



Training on the Pre-Requisite Programmes  
for Poultry Abattoir Supervisors & Districts Officers

## Introduction to Food Hygiene & PRPs

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## Codex general principles of food hygiene

International Code of Practice - General Principles of Food Hygiene, CAC/RCP 1-1969, Rev. 3 (1997)

- follow the food chain from primary production through to final consumption (from stable to table)
- highlight the key controls at each stage
- give guidance on:
  - the design and facilities of premises,
  - in-process control
  - required support programmes of sanitation and personal hygiene
  - consideration of hygiene controls once the product has left the production premises
- recommend a HACCP-based approach

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## What does hygiene mean?



### Protection against:

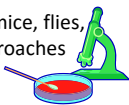
- Dirt and illness
- Spoiled food
- Complaints
  - damaged image
- Trouble
- Financial losses
  - losses of market share, gross margin etc.
  - costs increase

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## What makes food unsafe?

### Biological hazards

- Microorganisms
  - Bacteria (germs)
  - Moulds & yeasts
  - Viruses
  - protozoa
- Parasites
- Pests (e.g. rats, mice, flies, birds, cockroaches etc.)



### Chemical hazards

- Naturally occurring
- Intentionally added
- Unintentionally added

### Physical hazards

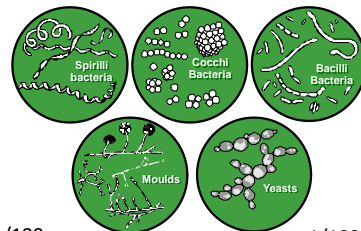
- Foreign materials (e.g. glass, metal, stone, wood, paper, plastic)
- Bones

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## Food microbiology and hygiene

### Micro-organisms

1/1000 mm

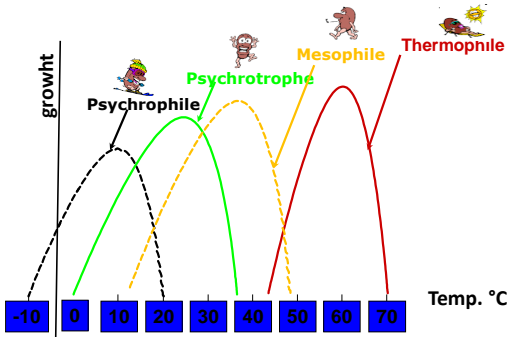


1/100 mm

1/100 mm

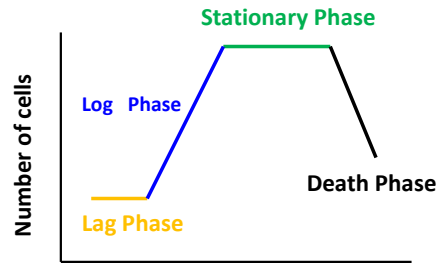
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### Micro-organisms in food



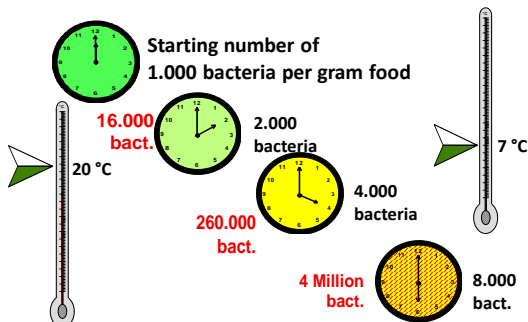
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### Growth of micro-organisms



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### Multiplication of bacteria



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### Food-born pathogens

#### Food spoilage

- spoilage m.o.
- organoleptic
- shelf life
- $10^7/g$

#### Food infection/intoxication

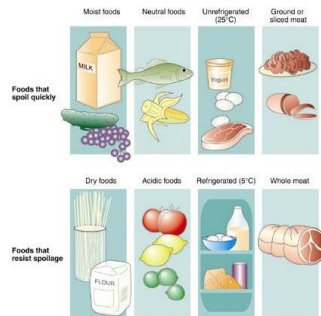
- pathogenic m.o.
- Disease
- $10-10^5/g$



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### Conditions for spoilage

- Water
- pH
- Physical structure
- Oxygen
- Temperature



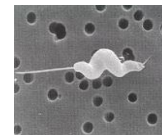
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### Causes of food poisoning

- Inadequate heat treatment
- Cross-contamination
- Inappropriate storage
- Infected food handler



Salmonella




Campylobacter



Staphylococcus

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## Salmonellosis

Cause of illness	Infection with Salmonella species (most common cause of foodborne deaths)	
Incubation period	12-24 hours	
Symptoms	Nausea, diarrhea, abdominal pain, fever, headache, chills, prostration	
Possible contaminant	Undercooked meat and poultry, raw and undercooked eggs, milk and dairy products, seafood, fruits & vegetables, yeast, coconut, cake mixes, cream-filled desserts and toppings, dried gelatin, peanut butter, cocoa and chocolate.	
Steps for prevention	Cook thoroughly; avoid cross-contamination	


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## Campylobacteriosis

Cause of illness	Infection with Campylobacter jejuni, even with low numbers	
Incubation period	1-7 days	
Symptoms	Diarrhea, fever, nausea, abdominal cramps, headache - varying in severity, muscle pain	
Possible contaminant	Raw milk, eggs, raw and undercooked beef and poultry, cake icing, non-chlorinated water	
Steps for prevention	Pasteurize milk; cook foods properly; chlorinating drinking water; prevent cross-contamination	


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## Staphylococcus

Cause of illness	Toxin produced by certain strains of Staphylococcus aureus	
Incubation period	1-6 hours	
Symptoms	Nausea, vomiting, diarrhea, retching, abdominal cramping, and prostration	
Possible contaminant	Cooked foods high in protein (custard or cream-filled baked goods, ham, poultry, eggs, dairy products, potato salad, cream sauces, sandwich fillings)	
Steps for prevention	Refrigerate foods, use sanitary practices	

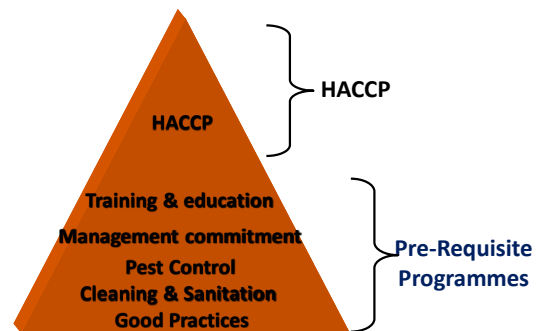
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## Relation PRPs & HACCP

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## Pre-Requisite Programmes (PRPs)

- Steps or procedures that control the operational conditions within a food establishment and promote environmental conditions that are favourable for the production of safe food
- For example, the equipment maintenance program describes the activities that must be performed to prevent deterioration of equipment which can lead to physical, biological or chemical hazards.

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## Pre-Requisite Programmes Good Manufacturing Practice (GMP)

- GMPs refer to a set of procedures and measures taken to ensure that the food is not adulterated
- Every food facility should develop GMPs tailored to that specific operation
- GMP requirements must be followed by all employees (incl. non-production personnel, such as those in management or maintenance) as well as by all visitors to the facility.

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## Pre-Requisite Programmes Standard Operating Procedure (SOP)

- Certain other terms and acronyms (e.g., Good Hygienic Practices [GHPs], and Good Handling Practices [GHPs]), have been used for general programmes and practices related to sanitation throughout food handling facilities;
- However, these terms are now being used less frequently, since these general programs are being replaced with more specific standard operating procedures (SOPs).

## Pre-Requisite Programmes Standard Operating Procedure (SOP)

- Descriptions of specific job task, individual job responsibilities, or procedure undertaken in a food processing operation to ensure safe storage, handling, preparation and serving of any food product
- A specific SOP should address the following:
  - purpose and frequency of doing a task
  - who will do the task
  - description of the procedure to be performed that includes all the steps involved
  - corrective actions to be taken if the task is performed incorrectly.

## Pre-Requisite Programmes Standard Operating Procedures - Examples

- Thermometer calibration procedure;
- Receiving food & packaging products procedure;
- Cooler, freezer temperature checks procedure;
- Food product temperature checks procedure;
- Labeling machine cleaning procedure:
  - SOP for labeling machine cleaning;
  - GMP for personnel by wearing clean clothing and a hair net, by avoiding contamination of the product and by washing his/her hands after finishing the task and prior to handling food products

## Pre-Requisite Programmes SOP for labeling machine - Example

### Purpose

- Cleaning and sanitizing of labeling machine to reduce microbial contaminants in the packaging room and;
- Keep machine in good working condition;

### Frequency

- Daily for routine cleaning;
- Weekly for complete breakdown of machine for cleaning inside parts;

### Who

- Packaging line supervisor or his/her designee;

## Pre-Requisite Programmes SOP for labeling machine - Example

### Procedure for daily cleaning

- Remove all debris and physical matter using a squeegee;
- Wipe with clean cloth dipped in a mild soapy detergent;
- Mist lightly with a 200 ppm quaternary ammonium compound solution;
- Let air dry;
- Inspect machine to make sure it is clean;

## Pre-Requisite Programmes SOP for labeling machine - Example

### Corrective action

- If particulate matter is found on any area of the machine upon inspection, repeat clean-up procedure;
- If machine fails to start after weekly breakdown, call maintenance. Do not attempt to fix the machine!

## Pre-Requisite Programmes Sanitary Standard Operating Procedures

### Description of procedures

- Addressing the cleaning, sanitizing and disinfection of food contact surfaces of facilities, equipment and utensils that will result in a sanitary environment;
- Addressing the cleaning, sanitizing, disinfection, employee hygiene and product handling during production, at breaks, at mid-shift, between shifts.

## Pre-Requisite Programmes Sanitary Standard Operating Procedures

### Implementation

- The rule calls on the abattoir to identify the employee(s), by position(s) rather than by name(s);
- Who will be responsible for the SSOPs by monitoring the programme and documenting adherence to the SSOP and corrective actions taken.

## Pre-Requisite Programmes Sanitary Standard Operating Procedures

### Evaluation of the effectiveness of the SSOP

- Organoleptic (sight, feel, smell)
- Chemical (sanitizer level); or
- Microbiological methods;
- Records should be maintained for a minimum of 6 months and on-site for 48 hours.

## Pre-Requisite Programmes Sanitary Standard Operating Procedures

### Inspectors/Auditors

- Will NOT approve SSOPs;
- Will provide advice and guidance;
- Have authority to verify adequacy and effectiveness of the SSOPs;
- Verification may include:
  - reviewing the SSOPs;
  - reviewing the daily records;
  - direct observation of the SSOPs implementation;
  - direct observation of sanitary conditions.

## PRP requirements

1. Environment, construction, layout buildings & facilities
2. Layout premises, workspace, employee facilities
3. Supplies of utilities (like air, water, energy)
4. Waste management and disposal
5. Suitability of equipment and preventive maintenance.
6. Management of purchased materials
7. Measures for prevention cross contamination

## PRP requirements

8. Warehousing, transport & distribution, animal welfare
9. Cleaning and Sanitation (C&S)
10. Pest control
11. Personnel hygiene
12. Traceability & product recall
13. Product information & consumer awareness
14. Food defence
15. In addition: TRAINING

## Why PRP's ?

- With the implementation of the Pre Requisites Programme we **provide the conditions** to make a safe product
- With HACCP we will **ensure** a safe production
- With ISO 22000: 2005 we **ensure** a proper documentation and continual improvement

## Thank you for your attention

