

The bacteriological tests using a standard plate count of raw milk

Standard Plate Count :

The Standard Plate Count (SPC) of a producer raw milk samples gives an indication of the total number of aerobic bacteria present in the milk at the time of pickup.

*** The most common causes of a high SPC is :

- 1- A herd-wide mastitis problem.
- 2-Poor milking routine hygiene.
- 3- Inefficient milking system cleaning.
- 4- Inadequate bulk tank cooling.
- 5- A contaminated water source.

(Mastitic cows shedding bacteria can also cause high counts.)

procedure:

- Milk samples are plated in a semi-solid nutrient media and then incubated for 48 hours at 32°C (90°F) to encourage bacterial growth.
- Single bacteria or tight clusters (e.g. chains or clumps) grow to become visible colonies that are then counted.
- All bacterial plate counts are expressed as the number of colonies forming units (CFU) per millilitre (ml).



The number of bacterial colonies which grow on a plate of bacterial growth media is used to calculate standard plate count.

Aseptically collected milk from clean, healthy cows generally has SPC values of less than **1,000**.

Higher counts suggest that contaminating bacteria are entering the milk from a variety of possible sources.

Although it's impossible to eliminate all sources of contamination, counts of less than 5,000 or even 1000 are possible; counts of 10,000 or less should be achievable by most farms.

The regulatory limit for SPC is 100,000 bacteria/ml of milk. Farms should be able to routinely get counts below 25,000 which is where most quality premiums start.