

4-2 Once-a-Day Milking - Mastitis and Somatic Cell Count (SCC)

The occurrence of new mastitis cases tends to be greatest around calving and drying off. This is due to a combination of factors such as dramatic changes in the functioning of the mammary gland, an adjustment of the cow's immune system and changes in milking and nutritional management.

For cows milked Once-a-Day (OAD) this risk is no different. Results from a four-year Dexcel study that examined the effect of OAD versus Twice-a-Day (TAD) milking for four complete lactations showed that the incidence of new infections at calving and drying off were similar between the two milking frequencies. This was true for infections caused by both major pathogens such as *Streptococcus uberis* and *Staphylococcus aureus* and for minor pathogens such as *coagulase negative staphylococci* or *Corynebacterium bovis*. Other results from this four year study have helped to answer other frequently asked questions.

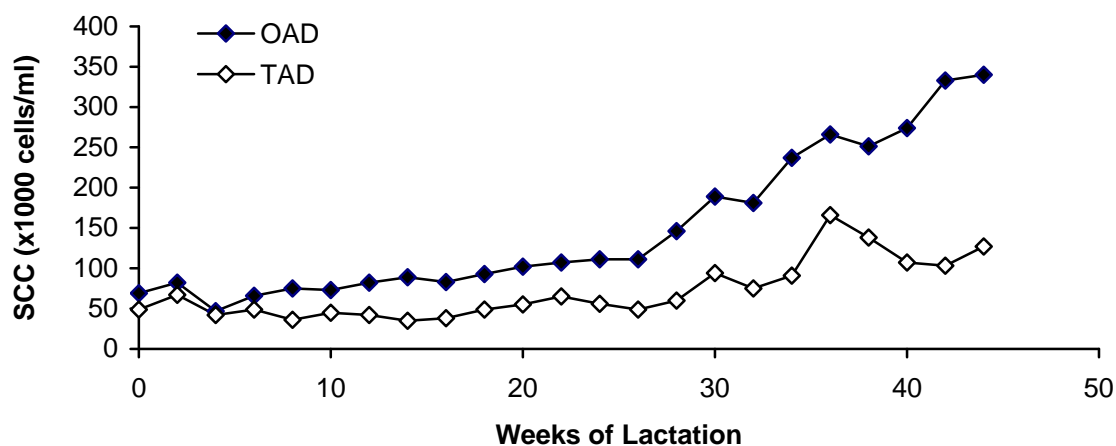
Are cows milked OAD more at risk of developing mastitis?

Cows milked OAD or TAD are at a similar level of risk for developing new infections. That is, milking OAD does not by itself increase the risk of mastitis. However, cows milked OAD tend to show more clear visible signs of clinical mastitis.

Do cows milked OAD have a higher SCC?

Research shows that cows milked OAD have a somatic cell count (SCC) that can be twice as high as cows milked TAD. This relationship holds true for cows that are uninfected or cows that have a sub-clinical infection as well as for cows that have had clinical mastitis. This difference starts to show up once cows have moved beyond peak lactation (weeks 6-8 after calving) and remains until the end of lactation. The figure shows an example of this relationship for uninfected cows during the 03/04 season.

Figure 1. Variation in individual cow SCC over the season, for uninfected cows milked OAD or TAD during a whole season (2003/2004 season).



Commercial dairy farms have shown that it is possible to supply high quality, low somatic cell count milk in spite of OAD milking. The Waimate West Demonstration Farm OAD herd received a quality milk certificate for the supply of milk below an average of 150 000 cells/ml in the 2004/05 season.

What impact does milking OAD have on the BTSCC?

There is likely to be greater increases in SCC during the second half of lactation, which may require high SCC cows to be dried off early.

What changes can I expect when switching from TAD to OAD?

Switching from TAD to OAD milking will require some planning and an increased focus on mastitis detection. If the switch is made during lactation, the bulk tank SCC will need to be able to accommodate a short term increase in SCC, usually in the order of a doubling. This spike will calm down within a few days, but some cows may also develop clinical mastitis in these days.

In the long term, a switch to OAD milking will require dedicated attention to mastitis detection and treatment. OAD milking tends to magnify and expose deficiencies in mastitis management practices. Managing the bulk milk tank SCC proactively, particularly in the second half of lactation, will be required in order to meet milk quality requirements.

How do I manage and prevent mastitis on OAD?

Implementing teat spraying during lactation and improving the degree of teat coverage with teat sanitiser will reduce the risk of bacterial contamination on the teat end and therefore reduce the risk of mastitis.

The use of dry cow antibiotic therapy at the end of lactation will reduce the existing infection levels and lower the risk of calving with mastitis in the following season. Starting the next season with a “clean slate” should make mastitis detection and treatment more manageable.

How do I detect and treat mastitis on OAD?

Cows with sub-clinical mastitis are a major contributor of somatic cells to the bulk milk SCC levels. Detection via regular herd testing and use of SCC information will be an important tool for keeping your SCC levels within appropriate levels. Cows with high SCC should be checked for mastitis by stripping out the foremilk and examining for visual signs, or by using the Rapid Mastitis Test (RMT) or by testing foremilk conductivity. Advice on sub-clinical treatment options should be sought from your local veterinarian.

Treat clinical mastitis as you would a cow being milked TAD. Antibiotic treatments with 12 hr treatment intervals should be avoided to maximise cure rates. As milk is removed from the udder only once daily there may be slight changes in the withholding periods required when using lactating antibiotic therapy. Your veterinarian will be able to advise you. Currently no research has been conducted on antibiotic residue levels in milk from cows milked OAD.