Tropentag, September 18-21, 2016, Vienna, Austria

"Solidarity in a competing world — fair use of resources"

Strategies and Technologies for Camel Milk Preservation and Utilisation of Non-Marketed Milk in Pastoral Regions

Jackline Akinyi Ogolla[1], Christian Dede[1], Michael Wandayi Okoth[2], Oliver Hensel[1], Barbara Sturm[3,1]

[1] *University of Kassel, Agricultural Engineering, Germany*

[2] *University of Nairobi, College of Agriculture and Veterinary Sciences, Dept. of Food Science, Nutrition and Technology, Kenya*

[3] *Newcastle University, School of Agric., Food and Rural Developm., United Kingdom*

Abstract

Information on seasonal variation of camel milk production, strategies and preservation technologies for camel milk loss reduction exists. However, a knowledge gap exists on the utilization of non-marketed milk in different seasons and on uptake of these strategies and preservation technologies in arid and semi-arid areas of Africa.

A mixed method study was conducted from July to September 2015. Both quantitative and qualitative data collection tools were used to obtain information from the participants. For the quantitative study, data was collected from 216 camel milk value chain actors (farmers, traders, transporters), using a structured questionnaire and document review check list while qualitative data was collected through participant observations (POs), expert interviews and focus group discussions (FGDs) involving the camel milk value chain actors. Descriptive and inferential analysis were conducted for quantitative data, whereas thematic analyses was used for qualitative data. Camel milk production, sales, consumption, rejects and spillages were higher ($p < 0.01$) in the wet season than in the dry season, increasing by 45.5 %, 42.1 %, 40 %, 81 % and 79.1 %, respectively.

Non-marketed camel milk utilization varied with season as 31.6 % and 10 % of this milk was disposed-off while 32.2 % and 19 % processed into fermented milk in the wet and dry seasons respectively. Maintenance of hygienic practices (88 % producers, 61 % traders), smoking of the milking and jerry cans (68 % producers, 10 % traders), simple cooling (13 % producers), milk filtration (10 % traders), and boiling (8 % producers) were indicated as the main strategies for milk loss reduction by the respondents. According to the traders, milk preservation technologies depended on electricity (62.7 %) for cooling, firewood (27.5 %) and charcoal (7.8 %) for smoking and boiling of the camel milk. Approximately 95 % of the camel milk was smoked while 5 % was refrigerated during transportation. The emerging themes from qualitative data indicated that high cost and technical feasibility limited the utilization of these technologies. Thus, in the study area non-marketed milk is either disposed-off in wet or processed for home consumption in dry season. These findings show the need for appropriate milk preservation technologies for longer shelf life milk products in arid and semi-arid areas.

Keywords: Non-marketed camel milk, preservation technologies, reduction strategies, seasonal dependency

Contact Address: Jackline Akinyi Ogolla, University of Kassel, Agricultural Engineering, Nordbahnhof Str.1a, 37213 Witzenhausen, Germany, e-mail: ogollajackline@rocketmail.com