

Abstract:

Milk churning trials were conducted for three consecutive rainy (July-October) seasons (1995/96, 1996/97 and 1997/98) with women of a transhumant tribe in North Kordofan State, Sudan. Dairy products in the area were sampled in the first season, and chemically analyzed and assessed for microbial profile. ILCA (International Livestock Centre for Africa) wooden agitator for milk fat separation was used and compared with the traditional milk churning method. In the second season, ILCA agitator was modified to fit into the local gourd instead of the original clay pot. In the third season, the three methods were compared in a 3x2 factorial experiment using milk condition (fresh vs. boiled) as a second factor. The objectives of the study were to evaluate the hygiene measures in rural dairy products and to assess the introduced wooden agitator for milk fat extraction. The rural dairy products sampled had high total bacteria and mold counts and reflected poor hygiene and sanitation measures. Both ILCA wooden agitator and the modified model had significantly ($P < 0.01$) reduced churning time and resulted in higher ghee yield of good quality compared to the traditional method. Considerable proportion of milk fat was lost to butter milk in the traditional method in comparison with ILCA and the modified wooden agitators ($P < 0.001$). ILCA wooden agitator was superior to the traditional method in terms of money returns. Both ILCA and the modified wooden agitators were easy to operate and had a time saving advantage compared to the traditional method. It was concluded that the modified wooden agitator should be advocated for more rural women in the area and similar ecological zones. Furthermore, there is a high need for introducing new, simple and easy methods for dairy processing to women in such areas.