

Food Safety Management Systems

Food Safety Management Systems (FSMS) – Study Notes

1. What Is a Food Safety Management System?

Aspect	Description
Definition	A systematic, documented approach that organizations use to identify, control, and verify food safety hazards throughout the food chain.
Goal	Prevent foodborne illness, protect consumers, and ensure regulatory compliance.
Core Idea	“Plan-Do-Check-Act” (PDCA) cycle applied to food safety.

2. Key International Standards & Schemes

Standard / Scheme	Origin	Scope	Certification
ISO 22000	International Organization for Standardization (ISO)	All organizations in the food chain (primary production ? retail). Integrates HACCP with a management system framework.	Third-party audit; globally recognized.
HACCP (Hazard Analysis & Critical Control Points)	Codex Alimentarius / USDA / EU	Food processing and handling operations. Focuses on preventive control of biological, chemical, and physical hazards.	Often incorporated into ISO 22000, GFSI schemes, or national regulations.
GFSI Benchmark Schemes (e.g., BRC, Global Food Safety SQF, IFS, FSSC 22000)	Initiative	Specific to manufacturers, distributors, or retailers; built on HACCP + additional requirements (site-specific, quality, legal).	Certification through accredited audit bodies.
FSMA (Food Safety Modernization Act)	United States	U.S. food facilities; emphasizes preventive controls, traceability, and sanitation.	Regulatory compliance; not a certification.

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Standard / Scheme	Origin	Scope	Certification
EU Regulation 178/2002 & 2023/...	European Union	All food businesses operating in the EU. Requires a “Food Safety Management System” based on HACCP principles.	Legal requirement; audits by authorities.

3. The PDCA Cycle in FSMS

1. Plan

- Conduct **hazard analysis** (identify biological, chemical, physical risks).
- Define **Critical Control Points (CCPs)** and **critical limits**.
- Develop **standard operating procedures (SOPs)**, **prerequisite programs (PRPs)** (e.g., cleaning, pest control).
- Set **objectives**, **KPIs**, and **documentation** (policy, manual, records).

2. Do

- Implement SOPs, PRPs, and HACCP plan.
- Train personnel.
- Operate production under controlled conditions.

3. Check

- Monitor CCPs (temperature, pH, etc.).
- Perform internal audits, verification activities, and validation studies.
- Review non-conformities, corrective actions, and performance metrics.

4. Act

- Update the FSMS based on audit findings, changes in legislation, or new scientific data.
 - Continual improvement of processes and controls.
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4. Main Components of an FSMS

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Component

Typical Content

Food Safety Policy	Commitment from top management, alignment with legal and customer requirements.
Food Safety Manual	Overview of the system, scope, interaction of processes, and responsibilities.
Prerequisite Programs (PRPs)	Facility design, supplier approval, sanitation, pest control, employee hygiene, waste management, maintenance.
HACCP Plan	• Hazard analysis • CCP identification • Critical limits