Food Safety
AUTHORITY OF IRELAND

Pathogen Control in Farmhouse Cheese

CONTROL... THE PROCESS ...ENVIRONMENT ...PEOPLE ...INGREDIENTS

1 Train And Retain Competent Food Handlers

- Train food handlers to be aware of personal hygiene and the important controls necessary during processing and ripening.
- Do not let food handlers work unless they are free from specified diseases and infections.
- All staff should be aware of HACCP based procedures and apply them at all times.
- Confine direct contact with milk or product to the minimum necessary for manufacture.
- Comply with hygienic dress code at all times.

2 Use Top Quality Milk

- Aim for low bacteria and somatic cell counts, e.g. bacteria less than 10,000/ml and somatic cell count less than 250,000 in cow's milk.
- Source milk from disease free animals (especially TB, Brucellosis and Mastitis).
- No residues of medicines or cleaning chemicals.
- Of normal pH (6.6), appearance, smell and taste.
- Cooled to less than 6°C at intake, used within 48 hours of milking.
- Where milk is not cooled, use within four hours of milking.

3 Pay Attention To Detail With Starter, Rennet, Brine, Ripening

- Preferably use dried or frozen starter and weigh accurately.
- Use mixed cultures suited to cooking temperature.
- Disinfect vats, moulds and utensils before each use.
- Add starter at optimum milk temperature.
- Weigh rennet and add (diluted in potable water) at optimum temperature.
- Make up and maintain brine solution at required pH and strength. Stir and skim daily. Filter at regular intervals to remove fines. Time of brining must be consistent.
- Use 5% boiled saline solution for washing/smearing.
- Boil and dry brushes after each use during smear ripening.
- Turn cheeses at required intervals to ensure uniform moisture and ripening.

4 Ensure Appropriate Heat Treatment And Temperature Controls

- Pasteurising or thermising milk prior to cheesemaking reduces the risk of pathogens in product.
- Pasteurising/heat treating the brine solution at regular intervals is recommended.
- Check temperatures before adding starter or rennet.
- Maintain ripening rooms at recommended temperatures for cheese type.
- Added ingredients such as herbs should be boiled or pressure cooked before use or sourced decontaminated.

5 Apply Programmed Cleaning And Disinfection Routines

- Draw up cleaning schedules for all equipment/areas.
- Follow detailed procedures for cleaning/disinfection.
- Use reputable chemicals approved for food use and potable water.
- Know and check quantities of chemicals used as well as contact time and temperatures of cleaning solutions.
- Clean and thoroughly disinfect shelves after ripening.
- Visually inspect all product contact surfaces regularly, for cleanliness.

6 Monitor And Test At All Stages

- Obtain and maintain a calibrated pH meter and thermometer. An acidometer may be used during cheesemaking.
- Check pH profile of each cheese batch and temperature of curd scalding where applicable.
- Check raw milk for bacteria and somatic cell count monthly and for pH, smell/taste/appearance daily. CMT test can be used daily for the bulk milk.
- Check brine solution regularly for strength.
- Carry out end product testing for pathogens following legal requirements.
- Conduct environmental monitoring for *Listeria* species or *L. monocytogenes* at an appropriate frequency and deep clean plant and equipment if found.
- Record monitoring/testing data and look for trends.
- Monitor temperature and humidity of ripening rooms.

Premises and equipment should be designed, sited, constructed, maintained and managed so as to minimise contamination.