



Animal Medical Device

**NO ANTIBIOTIC RESIDUE
ALL GRAS**

Intramammary Flush

MastoFlush is to be used at the first sign that something may not be right with the udder or milk, before clinical mastitis has had a chance to set in. Once bacteria have a chance to multiply and become established in the mammary gland tissue, the cow's innate immune response may be inadequate without intervention. MastoFlush's primary mode of action is to reduce the adhesion of bacteria to the abiotic and biotic surfaces and assist in flushing bacteria from the capillary network in the udder, thus assisting in the expulsion of harmful microbes at the earliest opportunity. MastoFlush leaves behind a hydrophobic, tissue protective, barrier and provides the best chance for the cow's innate immune system to take care of the rest.

Biofilms

Many mastitis-causing pathogens possess the ability to form biofilms. Biofilms are extracellular polymeric substances that allow bacteria to adhere to surfaces and adapt to protect themselves from antimicrobial treatments and the host's innate immune system. MastoFlush is formulated to interfere with the ability of bacteria to form biofilms by interfering with the physical communication pathways of bacteria, this communication process is termed, "quorum sensing". Researchers propose (*Frontiers in Veterinary Science – 2021*) that an understanding of biofilms is critical in non-antibiotic approaches to mastitis. Biofilms serve to protect microbes from the cow's innate defenses and, also, increase resistance to antimicrobial agents. Anytime there are pathogenic bacteria present, the goal should be to intervene early and attempt to prevent or reduce biofilm formation. If quorum sensing pathways are disrupted, bacteria can't easily create, or perpetuate, a biofilm. Interfering with quorum sensing processes also serves to reduce the bacteria's defense mechanisms, allowing the animal's immune cells access, and for unadhered bacteria, and the broken biofilm, to be then expelled via the teats.

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We are very happy with MastoFlush. If we intervene early with MastoFlush, many cases resolve without antibiotic intervention which is a great benefit.

3 Oaks Dairy (Conventional)

Researchers agree that the current strategies to control biofilms fall into three main categories: (i) changing the properties of susceptible surfaces to prevent biofilm formation; (ii) regulating signalling pathways to inhibit biofilm formation; (iii) applying external forces to eradicate the biofilm.”

MastoFlush takes advantage of all these strategies in reducing biofilm formation by; (i) reducing adhesion, (ii) interfering with bacterial quorum sensing phenomena, (iii) altering osmotic pressure and zeta potential.

Additionally, the essential oils in MastoFlush also have useful secondary antimicrobial properties.

MastoFlush is all GRAS and non-antibiotic, allowing action to be taken at the earliest opportunity, before microbes have a chance to overwhelm the cow's immune mechanisms.

Instructions

Use at the first sign that something may not be right with the udder or milk, before clinical mastitis has had a chance to set in. Clean teat with alcohol swab provided. Infuse into the teat canal after milking. Massage quarter. Follow normal milking routine. Strip infused quarter. Discard of milk from the infused quarter for the milking immediately following application is recommended. Repeat for 2 to 4 milkings.

Animal medical device for dairy cows only. Each tube contains 4g of intramammary paste. Zero days withdrawal.



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