IV

HACCP based plans – primary production
HACCP-based plans in the Food Safety Management System

HACCP-based procedure = Risk analysis + HACCP-based plans

HACCP-based plans = For each process flow:
- Identification of the hazards at each step
- Preventive measures for these hazards/steps
- Recommendations / checking procedures
- Corrective actions
Structure and use of the HACCP-based plans

- Separate tables > use of the relevant ones only (for the producer concerned)

<table>
<thead>
<tr>
<th>Process steps to monitor</th>
<th>Why do we have to be careful?</th>
<th>Preventive actions</th>
<th>Checking /monitoring</th>
<th>Corrective actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of the process steps or operations.</td>
<td>Detail on the nature and cause of the hazards (M: microbiological contamination or growth, C: chemical, P: physical).</td>
<td>Actions to prevent or control the risk = good hygiene practices* or other technical advices</td>
<td>Means to check that the preventive actions were carried out efficiently. = measurements or more subjective actions, based on the producer’s experience (eg. “visual or organoleptic inspection”…)</td>
<td>Actions in case of failure of the preventive measures in order to restore a satisfactory situation.</td>
</tr>
</tbody>
</table>

Some rows may be optional and some steps may not apply to a specific product.

The producer must:
- keep only the steps corresponding to their practice
- delete steps which are not applicable.

* good hygiene practices
*About the preventive actions ....

- **Most** preventive actions are GHP and GMP
- The HACCP-based plans **make the essential role of some GHP/GMP for the safety of some specific process steps visible**
- Eg.

## LACTIC COAGULATION CHEESES

<table>
<thead>
<tr>
<th>Process step to monitor</th>
<th>Why do we have to be careful?</th>
<th>Preventive actions</th>
<th>Checking/Monitoring procedure</th>
<th>Corrective actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curd</td>
<td>M, C : Microbiological, chemical or physical contamination of the curd by cheese cloths, draining bags and moulds</td>
<td>Ensure that cloths, bags and moulds are always clean. Never put small items of equipment directly on the floor. (1) (6)</td>
<td>Visual inspection.</td>
<td>Repeat cleaning and/or disinfection. Rinse with potable water of acceptable quality. Amend cleaning procedure. If it is a recurrent issue review training of cheesemaker. Repair dirty or worn cheesecloth or equipment</td>
</tr>
<tr>
<td></td>
<td>M, C, P: Contamination of the curd by tools, handling and ingredients.</td>
<td>Clean and/or disinfect regularly tools and equipment. Wear clean work-clothes. Use only food-grade ingredients (additives, salt, herbs, fruits, flavourings etc.) within their expiration date.</td>
<td>Visual inspection.</td>
<td>Change suppliers of additives if they do not fit to required standards</td>
</tr>
<tr>
<td>Rind Treatment</td>
<td>M: Contamination and cross-contamination may occur as a result of specific processes during ripening such as rind-washing.</td>
<td>Ensure equipment is always clean and maintained in good condition. (1) Ensure food handlers have clean hands. Where necessary use protective gloves to cover skin lesions.</td>
<td>Visual inspection.</td>
<td>Repeat cleaning and/or disinfection. Rinse with potable water of acceptable quality. Amend cleaning procedure. If it is a recurrent issue review training of cheesemaker.</td>
</tr>
</tbody>
</table>
10 HACCP-based plans in the guide (section IV and V)

- risk analysis for **primary production**
- **milk collection**, storage in the dairy and treatment
- **lactic** coagulation cheeses
- **enzymatic and mixed** coagulation cheeses
- cheeses and milk products made by **evaporation and precipitation**
- **pasteurized milk** for consumption
- **raw milk** for consumption
- butter and cream
- fermented milk products
- non fermented dairy products

- 5 families of milk products
- 3 families of cheeses
Primary production (milk production)

7 key steps / 8 Steps

• Animal husbandry
• Feeding
• Calving, kidding, lambing
• Milking
• Water
• Transfer of milk to processing area
• Filtration
• Cold storage
Primary production (milk production)

7 key steps / 8 Steps

1- Animal husbandry

• Prevention of zoonoses (Brucelosis, Tuberculosis,...) by the respect of the prophylaxis *(legal requirement > see hazards analysis)*
• Farm register up to date *(recommendation)*

2- Feeding

**Recommendations / Silage and baled silage**

• **To be avoided:**
  soil incorporated during forage harvesting or pit compacting molehills (grass)

• **Good practices:**
  silage pit completed in less than two days
  pits sufficiently compacted and closed hermetically
  forage harvested at prescribed dry matter content levels
  forage harvested at sufficient sugar content, at sufficient stage and time
  wait 3 weeks before opening the pit
  silage maintained in a good condition
Primary production (milk production)

7 key steps / 8 Steps

3- Calving

Recommendations / When abortion:
- Foetuses and placentas removed (foetuses analysed)
- Veterinary advice
- Declaration, depending on MS regulation
- If possible, quarantine of the animal

4- Milking

General good practices (GHP)
- Milking machine cleaned after each milking (robot > 3 times/day)
- Cloths used to clean udders: cleaned after each milking, or disposable cloths
- Hygiene of staff (hands...)
- Good condition in the milking parlour (light...) and milking platform (clean...)
  • Specific recommendations for outdoor milking:
    - Teats as clean as possible, areas next to the milking zone clear of mud as possible...
  • Specific recommendations for robotic milking (cows):
    - Efficacy of the teat cleaning system...
Primary production (milk production)

7 key steps / 8 Steps

4- Milking

Recommendations / Mammary infections
Maintain teats in good condition: testing and maintenance of the milking machine
Milking hygiene and cleanliness of the milking machine
Avoid cross contamination between animals

Checkings
California Mastitis Test (CMT)
Or individual cell count
Or take into account clinical indicators, condition of the udder-conformation, teats and the level of inflammation
Primary production (milk production)

7 key steps / 8 Steps

4- Milking

Recommendations / residues of disinfection products or medicines
Observe conditions of use of the products
Follow the veterinary prescriptions
Segregation of the milk of the treated animals during the relevant period
Records of the treatments

Checkings
Visual inspections
Sanitary register
Primary production (milk production)

7 key steps / 8 Steps

5- Water
  • Quality of the water used to clean > refers to GHP Water Quality

6- Transfer of milk to processing area
  • Hygiene of the equipment (GHP cleaning, disinfection, premises & equipment ...)

7- Filtration
Primary production (milk production)

7 key steps / 8 Steps

8- Cold storage (not maturation)

- Equipment in good condition and clean (GHP)

- Legal Requirement (LR)
  Unless the milk is processed within 2 hours,
  - 8°C maximum in the case of daily collection
  - OR 6°C maximum if collection is not daily
  The milk must be cooled to this temperature within 2 hours.

- Good practices
  Eg. Remove dust regularly from the condenser of the refrigerated tank (when relevant) ; Observe conditions of use of cleaning and/or disinfection products (GHP)
Tools available for HACCP based plans

4.1 Factsheet on Microorganisms in raw milk
4.2 Power Point on Good and Bad practices in primary production