Successful parlour hygiene and management

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Parlour hygiene comprises best management practices and working routine to achieve optimum conditions for milk production, the human, the cow, and the equipment. This provides good quality milk, helps to prevent the transfer of pathogens and ensures the optimum equipment performance.

Good hygienic conditions in a tough environment like the parlour can be achieved by special management techniques which comprise the cleaning and disinfection of the inner and outer surfaces of the parlour according to best practice.

The thorough cleaning of the parlour should be done on a regular basis with appropriate means and chemicals. The outer surfaces are faced with aggressive substances and permanent exposure to moisture and varying temperatures.

Therefore, the aim of the cleaning is to remove dirt and to protect the surfaces and equipment from damage. Special attention should be paid when high pressure equipment is used. Chemicals should be used according to the instructions for certain surface materials to prevent any harm. Additional manual cleaning might be necessary if surfaces are very uneven or sensitive.

Avoid build up of residues

Besides the cooling of the milk the cleaning of the installation is crucial when it comes to milk quality. Low performance in the cleaning cycle results in residue build up, poor performance and eventually elevated bacteria counts. As this is directly linked to the profit of the farm high focus should be put on an optimal cleaning process.

Today's milking equipment is faced with increasing operational hours and more technical devices are present.

The cleaning performance has to ensure that the technology is not influenced by a build up of residues and can perform according to its specification.

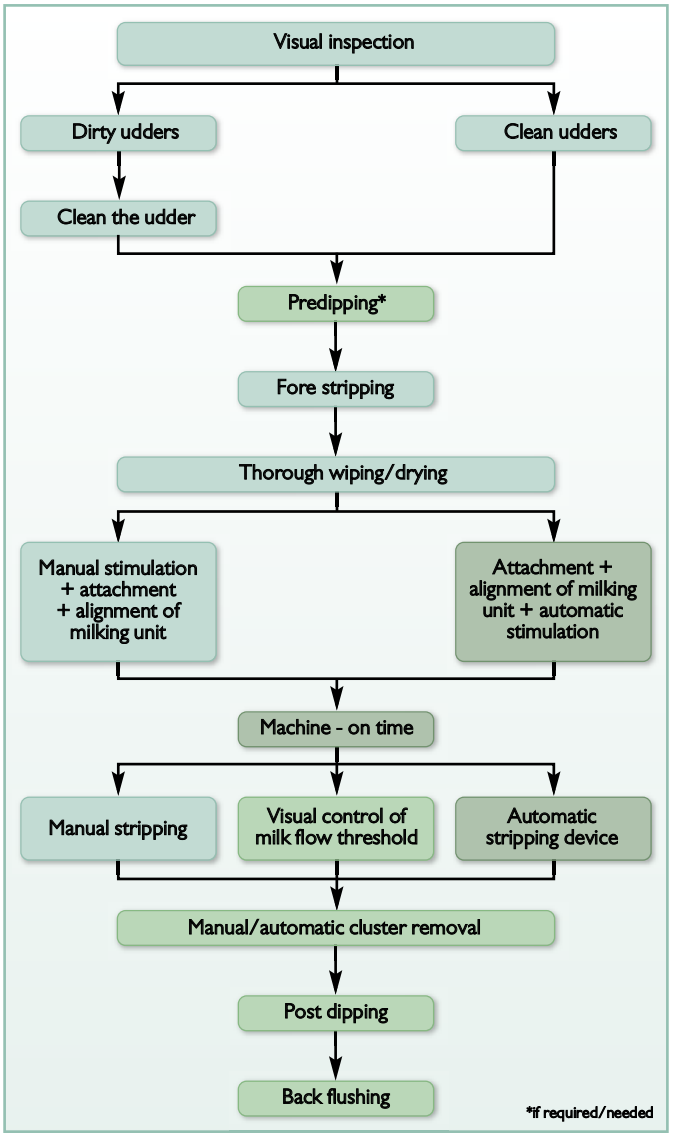

Fig. 1. The milking routine.

The circulation cleaning of the inner surfaces requires optimum cooperation of these parameters:

- Time.
- Temperature.
- Volume.
- Chemical balance.
- Drainage.
- Velocity.

If one of these parameters does not operate according to settings and recommendations others are influenced as well, for example too much water volume affects velocity, chemical balance and drainage.

Regular service and installation checks guarantee perfect performance and optimal settings.

Appropriate chemical choice and dosing according to water quality (hardness and buffer level) are necessary for the chemical balance on each individual farm. Influencing factors are often the water quality, for example the use of well water.

Cleaning and disinfection products for milking installations differ a lot according to their applications and recommendations. High quality cleaners ensure that the installation is cleaned without residues, are gentle to the materials and disinfect according to local regulations.

Appropriate ingredients assure that the lifetime performance of equipment and parts like liners and tubes stays constant.

Furthermore, the application of high quality cleaning products is versatile as they can be used even in difficult water conditions.

The economic benefit of this becomes obvious as the cost per wash calculation is performed.

Whereas standard products are limited in hard water, increasing the concentration cancels the advantage of a lower price per drum.

Control of on farm conditions and the appropriate settings of the cleaning system are key to an efficient, gentle and economic cleaning.

Parlour management

Managing the parlour has a lot in common with milking routine, parlour throughput and tracking of parlour performance.

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There is no one fits all milking routine. Furthermore the correct routine is dependent on:

- Type of milking parlour.
- Number of cows to be handled simultaneously.
- Number of milkers.
- Technical equipment capabilities.
- Special health requirements.

Nevertheless, Fig. 1 explains the necessary steps of a successful basic milking routine.

Three milking routines

In parallel and herringbone parlours three predominant milking routines occur:

- Grouping routine – the operator performs all individual tasks on one group of cows.
- Sequential routine – the operators work in a team and split up the individual tasks.
- Territorial routine – operators operate the milking units they are assigned to.

In a rotary parlour you might have predip and strip done by one operator, after the lag time the second operator wipes and attaches, a third operator postdips.

It is necessary that everybody on a farm understands the importance of consistency of the routine as it is one of the key factors for quality milk production. If the correct milking routine is used the profitability of a farm increases.

Besides an adequate milking routine the throughput often expressed as cows/hour or cow per person per hour is a measurement for good parlour management.

A number of factors play a part for a sufficient throughput:

- Cow entry and exit time.
- Pre-milking procedure (predip, cleaning).
- Unit attachment.
- Quick milk release and milking time.
- Unit detachment.
- Post-milking procedures (postdip, backflush).

Some of these factors are determined by the cow – others by the operator or/and herd manager but some also by the application of a good parlour design. Low stress cow movement, efficient group management and no interference of the operator's milking routine result in high quality milk with an improved profitability.

Some herd management systems like DairyPlan C21 from GEA Farm Technologies show special functions to monitor and track parlour performance. These tools are very effective to control and optimise the efficiency of a parlour on farm.

Fig. 2. DPView shows the status during milking of each animal in an AutoRotor.

Performance analysis

The DP Event parlour performance analysis of DairyPlan C21 for example gives detailed information about key values in regard to milkings per hour, duration of milking session and duration of turns (see Table 1).

Special situations are listed to show incomplete milkings, missing IDs, animals in second round, separated milk and manual detachments. The setting of threshold values can be used to compare the current performance to the target performance.

Another function called DPView (Fig. 2) gives a graphical overview of what is currently happening during milking and also additional information to the connected devices for feeding, separation and scales.

General information
Parlour configuration
Milk sessions for parlour
Report period

Session totals
Milkings recorded (cows)
Entrance/exit time
Length of session
Milking per hour
Total milk
Milk per hour
Number of rotations
Average empty stalls per rotation
Average rotation time
Shortest/longest time per rotation
Average time ID to attach

Per animal averages
Average milking duration/ non-milking time
Average milk yield

Special situations
Animals using multiple rotations
Reattaches
Auto detach ended with stop
Milk separated

Table 1. DPEvent reports all relevant key figures for parlour efficiency.

An additional acoustic output of veterinarian actions as well as the animal status can be installed to receive information without the operator pressing any buttons.

Animal monitoring at each stall of the parlour can inform the operator right on the spot of what is going on with a specific cow. ■