

Student Handout- Module Number One (1) - Course Overview and Introduction to Thermal Processing

Course Overview and Introduction to Thermal Processing

Purpose of the course: Provide scientific, technical and practical information for assessing the production of canned product; provide detailed information on thermal processes and thermal processing systems; provide guidance on the application of the regulations and improve inspection personnel job performance.

Definition of “canning” - Placing food in a container, hermetically sealing the container so that it is airtight and impervious to the entrance of microorganisms, and then giving the container a thermal process that achieves commercial sterility.

Canned Product - A meat or poultry food product with a water activity above 0.85 which receives a thermal process either before or after being packed in a hermetically sealed container.

Commercial Sterility - The condition achieved by application of heat, sufficient, alone or in combination with other ingredients and/or treatments, to render the product free of microorganisms capable of growing in the product at nonrefrigerated conditions (over 50°F or 10°C) at which the product is intended to be held during distribution and storage.

Classes of Canned Product :

- **Low acid canned foods (LACF)** – A canned product in which any component has a pH value above 4.6 (includes meat and poultry)
- **Acidified low acid foods** - A canned product which has been formulated or treated so that every component of the finished product has a pH of 4.6 or lower within 24 hours after the completion of the thermal process.
- **Acid foods** (no meat or poultry products)

Conventional Canning - Place the food in a container, hermetically seal container, thermal process container under high heat and pressure. If the pH ≤ 4.6 can treat with lower heat and no pressure.

Aseptic Processing Systems - Commercially sterilize the food and container separately plus fill and seal container in commercially sterile environment

Canned Product Containers – cans, glass jars, plastic containers, laminated pouches and paperboard containers.