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Management of Bovine Sub Clinical Mastitis with TANUVAS MASTI GUARD

R. Thangadurai*, S. Rengaraj and C. Sivakumar

Krishi Vigyan Kendra, Tamil Nadu Agricultural University,
Papparpatty, Dharmapuri, Tamil Nadu (636 809), India



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Corresponding Author

R. Thangadurai

e-mail: thangaduraisurgery@yahoo.co.in

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E-mail: bioticapublications@gmail.com

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Abstract

Mastitis has been recognized as a major disease affecting the dairy industry, especially in its subclinical form. Subclinical mastitis cause economic losses by decreasing milk production, cost of therapy and unused milk during the withdrawal period. Clinical mastitis can be detected by farmer but subclinical mastitis can only be detected by the measurement of inflammatory components and pathogens in the milk. Since somatic cell count (SCC) in milk has been shown to be an excellent marker for subclinical mastitis it can be used to detect the subclinical mastitis. The prevention of bovine mastitis is the most important component of a mastitis control programme. TANUVAS MASTI Guard will be used as most effective management strategy for preventing new intra mammary infection (IMI). The ingredients present in the spraying solution kill the bacteria present on the teat and controls occurrence of subclinical mastitis.

Introduction

Bovine Mastitis is economically the most important significant disease of dairy cows and continues to be a persistent problem in the dairy industry at global level. With remarkably rising impact on Indian economy overall losses due to mastitis is estimated to be Rs. 7165.51 crores. As far the etiology is concerned, mastitis is caused by over 150 different contagious or environmental micro-organisms. Out of two forms of mastitis, subclinical mastitis is subtle, causes huge economic losses, and is difficult to detect as the cow appears healthy, the udder does not show any signs of inflammation and the milk appears normal. However, microorganisms and somatic cells are found in elevated numbers in the milk (Tejbeer sing, 2018). The herd-level economic loss brought about by SCM is substantial and has been reported to be even larger than that caused by CM. The use of synthetic antibiotics is being increasingly discouraged because their presence in dairy milk may have potential downstream effects on population health and the Agri-food chain (Hillerton *et al.*, 2007). Udder and Milking hygiene significantly reduce the risk of environmental pathogen inhabiting and causing intramammary infection in cows. Post teat dip has been demonstrated to be highly effective in preventing new intra-mammary infections against different pathogens causing mastitis. Lack of awareness, delay in detection of sub-clinical mastitis, unhygienic milking practices, inadequate treatment etc. are some of the important contributing factors in higher incidence of mastitis. Keeping in view the present paper was discussed with management of sub clinical mastitis using TANUVAS MASTI Guard. KVK Dharmapuri, Tamil Nadu has been conducting on farm trail (2017-2018) and front line demonstration (2018-2019 & 2019-2020) on usage of TANUVAS Masti Guard for the management

of subclinical mastitis in dairy cattle at farmer holdings of Dharmapuri district.

TANUVAS MASTI GUARD (TANUVAS, Chennai)

It is a combined screening and teat protection package (Tanuchek SCC kit and Teat Protect Spray). A healthy productive udder is possible by an admixture of a healthy mammary tissue and hygiene. The milk in the udder always contains low levels of cells (Somatic cell count-SCC) to keep the mammary tissue healthy. The SCC levels increase in response to an infection of the udder. The SCC level < 5 lakhs cells/ml of milk indicates a normal healthy udder tissue. To have a productive udder that lasts for the whole season it is necessary to perform the following,

- To screen the milk on a regular basis for changes in the somatic cell count (Tanuchek SCC kit) this reflects the udder health status.
- Minimize the chances for bacteria and other agents from infecting the udder tissue.
- Complete mastitis screening and teat protective package which contain the following.

1. Tanuchek SCC Kit

It is an on-farm test for quick determination of the somatic cell counts which increased in milk samples upon infection of the udder (The specific substrate used changes to blue colour by the membrane bound enzyme from the cells). The milk samples from each quarter need to be tested once in a week.

Advantages

- It is a simple user friendly and farm based test.
- Results in 30 minutes and can be read by the farmers.
- Only Rs. 2.50 per test.

Kit Contents

1. Microfuge tubes - 20/pouch
2. Substrate solution (1ml) - 1 vial
3. Dropper - 1 No.
4. Enhancer solution (3ml) - 1 vial

Procedure

- Collect milk sample in a clean container.
- Uses of mid fraction are preferred and store the sample at 2-8 °C if not used immediately and test within 24 hours of sample.
- Take one microfuge tube from the pouch; mark the sample ID on the tube.
- Add one drop of substrate solution and three drops of enhancer solution and mix well by tapping the tube gently.
- Add one drop of milk sample collected to the same tube and mix well wait for 20-30 minutes for color development.
- Compare and note the nearest colour card given in the kit

outer wrapper.

- The test estimates between 1,00,000 to 9,00,000 somatic cells in the milk sample.
- Low SCC is indicative of better udder hygiene.
- Measure SCC before Teat protect application and at weekly intervals thereafter.
- Reduction in SCC is indicative of the efficacy of Teat Protect application.

2. Teat Protect

It is a unique germicidal teat protective spray for mastitis. This gel works by preventing common mastitis causing bacteria from entering the teat canal and provides extended anti-microbial protection. Indicated for Spray on the teats after each milking daily.

Advantages

- Promote udder health and hygiene.
- Highly effective against both gram positive and negative bacteria.
- It reduces SCC with 30% increase in milk yield.
- It also heals teat ulcers and cracks.
- All components of Teat Protect comprises of chemical free food grade material.
- Easy to use, has antiseptic properties and offers a protective coating after milking and prevents infection.
- Materials used for food grade and safe.
- Only Rs. 250 per bottle month.

Administration

- Spray directly onto udder and teats after milking.
- Wash off the gel before milking.

Presentation

- 500 ml spray bottle.
- It can be directly sprayed from this bottle.
- Store at room temperature.



Figure 1: TANUVAS MASTI Guard



Figure 2: Examination SCC using Tanucheck SCC kit



Figure 3: Application of Teat protect spray

Conclusion

TANUVAS MASTI Guard is a significantly effective in the prevention of sub-clinical mastitis in dairy animals as well as against the control of pathogens which poses serious health hazards in human beings. Hence, farmer should be encouraged to adopt usage of TANUVAS MASTI Guard to reduces losses due clinical and sub-clinical mastitis and avoid health issues in human beings due to consumption of contaminated milk.

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