



Lecture title: Milk hygiene (Specific gravity (S .G))

**Lecturer Affiliation: University of Mosul, Aytham Saidy Ayoub, BSc, MSc,
<https://orcid.org/0000-0002-5057-6337>**

Summary:

It is the output of Specific weights of milk constituents (Protein , Fat , Sugar , Minerals) and different of anyconstituent fallowed change of S.G.

- 1) Identification of any milk adulteration either by addition of skim milk , water, sugar or by removal partial of fat milk .
- 2) Milk produced from mastitic-udder : Specific gravity decrease with proportional decrease with S.N.F
- 3) Feeding of daire cattle ration free of green fodders.

* range of S.G of cow milk

* 1,030 (1,028 -1,032) .

* range of S.G of buffaulo milk

* 1,034(1,030-1,036)

* At atemperature of 15,5 °C

1. Pycnometer
2. Westphal balance
3. Lactometer

* note the temperature of the milk immediately after reading the lactometer scale



Example : if the lactometer read 24 at temperature 20 °C

- corrected the lactometer reading by two method .
1- Calculated method

*the different of temperature $20 - 15,5 = 4,5$

* result X0,1
 $4,5 * 0,1 = 0,45$

* result added to lactometer read if temperature more than 15,5 °C.



* result subtract from to lactometer read if atemperature less than 15,5 °C/ $24 + 0,45 = 24,45$

2- Richmond ruler method . . .

$$\text{S.G} = \frac{\text{Modified Lactometer read}}{1000} + 1$$

$$= \frac{24.45}{1000} + 1$$

$$= 1.02445$$

$$= 1.0245$$

Judgment ????