Intemax

Udder health: Key considerations when choosing a teat dip

Whitepaper
May 2025

Key considerations when choosing a teat dip

Udder health and cleanliness is a key element of dairy hygiene. Teat dipping protocols are essential to ensuring minimal bacteria enter the bulk milk tank, and conditioning and protecting the teat once milking has finished. Not getting this right can have far-reaching consequences. High bactoscan levels can result in penalties from milk buyers, and if the problem persists, it can lead to milk rejection. Occurrences of mastitis within the herd have an economic impact, as well as affecting farm efficiency. Infected milk must be discarded and treating the infection requires extra time and resources. Serious infections can impede a cow's future productivity once returned to the herd, or even result in culling.

Kilco Gold Glycodip

Teat dip has evolved in the last 60 years

Teat dipping has been a core practice in UK dairy farming since the 1960s, when the Five-point Mastitis Control Plan was introduced by the National Institute for Research in Dairying. It was hugely effective, standardising hygiene practices and improving milk quality and udder health. Early formulations were mainly iodine-based and focused on germicidal efficacy, but lacked any conditioning agents to protect the skin. Iodine is a very effective active and is still used in formulations such as Kilco Gold Glycodip, but teat dip formulations have evolved significantly and now have added ingredients which make them more effective, skin-friendly, and environmentally sustainable.

Match the teat dip to the environment

Every farm is different and needs can change even within the same farm, so it's important to match teat dip with environmental factors. For instance, deep bedded loose housing can present moisture-loving bacteria with an ideal breeding ground, so a faster-drying, thicker teat dip that clings longer post milking might be a good idea. Cold conditions might lead to teat-cracking, so skin conditioning is an important element after milking. Similarly, where the cow goes directly after milking can influence choice of dip – housed cows are exposed to bedding bacteria, whereas cows on grass are at higher risk of weather-related skin issues around the teat. It's important that the dip chosen suits the environment and the routine of the farm.

Bedding

Temperature

Post milking location

The benefits of pre- and post-teat dipping

When the Five-point Mastitis Control Plan came into practice, the focus was on dipping post milking, but it has since become best practice to dip foam or spray before milking as well. There are a range of products available to suit different needs, including separate pre-dips and post-dips, and combined products such as Biolac Prepost and Novodual, which can be used for both pre and post-teat dipping.

Biolac Prepost

Novodual

Pre-milking teat disinfection reduces the population of mastitis-causing bacteria on teat skin, especially in the region of the teat opening. This also minimises contamination of the cluster, preventing the spread of bacteria from cow to cow. When pre-dipping, the product needs a minimum contact time of 30 seconds, and should be wiped off before the milk clusters are applied. Using a pre-dip encourages 'let-down', triggering a natural reaction in the cow to start milking, resulting in more effective and productive milking.

Post-milking teat disinfection helps to remove mastitis-causing bacteria from the teat skin, and is applied as soon as the cluster is removed, while the teat canal is still open. The dip can then penetrate the teat orifice, ensuring that any bacteria that have just entered the canal will also be killed. The post teat dip will also leave conditioning agents emollient to condition the teat.

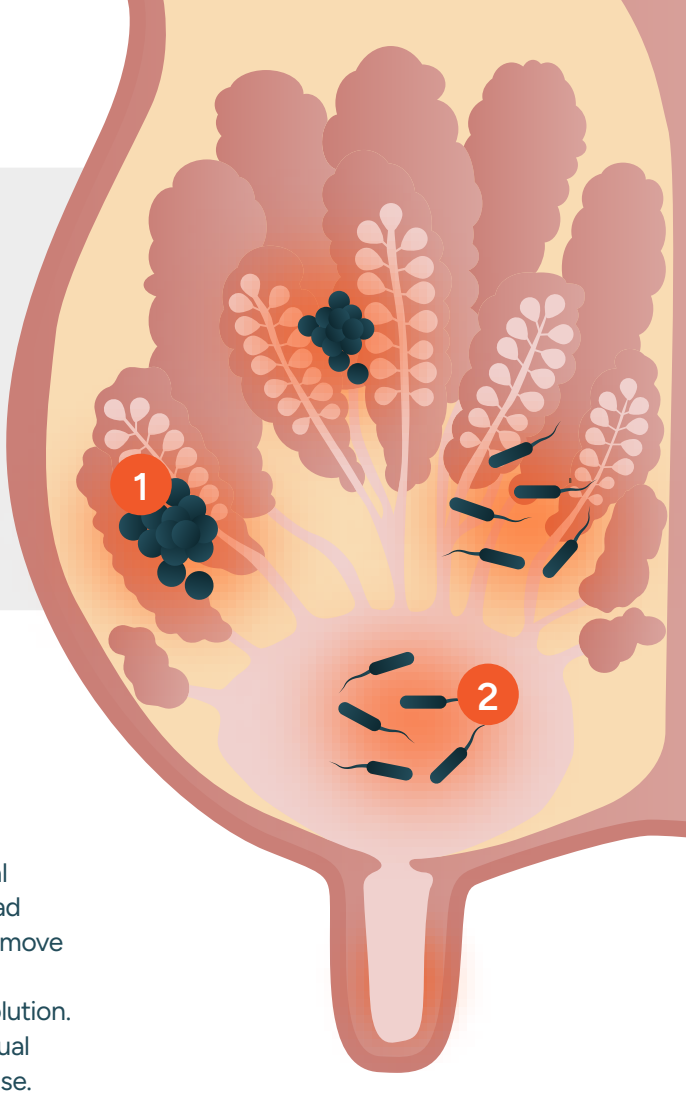
Bovine mastitis

1. **Infectious mastitis**

   Caused by Staphylococcus aureus, Streptococcus agalactiae and Mycoplasma bovis

2. **Environmental mastitis**

   Caused by E. coli, Klebsiella pneumoniae and coagulase-negative staphylococci



Germicidal efficacy

For farms experiencing a spike in bactoscan readings, the germicidal efficacy of their teat dip will be a priority. Mastitis bacteria can spread from one cow to another via the milk clusters, so it's important to remove bacteria before it multiplies on the skin. However, it's not always as straightforward – the strongest germicidal is not always the best solution. For instance, some take longer to work, but may have a longer residual effect, whilst others may be fast-acting, but require mixing before use. Products with a high viscosity will create a protective layer around the teat and orifice, blocking mastitis-causing pathogens from entering. Choosing a teat dip will always depend on specific priorities, so it's useful to speak to someone with a thorough knowledge of products on the market.

Antimicrobial agents in teat dips

LSA – lactic acid and salicylic acid:	A broad-spectrum antimicrobial, with skin-conditioning properties. Non-staining and low residue. Less persistent than iodine-based dips.
Glycolic and lactic acid:	Glycolic acid enhances penetration and lactic acid provides antimicrobial protection. This combination is gentle on skin but has limited residual effect.
Iodine:	Highly effective against a range of bacteria, with a long-lasting residual effect. Can cause teat dryness and stain equipment, and iodine residues can impact milk quality.
Chlorine dioxide:	A fast-acting disinfectant which works well on heavy soiling. Requires mixing.
Lactic acid:	Mild but effective, and biodegradable. Limited residual effect.
Chlorohexidine:	A broad-spectrum anti-microbial with long-lasting protection, and non-irritating to skin. Can be compromised by heavy soiling.

Skin conditioning and teat health

Teat skin has few sebaceous glands to keep it moisturised and protected, so continual washing, milking and environmental exposure can lead to skin cracking. Emollients such as glycerin, sorbitol, lanolin, and propylene glycol in post-milking teat dip can restore hydration, which in turn helps to reduce areas where mastitis bacteria can persist. They also help to seal the teat canal against bacteria. Well-conditioned teats also improve milking efficiency, as dry or irritated teats can make cows uncomfortable and reduce milk let-down. Where a herd is suffering from dry, cracked teats, a lanolin-based product with a low pH level such as Lanodip, can be used for superior teat conditioning.

Application and coverage

One of the most common failures in teat dipping protocols is not sufficiently covering the teats with the dip, so finding the right form of application is important. There are three main methods:

Dip – the teat is dipped directly into the product using a dip cup.

Foam – the product is agitated into a foam using either an automatic foamer or a manual foam dip cup

Spray – the product is sprayed directly onto the teat using either a manual spray bottle or an automatic sprayer

The full benefit of teat disinfection will only be achieved if the disinfectant is thorough and consistent. Application choice can depend on the product chosen, but also what suits the milking process on each farm.

Visible dips for quality control

Spraying can be quicker than dipping, but it uses more product and care must be taken to ensure even coverage, otherwise a reservoir of bacteria can develop in spots that are regularly missed. Where quality control is a concern, it can be useful to apply a highly-visible dip, such as Novodip, which is a food-safe mint green. This means that cows can be easily checked as they exit the parlour, providing a higher level of confidence that hygiene protocols are being followed.

It's easy to assume that all dips are alike, or that the same dip should be used throughout the year. But choosing the right dip for the circumstance can really help to limit mastitis cases, improve milk quality and maintain udder health on the farm.

At Intemax, we take a number of factors into consideration before we recommend a product, including farm environment, weather conditions and milking routine. That way, we can help farmers make informed choices which help them to achieve higher milk yields and an efficient farm operation.

For advice on specific products or issues, contact one of our experts at sales@intemax.co.uk or call 01246 264646