LABORATORY NO. 13.

TINNED FOOD, HYGIENIC NORMS

13.1. GENERALITIES

Tinned food are food products, hermetically closed and sterilised through wet sterilisation (under pressure). They represint stock products, without risk of contamination and adulteration.

In order to produce good products, with high nutritional value it is necessary to respect the following requirements:

- a high quality row material and a correct processing of food;
- to respect hygienic norms of chemical properties of the packages;
- to prevent corosion metalic package by aplying a thermally resistant lacquer in the inside the tin;
- to void the and replace the air with nitrogen, in order to prevent negative action of the air upon food nutritional value and organoleptic properties;
- correct sterilisation of the conserves, with assurance of the:
    - thermic penetration in the middle without thermal overexposing of the margins;
    - destruction of the vegetative and sporulated forms of the bacteria and molds.

We use in practice "commercial sterilisation" that destroys the botullinic spores.

13.2. EXTERNAL EXAMINATION OF THE TINNED FOOD

13.2.1. TINNED' FOOD IDENTIFICATION

Is possible, through stamp that has: production date, validity term, the production firm code, the group and type of the cans.

13.2.2.HYGIENIC NORMS FOR CLOSED CANS

Cans must be closed hermetically, without fissures or leacking out, without rusty spots, without bulging, not-flattened, without other soldering;

13.2.3.STERILIZATION CONTROL

Cans are kept for 6 days at 37^0 C for "commercial" sterilization control and 6 days at 55^0C for "absolute" sterilization control.

Bulging cans are considered those ones that have lids and convex bottom and which:

- after pressing don't come to the initial form again;
- after pressing come to the initial form, but when pressing stops the bulging form comes back;
- after pressing cans come back to the initial form, but they make convex the opposite lid.

13.2.4. HERMETIC TESTING

After washing and removal of the label, the metal can is introduced for 5 minutes into 4 times more water quantity at 85^0C temperature.

Continuous or intermittent spray of air bubbles shows no hermetic closing of the lid.

13.2.5.BULGE TEST

Bulge deformation of cans can cause physic, chemical or biologic dammage.

13.2.5.1. PHYSIC BULGING

It is a simple deformationproduced by:

- overloading the food recipients;
- too thin or too elastic cast iron plate;
- keeping tins at a bigger temperature than usual;
- inadequate handling.

Physically bulged cans can only be sold under strict control.

13.2.5.2. CHEMICAL BULGING

It is the result of the hydrogen gathering due to corrosion of metal packing. It becomes more obvious within thermic sterilisation conditions. Such canned food could be poisonous because of certain quantities of tin which are present.

13.2.5.3. BIOLOGIC BULGING

It is the result of the food adulteration, because of the microbial flora action. Biologic bulging is caused by incorrect sterilisation and inadequate hermetic closing.

It becomes more obvious when thermal sterilisation. Bulging canned food is not edible. Chemical and physic bulging are considered to be false (external factors) bulging.

13.3. HYGIENIC STANDARDS FOR OPENED CANS

The examination of the can's content after opening consists of:

- establishing the kind and quantity of the content;
- establishing the proportion of liquid and solid material of the content;
- estimating organoleptic properties of the content: taste, smell, firmness, colour, muscular and vegetal fibres degree of integrity;
- chemical and bacteriological examination;

The external and internal (content) examination of doubtful canned food tasting is completely prohibited.