

FST-344 Milk and Meat Hygiene and Public Health 3(2-1)

Educational objectives:

This course will help to understand how to inspect and assure the quality of food items of animal origin, and how to keep and handle them safely, without contamination. It will also explain about diseases caused by contaminated perishable foods. How the meat and milk are involved disease outbreaks which poses a significant threat to public health.

Course Outcomes

On the completion of course student will able to learn

1. Diseases that are transmitted to humans through the consumption of meat or meat products.
2. Abattoirs and meat transportation
3. Sources of milk borne diseases
4. Methods of making milk safe

Theory:

- Milk hygiene: scope, importance.
- Hygienic milk production and handling practices.
- Preservation of milk: transportation, storage.
- Contamination: types, sources, effects.
- Milk defects: off flavours, milk-borne diseases.
- Adulteration in milk: current status, control methods.
- HACCP for hygienic milk production.
- Meat hygiene: scope, importance, pre-slaughter handling and meat quality, anti-mortem inspection.
- Slaughtering methods: modern, Islamic, meat hygiene practices, post-mortem inspection, hygienic meat handling and storage.
- Nutrition: meat eating and health.
- Quality control. Meat-borne diseases.
- HACCP for hygienic meat production.

Practical:

- Sampling of milk.
- Physical examination of milk for general appearance, consistency, flavor and aroma.

- Testing of milk: clot on boiling, alcohol precipitate test, pH value, acidity and specific gravity. Total viable count in milk.
- Methylene blue reduction test.
- Somatic cell count.
- Detection of adulterants in milk.
- Detection of preservatives in milk.
- Visit to dairy plant/milk chilling plant.
- Sampling of meat.
- Visual examination of carcass.
- Post-mortem examination.
- Microbiological examination of meat.
- Visit to slaughterhouse/ meat processing industries.

Recommended Books:

1. Kurwijila, L.R. 2006. Hygienic milk handling, processing and marketing: reference guide for training and certification of small-scale milk traders in Eastern Africa. ILRI (International Livestock Research Institute), Nairobi, Kenya.
2. MIF (Milk Industry Foundation of USA). 2005. Analysis of milk and its products: a lab manual. Biotech Books, India.
3. Spreer, E. 2005. Milk and dairy products technology, 1st ed. CRC Press, Taylor & Francis Group, Boca Raton, Florida.
4. Gracey, J.F., Collins, D.S. and Huey, R.J. 1999. Meat hygiene, 10th ed. Baillière Tindall, London.

Recommended Books:

1. **Principles of Fermentation Technology** by P. F. Stanbury, A. Whitaker and S. J. Hall. Elsevier Science Ltd. 2nd Edition.
2. **Fermentation Microbiology and Biotechnology** by E. M. T. El-Mansi, C. F. A. Bryce, Arnold L. Demain and A.R. Allman (Editors). Taylor and Francis Ltd.
3. **Fermentation Technology** by M L Srivastava. Alpha Sciences.
4. **Practical Fermentation Technology** by Brian McNeil and Linda Harvey. John Wiley & Sons Ltd. West Sussex, England. 2008.