

Theme 7: Milking & milk Hygiene

MILKING & CLEANING ROUTINE IN MILKING PARLOURS (Level 3)

Topic	Milking & milk Hygiene
7.1	Instructions hand milking techno & hygiene
7.2	Instructions machine milking good practice
7.3	Problems during milking
7.4	Scoring of teat condition
7.5	Milk production recording
7.6	Calculation of costs hand vs machine milking
7.7	Which milking parlour to choose
7.8	Testing & maintenance of milking machines
7.9	Milking & cleaning routine in milking parlours
7.10	Storage & cooling of milk on farm



1. You will learn about (learning objectives):

- Preparation for milking.
 - Checkpoints.
- Milking procedures
 - Tasks.
 - Responsibilities.
- Cleaning protocols.
 - What.
 - Why.
 - When.



2. Checkpoint number 1

- Before you start milking the very first point is to make sure that the valve of the milk tank is closed.



3. Checkpoint number 2

- Always start with putting the milk hose into the storage tank.
 - To avoid losses while you are milking.



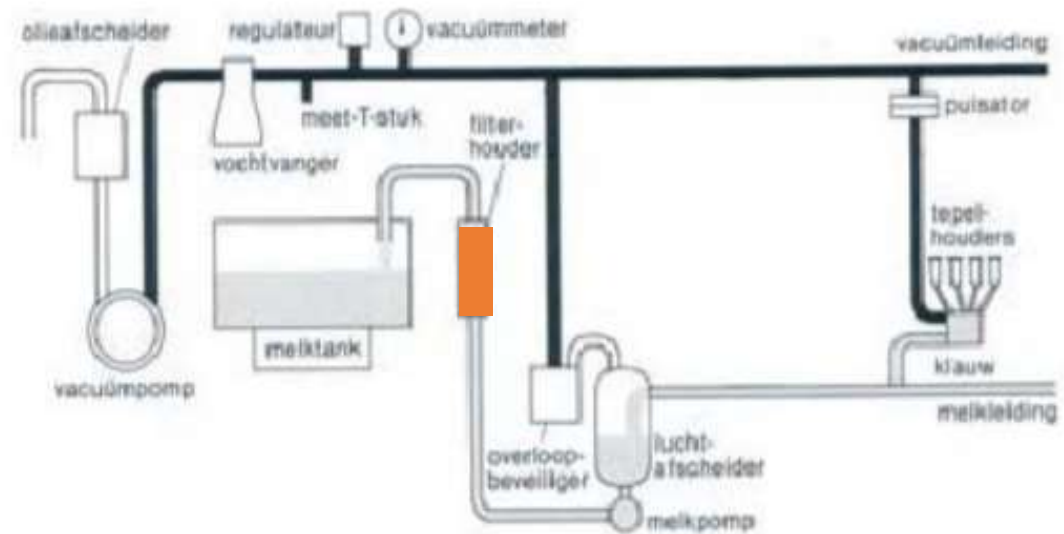
4. Activity 1

- In case of using chlorine solution for sanitizing after milking , a pre rinse before milking is recommended to remove chlorine leftovers !!.
- The water used for pre rinsing is allowed to be ordinary HQ tap water.



5. Checkpoint number 3

- Bring in the filter to assure that milk will remain free of dirt.
- Every milking a new filter !!!



6. Checkpoint number 4

- Preparation of all the Milking parlor equipment's for milking.
 1. Filter placed correctly
 2. Milk inlet right & left, in downwards direction.
 3. Drainage valve closed during milking



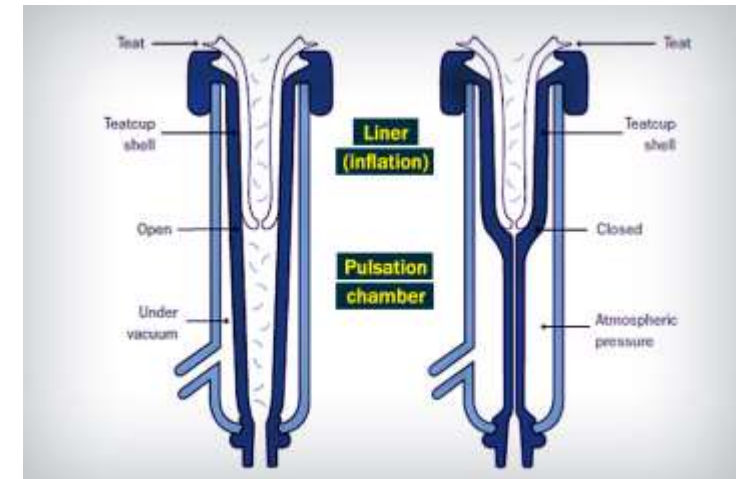
7. Checkpoint number 5

- Preparation of all the Milking parlor equipment's for milking.
 1. All the milk units from cleaning position into milking position.
 2. Separate jetters and liners.



8. Checkpoint number 6

1. Switch on the milking machine.
2. Vacuum check by watching regularly during milking.
3. Pulsation check, listen before milking, abnormalities...adjustment is needed.



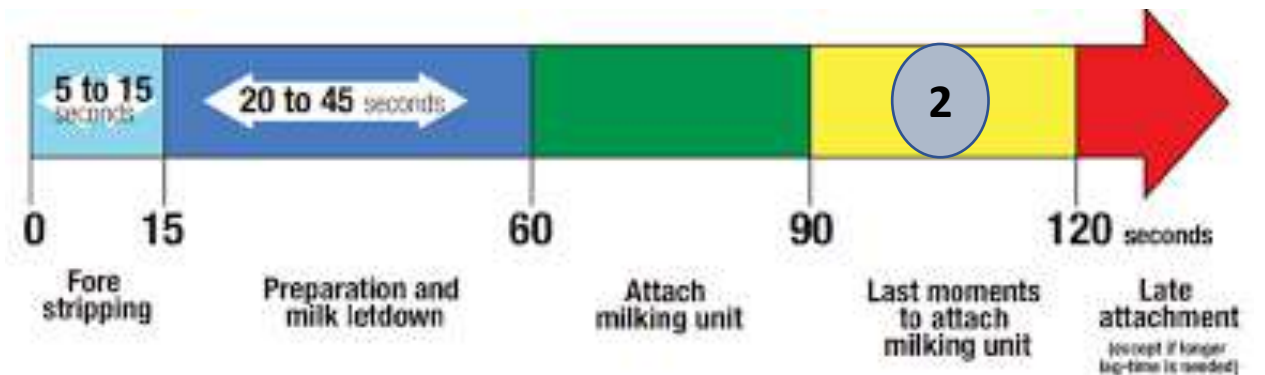
9. Activity 2

1. Before cows enter the parlor its heavily recommended to moisten the milking liners including floor and walls.
2. Wet walls and wet equipment's are easier to clean and wash in case of "shitting" cows



10. Activity 3

1. Let the cows come in.
2. Start milking procedure



11. Activity 4

“Milking Procedure”

1. Wipe teats to remove dirt and residual litter
2. Pre dipping



12. Activity 5

1. Milking out the first rays. This ensures optimal stimulation and at the same time control on clothes in the milk (mastitis)
2. Dry the teats



13. Activity 6

1. Connect milking cluster.
2. Cluster in right position for optimal milking. Adjust the cluster to align correctly with the udder as soon as you have attached the last teat cup.



14. Milking

1. In average milking takes approximately 5-7 minutes, milk speed is between 2-3 liters/minute.
2. In case of automatic take off, all four clusters are taken off at same time.
3. Almost 0,5 liter of milk will remain in udder.
4. In case of manual take of its recommended to take off the “early “ empty quarters, to avoid blind milking.
5. Never push down the units to create more pressure, this will damage the teat canal.



15. Activity 7

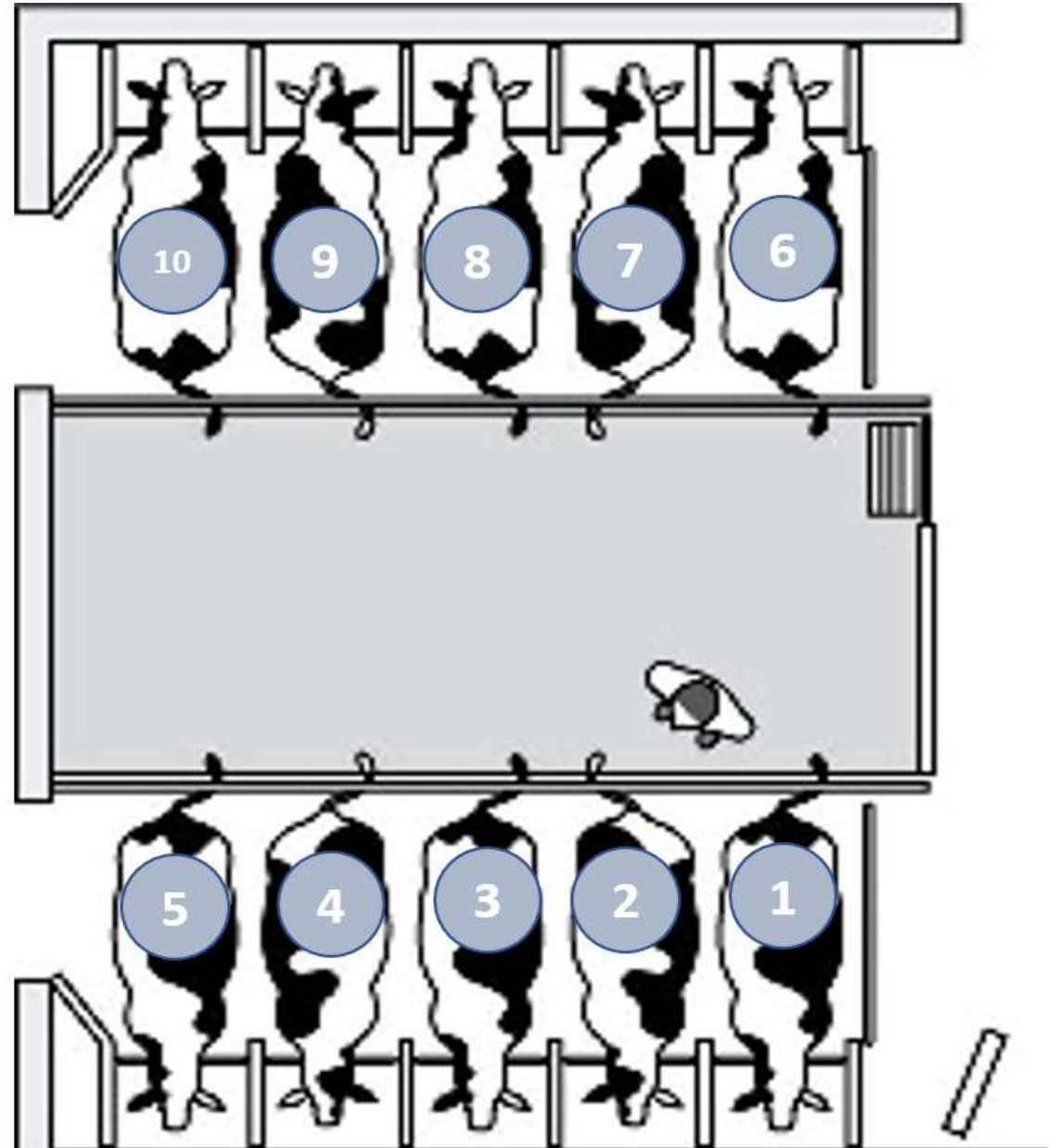
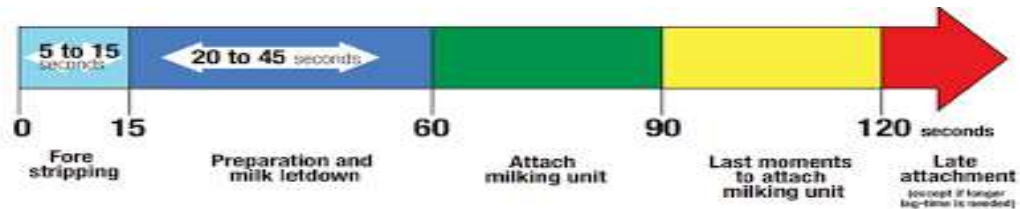
1. When milking is finished, means no more milk stream out of all four quarters. Take off the clusters by switching off the vacuum.
2. After taking off the clusters dip/spray all four teats (as shown)



16. Milking Procedure

“Experienced milker”

1. Milker starts wiping and removing dirt at cow 1,2,3,4 and 5.
2. Followed by pre dipping cow1,2,3,4 and 5.
3. Milker starts milking out first trays at cow1,2,3,4 and 5.
4. Followed by drying teats from cow1,2,3,4 and 5.
5. Connecting clusters from cow 1,2,3,4 and 5.
6. Milker goes to cow 6,7,8,9 and 10 repeating step 1-5.
7. When cow 1-5 are being milked milker will dip all four teats of cow 1-5.



17. Milking Finished

1. All cows are being milked, after milking cows must be standing at least 30 minutes to give the teat canal enough time to get closed.
2. Milking parlor and milk equipment's ready for internal and external cleaning, washing and disinfection.
3. After 30 minutes cows are allowed to lie down.



18. Activity 8

“Cleaning”

1. clean the floors and walls .
2. clean the external parts of all the equipment's used for milking, clusters, valves, hoses.



19. Activity 9

“Remove filter”

1. Before rinsing starts , the filter must be taken out.
2. Always take a serious look at filter after milking.



20. Activity 10

“Rinse”

- lukewarm water through the milking system. This helps get rid of any milk solids that have built up in the system. Continue rinsing—not re-circulating—warm water through until the water is clear.
- Regular temperature check is important to maintain delivering HQ milk .



21. Activity 11

Wash

- the wash cycle, you will need a chemical cleaning solution to remove any butterfat and protein that has built up in the machine.
- Many dairy farms use a [chlorinated alkaline detergent](#) to clean the milking pipelines. Mix the detergent with the wash water according to the manufacturer instructions



22. Activity 12

Wash

- Washing /circulation time preferably must be 8 minutes.
- After 8 minutes washing, the water temperature still needs to be $> 45^{\circ}\text{C}$ or more.
- Regular temperature check is important, as soon water temperature drops below 45°C washing procedure must stop.



23. Activity 13

Sanitize

- Once the wash cycle is completed, the last step is to sanitize. A [chlorine-based sanitizer](#) is commonly used among dairy farmers.
- It's mixed with lukewarm water and run on a five minute cycle. Always follow the manufacturer's instructions for sanitizers.
- Once the disinfectant has circulated, allow it to completely drain from the milking equipment.



Manufacturer's instructions

24. Activity 14

Finally

1. Open all the valves in the system, so that all the water which is still in pipeline system can flow out.
2. Open all the vacuum valves to low down the vacuum.
3. Ensure that the vacuum level is zero before.....
4. Switching off the milking machine.



25. Summary

1. The Milking machine is the most important and valuable piece of machinery in a dairy farm.
2. Knowledge and skills are required to use this machine in the right way.
3. Milking is the one and only activity in the dairy farm that brings in money.
4. Before a farmer decides to invest in a milking machine , a good advice must be given.
5. The most important condition is the presence of constant availability of electricity.
6. In general, the cow's milk production will increase when she is being milked by a well-adjusted machine

