



Hazard Analysis Critical Control Point

BY

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HACCP: The Hazard analysis and critical control point is a scientific system created to identify specific hazards and actions to control them in order to ensure food safety and quality.



A “Hazard is a biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect”.

Hazard Analysis: The process of collecting and evaluating information on hazards associated with the food under consideration to decide which are significant and must be addressed in the HACCP plan.

Critical Control Point: A step at which control can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level.

1959



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Method Development

- 1. Sampling for
Pathogenic
Microorganisms**
- 2. The Zero Defect Concept**
- 3. Modes of Failure**

1971

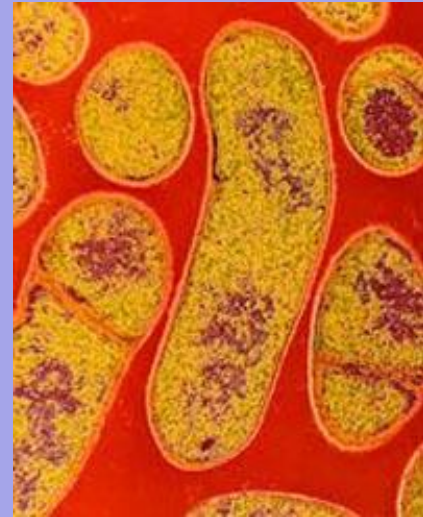
3 Principles

1. Identification and assessment of hazards associated from growing to consumption
2. Determination of the critical control points to control any identified hazards
3. Establishment of systems to monitor the critical control points



1972

Outbreak of botulism!!!



Canned Potato Soup

Botulism

FDA promoted regulation of canned foods

FDA inspectors were trained for HACCP

1985



**Report: “Microbiological Criteria
for Foods and Food Ingredients” –
Approve HACCP**

1988

HACCP in Food Safety and Quality



1989

**HACCP Principles for Food
Production**

1991

**Guidelines for the Application
the HACCP System**



1992

**Hazard Analysis and Critical
Control Point System**

Feb, 3 1995

There is **wide agreement** that ensuring **food safety** requires taking **steps throughout the continuum of production**, slaughter, processing, distribution, and sale of livestock and poultry carcasses and meat and poultry products to prevent hazards and reduce the risk of food-borne illness.

Developing a HACCP Plan

Preliminary

Steps:

Assemble the HACCP Team



Describe the Food and its Distribution



Describe the Intended Use and Consumers of the Food



Develop a Flow Diagram Which Describes the Process



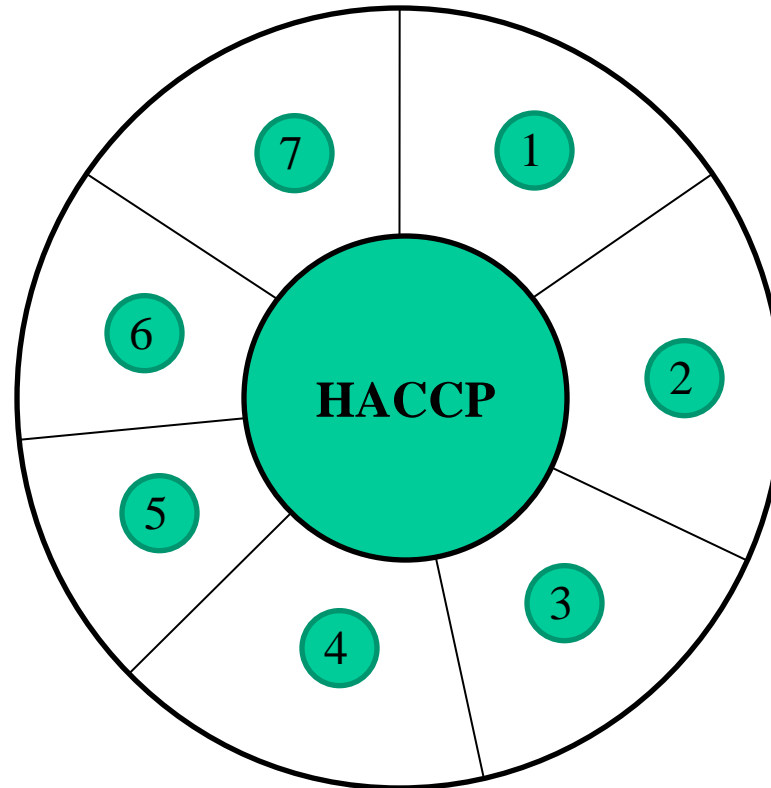
Verify the Flow Diagram

7 HACCP Principles

7. Establish procedures to verify that the HACCP plan is working

6. Written HACCP Plan

5. Establish corrective action to be taken when monitoring shows that a critical limit has been exceeded



4. Establish procedures to monitor CCP's

1. Conduct a hazard analysis and Identify hazards

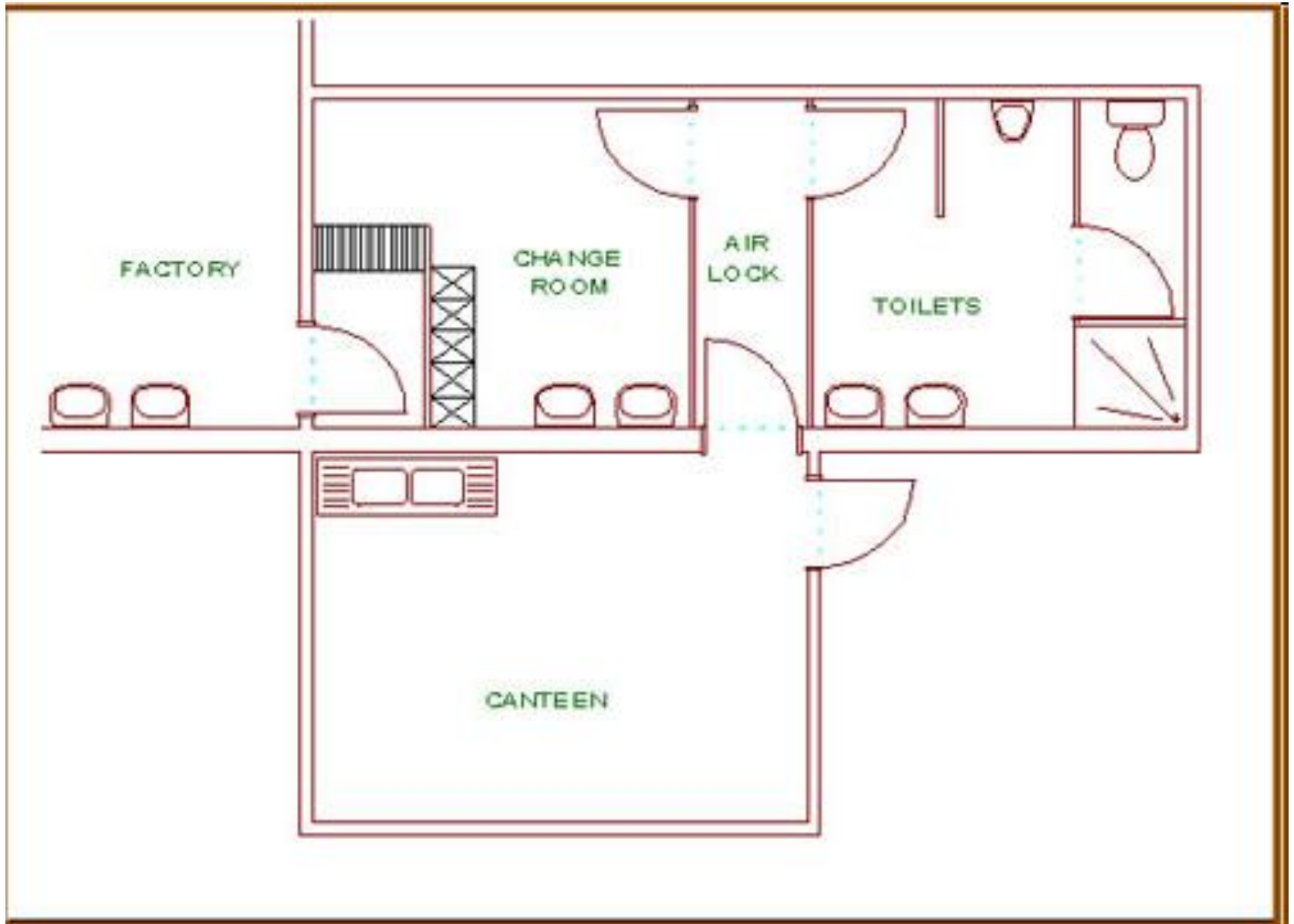
2. Determine the critical control points (CCP) in the food preparation

3. Establish critical limits for preventive measures

7 HACCP Principles

Step	Meaning
1. Hazard analysis	What are the controllable food safety hazards?
2. Establish critical control points	Where do things go wrong and how can we reliably control it?
3. Establish critical limits	What value indicates the process is in control?
4. Establish monitoring procedures	Who, what, when, where and how will CCP's be monitored?
5. Establish corrective actions	What happens if we exceed a critical limit?
6. Establish a record keeping system	If you don't write it down it doesn't exist.
7. Establish verification procedures	How do you know the system works?

Basic mechanism of a GMP





Welcome to HACCP 2000. Please select an activity to begin.

HACCP Pre-requisites

Process Flow Diagram

HACCP Instruction Card

HACCP 2000 Training Pack

HACCP WWW Resources

Database Utilities

Compact / Back Up Databases

Restore Back Up Databases

Import HACCP Database

Import Source Database

About HACCP 2000

User Details



Click on the training presentation you wish to use to begin.

The Principles of
HACCP

A Comprehensive Presentation on The Principles of HACCP.

The HACCP 2000
Training Presentation

A Training Presentation on HACCP 2000. To be used with the Word Tutorial included and in the "HACCP 2000" folder on your hard drive..

HACCP 2000 Tutorial

HACCP 2000 Tutorial Document.

Good Food Hygiene

Basic Food Hygiene Training course with HACCP.

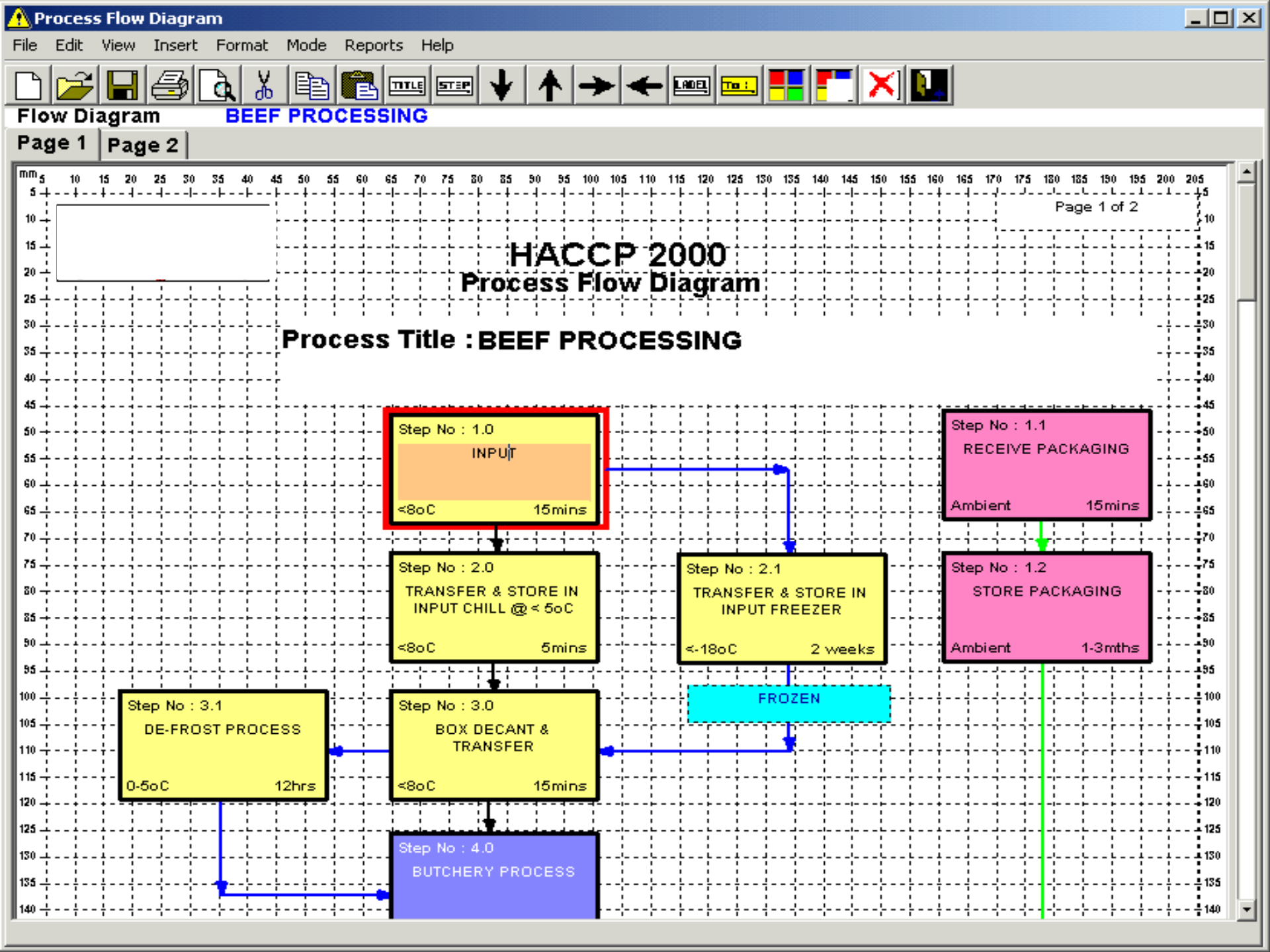
The HACCP 2000
Presentation

A Brief Presentation on HACCP 2000.

Note : To use the above you will need Powerpoint 97 or better and Word 97 or better.

If the powerpoint fails to start please open file (look in C:\Program files\HACCP 2000\Presentations\)
from Powerpoint

Close



HACCP 2000
BEEF PROCESSING

Step No : 1.0
INPUT

Description of Step

Beef delivered on suppliers temperature controlled vehicles. Product removed from vehicles, spec., packaging, temp., weight, vehicle condition (& temp) and kill dates checked and recorded on QC1.A. Batch number allocated.

Critical Control Point Y/N			
Microbial	Chemical	Physical	Quality
Yes	No	No	No

No.	Hazard (Possible Cause)	Q1	Q2	Q3	Q4	CCP	Microbial	Chemical	Physical	Quality
1	Microbial growth (time excess, temperature excess)	Y	Y	-	-	Y	✓			
2	Microbial cross contamination (From Dirty Temperature Probe)	Y	N	Y	Y	N	✓			

Hazard Control Resource Graphics							
							
Vehicle Temp. Control	Use Probe Wipe	Temp. Probe	Training				

Protective Clothing Required				
				

HACCP Application to Animal Production

“ The voluntary application of HACCP principles can be useful in establishing the CCPs within the farm management and live animal transportation arenas where pathogenic organisms can enter the food chain”

Assessment of HACCP systems

Internal assessments/audits (the terms 'assessment' and 'audit' are considered to be equivalent here) carried out by those responsible for the system independent

External assessments/audits: skilled in the process that is being undertaken, and able to communicate effectively on any questionable issue.

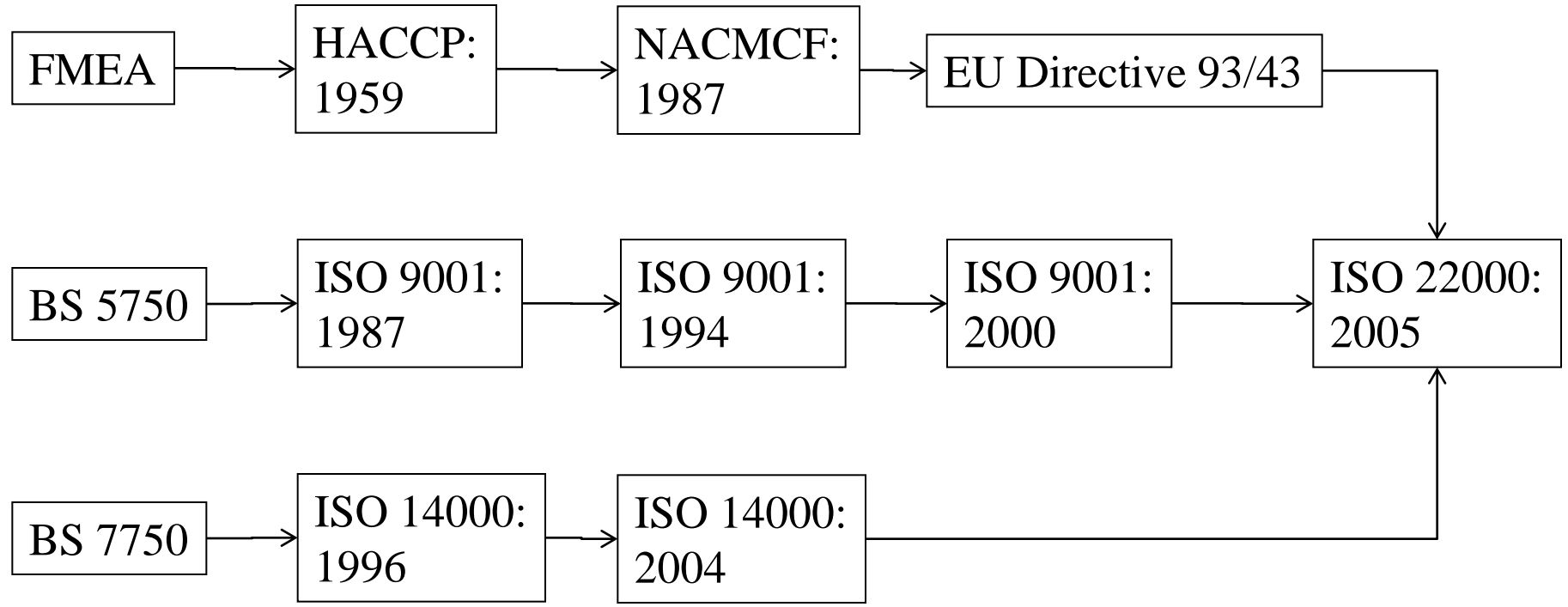
Examine the business and make sure all members of the HACCP team are familiar with its daily food preparation procedures.

- Cleaning and sanitation
- Maintenance
- Personal hygiene
- Pest control
- Plant and equipment
- Premises and structure
- Services (compressed air, ice, steam, ventilation, water etc)
- Storage, distribution and transport
- Waste management
- Zoning (physical separation of activities to prevent potential food contamination)

ISO

- International Standardization Organization
 - Non-governmental
 - A network of national standards bodies (**148 countries**)
 - A bridge between public and private sectors
- An ISO Standard
 - Voluntary (no legal authority)
 - Purpose:
 - To facilitate exchanges (trade) - **harmonizing national standards**
 - Meet a real need (**market driven**)
 - Work of Experts – **outcome is achieved by consensus**
 - Specific Auditable Requirements
- **Well-known ISO** management standards:
 - ISO 9000 (generic quality management, QMS)
 - ISO 14000 (generic environmental management, EMS)

The standards/systems that led to the development of ISO 22000



Development of ISO 22000

Drafting initiated:	Summer 2001
Committee Draft:	March 2003
Draft International Standard:	March 2004
Final Draft International Standard:	Spring 2005
Publication ISO 22000:	End 2005 (1.sep.05)

Deliverables of ISO 22000(1)

- Can be used **as the basis** of any food safety management system, with or without 3rd party certification
- Requirements for addressing (assessing and implementing) food safety concerns **of customers (e.g. retailers)** and regulators

Deliverables of ISO 22000 (2)

Combines recognized key food safety elements:

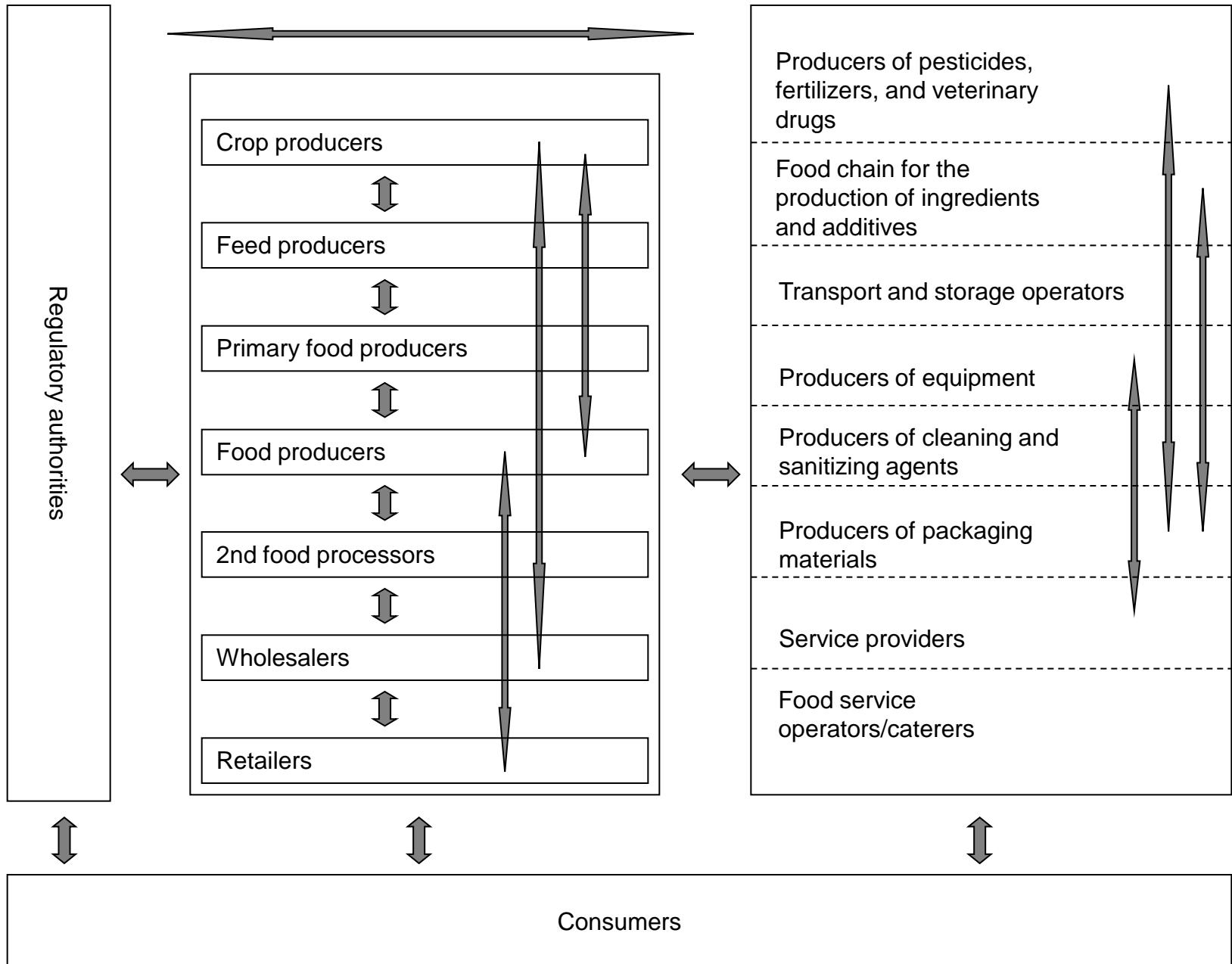
- **System management** (ISO 9000 approach)
- **Interactive communication** along the food chains
- **Prerequisite programmes**

Delivers a Hazard control system that can be Validated and

Verified through the combination of control measures, managed and implemented by

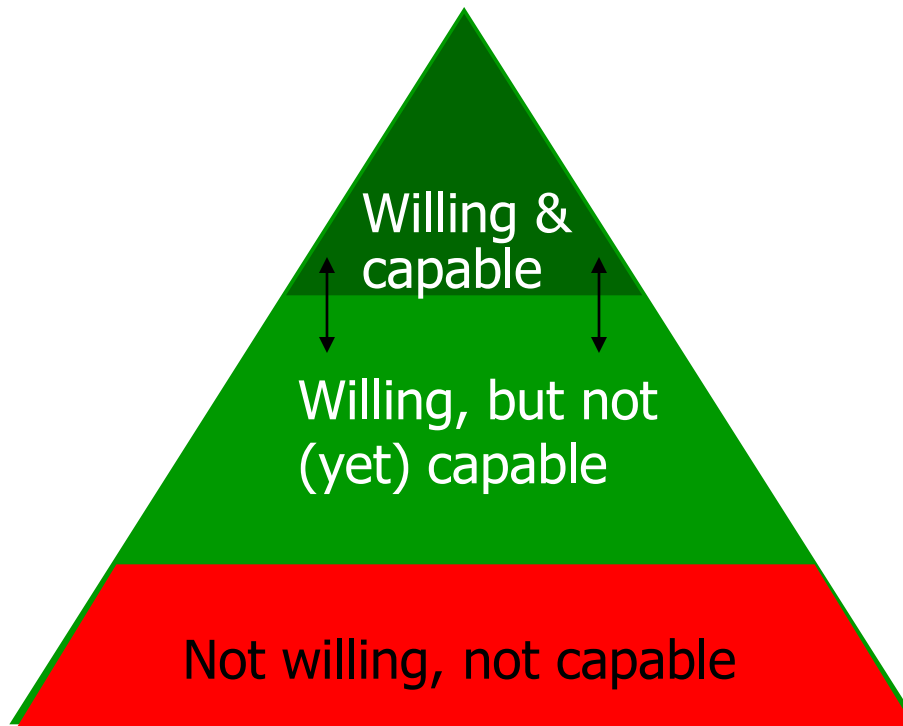
- A **HACCP plan** and/or
- **Operational prerequisite programs**

Scope – the whole food chain



Intended use of ISO 22000

(one segment in the food chain –
not all companies work on the same level)



Potential of ISO 22000

harmonization - perhaps not all – but some .

FAMI-QS

DS 3027

Aldi system

Kraft food system

Nestlé NQS

M&S system

ISO 14001

EFSIS

Eurepgap

ISO 9001

Waiterose
system

IFS

BRC-IoP

GMP standard for Corrugated &
Solid Board

AG 9000

Friesland Coberco FSS

Dutch HACCP

BRC-Food

SQF

GMP

GTP

GMO

GFSI
Guide

McDonalds system

Irish HACCP

The End Lecture 5