

## Module 01 - lecture 03

# History and status of HACCP

# Traditional food production

- **Shelf life (“keepability”) and organoleptic quality oriented**
- **Production methods based on experience**
- **Safety taken for granted, later reliance on end - product testing**

# Traditional regulatory measures “Food Control”

- **Based on :**
  - observation and “testing” of samples
  - detection of spoilage (“unhealthy”) and fraud
- **The system was:**
  - retroactive, and
  - provided little health protection, particularly regarding pathogenic organisms

# Traditional food control



**"Snap-shot"  
inspection for  
compliance with  
GHP/GMP**

**+**

**End - product  
testing**



# Traditional food inspection

- **“Flash” observation of hygiene**
- **Checking compliance with regulations**
- **Regulations on GMP used often vague terms such as: “as appropriate”  
“when necessary”**
- **Little distinction between trivial and important matters concerning safety**

# Quality control

**A system for maintaining standards  
in production or in a product,  
especially by inspecting samples  
of the product**

***Webster's Dictionary (1980)***

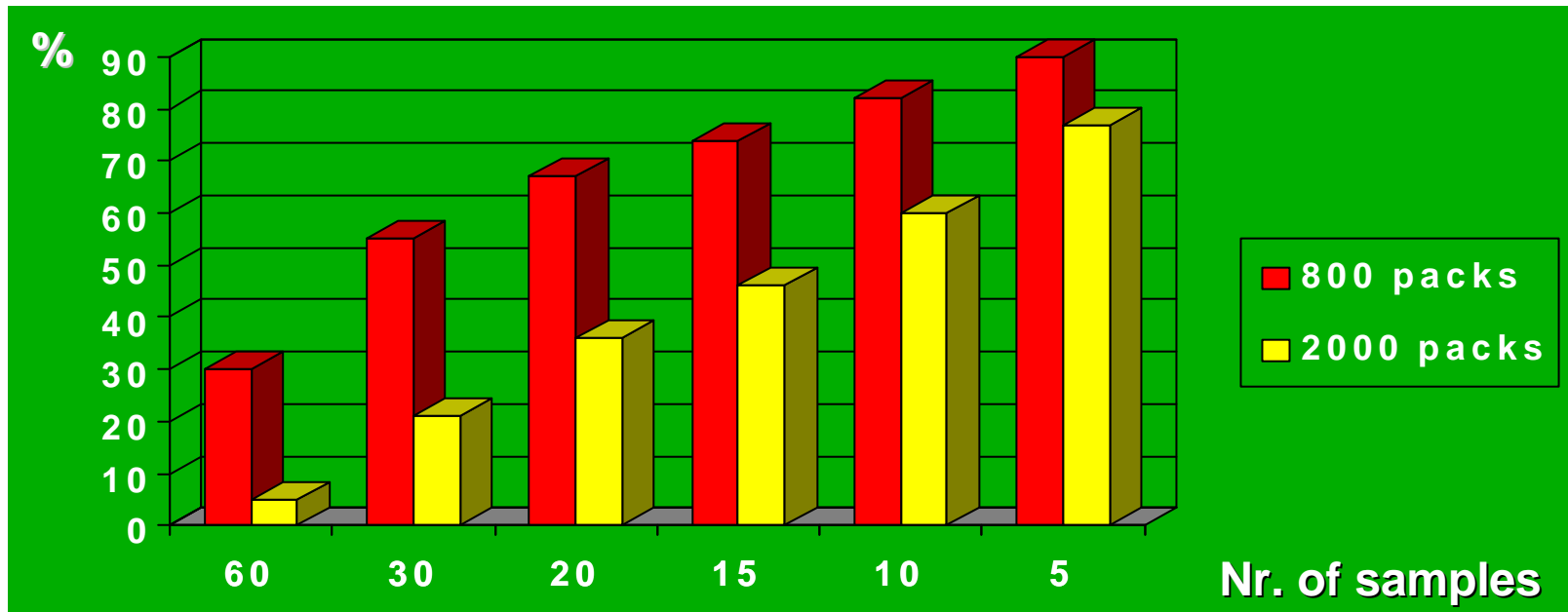
# End - product testing

- **not reliable**
- **costly**
  - ◆ *waste of food*
  - ◆ *cost of analysis*
- **time consuming**

# ***Salmonella* testing of milkpowder**

<b>Sampling scheme :</b>	<b>60 units / lot</b>
<b>Examined :</b>	<b>25g / unit of 250g</b>
<b>Lot size :</b>	<b>10 tons</b>
<b>Assumption :</b>	<b>homogeneous distribution of <i>Salmonella</i></b>
<b>Confidence :</b>	<b>Lots with 800 units containing <i>Salmonella</i> are accepted with 30 % probability</b>

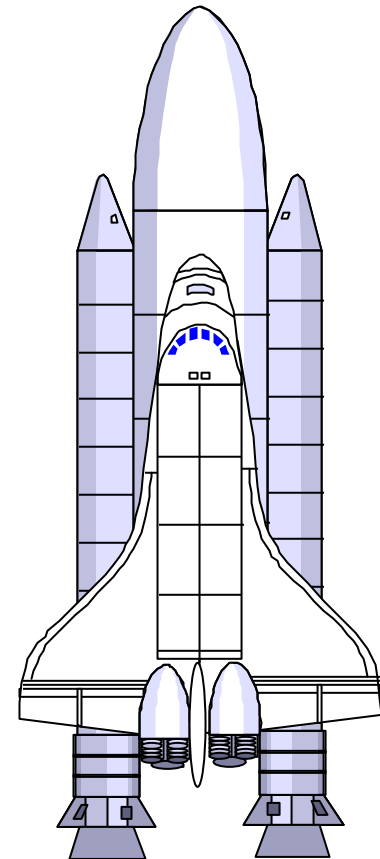
# Probabilities of acceptance



**Lot size : 10 ton, Weight of packs : 250 g**  
**Analytical sample weight : 25 g**  
**No positive samples**

# Control in “space age”

- **Preventative**
- **Having control over something**
- **Ensuring safety and quality of products by “building - in” and “engineering out”**
- **Minimizing risks**



# HACCP concept

- **Identifying potential food safety problems**
- **Determining how and where these can be controlled or prevented**
- **Describing what to do and training the personnel**
- **Implementation and recording**

# HACCP

*HACCP was :*

**An industrial food  
processing - line - control  
management tool**

# HACCP

*HACCP offers inspectors :*

**Evidence**

**that essential process conditions**

**were under control**

**during a prolonged period**

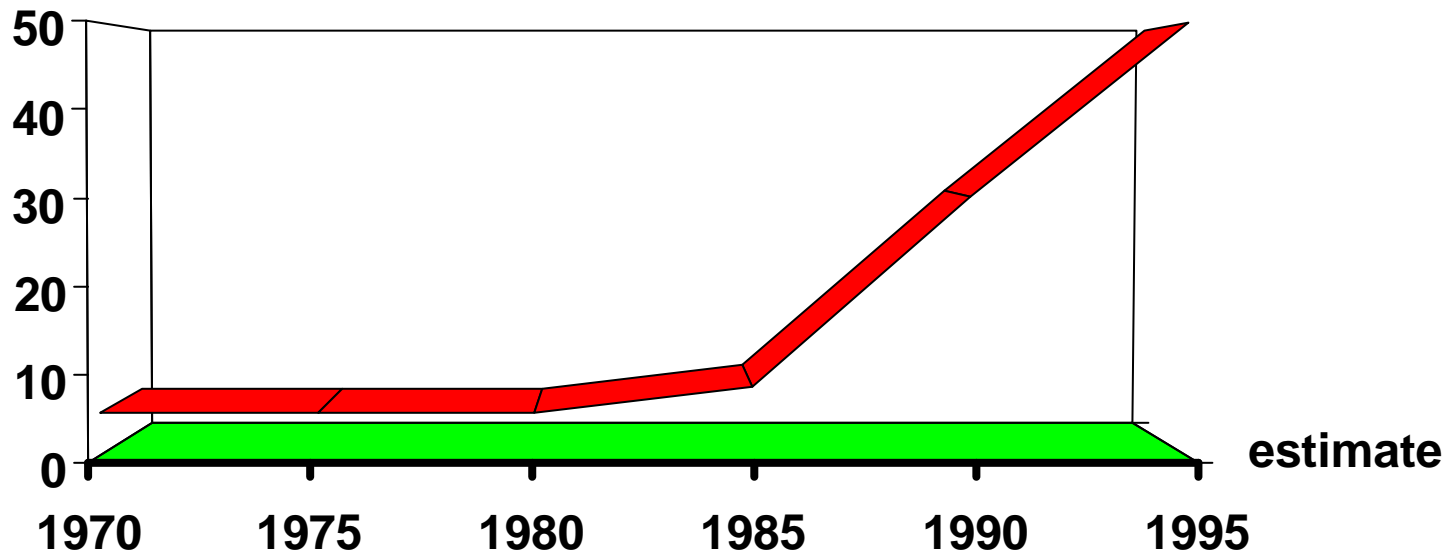
**of production time before inspection**

# Importance of HACCP in food safety management

## *HACCP ensures :*

- that decisions are based on reflection and best judgement
- accountability
- transparency and consistency
- continuous improvement
- partnership building
- free movement of products
- safety is designed and manufactured in the product

# HACCP growth curve



# Significant dates

- 1959** Pillsbury Co. develops concept for NASA
- 1971** Concept presented in USA
- 1980** WHO / ICMSF report on HACCP
- 1983** WHO Europe recommends HACCP
- 1985** NRC in USA recommends HACCP
- 1988** ICMSF Book on HACCP
- 1991** Codex includes HACCP in codes
- 1993** Codex issues HACCP guidelines
- 1993, 1994 & 1995** WHO and FAO consultations
- 1997** Codex issues revised document
- 1998** FAO/WHO provide guidance for regulatory assessment of HACCP

# Areas of application of HACCP concept

- **System of food safety assurance in food production and processing, and preparation**
- **Food inspection tool**
- **Health education**
- **Management of food safety programmes**

# Evolution of “Hazard”

**1970s**

**Something we do not want to happen**

**1990s**

**A biological, chemical or physical agent with the potential to cause an adverse health effect when present at an unacceptable level**

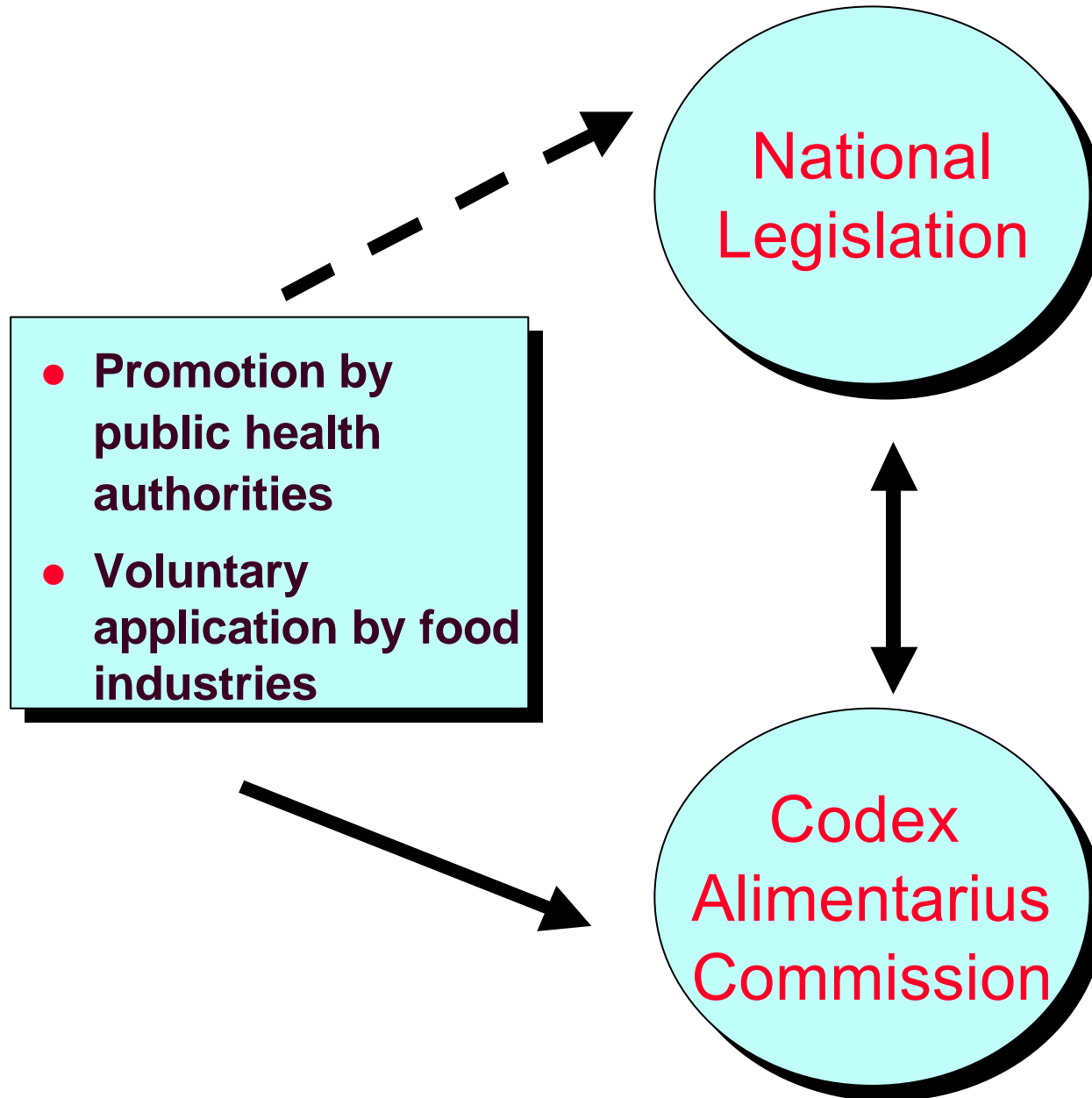
**(WHO, 1995)**

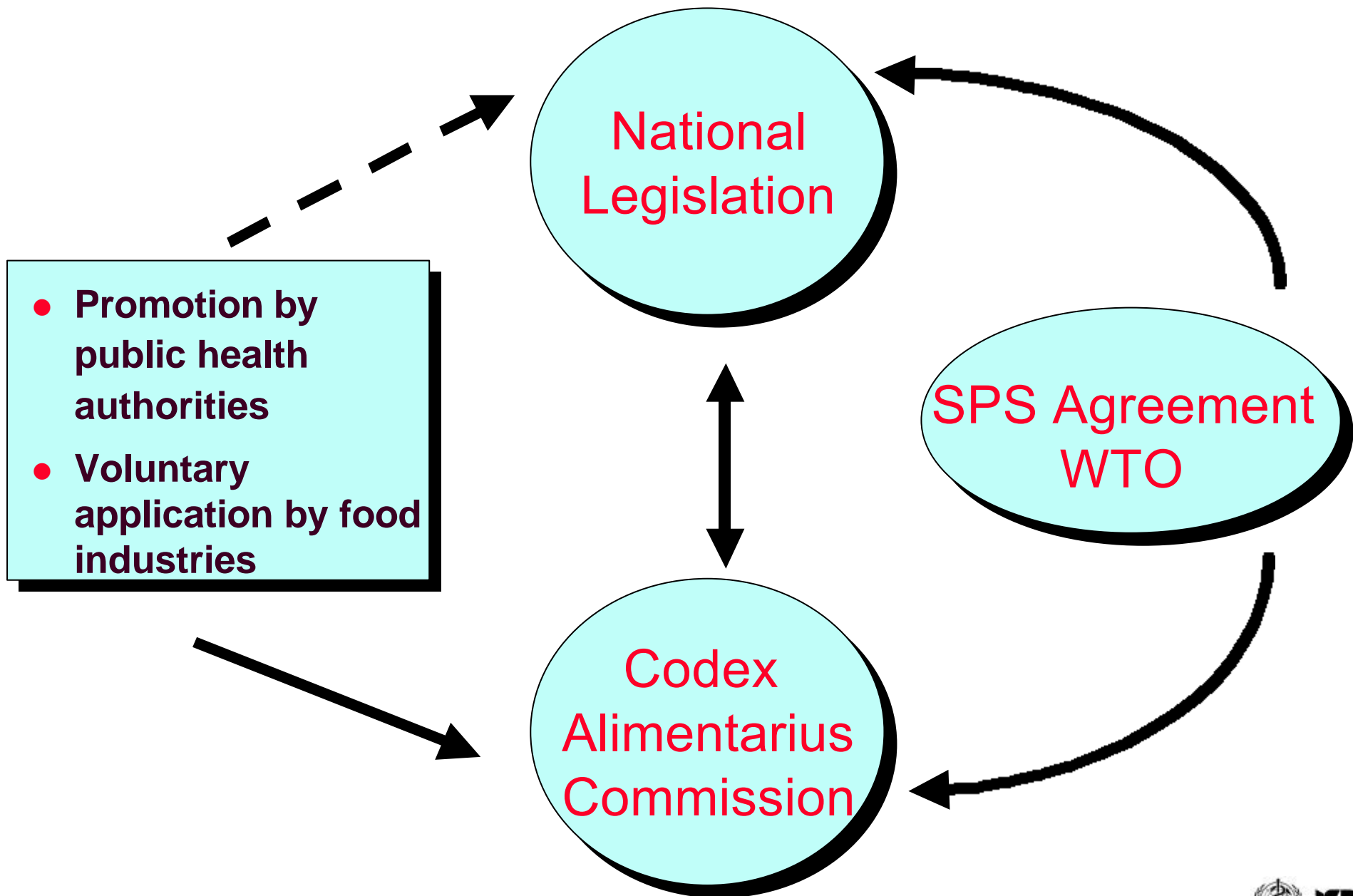
- **Promotion by public health authorities**
- **Voluntary application by food industries**

**National legislation**

# Current status

- ★ **Application of HACCP approach mandatory in the European Union**
- ★ **Fish and fishery products, meat, and poultry products sold in the USA should be produced according to the HACCP principles**





- Promotion by public health authorities
- Voluntary application by food industries

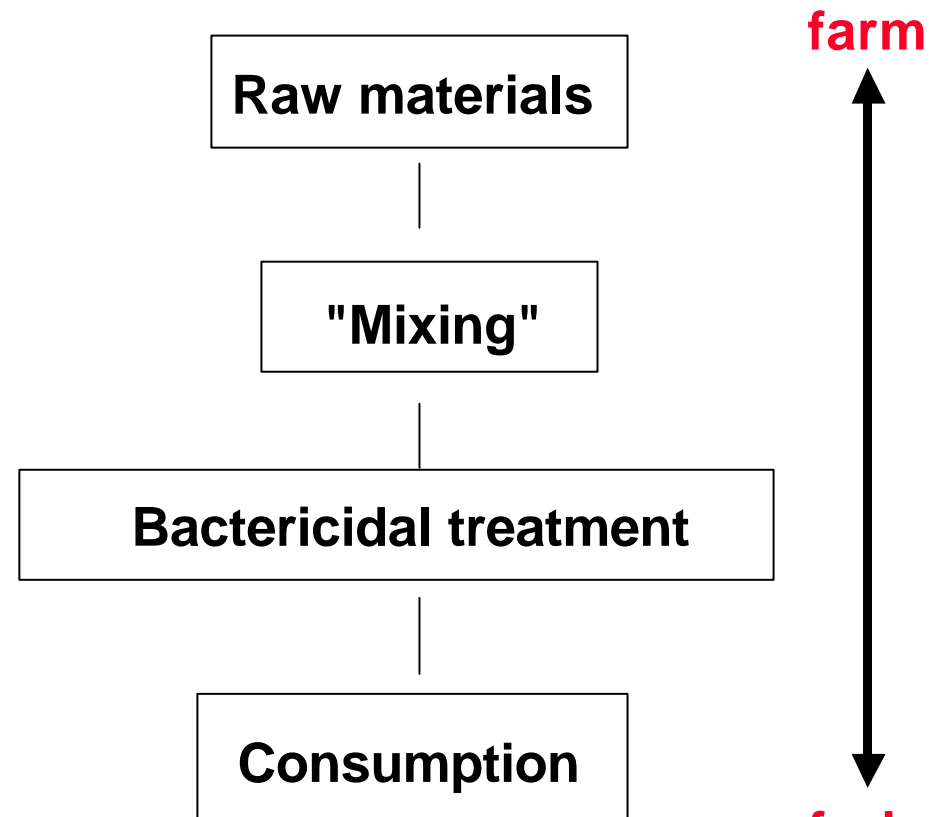
National Legislation

Codex Alimentarius Commission

SPS Agreement WTO

# Modern food safety assurance system

**GMP / GHP**  
for safe food production  
+  
**HACCP**  
from "farm to fork"



# Modern food inspection

- Advising on GMP/GHP and HACCP system
- Regulatory assessment of HACCP

