



All in the design

Your teat dip cup's style could affect your herd's mastitis risk

Proper milking procedures are critical for reducing mastitis spread in your herd. One aspect to consider is your teat dip cup's design. The type of cup you use could affect your herd's mastitis control rate.

Post-milk teat dipping is a critical part of *Staphylococcus aureus* mastitis prevention. Research shows post-milking teat dipping with approved products consistently reduces *S. aureus* incidence and prevalence.

Most producers say they use post-dipping. However, in 2011 *S. aureus* was Ontario's most common mastitis problem. This suggests not all Ontario dairy farms effectively practise teat dipping.

Investigating barriers to efficient and effective dipping is important. Last summer, researchers from the Ontario Ministry of Agriculture, Food and Rural Affairs launched a



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The ideal teat dip cup should:

- contain sufficient dip for reasonable efficiency;
- be squeezable, so dip cup sections can fill completely;
- have a dip cup diameter and depth that fully covers all teat sizes;
- be easy to carry and transport when moving from cow to cow;
- easily come apart for effective cleaning;
- be easy to slide under the cow and reach the far teats;
- not spill easily.



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pilot study to examine barriers to effective teat dipping. They evaluated four teat dip cups, commonly used by Ontario producers, to determine performance, at the University of Guelph's Ponsonby research herd during milking.


Milking staff used each of the four cups. They compared the area of the teat skin surface each cup covered. A teat was scored based on how much of it was covered following milking. Each cup was tested on a few cows, but not for a full milking.

During the initial evaluations, milking staff were asked their opinions on other design aspects, such as spillage, volume, and if it was easy to squeeze and get full coverage on different teat shapes.

The researchers found no difference between cups and teat dip coverage. They also noted little difference in the amount of time it took to use each cup. Each cup adequately covered teat skin when used correctly, although staff felt some were easier to use than others. For effective coverage, all teat skin that has contact with milking unit liners should be covered with the dip, noted the researchers.

The evaluation was limited in scope, since each cup was tested on just a few cows. Only four readily available dip cups were included in the evaluation. Other poorly designed styles, including those with rigid-sided reservoirs and cups with very small dipping chambers that cannot properly accommodate larger or longer teats, were not considered.

It is a good idea to observe teat dipping, dip cup type and dip cup performance when evaluating milking procedures. The proportion of teats fully covered with dip post-milking also should be tabulated.

When choosing a teat dip cup, consider the differences between each style. By observing teat dip procedures you'll be better able to assess which cup is most suitable for your herd's needs. 

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How the four teat dip cups fared



Cup 1: If the cup's reservoir was too full, when dipping was done, teat dip overflowed and contaminated the hands of the person milking. This led to wasted dip and messiness.

Cup 2: To ensure the reservoir was full enough to provide proper coverage, the bottle had to be squeezed almost to its maximum extent and held there. Repeating this multiple times when milking a larger herd could cause hand fatigue.



Cup 3: The spill-proof lip stopped the teat dip from overflowing and spilling if the reservoir was too full. However, the lip prevented the reservoir from easily emptying if the teat dip became contaminated with organic material.

Cup 4: This horizontal cup was good for dipping cows with very low udders. It had the same problems with the spill proof lip as mentioned above. Horizontal dipping led to a greater risk of hands contacting the rear teats when the cup was used on front or far-reaching teats. This sometimes contaminated hands or gloves with bacteria from teat skin as shown in the picture. If the cup was angled to avoid contacting the rear teats, the far teats did not get good coverage.

