



SNS COLLEGE OF TECHNOLOGY



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COIMBATORE-641 035, TAMIL NADU

DEPARTMENT OF FOOD TECHNOLOGY

19FTE402 &

MEAT, FISH AND POULTRY PROCESS

TECHNOLOGY

UNIT V – HYGIENE AND SANITATION

Topic: Good Manufacturing and Hygienic Practices

The food processing industry is one of the largest industries in India having huge potential for uplifting agricultural economy, creation of large-scale processed food manufacturing and food chain facilities. Food processing covers a spectrum of products from sub-sector comprising agriculture, horticulture, plantation, animal husbandry and fisheries. Essentially, the food industry involves the commercial movement of food from field to fork. To meet the global food safety norms, good manufacturing and good hygienic practices are essential at various stages of food chain. Following guidelines are given by national and international agencies for efficient GMP and GHP practices.

Primary Production

The Food establishment shall exercise control contamination of food produce / materials from air, soil, water, feedstuffs, pests, fertilizers, pesticides, veterinary drugs during production, handling, storage and transport, as appropriate. Plant and animal health are controlled so that it does not pose a threat to human health through food consumption

Location and Surroundings

Food establishment shall be located away from environmentally polluted areas and industrial activities which produce disagreeable or obnoxious odour, fumes, excessive soot, dust, smoke, chemical or biological emissions and pollutants which pose a serious threat of contaminating food; areas subject to flooding; areas prone to infestations of pests; and areas where wastes, either solid or liquid, cannot be removed effectively.

Layout and Design of Food Establishment Premises

The layout of the food establishment shall ensure a forward food preparation / manufacturing process flow such that cross-contamination from earlier steps in the process is avoided in the later steps.

Equipment

Equipment and containers that come in contact with food and used for food handling, storage, preparation, processing, packaging and serving shall be made of materials, which do not impart

any toxicity to the food material. Containers used to hold cleaning chemicals and other dangerous substance shall be identified and where appropriate, be lockable to prevent accidental contamination of food.

Facilities

Water supply

Only potable water which meets the requirements of specifications of drinking water, with appropriate facilities for its storage, distribution and temperature control, shall be used, if required as an ingredient and also for food handling, washing, processing and cooking. Water storage tanks shall be cleaned periodically and records of the same shall be maintained.

Ice and steam

Ice and steam used in direct contact with food shall be made from potable water and complying with requirements specified. Ice and steam shall be produced, handled and stored to protect them from any contamination.

Drainage and waste disposal

The disposal of sewage and effluents (solid, liquid and gas) shall be in conformity with requirements of Environment Pollution Control Board. Adequate drainage, waste disposal systems and facilities shall be provided. They shall be designed and constructed so that the risk of contaminating food or the potable water supply is eliminated. Waste storage shall be located in such place that it does not contaminate the food process, storage areas, the environment inside and outside the food establishment. Waste shall be kept in covered containers and shall not be allowed to accumulate in food handling, food storage, and other working areas.

Personnel facilities and toilets

Personnel facilities shall include adequate means of hygienically washing and drying hands, including wash basins and a supply of hot and /or cold water; separate lavatories of appropriate hygienic design for males and females; and adequate changing facilities for personnel. Such facilities shall be suitably located so that they do not open directly into food process areas. Rest and refreshments rooms shall be separate from food process and service areas. These areas shall not lead directly to food production, service and storage areas.

Air quality and ventilation

Ventilation systems, natural or mechanical, including air filters, wherever required, shall be designed and constructed so that air does not flow from contaminated areas to clean areas; minimize air-borne contamination of food; control odours; control ambient temperatures and humidity, where necessary, to ensure the safety and suitability of food.

Lighting

Adequate natural or artificial lighting shall be provided to enable the undertaking to operate in a hygienic manner. Lighting fixtures should, where appropriate, be protected to ensure that food is not contaminated by breakages.

Procurement of raw materials

No raw material or ingredient shall be accepted by an establishment if it is known to contain parasites, undesirable micro-organisms, pesticides, veterinary drugs or toxic, decomposed or extraneous substances, which would not be reduced to an acceptable level by normal sorting and/or processing.

Storage of raw materials and food

Food storage facilities shall be designed and constructed to enable food to be effectively protected from contamination during storage; permit adequate maintenance and cleaning; and avoid pest access and harbourage. The Food establishment shall develop and maintain system to ensure that time and temperature is controlled effectively where it is critical to the safety and suitability of food. Such controls shall include time and temperature of receiving, processing, cooking, cooling, storage, packaging, distribution and food service up to the consumer, as applicable. Precautions against contaminants and cross-contamination Systems shall be in place to prevent contamination of food materials and foods by physical, chemical and microbiological contaminants. Microbiological and chemical analysis, suitable detection devices for foreign objects shall be used, where necessary. Access to food preparation / processing / manufacturing facility shall be controlled. Further, staff from raw processing areas shall not be allowed to go to forward process areas.

Food Packaging

Packaging materials shall provide adequate protection for processed food products to prevent contamination, damage and accommodate proper labelling. Packaging materials or gases where used shall be non-toxic and not pose a threat to the safety and suitability of food under the specified conditions of storage and use.

Food Distribution / Service

Processed, packaged / ready-to-eat food shall be adequately protected during transport and service. Temperatures and humidity necessary for sustaining food safety and quality shall be maintained during transport and service. The conveyances /containers shall be designed, constructed and maintained such that they can effectively maintain the requisite temperature, humidity, atmosphere and other conditions necessary to protect food.

Management and Supervision

The Food establishment shall ensure that managers and supervisors have appropriate qualifications, adequate knowledge and skills of food hygiene principles and practices to be able to ensure food safety and quality of its products, judge food hazards, take appropriate preventive and corrective action, and ensure that effective monitoring and supervision takes place.

Documentation and Records

Appropriate records of food processing / preparation, production / cooking, storage, distribution, service, food quality assurance, cleaning and sanitation, pest control and product recall shall be kept and retained for a period that exceeds one year or the shelf-life of the product, whichever is more.

Traceability and Food Products Recall

The Food Business shall ensure that effective traceability procedures are in place from raw material to finished product and to the consumer so as to deal with any food safety hazard and to enable the complete, rapid recall of any implicated lot of the food product from the market.

Sanitation and Maintenance of Establishment Premises

Cleaning and maintenance

Food premises shall be kept clean and where possible dry, maintained in good repair and condition and have an adequate supply of hot and cold water. Work surfaces and surfaces of equipment in contact with food shall be maintained in a sound condition, cleaned and, where necessary, disinfected at frequent intervals.

Pest Control Systems

Food establishment shall be kept in good repair and condition to prevent pest access and to eliminate potential breeding sites. Holes, drains and other places where pests are likely to gain access shall be kept sealed or fitted with mesh / grills / claddings as required. Animals and pets shall not be allowed into the food establishment premises. Records of pesticides / insecticides used shall be maintained.

Personal Hygiene

Health Status

Personnel known, or suspected, to be suffering from, or to be a carrier of a disease or illness likely to be transmitted through food, shall not be allowed to enter any food handling area if there is a likelihood of their contaminating food. The Food establishment shall develop system whereby any person so affected shall immediately report illness or symptoms of illness to the management. Medical examination of a food handlers shall be carried out if clinically or epidemiologically indicated.

Personal Cleanliness

Food handlers shall maintain a high degree of personal cleanliness. The Food establishment shall provide to all food handlers adequate and suitable, clean protective clothing, head covering and footwear. The Food operators shall ensure that the food handlers at work wear only clean protective clothes, head covering and footwear every day.

Personal Behaviour

Food handlers engaged in food handling activities shall refrain from smoking; spitting; chewing or eating; sneezing or coughing over unprotected food and eating in food preparation and food service areas. Food handlers shall not wear \ any personal effects such as rings, bangles, jewellery, watches, pins and other items that pose a threat to the safety and suitability of food.

Visitors

The Food establishment shall ensure that visitors to its food manufacturing, cooking, preparation, storage or handling areas should, where appropriate, wear protective clothing and adhere to the other personal hygiene provisions in this section.

Product Information and Consumer Awareness

All packaged food products shall carry a label and requisite information as specified under regulatory bodies so as to ensure that adequate and accessible information is available to the next person in the food chain to enable them to handle, store, process, prepare and display the food products safely and correctly and that the lot or batch can be easily traced and recalled if necessary.

Training

The Food establishment shall ensure that all food handlers are aware of their role and responsibility in protecting food from contamination or deterioration. Food handlers shall have the necessary knowledge and skills relevant to the food processed / manufactured, packed, stored and served so as to ensure the food safety and food quality.