

Sensory Evaluation of Milk

Testing milk for organoleptic characteristics is called sensory evaluation testing and uses the normal senses of sight, smell and taste to determine the overall quality. The result of this test is obtained immediately and is of minimum cost. This type of testing can be very reliable if carried out by an experienced person. Testing for organoleptic characteristic is used as a screening test to determine whether to accept or reject the milk or test the milk further.

1-Appearance

The colour of cow milk should be slightly yellowish white. A different colour may indicate milk, which is unsuitable for processing. To judge the appearance of the milk, remove the cover of the milk container and note the appearance of the surface of the milk, note any abnormal colour of the milk, visible dirt and particles, and changes in viscosity. After emptying the container, inspect the inside of the cover and the container for visible dirt and impurities. Take notes of the following appearances

- A) Visible dirt and impurities** can indicate that milk is produced under unhygienic conditions.
- B) Yellow milk** can indicate pus or colostrum.
- C) Reddish milk** could indicate that there is blood in the milk.
- D) A blue than colour and watery appearance** can indicate that the milk contains added water or skimming (fat removal).
- E) Large clot** can indicate sour milk or mastitis milk.
- F) Small white clots or grains** can indicate either mastitis milk or milk adulterated with flour and or skim milk powder.

2.Taste and smell test

A bad smell or taste of the milk may be caused by bacteria, chemical reactions or by other flavours absorbed by the milk. An abnormal smell is noticed by inhalation of air standing above the milk in the upper part of the milk can. Samples for tasting must be spread around in the mouth to identify taste. The mouth allows us to distinguish characteristics such as coolness, warmth, and sweetness

The different abnormal flavours are described as follows:

A) Acid flavours are caused by the growth of the acid producing bacteria that ferment lactose to lactic acid

B) Rancid and bitter flavours are caused by lipolysis (deterioration) of fat.

C) Feed flavours like garlic, onion, beets, poorly made silage, certain plants and pastures can cause off- flavours to milk

D. Flat flavours: A very slight oxidized flavor suggests flat flavor as well as low solids and /or low –fat milk

E) Malty flavour is caused by the growth of the bacteria *Streptococcus lactis var. maltigenes*

F) Oxidized flavours are sometimes described in such terms as oily and tallow

G) Salty flavours are often associated with milk from cows in advanced stage of lactation milk or mastitis. **Salty flavour** is caused by an Increase in chlorine and decrease in lactose content

H) Unclean flavours suggest mustiness and staleness

I) Other flavours such as drugs, disinfectants and detergents can also be causes bad smell and flavour

**Reference: A laboratory manual for milk testing by Dr.Najim H.N.,
Dr.Abdul-Hadi A.A., and Dr.Zinb S.K.**