

# COMPOSITION OF MILK

# Factors affecting composition of milk

All milk contain same constituents but in varying amounts. Milk fat shows greatest daily variation followed by protein, ash and sugar.

## Factors-

1. Species
2. Breed
3. Individuality
4. Interval of milking
5. Frequency of milking
6. Disease and abnormal condition

- 7. Portion of milking-  
(Fore milk and Stripping)
- 8. Stage of lactation
- 9. Yield
- 10. Feeding
- 11. Season
- 12. Age
- 13. Condition of cow at calving
- 14. Administration of drugs and hormones

# Nutritive value of milk

- Milk is an ideal food. It has high nutritive value. It supplies body building protein, bone forming minerals and vitamins, energy giving lactose and milk fat.
- Milk protein contain all essential amino acids in good amount. The protein of milk consist mainly of casein, alpha- lactalbumin, beta-lactoglobulin etc.
- Casein exist in milk as **ca-caseinate- phosphate complex**. Alpha-lactalbumin and beta-lactoglobulin are known as **whey or serum protein**.
- In Colostrum it is 10-12 % higher than normal milk.

- Milk is an ideal source of Ca, P, Vit A, D etc but low in Fe, Cu and iodine.
- Milk fat provide energy and also improves flavour to milk and milk product. Milk fat contain significant amount of essential fatty acids linoleic and arachidonic acid. Milk fat imparts soft body, smooth texture and rich taste to dairy products.
- Lactose sugar gives sweetness in milk and provides energy.

- Energy value of milk constituents:-

Milk fat = 9.3 C/g

- Milk protein = 4.1 C/g

- Milk sugar = 4.1 C/g

## Calorie value of Whole Milk-

- Cow milk = 75 C/100g

- Buffalo milk = 100 C/100g

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**THANKS**