

## **Achieving 100 SCC in the first 100 days**

Somatic cell count (SCC) is a key indicator of intramammary infection, which compromises udder health. SCC of less than 100,000 cells/ml is the objective to maximise milk production and milk revenues. Any increase in SCC above 100,000 is associated with a reduction in animal performance and thus milk receipts.

Nationally SCC had gone through a period of consistent reduction over, however, in recent years it has started to move upwards again with the national SCC in 2022 sitting at 183,000 cells/ml and only 66% of supply < 200,000 cells/ml. In the absence of heeding the advice and recommendations of numerous Irish and international studies, the objective of having 80% of the national milk supply at less than 200,000 cells/ml by the end of 2025 will not be achieved. Meanwhile, farmers will continue to forego milk sales that could be otherwise protected.

The periods of greatest risk for infection to develop are;

- at drying off,
- 2-3 weeks post dry off,
- 2-3 weeks pre-calving and
- the 1<sup>st</sup> month post calving.

While drying off is clearly the last job of the current lactation, it is important that it is done as if it is the first job of a new lactation as it is of critical importance to treating existing infections but is also a significant risk period for the introduction of infection into the udder if not done correctly. This requires surgical cleanliness when administering antibiotic tubes and of even greater importance when using sealer only. It is now the requirement that cows whose udder health has been of a high standard throughout the lactation and accordingly have no infection to be dried off without antibiotics (sealer only). While much of the conversation around selective dry cow treatment revolves around the cow selection and the administration of the sealer, other factors have been shown to influence success. Ensuring cows were milking <15kg at drying off (nutritional management of milk volume) and the twice daily cleaning of cubicles versus once a day cleaning were associated with lower SCC in a recent study by Clabby et al. 2022.

The risks around calving are also great with management of cubicles and calving boxes of high importance. Clean dry cubicles (twice daily) as well as regular cleaning of calving boxes are important management factors to minimise the risk of infection occurring. Similarly, parlour management at all stages but in particular, in the early post calving period should be of a high level. A recommended protocol for milking of freshly calved cows would be

- Milk separately from main herd
- Thoroughly wash and disinfect/change gloves before and after handling this group
- Pre-spray with approved teat disinfectant
- Inspect foremilk
- Californian Milk Test (CMT) all freshly calved cows at last milking before joining the main herd

This protocol will facilitate early identification of mastitis infections and reduce risk of spread.

*Staphylococcus aureus* was identified as the main source of infection in herds (84% of infections) in the study reported by Clabby et al. 2022, which is contrary to other international studies conducted previously. *Staph. aureus* is a highly contagious infectious agent and given its prevalence in Irish herds, mastitis control measures to limit its impact would be beneficial to herd owners.

The study of Clabby et al. 2022 also reported a higher prevalence of mastitis infections in first calvers in late lactation than the remainder of the herd. This was again contrary to previous international studies and was surprising as heifers calving into the herd would be perceived as a way of addressing SCC issues in herds. Reducing the infection pressure for in-calf heifers prior to calving is an important strategy to containing infection in herds. This can be achieved by;

- Adequate stocking density with at least 1 cubicle space per animal to calve
- cleanliness of cubicles (twice daily cleaning and liming) in the weeks approaching calving
- cubicle training heifers either as yearlings or early in the winter prior to calving when risk of infection is lower

The prevention of infection of this group of cows in the parlour is driven by excellent parlour management practices such as;

- ensuring cows are clean when being milked,
- correct post milking teat disinfection (all cows), 15ml per milking and full teat coverage
- segregation of known infected cows (clinical or subclinical) or disinfection of clusters post milking where known infected cows are milked in the main herd

Early identification of the causative organism will ensure that the appropriate treatment or actions are taken to deal with the infection and minimise the risk of infection spread within the herd. Consequently, it is vital that the infectious agent is identified early. Sampling of all clinical mastitis infections to allow for culture and sensitivity analysis is important. To this end, some sterile sample bottles left in with mastitis tubes act as a reminder to sample clinical mastitis cases when they occur. Similarly, all clinical cases should be recorded to allow for case histories to be created to help identify problem cows that might otherwise go undetected.

In summary, subclinical mastitis in the form of raised SCC levels and clinical mastitis are major challenges to all herd owners. However, many of these challenges can be managed by implementation of management practices and control measures. At a minimum herd owners should;

- milk record early (mid to late February)
- milk recording regularly (at least 6 recordings)
- identify and cull chronic quarters or chronic cows to prevent spread of infection
- clean and lime cubicles twice daily when housed
- apply sufficient teat spray correctly at every milking

These measures will help herds to achieve SCC levels of <100,000 cells/ml (little to no infection present) during early lactation which in turn facilitates lower SCC throughout the lactation.