

Milking Practices Important to Minimize Mastitis

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Milking procedures are fairly standard across the US whether in a parlor or a tie stall barn. However, steps can sometimes be forgotten or completed incorrectly giving rise to possible bacterial infections affecting Somatic Cell Count. Reviewing your milking procedure with all employees and family members is very important to not only ensure the spread of mastitis is limited, but it can also increase profitability.

Holding Pen

The first step of milking is moving groups into a holding pen when milking in a parlor. All holding pens should allow about 20 sq. ft. per cow in the largest group, take into account goals for expansion to avoid future overcrowding, and allow cows to be milked within 1 hour. While moving cows, employees should remain calm as stress to cows will produce an adrenaline rush and prevent the release of oxytocin which is necessary for milk let down. The front of the holding area at the entrances should be narrow measuring about 3.5 to 4 feet wide and 12 feet long so cows can line up nose to tail and enter the parlor single file. Other things to include in the holding area is a slight incline away from the parlor so cows are encouraged to face forward as well as either parallel grooves in the concrete or rubber flooring to prevent slipping.



Milking Preparation

To prepare for milking, ensure all materials are clean and readily accessible. If reusing cloth towels for wiping, make sure you are using bleach or a sanitizing detergent when washing as well as drying towels on high heat between milkings. Do not over pack the washer as towels cannot be thoroughly cleaned. The number of towels should be equal to the number of cows being milked so that each cow has at least one clean towel for wiping. Following these steps will reduce the amount of bacteria spread from cow to cow via dirty cloths. When ready to start milking, be sure all people milking wear gloves to prevent bacteria spread.

Stripping

Once the first round of cows is settled, begin to strip the cows. Stripping initiates the milk letdown reflex and the release of oxytocin. Poor stimulation will result in low milk let down and ultimately lower milk production. While stripping, ensure milk is directed onto the floor and look for any visible signs of mastitis. Examples of visible signs include a swollen and/ or red quarter, or clots in the milk.

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While clinical mastitis can be easily identified, it is difficult to identify cases of subclinical mastitis. Individual cow SCC reports from DHI should be checked regularly to see if any cows have mastitis that is not visible prior to milking. Cows with a SCC over 200,000 cells/mL are considered to have subclinical mastitis and contribute SCC to the overall bulk tank. Cows with an elevated SCC should be flagged, examined, and their records reviewed to see if this is a new or chronic infection.

Pre-Dip

The purpose of pre-dipping is to reduce spread of bacteria between cows as well as protect teats from possible damage. Many options for pre-dip exist on the market, but the most important aspect to look for is a germicidal element known to fight microorganisms. To apply a dip, it is preferred a dip cup is used that keeps disinfectant that has come in contact with the teat separate from the rest of the unused disinfectant. On larger herds, sprayers are common, however, application can be difficult. It is extremely important to ensure all angles of the teat are covered for proper sanitation. With both dip and spray application, at least $\frac{3}{4}$ of the teat should be covered in the chosen germicide and left on the teat for at least 30 seconds before being wiped off. When wiping, ensure that a new cloth is used on each cow, the bottom of the teat is cleaned, and the teats are clean and dry before unit attachment.

Milking

Timely attachment of the milking unit is key for proper and efficient milk letdown. The total time between pre-dip being applied, to the time of the unit being attached should be between 1 to 2 minutes. Too little or too much time can result in teat end damage and an increase in mastitis. The average milking time is around 5 minutes/cow. When milk let down ceases, milking units should be removed promptly either automatically or manually to avoid over milking. Turn off the vacuum before removing to avoid back flow of bacteria up into the teat.

Post-Dip

Following milking, a post dip should be applied in the same manner as the pre-dip to prevent any possible new infections caused by the milking process. Post dipping effectively reduces new infections by at least 50%. Dip should cover at least $\frac{3}{4}$ of the teat and follow the steps outlined by the manufacturer on the product. A common ingredient found in post-dips is iodine or chemicals with similar properties.

After Milking

Return cows to clean barns (alleys scraped and stalls cleaned to remove manure) or if in a tie stall ensure stalls are clean before as well as after milking to prevent any udder or teat contamination. Having feed readily available upon return from the parlor keeps cows standing and allows ample time for open teat ends to close. Between milkings clean the parlor and sanitize everything to prepare for the next milking. By following procedures and reviewing these procedures frequently with employees, milking speed can increase up to 20% and cows have better udder health.

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