

Somatic Cell Count

When the somatic count is climbing and/or a grade has occurred the farm manager should be checking the herd as a means of identifying high cell count cows:

- All cows should be stripped prior to milking. Look for any signs of clinical mastitis in the first foremilk. Once a cow is found then it should be removed from the herd and treated.
- If stripping doesn't identify a cow then this should be repeated at the next milking in case a cow is intermittently showing signs of clinical mastitis.
- If the offending cow/s can't be identified then the herd should be checked using the RMT tester or conductivity meter and/or an early herd test should be organised

When on-going SCC grading is occurring then the farm manager should:

- Consult their vet to see if there are any management issues that are being missed as part of the normal farm routines.
- Have a full milking machine test carried out (particularly if there are any signs of teat damage or if the cows appear to be uncomfortable at milking time).
- Preferably have a herd test. A full herd test can show the real extent of the problem and if there is an on-going pattern for certain cows.

Cell Count Levels as a Mastitis Indicator

Average Cell Count	Probability of Subclinical Mastitis
0 – 149,000	Very Low
150,000 – 249,000	Low
250,000 – 499,000	High
500,000+	Very High

- ▶ The table above is a guide to the likelihood of subclinical infection being present at different somatic cell count levels
- ▶ Heifers generally have the lowest rate of subclinical infection levels in the herd

Bulk Milk Somatic Cell Count	Herd Subclinical Mastitis Level
0 – 249,000	Low
250,000 – 499,000	Medium
500,000 – 749,000	High
750,000+	Very High

- ▶ Bulk milk counts are carried out on milk in the bulk milk tank and serve as a general indicator of the herd subclinical mastitis levels. Such information is very useful in monitoring the overall herd health in terms of mastitis.

As many individual animals contribute to the bulk milk count it is only a general indicator. In an average herd 4% of the cows contribute 25% of the somatic cells therefore individual cow information is needed if the bulk milk counts indicate a mastitis problem.

One- Off Grades

One-off SCC grades (or a few SCC grades in a row) could occur from any of the following problems:

- A power cut resulting in a delayed or missed milking can allow mastitis infections to deteriorate with a subsequent sharp rise in cell counts
- Milking machine breakdown resulting in a delayed or missed milking
- A change of milking routine eg. changing from twice a day milking to once a day milking
- Accidentally milking a retired quarter which still has milk in it.
- It's important to realise that the herd SCC will naturally climb later in the lactation cycle. This is basically due to milk production falling, thus there is less dilution of the somatic cells in the udder. The rule of thumb is that whatever the average SCC is at peak milk can be doubled to indicate the cell count close to drying off. This assumes that there is good mastitis management on farm – if not then the cell count will likely more than double.

SCC Prevention

1. Yearly milking machine check by a specialist and all faults rectified
2. Teat spray every time cows go through dairy and use extra emollient during spring and at other times if teat condition is poor
3. Herd Test
4. Ensure cows are milked correctly and entirely milked out each milking

SCC Detection

1. Have a system for detection of mastitis that all staff use and understand. Ensure everyone is trained in detection
2. Check all cows prior to entering the main herd from the colostrum herd and ensure they have no mastitis
3. Check quarters regularly for signs of mastitis
4. Use a good detection tool – RMT or Conductivity and ensure you understand their limitations

SCC Treatment

1. Treat all new clinical infections including those high SCC counts identified by herd tests and confirmed as an infection.
2. Check all freshly calved cows for mastitis each day they are in the colostrum herd
3. Use the correct procedure when treating cows to ensure good cure rates.
4. Consult your vet regularly

Treated Cow Management

1. Mark treated cows
2. Record treatment details
3. Run treated cows in a separate herd and milk last with delivery line disconnected
4. Dry off quarters that continually get mastitis

Mastitis Management Techniques to Lower SCC Levels

Calving

1. Feed springs low protein feed like hay to avoid them bagging up and leaking milk prior to calving
2. Milk cows that are leaking milk before calving
3. Calve cows on to clean pasture
4. Milk the cow and remove the calf as soon after calving as possible, ensuring the calf has received one good drink of colostrum (normally within 12-24 hours)
5. Use Oxytocin to encourage milk let-down if it is an issue
6. Check all colostrum cows using the RMT tester before allowing them to enter the milking herd. If a cow is identified as having a high SCC give it another two days then recheck if still a problem then treat if not let it enter the colostrum herd.

General

1. Teat spray all season (teat spray can reduce infection rates by 50%)
2. Check milking machine settings regularly, particularly vacuum and pulsation.
3. Monitor teat condition and respond if a problem is noticed
4. Ensure that the correct liner is used that these give a good clean milking with no teat damage
5. Check for new infections regularly
6. Herd test regularly and check all cows shown as high on the herd test. If an infection is found treat immediately
7. Use veterinary help to determine correct treatments

Finding High Cell Count Cows

The following techniques can be used to find problem cows in the herd:

Individual Somatic Cell Counts:

Somatic cell counting of individual cows is the most definitive measure of somatic cell levels available. When looking for a sub-clinical mastitis problem herd testing of individual cows is very effective.

Whenever a herd test is carried out cows with high SCC's should be checked for mastitis and treated if an infection is found (use the RMT for example)

Conductivity

Normal milk contains a small amount of salt which allows an electrical current to pass through it. When the udder is damaged, more salt leaks into the milk and it becomes better able to conduct the current – its conductivity rises. Be careful;

- natural conductivity varies from cow to cow
- conductivity varies throughout the milking

Use on individual cows and compare the results of all four quarters. Compare at the same time of milking and test only the foremilk.

Rapid Mastitis Testing

This is a rapid cow side test which involves adding a reagent to individual quarter milk samples. The higher the Somatic Cell concentration the thicker the milk/reagent mixture becomes.

- Can be used on all milk. Best on foremilk after first strip to waste.
- Don't use on cows during the colostrum period
- Less effective in late lactation



Squirt foremilk in to tray with reagent



Swirl milk in with reagent



Thickened milk indicates high cell counts

Litmus Paper



Litmus paper indicators are another way to check for mastitis infections and subsequent cell count rises. Whatever technique used, the key is to use it correctly.