

TOP FARMERS KNOW-HOW
WHAT IS MASTITIS?



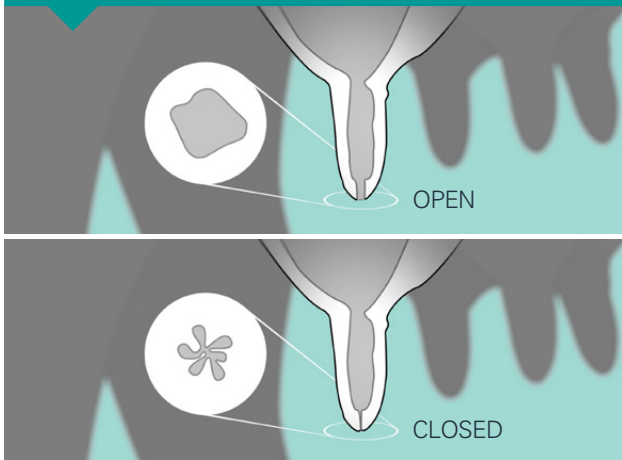
MASTITIS IS:

- Inflammation of the udder tissue, usually caused by bacteria entering the udder through open teat ends
- The most common disease of dairy cattle
- Costs an average NZ dairy herd — \$15,000/year¹

A healthy cow can usually prevent mastitis before any signs appear. Natural defences against mastitis include:

- Teat end structure — skin folds close the teat end between milkings preventing bacteria from entering the udder

TEAT END STRUCTURE



- Somatic cells (white blood cells)—part of the cow's immune system, which fight bacteria inside the udder

Somatic cell count (SCC) is a useful indicator of mastitis. It can be measured in an individual cow at herd testing or by RMT, or in an entire herd by bulk milk testing.

To support the cow's natural mastitis defences, you can:

- Feed her well
- Reduce stress during handling and milking
- Keep her teat ends as clean and dry as possible to reduce bacteria at the teat ends
- Use an efficient milking technique and maintain milking equipment to prevent teat end damage

If mastitis does occur, it is either:

- **Clinical:** milk and/or quarter appears abnormal (clots, flakes, swelling, redness, pain, firmness of the quarter)

- Most common at calving time and early lactation
- In New Zealand, most clinical cases are caused by environmental bacteria, like *Strep. uberis*
- SCC of an infected cow is usually very high

- **Subclinical:** milk and quarter appear normal, but SCC is elevated
 - SCC of an infected cow may go up and down, but usually stays above 150,000 cells/mL
 - Subclinical infections often go unnoticed
 - Many subclinical infections are caused by contagious bacteria such as *Staph. aureus*, which spread from cow to cow during milking
 - For any individual cow, subclinical infection can happen at any time of the year
 - On a herd level, subclinical mastitis is more of a problem late in the season, as more cows become infected and milk production decreases

MANAGE MASTITIS:

Dairy NZ's SmartSAMM is a seasonal framework for New Zealand (www.dairynz.co.nz/smartsamm)

- **At calving, focus on:**
 - Minimising stress to the cows
 - Practicing good milking hygiene and keeping udders as clean as possible
 - Finding and treating clinical cases ASAP
 - Ensuring all cows entering the milkers have a normal SCC (<150,000 cells/mL)
- **During lactation (after calving is over), focus on:**
 - Perfecting the milking technique to limit the spread of subclinical mastitis
- **Dry-off/dry period, focus on:**
 - Curing existing infections with antibiotic dry cow therapy (DCT)
 - Preventing new infections with teat sealants and/or management to keep udders clean
 - Culling cows or quarters that are unlikely to cure over the dry period

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REFERENCES:

1. DairyNZ SmartSAMM. (2018). Mastitis gap calculator. <https://www.dairynz.co.nz/animal/cow-health/mastitis/tools-and-resources/smartsamm-gap-calculator>. Assumptions: 414 cows, 381 MS/cow, payout \$6.00/kg MS, reduction of SCC from 225,000 cells/mL to 150,000 cells/mL, 12% clinical cases.
2. Malmo, J. et al. (2010). Mastitis, Chapter 10. Diseases of cattle in Australasia: A comprehensive textbook. VetLearn. Pg 340-413.

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