

## Prevalence of Bovine Mastitis and Associated Risk Factors in Selected Dairy Farms in Zoba Anseba, Eritrea

**Authors :** Redie Kidane Ghebrehawariat, Betiel Habte Hadgu, Filmon Berhane Kahsay, Rim Berhane Fisehay, Samuel Haile Kahsay, Saron Yemane Yosief, Selemawit Mosazghi Gilazghi

**Abstract :** A cross-sectional study was conducted from 22 February to 9 April 2022 on small, medium, and large holder dairy farms to determine the bovine mastitis prevalence and associated risk factors in the Anseba region, Eritrea. A total of 34 dairy farms and 193 dairy cows were randomly selected. Dairy cows were physically examined for any change on the udder and milk; a California mastitis test was performed to check sub-clinical mastitis; a closed-ended semi-structured questionnaire composed of 28 variables/risk factors (21 management risk factors and 7 animal-level risk factors) was used to determine the risk factors responsible for clinical and sub-clinical mastitis in the dairy cows. The overall cow-level prevalence of mastitis was 147 (76.2%). The animal level prevalence rate of clinical and sub-clinical mastitis was found to be 22 (11.4%) and 125 (64.8%), respectively, while herd level prevalence both for clinical and subclinical mastitis was found to be 14 (41.2%) and 26 (76.5%) respectively. Based on the already set P-value, which is  $<0.05$ , a number of risk factors were found to have a significant relationship with the occurrence of clinical and sub-clinical mastitis. Generally, animal risk factors such as animal age, parity, injury on the udder or teat, and previous history of mastitis presence of injury on the udder and lactation stage were risk factors with a significant relationship with the occurrence of clinical and sub-clinical mastitis. On the other hand, management risk factors with a significant relationship to the occurrence of clinical and sub-clinical mastitis were herd size, failure to milk mastitic cow, at last, educational level, floor type, failure to use a towel, using one towel for more than one cow and failure to practice mastitis test. From a total of 772 quarters, 280 (36.3%) were found positive for sub-clinical mastitis using the California mastitis test; of these, 70 (9%) were weakly positive, 90 (11.7%) were distinct positive, and 120 (15.5%) were strongly positive. Furthermore, 13 (1.7%) quarters were blocked. Quarter level prevalence was right front 80 (41.5%), left front 64 (33.3%), right hind 69 (35.8%) and left hind 67 (34.7%). The study has shown that mastitis is a major problem for dairy farms and the findings suggested that mastitis is one of the limiting factors in increasing milk production. Subclinical mastitis was found to be a devastating problem, and it occurred in all three breeds of lactating dairy cattle. Therefore, farmers should work hard to avoid the above-mentioned risk factors to minimize the infection of their dairy cattle by mastitis and thereby increase their profit. On the other hand, the Ministry of Agriculture, through the extension unit, should work in close contact with the farmers to increase awareness of the economic importance of the disease and associated risk factors.

**Keywords :** mastitis, prevalence, dairy cattle, Anseba, Eritrea

**Conference Title :** ICASVM 2022 : International Conference on Animal Science and Veterinary Medicine

**Conference Location :** Sydney, Australia

**Conference Dates :** December 02-03, 2022