

## A NOTE ON DELAVAL SOMATIC CELL COUNT (DSCC) AS A SCREENING TOOL FOR SUBOPTIMAL UDDER HEALTH IN BUFFALOES

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Subclinical mastitis cause reduction in milk quality and its market value as well as it is responsible for up to 70% of the losses in mastitis (Kirk *et al* 1988). Buffaloes often suffer from udder health issues and subclinical mastitis often goes undetected. Detection of suboptimal udder health issues is the major challenge for the practicing veterinarians. Milk constituent monitoring has the higher diagnostic potential and can be used at the field level. Somatic cells are part of the natural defense mechanism and include lymphocytes, macrophages, polymorphonuclear cells and some epithelial cells (Pillai *et al.*, 2001). These Somatic cells are mostly cells of the immune system (80% in uninfected quarters, 99% in mastitic quarters) (Sordillo *et al.*, 1997). Somatic cells are therefore a reflection of the inflammatory response to an intramammary infection or another trigger of the immune system.

The present study was carried out with the aim of evaluating the efficacy of DeLaval Somatic Cell Count as a Screening Tool for Evaluation of Udder Health. The bacterial load of milk in relation to DSCC and the udder health in buffaloes was evaluated.

### MATERIALS AND METHODS

The study involved 25 buffaloes randomly selected from buffaloes reared among small holder dairy producers in the Madhavaram Milk Colony, Chennai 51. These Buffaloes were having clinically healthy udders and was hand milked at 12 hours interval with milk yield of 5-7 kg. Clinical assessment was done for Udder Health and Mastitis Status. Foremilk samples (10ml) from each quarter of 25 animals were collected at afternoon milking in sterilized glass test tubes for bacteriological and cell count viz. Somatic cell count (direct measurement) analysis by DeLaval cell counter (DCC) from DeLaval International as per method of Chaiyotwittayakun *et al.* (2008). The health status of the quarters was defined on the basis of cell count (DCC method) and bacteriology of foremilk samples. The collected data was statistically analyzed.

### RESULTS AND DISCUSSION

In the current study among 25 buffaloes, invariably any one of the quarter milk sample was found to be positive in CMT in all the animals. Such milk samples had an increased DSCC. Quarter wise prevalence of subclinical mastitis on the basis of CMT was 84 per cent (84 out of 100 quarters). Out of 84 affected quarters 46 fore quarter (54.76 per cent) and 38 hind quarters (45.24 per cent) were affected. Jaffery *et al.* (1975) reported that the most responsible bacteria for subclinical mastitis in buffaloes were *Staphylococcus aureus*. In Italian buffaloes, 66% of subclinical cases were affected by CNSs (Moroni *et al.*, 2006). In the present study, out of 100 quarters 84 sub clinically affected quarters showed bacterial growth (59 quarters were infected with *Staphylococcus aureus*, 18 quarters were infected *E. coli*, 3 quarters were infected *Bacillus spp*, 4 quarters had contamination whereas 16 quarters had no bacterial growth .

The total numbers of quarters affected with subclinical mastitis were 84 out of 100 (84 per cent) quarters of 25 buffaloes. Among these 84 quarters 38 were right fore, 16 right hind, 8 left fore and 22 left hind quarters . This showed predominance of fore quarter affection in buffaloes and

this needs to be further studied with large sample sizes to understand the role of teat morphology and its impact on udder health.

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