

DETERMINING PREVALENCE OF SUBCLINICAL MASTITIS AND ANTIBIOTIC SENSITIVITY OF THE ISOLATES IN DAIRY GOATS IN MOUNT KENYA REGION

INVESTIGATOR: DR. CHRISTINE
MBINDYO(BVM)

SUPERVISORS:

DR. C. G. GITAO BVM, MSc, PhD

PROF. L.C.BEBORA BVM, MSc, PhD

PROF. P. KITALA BVM, MSc, PhD

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INTRODUCTION

- Dairy goat farming is emerging as a high-return option for Kenyans small-scale farmers (Ndegwa *et al.*, 2000).
- They provide a quick source of milk for consumption or sale and are thus of immense value especially to poor households (Kinuthia, 1997).
- Kenya's goat population is estimated at 28 million and about 80,000 are dairy goats. 80 % of which are reared in the Mt. Kenya region (MoLD, 2009).

INTRODUCTION cont.....

- The demand for dairy goat production is increasing due to growing population of people and also increasing awareness of medicinal and nutritional status associated with goat milk (Haenlein,2004).
- Challenges facing this industry include (Ndegwa *et al.*, 2000):
 1. Diseases(subclinical mastitis, pneumonia, diarrhea)
 2. Inbreeding
 3. Inadequate feeding
 4. Lack of market and poor management practices

INTRODUCTION contd.....

- Dairy goat milk is routinely consumed in rural and urban areas of Kenya. The quality and quantity of milk can be affected by mastitis and only a few studies have been done on the prevalence, and no studies done on the antibiotic sensitivity and disease situation in the country as compared to the disease in the cow (Ndegwa *et al.*, 2001).
- Therefore this study is geared towards establishing the mastitis prevalence, antibiotic sensitivity and fill in the gap in information with a goal of improving dairy goat production (Gebrewahid *et al.*, 2012).

2.0 LITERATURE REVIEW

- Mastitis is the inflammation of the mammary gland and is characterized by physical, chemical and bacteriological changes in the milk and pathological changes in the glandular tissue of the udder. (Blood and Radostits, 1989)
- Classification: clinical and sub-clinical (Persson *et al.*, 2011) and subclinical mastitis is the most common form in dairy goats.

Etiology of mastitis

- Bacteria are the most common organism isolated in clinical and subclinical though yeasts and viruses have also been isolated (Shearer *et al.*, 1995, Ndegwa., 2000).
- CNS is the most prevalent pathogen in subclinical (Contreras *et al.*, 2007) while *S. aureus* mostly isolated in clinical mastitis (Bergonier *et al.*, 2003).
- Other causative organisms include: streptococci , coliform, *Corynebacterium*, *Pseudomonas*, *Nocardia*, *Mycoplasma*, yeast and Caprine arthritis encephalitis virus (Tomita *et al.*, 2001).

Pathogenesis of mastitis

- According to Khan *et al* 2006, Pathogenesis involves three phases:
 - Invasion phase
 - Infection phase
 - Inflammation phase
- Risk factors such as unhygienic milking, poor management practice, poor feeding, number of lactation days and geographical locality and lack of therapeutics and control measures influence the type and frequency of causative agent (Ali *et al.*, 2010).

Effects of mastitis

1. Mastitis results in heavy economic losses from:

Reduced milk production

Treatment cost

Increased labor

Premature culling (Miller *et al.*, 1993)

2. Zoonotic importance (brucellosis, leptospirosis)

Diagnosis of mastitis

- Clinical mastitis: Palpation of the udder and visualization of the milk (Shearer et al., 2003)
- Subclinical mastitis: indirect methods: CMT, SCC, Bacteriological analyses and electrical conductivity test (Hall *et al.*, 2006).

Treatment of mastitis

- Therapeutic approach which involves use of : Systemic antibiotics and intramammary antibiotics (Shearer *et al.*, 2003).
- Supportive approach (Epi taufik, 2007).

Prevention and control

Control of mastitis can be achieved by:

1. Decreasing the exposure of the teat to pathogens (Tomita *et al* 2001).
 2. Increasing resistance of dairy animals to infection (Sharif *et al.*, 2009).
- Treatment is often unrewarding therefore more emphasis should be on control and prevention of mastitis (Shearer *et al.*, 1995).
 - Proper control and prevention should be instilled in order to protect the public from diseases and reduce economic losses (Tomita *et al.*, 2001).