and continual improvement – effective tools for food quality and safety management

- Management by process
- The process approach to food quality and safety management
- Continual improvement
- The pathway to improvement

Theme 4: Quality and safety management, starting with suppliers

- Cooperation between actors: the key to quality and safety throughout the supply chain
- Key factors in developing sustainable cooperative relationships
- Strengthening the client/supplier relationship

Activities

Case study Theme 1: A step towards formal quality

- Exercise on Theme 1

Case study Theme 2: Leadership, the key to successful implementation of an HACCP system in an agro-industrial company

- Exercise on Theme 2

Case study Theme 3: The process approach and continual improvement

- Exercise on Theme 3

Activities

Case study 1 Theme 4: Experience of contracting in a juice-producing company

Case study 2 Theme 4: The producers' cooperative Labradores Maya in Guatemala. From Tecpan to Wal-Mart Central America

- Exercise on Theme 4

Assessment

On completion of each theme an exercise is carried out to assess the general understanding of the theme

INTRODUCTION

Quality management refers to the use of planned and systematic actions to ensure that a product or service satisfies quality requirements. In the context of safety management, these actions allow products to be offered in a form that causes no harm to the consumer when prepared and/or consumed in the normal way.

The prerequisite programmes and the hazard analysis and critical control points (HACCP) system involve specific actions for controlling risks to product safety and quality. For example, they incorporate to varying degrees the management of record keeping and the implementation of corrective measures. Standards ISO 9001 and ISO 22000 provide a systematic and integrated presentation of the essential elements needed to demonstrate an organization's commitment to quality and safety.

The requirements of standard ISO 9001:2000 are based on eight quality management principles, which are also considered in standard ISO 22000. Although the specific requirements of quality and safety regulations vary according to the scope of the standard and its objectives, quality principles are of great value when implementing actions to assure quality and safety in the enterprise. This module illustrates basic quality management principles, with special emphasis on four of these principles: (i) leadership, (ii) the process approach, (iii) continual improvement, and (iv) the importance of the client/supplier relationship.

CONTENT

The material is divided into the following four themes.

Theme 1: Principles of quality management in small and medium agro-industrial enterprises

This theme gives a general description of the principles of quality management systems in agro-industrial enterprises as a basis for improving quality and safety management.

Theme 2: Leadership, the key to improving food quality and safety

This theme refers to the importance of (and the elements that define) entrepreneurial leadership as key to improving quality and safety management in an agroindustrial enterprise.

Theme 3: The process approach and continual improvement – effective tools for food quality and safety management

This theme deals briefly with the process approach and its link with the enterprise's improvement strategies.

Theme 4: Quality and safety management, starting with suppliers

This theme focuses on the importance of strengthening relationships with suppliers as a prerequisite for the success of quality and safety programmes and initiatives in agro-industrial enterprises.

ESTIMATED TIME

An estimated 14 hours will be needed to complete this module, including the time required for the training sessions, practical exercises, review of materials and other activities proposed by the participants.

Theme 1: Principles of quality management in small and medium agro-industrial enterprises

INTRODUCTION

Enterprises concerned about the sustainability of their business must recognize the need for continual change in their management strategies in order to adapt to fiercer competition and the globalization of markets for agro-industrial products. Hundreds of businesses and products are launched every day but they do not all achieve a competitive position in the market. Much of the success of enterprises that do succeed stems from the way in which their businesses are managed. Businesses must recognize the importance of a market-led strategy. This entails the use of planning, human resources and knowledge, as well as continual improvement. A series of management models have emerged that incorporate these essential aspects for achieving an enterprise's goals.

The model proposed in standard ISO 9001:2000 is based on eight principles for implementing changes in an organization. The current theme briefly describes these principles as a basis for improving quality and safety management in agro-industrial enterprises.

EXPECTED RESULTS

By the end of this theme, participants are expected to have a better understanding of:

- the importance of the principles governing the implementation or improvement of quality and safety management in agro-industrial enterprises;
- the main strategies that guide entrepreneurial development (impact on the market, the process approach and the need for continual improvement).

SUPPORT MATERIALS

Case study: A step towards formal quality

Reading for Theme 1: General review of the principles of quality and safety management for small and medium agro-industrial enterprises

PowerPoint presentation: Theme 1

Exercise on Theme 1