

Example.—Let the lactometer reading of a sample of milk a sixty-four degrees be thirty-one, and the per cent. of fat three. Find the per cent. of solids not fat.

Corrected lactometer reading, $31 + .4 = 31.4$

$$\frac{31.4 + 3}{4} = \frac{34.4}{4} = 8.6 \text{ per cent. S.N.F.}$$

WATERED MILK.

To find the per cent. of pure milk in a watered sample of milk, multiply the per cent. S.N.F. in the watered sample by 100, and divide by the per cent. of solids not fat in the pure milk. This subtracted from 100 will give the per cent. of extra or extraneous water in the milk. To take an example:

L. reading of watered sample 26.5, temp. 55, per cent. of fat 2.8;

L. reading of pure milk 32, temp. 65, and per cent of fat 3.5.

Corrected L. reading of watered sample, $26.5 - .5 = 26$.

Corrected L. reading of pure milk, $32 + .5 = 32.5$.

$$\frac{26 + 2.8}{4} = \frac{28.8}{4} = 7.2 \text{ per cent. S.N.F. in watered sample.}$$

$$\frac{32.5 + 3.5}{4} = \frac{36}{4} = 9 \text{ per cent. S.N.F. in pure milk.}$$

Therefore, according to the rule given above,

$$\frac{7.2 \times 100}{9} = \frac{720}{9} = 80 \text{ per cent. of pure milk in the watered sample.}$$

$100 - 80 = 20$ per cent. of extra water in the watered sample.

Note.—When a sample of the pure milk cannot be obtained, use 8.5 in the early part of the season and 9 in the latter part for the per cent. S.N.F. in pure milk.

Points to be Observed.

1. Have the temperature of the milk uniform throughout and as near to sixty degrees as possible when taking the lactometer reading.
2. Always mix the milk well before taking the lactometer reading.
3. A lactometer reading should not be taken when milk is frothing or foaming.
4. Milk fresh from the cows is saturated with air and should be allowed to stand an hour or more to reach its maximum density, before the lactometer reading is taken.
5. Have the lactometer free from the walls of the vessel and perfectly still when taking a reading.
6. A high lactometer reading accompanied by a low per cent. of fat is indicative of skimming.
7. A low lactometer reading accompanied by a low per cent. of fat is indicative of watering.
8. A normal lactometer reading with a very low per cent. of fat indicates both watering and skimming.