

Abstract:

Dairy goat production is an emerging enterprise, which has a lot of potential for poverty alleviation, improved nutrition, and increased income for the poor and can play a role in contribution towards Kenya's development plan. Inadequate information on prevalence of subclinical mastitis and antibiotic sensitivity are some of the challenges facing this industry. This study was carried out in dairy goats under zero grazing system in Mount Kenya region, from January 2012 to December 2012 to determine the prevalence of subclinical mastitis in lactating goats and the antibiotic sensitivity of the isolated bacteria. A total of 310 lactating goats were randomly selected from populations in Meru Nyeri and Embu counties and screened for bacterial carriage, as evidence of subclinical mastitis. Six hundred and twenty (620) milk samples from the 310 goats (right and left quarters) were aseptically collected; first screened using California Mastitis Test (CMT), then cultured for bacterial isolation and characterization. Antibiotic sensitivity testing was also performed on the isolated bacteria. Based on culture results, the prevalence of subclinical mastitis was 59% in Meru County, 58% in Embu County and 54% in Nyeri County. An overall mean prevalence of 57% was estimated in the three counties. There was no significant difference in subclinical mastitis prevalence in the three counties ($P=0.75$). Based on CMT, the prevalence of subclinical mastitis was estimated to be 61% in Meru County, 61% in Embu and 60% in Nyeri County. The overall mean prevalence was estimated to be 61%. There was no significant difference between prevalence of subclinical mastitis in the three counties ($P=0.96$). Among the 620 milk samples collected from the 310 lactating goats, 317 (51%) were California mastitis test positive, and on culturing, 304 (96%) yielded bacterial growth. The following bacteria were isolated from the milk samples; Coagulase Negative *Staphylococcus* was the most prevalent - at 28.3% (176/620), followed by *Staphylococcus aureus* - at 13.5% (84/620), *Streptococcus* - at 8.8% (46/620), *Escherichia coli* - at 3% (19/620), *Micrococcus* - at 4% (24/620), *Corynebacterium* - at 1% (7/620), *Pseudomonas* - at 0.1% (1/620). Of the *Streptococcus* isolates, 1.5% (9/620) were *Streptococcus agalactiae*. Norfloxacin and gentamycin were antibiotics that the organisms were most sensitive to while kanamycin and amoxicillin were antibiotics that the organisms were least sensitive to. The study revealed that there is high prevalence of subclinical mastitis in dairy goats in Mount Kenya region. The high prevalence of subclinical mastitis recorded in this study has a negative impact in dairy goat productivity; and there is, therefore, need to create awareness on the problem with a view to instituting appropriate control measures. The study also revealed that CMT is a reliable test for subclinical mastitis in goats. Since it is easy to carry out, rapid and cheap, it is recommended that goat associations make use of it as part of the control measures; they can train specific personnel to carry out and interpret the test.