

## Recommendations for prevention of mastitis in newly calved heifers

### BACKGROUND

Heifers are the future of a dairy herd and the costs for raising heifers are high. For a long-term sustainable economy of the dairy herd, it is important that the primiparous cows have healthy udders. Unfortunately, too many newly calved heifers have mastitis (with or without symptoms) which results in lower milk production and more culling. Mastitis is caused by bacterial infections in the udder that can occur before, at, or just after calving. Studies have shown that management and housing from calf to calving affect the risk for mastitis.

### DEFINITION OF GOOD UDDER HEALTH AND HERD PROBLEMS

In the following table suggestions for cut-offs for good (Goal), acceptable (OK) and not acceptable (Alarm) levels of udder health in primiparous cows are given. As the ambition can vary between herds it is important to identify herd specific goals. Herds that do not reach their goals should be investigated and the routines optimized.

Evaluation of the udder health among primiparous cows	Goal	OK	Alarm
Proportion* with clinical mastitis within 30 days after calving	0%	Under 5%	Over 10%
Proportion* with more than 100,000 cells/ml milk at the first test milking	Under 15%	Under 20%	Over 30%

\* Of primiparous cows that calved in a period of 12 months. If evaluating a shorter period, include at least 10 animals.

As mastitis is a multifactorial disease the causes may vary between herds. Thus, strategies for prevention of mastitis must be tailored for each herd. In the next section, areas identified in Swedish and international studies\*\* as important for udder health in newly calved heifers are listed. These items can be used to check the management routines and identify possibilities for improvements in the herd.

### RECOMMENDATIONS FOR PREVENTION OF MASTITIS IN NEWLY CALVED HEIFERS

Advice on how to use the recommendations and how to succeed with them is available at Juverportalen ([www.juverportalen.se](http://www.juverportalen.se)).

- Prevent spread of udder infections from older cows to heifers in late pregnancy and newly calved heifers. Examples of important factors are:
  - To avoid keeping heifers in late pregnancy in loose housing with lactating cows or dry cows.
  - To use good milking routines, for example milking order based on udder health.
- Optimize the feeding from newborn calf to lactating cow and use written routines for all age groups. Examples of important factors are:
  - That the routines for colostrum feeding are optimal.
  - That the heifers are provided with a good supply of energy before/at calving.
- Keep the age at calving low through good management routines.
- Make sure that the close environment of the animals always is dry and clean.
- Minimize the presence of flies in the vicinity of the heifers.
- Prevent teat sucking in all age groups.
- Avoid stressing the heifers, for example by exposing them to competitive behaviour and relocations, especially during the weeks around calving.
- Check the udder and dip/spray the teats with teat disinfectant regularly during the last 3 weeks before calving.
- Prevent udder oedema.
- Prevent difficult calvings and other calving-related problems
- Move the newly calved heifer from the calving area within 48 hours after calving.
- Breed for good udder health.

**\*\* SWEDISH AND INTERNATIONAL REFERENCES – A SELECTION**

- Anonymous. 2014. Heifer mastitis prevention and control plan. National Mastitis Council (NMC), USA. <https://www.nmconline.org/wp-content/uploads/2020/09/Heifer-Mastitis-Prevention-and-Control-Plan-FINAL-May-2020.pdf>
- De Vliegher S, Fox LK, Piepers S, McDougall S, Barkema HW. 2012. Invited review: Mastitis in dairy heifers: nature of the disease, potential impact, prevention and control. *J Dairy Sci* 95:1025-1040.
- Nyman A, Emanuelson U, Gustafsson AH, Persson Waller K. 2009. Management practices associated with udder health of first-parity dairy cows in early lactation. *Prev Vet Med* 88:138-149.
- Persson Waller K, Bengtsson B, Lindberg A, Nyman A, Ericsson Unnerstad H. 2009. Incidence of mastitis and bacterial findings at clinical mastitis in Swedish primiparous cows – influence of breed and stage of lactation. *Veterinary Microbiology*, 134:89-94.
- Persson Waller K., Lundberg Å, Nyman A. 2020. Udder health of early lactation primiparous dairy cows based on somatic cell count categories. *J Dairy Sci* 103:9439-9445.
- Persson Waller K, Lundberg Å, Nyman A. 2021. Risk and success factors for good udder health of early lactation primiparous dairy cows. *J Dairy Sci* 104:4858-4874.
- Svensson C, Nyman A, Persson Waller K, Emanuelson U. 2006. Effects of housing, management, and health of dairy heifers on first-lactation udder health in southwest Sweden. *J Dairy Sci* 89:1990-1999.