

The importance of milking equipment for udder health

Summary

Breeding progress focused on milk yield created the need for milking devices (direct-to-can milking machines, milking parlours, and robots). The use of these devices reduces labour input and working time, but malfunctioning of milking equipment has a negative impact on udder health, leading to economic losses. In order for the milking cluster to function properly, negative pressure (underpressure) must be created. The vacuum level should be within the range of 46-48 kPa (high-line system) or 42-44 kPa (low-line installation, milking parlour). Excessive underpressure causes hyperkeratosis of the teat tip, while insufficient underpressure reduces milk yield and prolongs milking time. The part of the milking machine that is in contact with the udder is the liner, which should be smooth, clean, and replaced regularly, as microcracks will be colonized by bacteria causing mastitis. The udders of cows milked using triangular liners have been shown to be healthier than in the case of oval liners. Proper blood supply to the teat during milking requires both the milking phase and the massage phase; reducing the length of the massage phase causes teat swelling. A common pathology encountered during milking is overmilking, during which the milking machine is working, but milk is not released, and the walls of the teat canal rub against one another. Overmilking can be caused by removing the cluster too late at the end of milking or by attaching it too soon. Milking hygiene and the animals' living environment are also extremely important. The use of predipping allows the udder to be cleaned before milking, while postdipping protects the teat canal, which is open after milking, providing a gateway for bacteria causing mastitis. Normal udder morphology is important as well, as it ensures that the milking equipment is compatible with the animal and functions properly.

KEY WORDS: milking, milking machine, mastitis, milk production