

**JOINT FACULTY OF VETERINARY MEDICINE (FVM) 8TH BIENNIAL
SCIENTIFIC CONFERENCE
& 46TH KENYA VETERINARY ASSOCIATION (KVA) ANNUAL SCIENTIFIC
CONFERENCE**

DATE: APRIL 25TH – 27TH 2012

VENUE: SAFARI PARK HOTEL, NAIROBI

THEME: Evolving the veterinary profession towards safeguarding the human well-being in a dynamic environment

1. Camel health problems affecting milk production in Garissa

Toroitich K.C. Mbindyo C. Gitao C.G.

A total of about 3 million camels are reared in Kenya about 1.7 of which are reared in Northeastern province. Garissacounty alone has a population of 234,683 camels. They provide a source of milk and income for about 2 million pastoralists especially during the droughts when other livestock die or are unthrifty.

Data from Ministry of livestock development (MOLD) (2007) states that camels are the most important dairy animals in Kenya ASALs producing approximately 220 million litres of milk annually. This amount of milk is greatly reduced by mastitis.

Camels are adapted to the arid and semi arid lands (ASAL), but their full milking potential is affected by udder infections especially sub-clinical mastitis

A cross-sectional survey of prevalence of camel mastitis was undertaken in Garissa county and 130 pastoralists interviewed and 112 samples collected and analyzed. The purpose of this study is to identify the most common pathogens responsible for clinical and sub-clinical mastitis in camels under traditional management in GarissaCounty, Northern Kenya. Gram positive cocci (*Staphylococcus* and *Streptococcus* species) were the main pathogens isolated from camel milk samples in addition to environmental coliforms (*Escherichia coli* and *Klebsiella/Enterobacter* species);

The preliminary results of this study showed that subclinical mastitis is prevalent in dromedary camels of Garissacounty and that Gram-positive cocci are the dominant mastitis pathogens isolated.

2. Dairy goat health problems affecting milk production in Meru, Nyeri and Embu counties

Mbindyo C. Toroitich K.C., Gitao C.G

In Kenya, about 80,000 dairy goats are reared and about eighty percent of these are reared in Mt Kenya Region. They provide a quick source of milk for consumption or sale and are thus of immense value especially to poor households. The fact that they can be reared in small land holdings is especially useful in these highly populated areas. Although there has been a lot of research on problems faced by dairy cattle farmers, there has been little on problems faced by dairy goat farmers. In a cross-sectional survey, one hundred farmers were interviewed on major constraints and 100 milk samples obtained and analyzed. The main problems were lack of market of milk and goats, problems of buck rotation, unavailability of commercial feeds formulated for dairy goats and poor group dynamics. The main health problems are pneumonia, mastitis, stunted growth, and diarrhoea. The main pathogens from milk samples were Gram positive, coagulase positive and negative staphylococcus. Others were streptococcus spp and actinomyces spp. Further investigation is underway but indications are that coping strategies including farmer awareness, treatment and control measures need to be developed in order to enhance the productivity of goats in the region.

3. The possible effects of camel milk on management of diabetes type I

Gitao C.G., Toroitich K.C. Mbindyo C.

In India, camel milk is said to be effective in the management of Diabetes type 1 and the prevalence rate of diabetes there is said to be lower in camel milk consuming communities. In Kenya a similar allegation has been made although no study has been done to validate the allegation. A retrospective study is underway in Garissa county where there are both camel milk consumers and non-consumers. From May 2010-Feb 2012 over 900 patients visited the diabetes clinic in Garissa provincial hospital. About 25 percent were under 40 and had Type 1 diabetes. Most of these had high random blood sugar, and some had had complications like neuropathy. The ages ranged from 5 years to 40 years. The patients are being tracked down to the villages so as to obtain complete family and behavioral history. There are reports from the hospital that some patients abandon conventional treatment and opt for camel milk in the rural areas.

4. The properties of potential camel lactobacilli cultures for yoghurt production

Akweya B. KamauGitao C.G.

The production of fermented camel milk offers an opportunity to preserve the nutritive value and keeping quality of milk. Traditionally fermented camel milk is produced by leaving the milk for about 12-24 hours until it become sour. The fermentation is spontaneous and results in a product with varying taste and flavor and often of poor hygienic quality. Use of normal starter cultures derived from cow milk does not produce a high quality product. Proper selection and balance for starter culture is critical for the manufacture of fermented camel milk products of desired texture and flavor. This is especially true for camel milk which is produced in hot areas with ambient temperatures ranging from 25- 40 0 C. It is for this reason that a thermo-stable stable starter culture is underway. Lactobacilli obtained from camel milk were exposed to different sub-lethal stress factors (low pH, high temperature, high salt concentration, combinations of them and starvation). The potential starters will be selected for optimal growth under field conditions and fermented yoghurt produced from them tested by consumers before bulk production. Improved post-harvest processing of camel milk will improve the livelihood of pastoralists and enhance their income