

Rapid Detection of Subclinical Mastitis in Dairy Cow

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Abstract

Mastitis is an important disease of dairy cattle. There are two forms of mastitis. One is clinical and another is sub clinical. Clinical Mastitis is easily detected by its clinical signs and milk quality but sub clinical mastitis shows no lesions. Other hand subclinical mastitis cause most economic losses compared to clinical form. Thus rapid field detection technique is a strong tool to reduce this form. California Mastitis Test (CMT) is the most quick and reliable field test to detect this form of mastitis.

Keywords: Mastitis; California mastitis test; Sub clinical mastitis

Introduction

Mastitis is economically most important disease of dairy cattle, accounting for 38% of the total direct costs of other common diseases of dairy cattle. Mastitis is a global problem as it adversely affects animal health, quality of milk and economics of milk production and every country including developed ones suffering from huge financial losses. It is one of the most important disease of dairy animals which is responsible for heavy economic losses due to reduced milk yield (up to 70%), milk discard after treatment (9%), cost of veterinary services (7%) and premature culling (14%). The dramatic increase in the economic losses due to mastitis, divert the mind of researchers, policy makers and dairy farmers toward this costliest disease to control it. In addition to heavy losses in milk quality and quantity, it also causes irreversible damage to the udder tissue and less occasional fatalities [1]. Mastitis destroys the milk-secreting cells. Scar or connective tissue replaces the milk secreting tissue, resulting in a permanent loss of productive ability of the affected cows. Mastitis can lead to the reduction of offspring to a given production system due to the insufficient milk production resulting in starvation. Experience in mastitis control indicates that while the occurrence of inflammation in the udder may not be entirely preventable in all cows within herd, the

intensity of clinical attacks may be reduced significantly through selection and better management. Information on selection of genetic characteristics related to individual resistance against mastitis and in establishing management of udder health control is a necessary prerequisite. The clinical mastitis is characterized by signs of inflammation of the udder and changes in the milk whereas, in sub-clinical mastitis, the milk appears grossly normal, no visible signs of inflammation of the udder but the inflammatory reaction are detectable only by indirect tests like California Mastitis Test (CMT) and culturing milk of all quarters in bacteriological and fungal media. It is now a well-known fact that the sub-clinical mastitis is more serious and is responsible for much greater loss to the dairy industry in the world. Singh and Singh [2] reported more than three times of great losses due to sub-clinical mastitis as compared to the clinical form of mastitis. CMT has been recognized as a highly sensitive to test to detect bovine sub-clinical mastitis [3-5]. Thus for reduction of economic loss from sub clinical mastitis rapid detection by CMT is an important technique.

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