

What About This New Teat Dip?

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How many times over the last few years have you approached one of your trusted advisors and asked that question? There is a dizzying array of teat dips available. The most reliable dips are those which have claims that are backed by extensive research and years of on-farm experience. The National Mastitis Council (NMC) publishes a summary of peer-reviewed publications on teat dip efficacy; since 1980, forty-two studies have been published which show the efficacy of different teat dips. The NMC website with a list of teat dips and related articles can be found at <http://www.nmconline.org/docs/Teatbibl.pdf>. Use caution in interpreting these tables, since each trial is unique, and may not represent the same challenge that is faced by your cows on your facility, in your climate.

We prefer to recommend dips that have been proven over many years of field experience, as opposed to the dips that have passed the “experimental challenge” trials, but may not have been used by more than a select few dairies during the trial period. Dips that have recently appeared on the market may be so new that they are lacking research data. In that case, you may be taking a chance by switching from a proven dip to an unproven one, just because it’s new and different, and potentially less expensive. How do you make decisions about which dip to use? In this article we will focus exclusively on the selection of *post-milking teat dips*.

Proper application of an effective postmilking teat dip is the single most important method for control of "Contagious mastitis pathogens". By proper application we mean that, immediately after machines are removed, all four teats must have every surface of the teat that was in contact with the machine covered completely with post-milking teat dip.

What Kind of Mastitis Do You Have?

If you are struggling with a contagious mastitis problem due to the all-too-familiar *Staphylococcus aureus* (*S. aureus*), *Mycoplasma*, or *Streptococcus agalactiae* (Strep ag), don't mess around. Your choice is simple, and many experts would agree on the post-dip recommendation for such herds is year round use of 1.0% iodine with 10% glycerin produced by a major reputable manufacturer. All experiments and cost cutting measures go right out the window when it comes to dips for herds with contagious mastitis. There are other products available that may also work in contagious mastitis herds, but we have the most experience with the iodine products.

Herds that routinely purchase heifers or cows should also consider using 1.0% iodine with 10% glycerin year round, since introduction of new animals is the number one method for bringing contagious pathogens to your home herd. As always our recommendation in open herds that purchase animals is to culture individual cows as they arrive or freshen, and to monitor the bulk tank at a minimum of once per month.

What Kind of Disinfectant is in the Dip?

Organic iodine compounds (iodophors) have become the basis for many popular dips and their benefits are extremely well documented with research and years of field experience. Iodine dips are available in a variety of concentrations from 0.10% to 1.0%, but the critical issue is the amount of “free” available iodine to achieve rapid kill of bacteria. Most experts recommend 1.0% in herds with contagious mastitis. Concerns have been expressed regarding the effect of iodine vapors on milker health, as well as the level of iodine in bulk milk.

Less well-known disinfectants include chlorhexidine, sodium chlorite/lactic acid, and lauricidin. The efficacy of these dips is usually reported to be similar to that of the iodines. These dips may be less irritating to milkers and avoid the iodine residue issue; however, they are less frequently used and we do not have as much field experience with them.

Does the Dip Contain Proven Skin Emollients such as Glycerine, Collagen or Lanolin?

Aside from the germicidal activity of a postmilking teat dip, the most important characteristic of a dip is its emollient capability. It is well documented that chapped, cracked, and irritated teat skin leads to increases in mastitis, particularly due to *S. aureus*. Dips must contain skin softeners and protectants to keep the teat skin and teat ends soft and healthy. Check skin condition of your cows today: are they free of scabs, cracks, and peeling flakes of skin? First make sure milkers are applying teat dip in the correct manner following every milking. If milkers are doing their job, and any of these skin abnormalities are present, consider switching to a dip that has more emollients, or superior emollients. Not all emollients are beneficial to the skin of cows' teats, so "more" is not always better. There are different grades of emollients, some of which can actually remove essential oils from the skin. One of the reasons we prefer to see teat dip that has been purchased from a major reputable manufacturer is that we feel confident that the dip has been used successfully over time, and that the ingredients used are of consistently high quality.

Another important characteristic of a postmilking dip is its color on teat skin. A dark brown iodine dip or other dark colored dip can easily be seen on teats as the cows exit the parlor and move to the feed bunk. Managers should be able to walk behind cows and quickly determine whether all teats of each cow were dipped appropriately.

Do You Know Anyone Else Who Has Used the Dip?

Ask reliable neighbors and trusted advisors what dips they have used with good results. Keep in mind that different dairies have different bacteria and environmental conditions that challenge cows on a daily basis. Try to learn what your specific requirements are, based on the climate, housing, and type of bacteria present in your herd. Remember, proper use of a good post-dip is the *single most important method for control of contagious mastitis*. You may find yourself in serious trouble in a short time with a unique, trendy, inexpensive (or expensive~!) dip that turns out to be ineffective at controlling mastitis on your dairy.

Has The Dip Been Tested in University (Unbiased) Trials?

If a new dip is being promoted to you, it is absolutely essential that you ask about published research comparing the new dip to established products. Be aware that trials conducted by a university are not guaranteed to be unbiased (free of flaws favoring the product), but usually they will be honest about providing positive and negative findings. A well-designed trial showing positive results has the potential to benefit your operation, but again you must keep in mind where the study was performed, type of climate, numbers of cows, etc. The type of research study most applicable and scientifically valid does the following:

Uses natural exposure: Cows are enrolled in their farm environment, and exposure to mastitis organisms is only during the natural day-to-day life of milking cows. The teats are not dipped in a bacterial-enriched broth of challenge organisms.

Uses a control group: Infection rates must be compared between the group of cows using the new dip and either an un-dipped group or a group using an established proven dip. Both groups must be monitored under similar if not identical conditions: same time of year, same environmental conditions, similar age and stage of lactation.

Conducts the trial over multiple seasons: This should assure us that the dip is effective under a variety of conditions, including cold and/or muddy weather.

Includes an evaluation of teat condition: This is not provided on the NMC website. You need to find the original article to see if teat condition was evaluated.

How Much Does It Cost?

Obviously this must be a consideration in any decision-making process on dairies, but simply choosing the least expensive dip can lead to disaster in no time. Well-tested, effective, long proven post-dips are not going to be the least expensive. We consider a high quality teat dip to be an investment in the future of your cows, especially if there are any contagious bacteria in the bulk tank.