Application of Differential Somatic Cell Count Analytical Technology in Raw Milk for Prevention of Mastitis

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Regular dairy herd improvement (DHI) testing provides valuable information for herd management and decision-making on dairy farms. New parameters and applications have been developed to provide additional information thus supporting in management and decision-making.

Mastitis is still the costliest disease in dairy farming and the newly available DSCC (Differential Somatic Cell Count) parameter opens up the possibility of identifying more cases of mastitis than just using the traditional SCC parameter. In practice, the SCC and DSCC results are used to categorise the udder health of cows into four different udder health groups:

A – healthy, SCC <200,000 cells/ml and DSCC ≤65%,

B – onset of mastitis, SCC <200,000 cells/ml and DSCC >65%),

C – (active) mastitis, SCC >200,000 cells/ml and DSCC >65%,

D – chronic mastitis, SCC >200,000 cells/ml and DSCC ≤65%.

The performance of cows in the different Udder Health Groups differs clearly. Cows in group A revealed the highest performance (e.g. milk weight, fat and protein). While the performance was lower in group B, it decreased significantly in group C. Cows in group D turned out to be evidently less productive compared to cows in groups A-C. The distribution of cows among the four different Udder Health Groups varies hugely between farms, indicating and revealing different farm management practises. Hence, farm management practises of selected farms were investigated to determine key factors influencing the proportion of cows in the four different Udder Health Groups. Several countries have already implemented DSCC as a new DHI services and examples thereof will be presented. User feedback confirms new possibilities for udder health management and optimising herd health and performance based on the new udder health report

In summary, the new DSCC parameter can be measured in a practical and cost-efficient way given that it can simply be integrated as an additional parameter in existing DHI testing programmes. The parameter allows dairy farmers to better manage udder health in their herds. Improvements in terms of dairy cow health, welfare, and performance and less antibiotic treatments were already seen. In the long run, improvements regarding cow longevity and milk quality in general can also be expected.