Concentrated Milk (Canned milk)



 \mathcal{D}_{ef} : it is product of milk resulting from partial removal of water from whole or skim milk with or without addition of sugar.



1- Condensed (Sweetened milk)



2- Evaporated (Unsweetened milk)



Sampling

• Take one or more un-opened can as a random sample from supermarkets or groceries.



Physical examination

- 1. Superficial Inspection
- 2. More detailed physical inspection













Presence of this defects indicate **bad storage**

2-More detailed physical inspection

A-Palpation

By hand to detect if the can is :

Swelling

Both sides of the can are swollen due to gaseous decomposition.



Springy

one side of the can is swollen and by pressure the swollen side return to it's normal condition and other side swollen.

Flipper

One side is swollen and by pressure, the swollen side return to normal position.

• Presence of this defects mean :

gaseous decomposition by

gas producing m.os as (yeast,

mold) which resist high temp.

Judgement mathebraic bound to the second equation

B-percussion by knuckling



C-Second sealed (vent hole)

It is opening of the can to get ride of the gas and resealed it again .

D-Content Inspection

Examination of the can content to detect the defects as :

- False in color
- False in flavor
- Yeast or mold growth
- Presence of casein curdling



Chemical examination

Fat % : Rose gottlieb method.

➤T.S and moisture % : Evaporation method.

≻Ash %: Muffle furnace.

Protein %: Kjeldhal method.

Sanitary test

1) M.B.R.T (methylene blue reduction test)

2) Sediment test

Microbiological examination

- All equipment's should be sterile.
- Collect the sample under complete aseptic condition.

Preparation of the sample

- ✓ Remove the label
- ✓ Wash the can by warm water and soap then dry it

- ✓ Take 10 ml sample from the bottle and transfer it to sterile bottle contain 90 ml sterile peptone water, then mixing (give dilution 1/10).
- ✓ Make ten fold serial dilution till $1/10^6$.



- Make different bacteriological examination :
- **T.B.C** by plate count , breed method
- Coliform count
- Total yeast and mold count
- Lipolytic and proteolytic m.os
- Pathogenic m.os

N.B) Staph aureus make food poisning due to production thermostable toxin which not affected by pasteurization.



